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Will a departure from tax-based accounting encourage tax noncompliance? Archival evidence from a transition economy

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Abstract

We investigate whether a departure from a tax-based accounting system toward the adoption of International Financial Reporting Standards encourages tax noncompliance. We also examine whether such a departure, which weakens book-tax conformity, affects the informativeness of book-tax differences for tax noncompliance. Our evidence suggests that as book-tax conformity decreases, tax noncompliance increases. Although book-tax differences remain informative of tax noncompliance, the informativeness attenuates as book-tax conformity weakens. Additionally, firms with high incentives to inflate book income are more tax compliant than their counterparts after the departure from a tax-based accounting system.

1. Introduction

This study investigates the impact of a major change in an accounting system on tax noncompliance. Specifically, many developed and developing countries use tax-based accounting systems, but some countries have recently changed their accounting systems to be more in line with International Financial Reporting Standards (IFRS).[1] This move is claimed to enhance the usefulness of financial reporting and gives corporate managers considerable discretion over the choice of accounting methods. It also signals a major departure of financial reporting from tax reporting. Based on the experience in China, we investigate whether this departure encourages tax noncompliance and whether after the departure we can still use book-tax differences as a red flag to signal tax noncompliance.

1.1. Studies on book-tax differences and changes in the book-tax relationship

Book-tax differences can be due to differences between accounting standards and tax laws. They can also be the result of a firm's tradeoff between the tax incentive to lower taxable income and the financial reporting incentive to increase book income. Some research suggests that large book-tax differences are positively associated with aggressive tax reporting (Desai, 2003; [Mills, 1996] and [Mills, 1998]). Other research indicates that aggressive financial reporting contributes to large differences (Ayers et al., 2009; Hanlon, 2005; Lev and Nissim, 2004; Phillips et al., 2003; Seidman, 2008). These studies examine the book-tax relationship in the US, where there are two separate sets of rules governing book and tax accounting and where the relationship between these two incomes has been generally stable over the years.

Studies on the impact of a change in the book-tax relationship have found that increasing book-tax conformity causes firms to shift income for financial reporting purposes (Dhaliwal and Wang, 1992; Guenther et al., 1997). However, it is not clear whether we can infer taxable income shifting from book income shifting (Hanlon, 2005). Hanlon et al. (2008) find that such an increase in book-tax conformity also reduces the informativeness of earnings in the US. These studies focus on examining the impact on financial reporting quality of a change in the tax law that strengthens book-tax conformity.

In this study, we examine whether changes in a financial reporting regime that weaken book-tax conformity encourage tax noncompliance. We take advantage of a distinct set of Chinese listed companies that experienced such changes to examine this issue. Before 1998, the accounting system in China was closely linked to tax assessment. In a tax-based accounting system where book income and taxable income conform, financial reporting costs directly mitigate corporate incentives to avoid tax, and tax authorities are likely to treat any significant shortage of taxable income below book income as tax noncompliance. After 1998, China gradually relaxed the close link between tax and book income by allowing firms to make entries in their books of accounts that differ from the tax rules. When book income is detached from taxable income, corporate incentives to engage in tax noncompliance will be much less constrained by financial reporting costs. Therefore, we hypothesize that as book-tax conformity decreases, tax noncompliance will increase.

When the two incomes are detached, book-tax differences can arise due to (1) legitimate differences in accounting standards versus tax rules, (2) managers exercising discretion in financial reporting to overstate book income and (3) managers taking advantage of the ambiguity in tax rules to understate taxable income. Because book-tax differences come

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[1] Brazil, China, France, Germany, India, Japan, Mexico, Russia, Vietnam and Eastern European countries have been among those with heavy tax influence on their national accounting systems (e.g., Street, 2002). However, there has been a trend toward a more independent relationship between accounting and taxation. For example, in line with international practice, Vietnam switched from a tax-based focus to an accrual-based accounting system in 2002 (Ernst and Young, 2002). Since 2005, France and Germany have adopted IFRS for listed companies (Radebaugh et al., 2006, 68, 71). More recently, Russia modified its accounting system from being "high alignment" to "low alignment" (Goncharov and Zimmermann, 2006). China has also gradually moved away from a tax-based accounting system since 1998.

from a combination of these sources, which are difficult to separate, the use of these differences to draw inferences about tax aggressiveness could be unreliable (Seidman, 2008; Tang, 2006). Thus, we hypothesize that as the level of book-tax conformity decreases, the informativeness of book-tax differences for a firm's tax aggressiveness will decrease.

1.2. Decomposing tax noncompliance

To provide more insight into the type of noncompliance affected by changes in financial reporting, we decompose noncompliance into book-tax-conforming noncompliance (violations of both financial reporting and tax rules) and book-tax-difference noncompliance (violations of tax rules only). Because the opportunities and incentives for each type of noncompliance are not homogeneous, this approach offers a better understanding of the relationship between book-tax differences and tax aggressiveness than an examination of the aggregate noncompliance alone (Chan and Mo, 2002; Rhoades, 1999). Our study provides robust archival evidence that legislative changes, which reduce book-tax conformity are likely to result in less compliance with tax laws. The effect is mainly on book-tax-difference noncompliance rather than book-tax-conforming noncompliance. Our finding also suggests that the departure of financial reporting from tax reporting is likely to increase the complexity of book-tax differences, which in turn will reduce their informativeness for tax noncompliance. That reduction is most apparent for book-tax-difference noncompliance. Nevertheless, book-tax differences remain informative of tax noncompliance even after the departure from tax-based accounting.

1.3. Contributions of this study

Our study contributes to the line of research that examines book-tax tradeoffs (e.g., Erickson et al., 2004; Hanlon et al., 2008; Mills, 1998). In particular, Mills (1998) finds a positive relation between tax audit adjustments and book-tax differences in the US. Our parallel finding suggests that Mills' results are not country specific and can be generalized to different institutional settings. Thus, our study validates the robustness of the book-tax tradeoff theory in a significant way, as our setting of a departure from a tax-based accounting system is pertinent to transition economies. Moreover, we extend Mills' research by examining how the relationship between tax audit adjustments and book-tax differences alters when regulatory changes cause a reduction in book-tax conformity. We find a decrease in the strength of this relationship as book-tax conformity decreases. We also find that book-tax differences are less informative about tax noncompliance for high book incentive firms (such as rights offering firms) than their counterparts after the departure from tax-based accounting.

Our research is also timely in light of the recent policy debate in the US on the perceived costs and benefits of making the two income measures conform. While some studies suggest that conforming book and tax rules decreases the information content of accounting information, others argue that in addition to lowering record-keeping costs, book-tax conformity would mitigate corporate incentives to engage in aggressive tax reporting. Although there is evidence that this conformity would weaken the information content of financial reporting (and thus reduce earnings quality) (Hanlon, 2005; Hanlon et al., 2008; Lev and Nissim, 2004; Phillips et al., 2003), the literature provides no evidence of the effect of conforming the two incomes on corporate tax noncompliance (Hanlon and Shevlin, 2005). Shevlin (2002) calls for more research to examine the consequences of book-tax conformity in those countries that closely align book and taxable income. We provide direct evidence of the unfavorable tax-compliance consequences of switching the reporting regime from high to low book-tax conformity in China. The debate in the US focuses on whether book and taxable incomes should conform more. Indeed, one of the alternatives considered by the President's Advisory Panel on Federal Tax Reform is taxing book income (Hanlon et al., 2008; McClelland and Mills, 2007). We inform this debate by providing evidence of how a change in book-tax conformity affects corporate tax reporting behavior.

As many countries are moving away from tax-based accounting systems toward IFRS, our results serve as a useful reference for them in formulating their accounting and taxation policies. In particular, these countries should consider increasing their tax enforcement efforts, including education on taxpayer accountability in anticipation of an increased amount of tax noncompliance (Sanders et al., 2008). For countries that are not using tax-based accounting such as the US, if the adoption of IFRS results in less conformity than the current system (e.g., the removal of the link between book and tax accounting on LIFO as IFRS does not allow the use of LIFO), then we might similarly predict firms to be less compliant with the tax law.[2] This implication suggests that even those countries that are used to dealing with nonconforming systems should maintain vigilance and adopt book-tax reconciliation requirements, similar to Schedule M-3 used in the US for public firms, to disclose more information on the sources and the magnitude of significant book-tax differences (Boynton and Mills, 2004).

In the next section, we describe the evolution of the relationship between financial reporting and taxation in China. We then develop the research hypotheses and describe the research design in 3 and 4, respectively. We present the primary univariate and multivariate empirical results in Section 5 and draw our conclusions in Section 6.

2. Institutional background

2.1. *Changes in the level of book-tax conformity in China*

The traditional accounting system in China was directly linked to the fiscal budget and tax assessment. Before 1978, there were no personal or enterprise income taxes, and thus no tax policy. In 1979, the government introduced the profit-retention system, under which state-owned enterprises could retain a portion of their profits. In 1983, the government replaced that system with a tax-remittance system that required all state-owned enterprises to pay a progressive income tax. In 1994, the government launched a comprehensive tax reform that required all domestic enterprises to pay income tax at a flat rate of 33%. In March 2007, China leveled the playing field for domestic and foreign companies by equalizing the rate to 25%, effective January 1, 2008.

Since the government first implemented the tax system in 1983, tax laws have played a significant role in firms' financial reporting activities. The rules for measuring accounting profits were essentially the same as those for measuring taxable profits. Therefore, it is not surprising that the Accounting Standards for Business Enterprises that was issued in 1992 lacked many important qualitative characteristics of financial reporting that are typically found in Western countries (Davidson et al., 1996). Over the years, significant changes in the socioeconomic environment in China have triggered a diversification in the objectives of financial reporting. For example, the establishment of foreign investment enterprises has brought in foreign investors. The privatization of state-owned enterprises has introduced domestic and foreign shareholders and creditors. Unlike the government, the new users of financial statements are concerned about whether any bias in financial reporting (e.g., tax consideration) hinders sound business decisions. For example, before 1998, government regulations set limits for bad debt provisions, controlled the selection of depreciation methods and the estimation of the residual value and useful life of fixed assets. These tax-driven accounting provisions are incapable of truly reflecting a firm's financial position and operating results. Such problems are especially serious given the relatively few alternative sources of information that analysts and investors can rely on in China's capital market.

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[2] The US Congress is considering repealing LIFO for tax purposes (Hamilton, 2009). Our prediction that US firms will become less compliant is based on the assumption that LIFO remains a permissible tax accounting method in the US, or that the original LIFO firms may choose different methods for tax and financial reporting in the future.

Domestic and international pressures have hastened changes in the book-tax relationship in China. In 1998, the Chinese government implemented a set of detailed operational accounting standards, Accounting Regulation for Listed Companies, that formally recognized for the first time that the objectives of financial reporting were different from those of tax reporting and that there was a need to relax the tax-based accounting principle. The 1998 Regulation permitted greater managerial discretion in financial accounting by removing many government controls. For example, it removed the rigid limits on firms' bad debt provisions, granted firms freedom to determine the useful life of assets and choose depreciation methods for financial reporting that are different from those under the tax law, and allowed a departure from historical cost for several asset classes for purposes of financial reporting. With this increased discretion, Chinese managers had incentives to use different methods for financial and tax reporting as elaborated later. Thus, the gap between the two forms of reporting began to widen.

In preparing to meet its World Trade Organization commitment to accelerate the international accounting harmonization process, the Chinese government revised the Accounting Standards for Business Enterprises, effective from 2001. The 2001 Standards marked a further departure from a tax-based accounting system. For example, it no longer considered the government to be the most important information user (Xiao et al., 2004). The Standards also expanded the application of the conservatism principle beyond that outlined in the 1998 Regulation. Most significantly, it reinforced a change in the management mindset about financial and tax reporting, allowing firms to legitimately maintain two sets of books and determine separate incomes for financial and tax reporting purposes.

2.2. Book-tax differences before and after the departure

As discussed above, financial reporting in China has evolved through stages since the late 1990s. In comparison, there has been little change in tax legislation since 1994. The move of financial reporting toward IFRS could lead to more aggressive earnings and tax management as public firm managers have dual incentives in reporting high book income and low tax income.

During the book-tax conformity period, Chinese managers were supposed to use the same accounting methods for book and tax purposes, except for legitimate differences such as interest income from government bonds, which are not taxable but are recognized as income on the book. Therefore, managers did not blatantly use different methods for book and tax reporting to evade taxes. However, while the variety of book-tax differences in the high-conformity period was much smaller than that in the later periods, some still led to tax audit adjustments. Misunderstanding of, or grey areas in, the tax law often caused these cases. One example is government subsidies. To protect the public against rising inflation, the Chinese government controlled retail prices of many daily necessities, such as gasoline, utilities and basic foodstuffs. In return, the government paid discretionary subsidies to the affected companies from time to time to compensate for losses due to the price controls. Those companies reported these subsidies as book income, which was generally taxable with many exceptions, depending on the size and nature of the subsidies. As the qualifying criteria for tax exemption varied from time to time and were often unclear, many managers deliberately failed to report some subsidies as taxable income when they should have. Another example is accrued interest, which should be reported as both book and taxable income. Some managers did not report accrued interest for tax purposes on the grounds that they had received no cash to pay the tax.

When the book-tax reporting rules diverged after 1998, Chinese managers were in a better position to plan complicated tax avoidance activities with little effect on financial reporting. Because the new reporting rule permits flexibility in selecting accounting methods and allows managers to make book entries that are different from the requirement of the tax rules, managers could deliberately make an entry in one set of books but not the other, or make different entries in each set using dissimilar revenue and expense recognition criteria.

The Appendix provides examples of common accounting items with book-tax differences before and after the departure from tax-based accounting. These are legitimate book-tax differences according to the relevant accounting and tax regulations during our sample period. However, these accounting items could result in tax audit adjustments if firms violate the relevant tax regulations.

2.3. Tax audits and audit adjustments

In China, the calendar year is used for both financial and tax reporting purposes. During our sample period, Chinese listed companies had to file their annual income tax returns and their financial statements with the local tax authorities within 45 days from the year end. The tax return begins with gross revenue, followed by deductible expenses, and then by adjustments to compute taxable income. In the adjustment section, companies have to disclose book-tax reconciling items.

Like many other jurisdictions, China's tax system works on self-assessment, which necessarily requires the tax authorities to carry out post-assessment field audits to verify compliance. Although the government has pursued tax evaders for years, the focus in the past appears to have been on foreign companies, and recently on the personal income tax of wealthy domestic individuals. There has been no similar nationwide campaign targeting Chinese listed companies, although similar to other businesses of economic significance, these listed companies are subject to periodic audits. There was no reported change to the audit procedures or audit rates for listed companies over the study period according to the Tax Yearbook of China published by the State Administration of Taxation (SAT, 1996–2004). Although tax auditors' expertise should improve over time, business and reporting complexities should also increase, thus leaving audit effectiveness essentially constant across the years.

Starting in 1995, the Chinese tax authorities began to consider firm characteristics when identifying the audit sample. For example, firms that report drastic changes in earnings and low profit margins (relative to the industry average) are more likely to come under scrutiny (SAT, 1997). Tax auditors usually start the audit by examining the tax returns and book-tax reconciliation schedules. They frequently focus on transactions that generate large book-tax differences, and follow up on exceptional variances between the two measures of income in the field audit. They also pay attention to taxpayers whose tax payable is incompatible with firm size (SAT, 1997). However, for cases with special complexities, such as transfer pricing manipulations, tax auditors will transfer these cases to a special audit department. Thus, similar to [Chan and Mo, 2000] and [Chan and Mo, 2002], this study excludes transfer pricing adjustments. Tax auditors finish the audit process by preparing a report that details every individual adjustment, including the type of account involved, the amount of adjustment proposed, reasons for the adjustment, and the effect of the adjustment on taxable income (SAT, 1995).

We measure tax noncompliance as the magnitude of the tax audit adjustment required by the tax authorities ([Chan and Mo, 2000] and [Chan and Mo, 2002]; Chan et al., 2006b; Hanlon et al., 2007; Mills, 1998). Although taxpayers can in theory appeal the decisions of the Chinese tax bureaus, few have done so in practice (Chan and Mo, 2002; Chan et al., 2006b). Following Chan and Mo (2002), we divide tax audit adjustments into book-tax-conforming adjustments and book-tax-difference adjustments. Book-tax-conforming adjustments refer to those made to correct misstatements arising from violations of both financial and tax reporting regulations; they affect both book income and taxable income. Examples include understating sales revenue and overstating cost of sales. Firms have to increase their book income for this kind of adjustment (SAT, 1993). Book-tax-difference adjustments relate to errors or irregularities arising from differences in financial reporting and tax regulations, and affect taxable income only. Items that frequently require book-tax-difference adjustments include omitted taxable revenues already reported on the book, claiming expenses that are

non-deductible, and claiming expenses exceeding allowable limits.

3. Research hypotheses

Based on the foregoing discussion, we develop two sets of hypotheses about the impact of changes in book-tax conformity on tax noncompliance.

3.1. Level of book-tax conformity and tax noncompliance

When accounting and tax regulations were largely aligned in China before 1998, corporate managers had to report conforming book income in most aspects. This limited the extent to which firms could reduce taxable income while raising book income. Taxable income significantly lower than book income readily signals tax noncompliance, making firms less likely to report significant book-tax differences. If public firm managers lower taxable income and book income by a similar amount (i.e. book-tax-conforming noncompliance), they can incur high contracting and capital market costs, as reporting lower levels of book income has a negative effect on debt covenants and share price. In such circumstances, managers have to balance the value of the expected tax savings with the associated non-tax costs.

When the two sets of reporting rules were delinked, partially in 1998 and more completely in 2001 in China, recognition criteria for tax and financial reporting purposes diverged, giving managers more leeway to lower taxable income in ways that did not necessarily lower book income in a conforming manner.[3] In other words, managers now have more opportunities for tax noncompliance.

While managers who report conformity to minimize tax costs face non-tax reporting costs, they no longer face the same costs when they do not have to report conforming book income. This suggests that regimes that allow the dual reporting of income will be likely to induce firms to have more book-tax-difference noncompliance, i.e., to take a more aggressive tax position with little or no effect on book income. For book-tax-conforming noncompliance, managers will face a tax versus non-tax cost tradeoff similar to what they encountered in the high book-tax conformity period. Because the incentive for conforming noncompliance has not changed since the departure from tax-based accounting, we expect no significant change in this type of noncompliance. Hence, we formulate our first composite hypothesis as follows.

H1. The magnitude of firms' tax noncompliance increases as book-tax reporting conformity decreases. Specifically, the magnitude of book-tax-difference noncompliance in a low book-tax conformity period is greater than that in a moderate book-tax conformity period, which in turn is greater than that in a high book-tax conformity period. In contrast, the magnitude of book-tax-conforming noncompliance does not differ significantly among the three periods.

Some studies have found that in low book-tax conformity regime such as the US, large book-tax differences are the result of aggressive financial reporting (Ayers et al., 2009; [Desai and Dharmapala, 2006] and [Desai and Dharmapala, 2009]; Hanlon, 2005). Thus, it is not certain that large book-tax differences in the book-tax delinked period will necessarily mean an increase in tax noncompliance. Whether managers actually behave as hypothesized is the purpose of our empirical test. As far as we can determine, we are the first to provide such

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[3] Recent high-profile cases in the US have demonstrated the ability of some large public firms to structure transactions that reduce the amount of taxes paid, without reporting any corresponding decrease in pretax book income. For example, Enron was able to report its taxable income over the years 1996–1999 at US$5.8 billion below its financial reporting income (Seida, 2003).

evidence on corporate tax compliance. It is also possible that after the departure, firms will have less need to engage in book-tax-conforming noncompliance because they will have more leeway and lower non-tax costs to engage in book-tax-difference noncompliance. Whether this is the case is also an empirical question.

3.2. Informativeness of book-tax differences for tax noncompliance

If the two sets of income measures conform, any unexplained difference between the two incomes is a potential indicator of tax noncompliance. However, if the two income measures are detached, allowing firms to report book and taxable incomes separately, then the gap between the two could become large. The sources of this gap include identifiable differences due to the specific method required by each regulation, as well as differences due to managers exploiting nonconforming rules to simultaneously manage book income upward and taxable income downward. Hence, it can be quite unreliable if tax authorities use book-tax differences to inform tax evasion in this situation (Seidman, 2008). To summarize, as book-tax conformity decreases bringing more "noise" into book-tax differences, we expect these differences to become less indicative of a firm's book-tax-difference noncompliance. However, as book-tax-conforming noncompliance typically reduces book and taxable incomes by a similar amount, we expect that a change in book-tax differences will have no significant impact on this type of noncompliance. Accordingly, we establish our second composite hypothesis as follows.

H2. The informativeness of book-tax differences for tax noncompliance decreases as book-tax reporting conformity decreases. Specifically, book-tax-difference noncompliance is less sensitive to book-tax differences in a low book-tax conformity period than in a moderate book-tax conformity period, which in turn is less sensitive than in a high book-tax conformity period. In contrast, book-tax-conforming noncompliance is not sensitive to book-tax differences in all three periods.

While it is reasonable to expect a decrease in the informativeness of book-tax differences for tax noncompliance as book-tax conformity decreases, this is by no means certain. Some firms can become very aggressive in tax reporting when book and tax incomes are delinked. Thus, their tax noncompliance can account for the major portion of their book-tax differences. Therefore, whether the informativeness of those differences will decline over time and whether we can still use those differences to predict tax noncompliance after delinking are empirical research questions.

4. Research design

4.1. Sample selection and data

Our sample includes non-financial firms listed on the Shanghai and Shenzhen stock exchanges during 1996–2003. We chose this period to cover the years both before and after the delinking of financial reporting from tax rules. This is also a period when the 1994 tax reform (a major reform) was in full effect and during which no additional tax reform took place. We obtained archival data on firm-level taxable income and tax audit adjustments from the Chinese tax authorities. Tax officials randomly selected the cases from their annual tax audit database. Acquiring taxable income from the tax returns minimizes measurement errors arising from the estimate of taxable income from tax expense and thus increases the power of our statistical tests (Hanlon, 2003; Mills and Plesko, 2003). We collected the book income and other financial information about the sample firms from the China Stock Market and Accounting Research (CSMAR) database. In China, both the separate and the consolidated entities use the same set of accounting standards.

We began with 3647 firm-years with both complete audit and financial statement data available from 1996 through 2003. Consistent with Mills (1998) and as explained in the

robustness test section, we excluded 485 firm-years with negative or zero book-tax differences (13% of the sample). This process screened out 458 firm-years reporting a loss. We also excluded 172 firm-years with negative or zero audit adjustments (5% of the sample) to obtain more generalizable results (Mills, 1998). We dealt with these exclusions in our sensitivity tests reported in the robustness test section. Finally, we trimmed off 49 firm-years identified as outliers with standardized residuals for audit adjustments exceeding three standard deviations in absolute value. Thus, our pooled, cross-sectional sample for the main regression consists of 2941 firm-year observations. The majority of the sample firms operate in the manufacturing industry (53%), followed by wholesale and retail trades (11%), conglomerates (10%), information technology (6%), real estate (5%) and utilities (4%).

4.2. Specification of the regression model

To test our hypotheses, we draw on Mills (1998) to develop the following OLS regression models (firm and time subscripts are suppressed for simplicity)

$$ADJ = \alpha_0 + \alpha_1 BTD + \alpha_2 PARTIAL\_DELINK + \alpha_3 DELINK + \alpha_4 BTD \times PARTIAL\_DELINK + \alpha_5 BTD \times DELINK + \alpha_6 RIGHTS + \alpha_7 BTD \times RIGHTS + \alpha_8 OWNER + \alpha_9 AGE + \alpha_{10} LOSS + \alpha_{11} SIZE + \alpha_{12} B\_SHARE + \alpha_{13} LEVERAGE + \alpha_k INDUSTRY + \varepsilon \qquad (1)$$

$$BTD\_ADJ = \beta_0 + \beta_1 BTD + \beta_2 PARTIAL\_DELINK + \beta_3 DELINK + \beta_4 BTD \times PARTIAL\_DELINK + \beta_5 BTD \times DELINK + \beta_6 RIGHTS + \beta_7 BTD \times RIGHTS + \beta_8 OWNER + \beta_9 AGE + \beta_{10} LOSS + \beta_{11} SIZE + \beta_{12} B\_SHARE + \beta_{13} LEVERAGE + \beta_k INDUSTRY + \varepsilon \qquad (2)$$

$$BTC\_ADJ = \gamma_0 + \gamma_1 BTD + \gamma_2 PARTIAL\_DELINK + \gamma_3 DELINK + \gamma_4 BTD \times PARTIAL\_DELINK + \gamma_5 BTD \times DELINK + \gamma_6 RIGHTS + \gamma_7 BTD \times RIGHTS + \gamma_8 OWNER + \gamma_9 AGE + \gamma_{10} LOSS + \gamma_{11} SIZE + \gamma_{12} B\_SHARE + \gamma_{13} LEVERAGE + \gamma_k INDUSTRY + \varepsilon \qquad (3)$$

where ADJ is the total tax audit adjustments deflated by sales revenue; BTD_ADJ the book-tax-difference audit adjustments deflated by sales revenue; BTC_ADJ the book-tax-conforming audit adjustments deflated by sales revenue; BTD the book-tax difference, which equals pretax book income minus taxable income deflated by sales revenue; PARTIAL_DELINK 1 if audit adjustments were made to a firm's taxable income during 1998–2000 (i.e., the moderate book-tax conformity period), 0 otherwise; DELINK 1 if audit adjustments were made to a firm's taxable income during 2001–2003 (i.e., the low book-tax conformity period), 0 otherwise; RIGHTS 1 if the firm applied for a rights issue in one of the next 3 years, 0 otherwise; OWNER the percentage of shares owned by the government; AGE the number of years the firm has been listed; LOSS 1 if the firm reported a loss, 0 otherwise; SIZE the natural logarithm of total assets of the firm; B_SHARE 1 if the firm issued B shares, 0 otherwise; LEVERAGE the debt to equity ratio of the firm and INDUSTRY the industry dummies (a set of eleven dummy variables).

Audit adjustments are tax deficiencies detected by the Chinese tax bureaus after a tax audit. We deflate both the total tax audit adjustment (ADJ) and book-tax differences (BTD) by sales revenue (before tax audit) because most of the adjustments and book-tax differences concern revenues and expenses that are related to the level of a firm's activity. The deflation also allows for cross-sectional comparison and reduces heteroskedasticity in the data. Consistent with previous studies, we expect BTD to be positively associated with ADJ. The coefficient α1 reflects the strength of BTD for ADJ in the pre-1998 period (i.e., the high book-tax conformity period). If the magnitude of firms' tax noncompliance increases as book-tax conformity decreases, then the signs on PARTIAL_DELINK (the moderate book-tax conformity period) and DELINK (the low book-tax conformity period) will be positive, and the coefficient for DELINK will be greater than that for PARTIAL_DELINK (i.e., α3>α2>0). As Hypothesis 1 also expects that the magnitude of book-tax-difference noncompliance (BTD_ADJ) will increase as book-tax conformity decreases, the signs of β1, β2 and β3 should be similar to those of α1, α2 and α3. In contrast, we expect no significant change in the

magnitude of book-tax-conforming noncompliance (BTC_ADJ) over the three periods (i.e., $\gamma2=\gamma3=0$).

We test Hypothesis 2 through the two interaction terms, BTD×PARTIAL_DELINK and BTD×DELINK. The coefficients $\alpha4$ and $\alpha5$, respectively, measure the sensitivity of tax audit adjustments to changes in BTD in the moderate and the low book-tax conformity period as compared to the high-conformity period. Specifically, as we argue that BTD is a less informative indicator of firms' tax noncompliance (ADJ) when the level of book-tax conformity decreases, we expect $\alpha1>(\alpha1+\alpha4)>(\alpha1+\alpha5)$ and hence the signs of $\alpha4$ and $\alpha5$ to be negative. Further, we expect that the effect on the informativeness of BTD for tax noncompliance will be most apparent for book-tax-difference noncompliance (BTD_ADJ).

4.3.   Control variables

We include nine control variables in the model. After going public, Chinese listed firms can issue additional shares to their existing shareholders through rights offerings. To curb excessive demand for rights offerings, the China Securities Regulatory Commission issued accounting-based guidelines to restrict rights issues after November 1993. In general, the guidelines require Chinese listed companies to achieve a certain profitability level over the 3 years immediately preceding the year of application for a rights offering.[4] This requirement has led to rampant upward earnings management in China (Chen and Yuan, 2004). To control for the special incentives to inflate book income, we use a dummy variable, RIGHTS, which takes on the value of 1 if the firm applies for a rights offering in one of the next 3 years. We predict that rights offering firms having high book incentives are less aggressive in tax reporting than their counterparts, because they will incur higher contracting and capital market costs by conforming book income to an aggressive tax position.[5] Further, we include an interaction variable, BTD×RIGHTS, to assess whether book-tax differences are more or less informative for rights offering than non-rights offering firms.

In China, government entities are the controlling shareholders of many listed companies. The tax incentives of government-controlled versus corporate-controlled firms vary. For example, some managers of government-controlled firms view tax payment as part of their civil obligations. However, most government-controlled firms also have important profit motives, as they need to meet investors' expectations. We include a continuous variable, OWNER, which is the percentage of shares owned by the government, to control for this possible effect. Another ownership factor is the presence of foreign investors in Chinese listed companies, or B-Share firms (B_SHARE). The presence of foreign investors brings in new management methods and better internal control systems that could reduce noncompliance (Chan et al., 2006a).

Previous research has found conflicting evidence about the relationship between firm age and

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[4] China's regulation stipulates that a firm can apply for a rights issue only if its return on equity (ROE) reaches a certain level in the 3 years immediately before the year of application. Over the years, the government has modified the regulation to close certain loopholes while at the same time lowering the threshold to compensate for the tightening of the rule. For example, the requirement in 1996 was a ROE≥10% in each of the 3 previous years. In 1999, the regulation changed to require a 3-year average ROE≥10% and a ROE≥6% for each of the 3 previous years after listing. This requirement specifically excluded profits in the years before listing to discourage earnings manipulation before an IPO. Starting in 2001, the requirement was a 3-year average ROE≥6%. However, the 2001 regulation further tightened the requirement by excluding non-operating income in the calculation of ROE as many firms with a low operating ROE used non-operating income to increase their ROE to meet the requirement (Chen and Yuan, 2004).
[5] We also consider two other variables that capture firms' incentive to inflate book income. Firms with 2 years of consecutive losses as well as firms that issued corporate bonds have special incentives to inflate book income to avoid share delisting and violation of debt covenants, respectively. However, these variables are not significant due to the small sample size and multicollinearity problem.

financial distress. Some researchers maintain that young firms are more likely to experience financial difficulties (Dopuch et al., 1987). Others argue that older firms are more likely than younger firms to be susceptible to cash constraints over time after going public, and are less compliant with tax regulations (Murray, 1995). To reflect these arguments, we employ a continuous variable, AGE, as a proxy for incentives to boost cash flows over time, but make no directional prediction regarding firm age because of the conflicting prior evidence. Mills and Newberry (2001) suggest that loss firms have fewer tax-related incentives and thus tax authorities audit them much less frequently in the US. However, Chinese tax authorities do audit loss firms. In China, a loss firm must pay a tax penalty on any irregularity discovered. For example, if tax authorities discover an understatement of revenue, the firm must pay a 33% tax penalty on the profit from the revenue understated, even though the firm is still in an overall loss position (SAT, 1996). We employ a dummy variable, LOSS, to reflect this notion, but make no directional prediction on this variable.

We use SIZE to control for any firm size and complexity effects. Although Hanlon et al. (2007) find that firm size is positively associated with the level of tax noncompliance, Mills (1998) fails to find such an effect. If large firms are more tax compliant because they are politically visible to the regulators, then the coefficient will be negative. As the dependent variable is scaled by sales, we use total assets (natural log form) as the measure of SIZE to minimize the spurious bias to the estimated effect of scale that results from errors in measuring the true scale variable (Hanlon et al., 2007). Further, we use LEVERAGE to measure a firm's leverage level. Watts and Zimmerman (1986) suggest that firms subject to greater monitoring by lenders are more likely to use income-increasing accounting procedures to avoid violating debt covenants. Therefore, the higher the leverage, the higher will be the non-tax cost of conforming book income to an aggressive tax position, and thus we expect a negative relationship between LEVERAGE and tax noncompliance. INDUSTRY is a set of dummy variables for each industry classification and controls for the possibility that variation in industries is driving the audit adjustments.

4.4. Sample selection bias

Because tax authorities do not audit every listed company, to the extent that audit adjustment is conditional on the tax return being selected for audit, the inference about the effect of book-tax differences on audit adjustment for the whole population could be biased. To address the potential sample selection bias, we use the two-stage Heckman (1979) approach to first estimate the probability of a firm being selected for audit with a probit regression as follows.

$$AUDIT = \partial_0 + \partial_1 BTD + \partial_2 BTD\_IND + \partial_3 OWNER + \partial_4 AGE + \partial_5 LOSS + \partial_6 SIZE + \partial_7 CHANGE + \partial_8 MARGIN\_IND + \partial_9 B\_SHARE + \partial_{10} LEVERAGE + \partial_k INDUSTRY + \mu \quad (4)$$

where AUDIT is 1 if the firm was selected for tax audit, 0 otherwise; BTD_IND the percentage of deviation of a firm's BTD from the industry average; CHANGE the percentage change in the firm's annual book income and MARGIN_IND the ratio of the firm's profit margin to the industry average. Other variables are as defined earlier.

We estimate Eq. (4) for each of the three book-tax conformity periods. The probit regression produces consistent estimates for ∂, and these estimates are used to compute the inverse Mills ratio, λ, for each period. In the second stage, we use OLS to estimate Eqs. (1), (2) and (3) with the corresponding λ included as an additional variable to correct for potential bias due to sample non-representation. Following the same sample selection criteria described earlier, we obtained from the Chinese tax authorities 1834 firm-years that were not subject to tax audits over the study period for probit regression analysis. These firms had no audit adjustments.

5. Empirical results

5.1. Descriptive statistics and univariate tests

Table 1 reports the descriptive statistics of the audited sample and univariate tests, comparing the means of the variables in Eqs.   (1), (2) and (3) over the three book-tax conformity levels. Mean total audit adjustments (ADJ), which is 0.32% of sales revenue in the high book-tax conformity period, increases to 0.49% in the moderate conformity period, and rises again to 0.52% in the low-conformity period.   A similar pattern is observable for book-tax-difference audit adjustments (BTD_ADJ).   Mean book-tax differences (BTD) also show a similar trend, increasing from 5.09% of sales revenue in the high-conformity period to 18.8% in the low-conformity period.   It is interesting to note that while we observe a significant increase in BTD_ADJ over the three periods corresponding to the increase in BTD, there is no significant change in book-tax-conforming audit adjustments (BTC_ADJ).

Table 1.   Descriptive statistics of the sample firms at different book-tax conformity levels.

Panel A: One-way analysis of variance (ANOVA) on the differences among the means

		Pooled (1996–2003) (n=2941)	High book-tax conformity (1996–1997) (n=710)	Moderate book-tax conformity (1998–2000) (n=1286)	Low book-tax conformity (2001–2003) (n=945)	F-stat. (p-value)
ADJ	Mean	0.0046	0.0032	0.0049	0.0052	14.67
	(St. dev.)	(0.0079)	(0.0047)	(0.0078)	(0.0096)	(0.000)[a]
BTD_ADJ	Mean	0.0039	0.0024	0.0043	0.0045	18.05
	(St. dev.)	(0.0075)	(0.0045)	(0.0077)	(0.0089)	(0.000)[a]
BTC_ADJ	Mean	0.0007	0.0007	0.0007	0.0008	0.25
	(St. dev.)	(0.0035)	(0.0021)	(0.0014)	(0.0056)	(0.783)
BTD	Mean	0.1222	0.0509	0.1134	0.1880	47.06
	(St. dev.)	(0.2923)	(0.0609)	(0.1371)	(0.4791)	(0.000)[a]
RIGHTS	Mean	0.2618	0.3732	0.3390	0.0731	142.21
	(St. dev.)	(0.4397)	(0.4840)	(0.4736)	(0.2603)	(0.000)[a]
OWNER	Mean	0.1866	0.2185	0.1872	0.1618	11.64
	(St. dev.)	(0.2372)	(0.2500)	(0.2359)	(0.2263)	(0.000)[a]
AGE	Mean	4.6970	2.1944	4.2519	7.1831	1357.17
	(St. dev.)	(2.7325)	(1.7740)	(2.0075)	(2.0588)	(0.000)[a]
LOSS	Mean	0.0584	0.0423	0.3578	0.1016	24.03
	(St. dev.)	(0.2347)	(0.2013)	(0.1858)	(0.3023)	(0.000)[a]
SIZE	Mean	11.6014	11.2087	11.6061	11.8866	145.11
	(St. dev.)	(0.8680)	(0.8641)	(0.8023)	(0.8462)	(0.000)[a]
B_SHARE	Mean	0.0806	0.0986	0.0793	0.0794	1.31
	(St. dev.)	(0.2722)	(0.2983)	(0.2703)	(0.2705)	(0.273)
LEVERAGE	Mean	0.4388	0.4294	0.4209	0.4702	21.24
	(St. dev.)	(0.1831)	(0.1564)	(0.1642)	(0.2188)	(0.000)[a]

Panel B: Post hoc tests for the pairwise comparison of mean differences

	High vs. moderate		High vs. low		Moderate vs. low	
	Mean diff.	p-value	Mean diff.	p-value	Mean diff.	p-value
ADJ	−0.0017	0.000[a]	−0.0020	0.000[a]	−0.0003	0.390
BTD_ADJ	−0.0019	0.000[a]	−0.0021	0.000[a]	−0.0001	0.739
BTC_ADJ	−0.0001	0.858	−0.0001	0.727	−0.0000	0.782
BTD	−0.0625	0.000[a]	−0.1371	0.000[a]	−0.0746	0.000[a]

Notes: ADJ is total tax audit adjustment deflated by sales revenue. BTD_ADJ is book-tax-difference audit adjustment deflated by sales revenue. BTC_ADJ is book-tax-conforming audit adjustment deflated by sales revenue. BTD is pretax book income minus taxable income deflated by sales revenue. RIGHTS is an indicator variable set equal to 1 if the firm applied for rights offerings in one of the next 3 years, and 0 otherwise. OWNER is the percentage of shares owned by the government. AGE is the number of years the firm has been listed in the market. SIZE is the natural logarithm of the total assets of the firm. B_share is an indicator variable set equal to 1 if the firm issued B-shares, and 0 otherwise. leverage is the debt to equity ratio of the firm. LOSS is an indicator variable set equal to 1 if the firm reported a loss, and 0 otherwise. Panel A reports the means of all variables in the three book-tax conformity periods and the ANOVA on the differences among the means. Panel B uses the least significant difference (LSD) test for the pairwise comparison of mean differences.

[a] Denotes significance at the 5% level.

The overall F-tests (reported in the last column of Panel A) on the test variables reject the null hypothesis of equal means at the 5% level, except for BTC_ADJ. The multiple pairwise comparison tests in Panel B indicate that the magnitudes of ADJ and BTD_ADJ increase as book-tax conformity decreases. However, the increase is not statistically significant from the moderate to the low-conformity period. There is also no significant increase in BTC_ADJ over the three periods. In contrast, the magnitudes of BTD are significantly different among the three periods.

An analysis of book-tax differences and audit adjustments in each period indicates that there are clearly more sources of book-tax differences in the moderate and the low-conformity periods than in the high-conformity period. Observed differences resulting in audit adjustments common for all three periods include government subsidies and interest income from government bonds, as explained earlier, as well as adjustments for expenses exceeding tax deductible limits. The frequency of these audit adjustments increases as book and tax incomes are delinked. These types of difference reflect a more extensive government participation in the economy as compared with a mature Western economy such as the US. In the later periods, more complicated book-tax differences are due to transactions being reported differently for book and tax purposes. Examples include the use of different asset useful lives, different lease accounting methods, sales cutoffs and revenue recognition criteria. Most of the later period book-tax differences in our sample are similar to those found in US studies. However, our data do not have the differences due to sophisticated transactions such as off-balance-sheet financing using special purpose entities and debt–equity hybrid instruments that Mills and Newberry (2005) mention.

5.2. Multivariate tests

Table 2 shows the results of our stage-one estimation of the probit regression for each of the three conformity periods. We find that BTD and the deviation of BTD from industry average (BTD_IND) are the dominating factors affecting the audit selection in the high-conformity period, but both become less statistically significant in the other two periods. Specifically, the coefficient of BTD decreases from the high-conformity period to the low-conformity period. BTD_IND also has a similar decreasing trend. This is consistent with our argument in Hypothesis 2 that BTD becomes less informative of tax noncompliance as book-tax conformity decreases. In contrast, other firm characteristics such as listing history (AGE), profit margin relative to industry average (MARGIN_IND) and firm size (SIZE) become more significant in the moderate and low-conformity periods. That is, in the low-conformity period, the tax authorities appear to have focused on larger and older firms because of their potential impact on tax revenue, and on lower margin profitable firms, but not necessarily on loss firms as the LOSS variable is not significant.

Table 2. Stage one: probit estimation of firms being selected for audit (N=4775).

Probit equation:

AUDIT=∂_0+∂_1BTD+∂_2BTD_IND+∂_3OWNER+∂_4AGE+∂_5LOSS+∂_6SIZE+∂_7CHANGE+∂_8MARGIN_IND+∂_9B_SHARE+∂_{10}LEVERAGE+∂_kINDUSTRY+μ

	Expected Sign	High conformity		Moderate conformity		Low conformity	
		Coeff.	$p>\|z\|$	Coeff.	$p>\|z\|$	Coeff.	$p>\|z\|$
Constant		1.3151	0.091	−1.6139	0.011	−3.6481	0.000
BTD	+	6.5678	0.000 [a]	1.8915	0.000 [a]	0.0052	0.970
BTD_IND	+	2.1101	0.000 [a]	1.6776	0.001 [a]	0.2016	0.184
OWNER	?	0.0281	0.885	−0.2744	0.052	−0.1859	0.208
AGE	?	−0.0252	0.378	0.2931	0.000 [a]	0.2593	0.000 [a]
LOSS	?	0.5722	0.084	0.2638	0.243	0.1827	0.164
SIZE	+	0.0302	0.067	0.0297	0.244	0.0982	0.000 [a]
CHANGE	+	−0.0019	0.715	−0.0057	0.525	−0.0002	0.884
MARGIN_IND	−	−0.0023	0.950	−0.0167	0.432	−0.0898	0.001 [a]
B_SHARE	−	−0.1442	0.341	−0.1417	0.324	−0.1945	0.138
LEVERAGE	?	0.2448	0.446	−0.2166	0.364	0.0054	0.976
INDUSTRY	?	Included, but not reported for brevity					
% correctly classified		63.8%		61.5%		62.6%	

Notes: This table shows the results of the first-stage probit regression estimating the probability of a firm being selected for tax audit at the three conformity levels.   The dependent variable, AUDIT, is an indicator variable set equal to 1 if a firm is selected for tax audit, and 0 otherwise.   BTD_IND is the percentage deviation of the firm's book-tax difference from the industry mean.   CHANGE is the percentage change in firm's annual book income. MARGIN_IND is the ratio of the firm's profit margin to the industry average.   INDUSTRY is a set of eleven dummy variables representing different industries.   All other variables are defined in Table 1.

[a] Denotes significance at the 5% level.

Table 3 shows the stage-two estimation results of pooled, cross-sectional regressions.[6] Panel A presents the results for total audit adjustments (ADJ), while Panels B and C, respectively, present the results for book-tax-difference audit adjustments (BTD_ADJ) and book-tax-conforming audit adjustments (BTC_ADJ).   All three models explain the cross-sectional variations in audit adjustments significantly.   It appears that λ contributes little to the explanatory power of the models.

Table 3. Stage two: audit adjustment regressions (N=2941).

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[6] To correct for heteroskedasticity, we estimated the errors using White's heteroskedasticity-consistent procedure. We found no heteroskedasticity in the data. We also used a random coefficient regression model that does not assume constant residuals and obtained similar results as our original OLS regression. Further, all variance inflation factors are small (below 5.135) and all of the correlations among the independent variables are below 0.728. These results indicate no significant multicollinearity problem.

ADJ=α_0+α_1BTD+α_2PARTIAL_DELINK+α_3DELINK+α_4BTDxPARTIAL_DELINK+α_5BTD×DELINK+α_6 RIGHTS+α_7BTD×RIGHTS+α_8OWNER+α_9AGE+α_{10}LOSS+α_{11}SIZE+α_{12}B_SHARE+α_{13}LEVERAGE+αk INDUSTRY+ε

	Exp.	(Panel A) ADJ		(Panel B) BTD_ADJ		(Panel C) BTC_ADJ	
	Sign	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Constant		0.0318	0.000	0.0262	0.000	0.0102	0.000
BTD	+	0.0142	0.002[a]	0.0160	0.000[a]	0.0016	0.442
PARTIAL_DELINK	+	0.0027	0.000[a]	0.0029	0.000[a]	0.0003	0.110
DELINK	+	0.0039	0.000[a]	0.0035	0.000[a]	0.0004	0.101
BTD×PARTIAL_DELINK	–	–0.0074	0.120	–0.0111	0.017[a]	–0.0012	0.567
BTD×DELINK	–	–0.0105	0.022[a]	–0.0133	0.003[a]	–0.0009	0.661
RIGHTS	–	–0.0011	0.002[a]	–0.0012	0.001[a]	0.0001	0.821
BTD×RIGHTS	–	–0.0042	0.000[a]	–0.0034	0.001[a]	–0.0005	0.311
OWNER	?	0.0014	0.016[a]	0.0012	0.041[a]	0.0005	0.083
AGE	?	–0.0001	0.397	0.0001	0.459	–0.0001	0.074
LOSS	?	–0.0001	0.826	–0.0002	0.766	0.0000	0.865
SIZE	–	–0.0024	0.000[a]	–0.0022	0.000[a]	–0.0004	0.000[a]
B_SHARE	–	0.0005	0.337	0.0000	0.963	0.0001	0.686
LEVERAGE	–	–0.0025	0.002[a]	–0.0019	0.014[a]	–0.0007	0.055
Λ	?	–0.0006	0.182	–0.0009	0.060	0.0001	0.690
INDUSTRY	?	Included, but not reported for brevity					
		F=20.44 (p=0.000)		F=17.46 (p=0.000)		F=5.74 (p=0.000)	
		Adj. R^2=14.2%		Adj. R^2=12.3%		Adj. R^2=3.9%	

Notes: This table shows the stage-two estimation results of the impact of book-tax differences on tax noncompliance at the three conformity levels. The dependent variables are total audit adjustment (ADJ), book-tax-difference audit adjustment (BTD_ADJ) and book-tax-conforming audit adjustment (BTC_ADJ) as defined in Table 1. PARTIAL_DELINK is an indicator variable set equal to 1 if audit adjustments were made to a firm's taxable income during 1998–2000 (the moderate conformity period), and 0 otherwise. DELINK is an indicator variable set equal to 1 if audit adjustments were made to a firm's taxable income during 2001–2003 (the low-conformity period), and 0 otherwise. λ is the inverse Mills ratio. All other variables are defined in Table 1.

[a] Denotes significance at the 5% level.

As expected in Hypothesis 1, PARTIAL_DELINK and DELINK are significant with a positive coefficient for both the ADJ and the BTD_ADJ models, which suggest that tax noncompliance in the moderate or low-conformity period is significantly larger than that in the high-conformity period. Furthermore, a Wald test indicates that the coefficient for DELINK is significantly larger (at the 5% level) than that for PARTIAL_DELINK, which suggests that the magnitude of tax noncompliance increases as book-tax conformity decreases.

For the two conformity period interaction terms in the ADJ model (Panel A), the coefficient is negatively significant for BTD×DELINK, but is not significant for BTD×PARTIAL_DELINK. Thus, we have evidence that the informativeness of book-tax differences for tax noncompliance decreases significantly in the low book-tax conformity period. For the BTD_ADJ model (Panel B), the relationship between BTD and tax noncompliance is clearer. The coefficients on both interaction terms are significant at the 5%

level, and they are clearly more significant than the corresponding coefficients in Panel A. Moreover, the coefficient for BTD in Panel B, which is 0.0160 ($\beta1$) for the high-conformity period, decreases to 0.0049 (i.e., $\beta1+\beta4$) for the moderate conformity period, and declines again to 0.0027 (i.e., $\beta1+\beta5$) for the low-conformity period. The Wald tests on these coefficients show that $\beta1>(\beta1+\beta4)>(\beta1+\beta5)>0$. These results indicate that BTD has a significant impact on book-tax-difference noncompliance in all three periods, but the impact declines substantially in the lower conformity periods.

Panel C presents a rather different pattern for book-tax-conforming noncompliance (BTC_ADJ). None of the test variables are statistically significant. It is noteworthy that in both the univariate and multivariate tests, BTC_ADJ does not change in any significant way over the three book-tax conformity periods. Hence, it is useful to separate book-tax-conforming noncompliance from book-tax-difference noncompliance as they do exhibit very different forms of behavior. This separation allows us to observe a clearer association between book-tax differences and tax noncompliance. These results also strengthen our argument that there is no time series effect (e.g., an increase in audit expertise or effort) on audit adjustment over the three time periods. If there was such an effect, we would have observed an increase in both types of audit adjustment.

For the control variables, we find that rights offering firms have significantly less total audit adjustments and book-tax-difference audit adjustments than non-rights offering firms (Panels A and B). These results suggest that rights offering firms, because of their need to meet minimum profitability requirements and because they cannot costlessly increase book-tax differences, are less likely than their counterparts to be aggressive in both tax and financial reporting. This is consistent with Erickson et al. (2004) and Mills and Newberry (2001) that managers may be willing to forfeit tax dollars by increasing book income in ways that also increase taxable income. The coefficients of the interaction term, BTD×RIGHTS, in Panels A and B are negatively significant suggesting that book-tax differences are more informative of tax noncompliance for non-rights offering firms than for rights offering firms. As non-rights offering firms have less book incentives for earnings management than rights offering firms, our results are parallel with Mills (1998, Table 2) that book-tax differences are more informative of tax noncompliance for private firms than for public firms. Similar to the rights offering firms, highly geared firms are subject to a higher non-tax cost of understating book income, and thus they are less likely to be noncompliant by reporting both lower taxable income and lower book income. Further, we find that firms with higher percentages of state ownership are less compliant in the ADJ and the BTD_ADJ models. Relative to small firms, large firms are more tax compliant because of the political costs they face for noncompliance. It is also possible that large firms are better able to have their tax-avoiding strategies go undetected because they have more resources to do so (Mills, 1998). For sub-industry effects (not tabled), we find that companies in the manufacturing and real estate industries have more audit adjustments than companies in other industries.

In summary, the magnitude of tax noncompliance increases as book-tax conformity decreases. While the association between tax audit adjustments and book-tax differences is significantly positive at all conformity levels, our results demonstrate that those differences become less informative of tax noncompliance as the link between book income and taxable income loosens. This suggests that the noise created by having more legitimate differences and earnings management in the moderate and the low-conformity periods dilutes the informativeness of book-tax differences for tax noncompliance. The declining importance of book-tax differences in the audit selection process as shown in Table 2 provides corroborating evidence for this finding.

5.3. Robustness tests

To check the robustness of the regression results, we performed the following sets of secondary tests. First, as a firm's use of aggressive tax position could affect both book-tax-difference and book-tax-conforming audit adjustments, our regression equations for

BTD_ADJ and BTC_ADJ could be interdependent. We reran the data using a system of equations approach, Seemingly Unrelated Regression, to account for any possible contemporaneous correlation in the error terms of the two equations. Our results indicate that there was no change in the significance of the test variables as shown in Table 3.

Second, to reduce the potential understated standard errors in a pooled, cross-sectional regression, we ran by-period regressions for each of the three levels of book-tax conformity as presented in Table 4. For both the ADJ (Panel A) and the BTD_ADJ models (Panel B), the coefficients on BTD show a general declining trend. In addition, the significantly negative coefficients for BTD×RIGHTS in the low-conformity period suggests that book-tax differences are more informative of tax noncompliance for non-rights offering firms than rights offering firms, consistent with the overall results in Table 3. Further, it appears that the significantly negative coefficients on RIGHTS and LEVERAGE (Panels A and B) are most evident in the low-conformity period. This suggests that rights offering and highly leveraged firms have significantly less tax noncompliance than their counterparts in the low-conformity period due to higher non-tax costs.

Table 4. Stage two: audit adjustment regressions at different book-tax conformity levels.

	Exp. sign	High conformity		Moderate conformity		Low conformity	
		Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Panel A: ADJ							
Constant	?	0.0125	0.000	0.0395	0.000	0.0481	0.000
BTD	+	0.0146	0.000[a]	0.0070	0.000[a]	0.0033	0.000[a]
RIGHTS	−	0.0003	0.491	−0.0013	0.045[a]	−0.0023	0.049[a]
BTD×RIGHTS	−	−0.0089	0.124	−0.0069	0.060	−0.0030	0.031[a]
OWNER	?	0.0009	0.238	0.0010	0.262	0.0025	0.059
AGE	?	−0.0000	0.883	0.0001	0.486	−0.0003	0.031[a]
LOSS	?	−0.0001	0.957	0.0001	0.954	0.0001	0.923
SIZE	−	−0.0008	0.001[a]	−0.0028	0.000[a]	−0.0032	0.000[a]
B_SHARE	−	0.0002	0.750	0.0001	0.855	0.0007	0.565
LEVERAGE	−	−0.0019	0.114	−0.0017	0.215	−0.0036	0.013[a]
λ	?	0.0004	0.498	−0.0012	0.090	−0.0007	0.498
INDUSTRY	?	Included, but not reported for brevity					
		F=3.20 (p=0.000)		F=11.49 (p=0.000)		F=10.02 (p=0.000)	
		Adj. R^2=6.1%		Adj. R^2=14.6%		Adj. R^2=16.7%	
Panel B: BTD_ADJ							
Constant	?	0.0130	0.000	0.0334	0.000	0.0375	0.000
BTD	+	0.0123	0.001[a]	0.0051	0.003[a]	0.0025	0.001[a]
RIGHTS	−	−0.0002	0.605	−0.0014	0.027[a]	−0.0022	0.050[a]
BTD×RIGHTS	−	−0.0006	0.900	−0.0054	0.144	−0.0024	0.062
OWNER	?	0.0001	0.884	0.0009	0.305	0.0024	0.056
AGE	?	0.0003	0.007[a]	0.0002	0.215	−0.0002	0.132
LOSS	?	−0.0011	0.184	0.0001	0.981	0.0002	0.984
SIZE	−	−0.0009	0.000[a]	−0.0024	0.000[a]	−0.0029	0.000[a]
B_SHARE	−	0.0002	0.721	0.0001	0.904	0.0002	0.868
LEVERAGE	−	−0.0007	0.538	−0.0017	0.239	−0.0029	0.034[a]
λ	?	−0.0012	0.330	−0.0013	0.081	−0.0005	0.574
INDUSTRY	?	Included, but not reported for brevity					
		F=4.67 (p=0.000)		F=8.87 (p=0.000)		F=8.31 (p=0.000)	
		Adj. R^2=9.8%		Adj. R^2=11.40%		Adj. R^2=13.4%	
Panel C: BTC_ADJ							
Constant	?	0.0062	0.000	0.0062	0.000	0.0213	0.000
BTD	+	0.0019	0.270	0.0002	0.580	0.0006	0.200
RIGHTS	−	0.0004	0.532	−0.0002	0.082	0.0001	0.928
BTD×RIGHTS	−	−0.0009	0.959	0.0008	0.244	−0.0004	0.654
OWNER	?	0.0003	0.421	−0.0001	0.563	0.0013	0.103
AGE	?	−0.0000	0.625	−0.0000	0.074	−0.0001	0.346
LOSS	?	−0.0002	0.561	0.0001	0.644	−0.0000	0.996
SIZE	−	−0.0005	0.000[a]	−0.0004	0.000[a]	−0.0006	0.008[a]
B_SHARE	−	−0.0001	0.802	0.0000	0.902	0.0003	0.690
LEVERAGE	−	−0.0007	0.190	−0.0001	0.600	−0.0012	0.190
λ	?	0.0003	0.568	0.0003	0.391	−0.0005	0.426
INDUSTRY	?	Included, but not reported for brevity					
		F=3.15 (p=0.000)		F=5.52 (p=0.000)		F=4.40 (p=0.000)	
		Adj. R^2=6.0%		Adj. R^2=6.9%		Adj. R^2=7.0%	

Notes: All variables are as defined in Table 1 and Table 3.
[a] Denotes significance at the 5% level.

Third, we excluded 1998 and 2001 because they were transitional years during which China

implemented new accounting regulations. We also tested our results with another reduced population by treating the partial delinking period (1998–2000) as transitional and examined only the top (2001–2003) and the bottom (1996–1997) observations. Our main results are not sensitive to using these reduced populations. Fourth, we replicated Table 3 by scaling audit adjustments and BTD by total assets and using sales revenue as the measure of SIZE. The main results are invariant to using this alternative scaling. Fifth, we added back 172 firm-years with negative or zero audit adjustments (about 5% of the sample) into our main sample. Replication of Table 3 indicates that our conclusions remain qualitatively the same as the original results. Sixth, we replicated the analysis reported in Table 3 for the sample with negative or zero book-tax differences (13% of the total sample distributed roughly equally over the three periods) and, in line with Mills (1998), we found no statistically significant relationship between BTD and the magnitude of audit adjustments. As Mills (1998) explained, negative book-tax differences are often the result of large, infrequent expenses that are not tax deductible and are thus unrelated to the magnitude of adjustments.

Finally, we compared the audit adjustments across years within the same book-tax conformity period to ascertain whether there was any time series effect. Our multivariate results indicate that audit adjustments are not significantly different from year to year within each of the three periods, but they are different across different periods. These results provide assurance that changes in audit adjustments are mainly due to changes in the propensity of managers to engage in opportunistic reporting behavior. Corresponding to this finding, we also checked the within-firm changes in BTD for firms that had been audited across all the sample years (47 firms). We found that the changes in BTD within a period are significantly smaller than the changes across different periods.[7] These results further strengthen our argument that changes in audit adjustments and book-tax differences are due mainly to changes in regulations rather than a time series effect.

6. Conclusions

Many countries are moving away from tax-based accounting systems in the hope of improving the usefulness and value relevance of financial reports. In this study, we investigate whether that move is likely to engender tax noncompliance and how well book-tax differences can continue to signal tax noncompliance. Aligning tax and book income will force firms to make the book-tax tradeoff, constraining the extent to which firms engage in tax noncompliance behavior. In contrast, detaching book income from taxable income will decrease the need for the tradeoff, thus creating more opportunities for firms to manage taxable income with less effect on book income. Furthermore, when book income conforms to taxable income, book-tax differences should generally be small, and any material shortage of taxable income below book income probably represents tax noncompliance. However, when book income departs from taxable income, book-tax differences are the result of intrinsic differences in the rules for financial reporting and tax reporting, and extrinsic differences in managerial intent. Thus, we expect that book-tax differences will be a less useful indicator of tax noncompliance when financial reporting is delinked from tax reporting. Based on a distinct set of listed firms that experienced a shift in the level of book-tax conformity in China, we provide evidence that as the level of book-tax conformity decreases, tax noncompliance increases and book-tax differences become less predictive of tax aggressiveness.

Our study contributes to the book-tax tradeoff literature in a number of ways. First, we extend the applicability and validate the robustness of the book-tax tradeoff theory using a setting (departure from tax-based accounting) not available in the US but highly relevant for many

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[7] While the average percentage changes in BTD within each of the three periods are 12% in the high-conformity period (1996–1997), 21% in the moderate-conformity period (1998–2000) and 65% in the low-conformity periods (2001–2003), the changes in BTD across different periods are 164% from the high to the moderate period (i.e., from 1997 to 1998) and 179% from the moderate to the low-conformity period (i.e., from 2000 to 2001).

transition economies. Second, we empirically verify the impact of a change in the book-tax conformity level on the change in the magnitude of tax noncompliance and the type of noncompliance affected. Third, we enrich the book-tax tradeoff theory by linking the change in the need for a tradeoff with the change in the informativeness of book-tax differences for tax noncompliance, and the change in their importance for tax audit selection. Fourth, our study provides evidence of how firms with special incentives to inflate book earnings tradeoff current tax savings against financial reporting incentives and expected tax examination costs at three different book-tax conformity levels.

Finally, the study sheds light on the recurring debate about the perceived benefits and costs of conforming book and taxable income. Previous studies have generally examined the costs of book-tax conformity for capital markets. The belief that this conformity would mitigate corporate tax avoidance is based largely on perception. Our study fills this gap in the literature by providing archival evidence that conforming book-tax incomes are indeed less costly from a tax perspective. Thus, our study provides support for the proponents of book-tax conformity in the US. Our results show that narrowing the book-tax difference gap can reduce the opportunities and incentives for tax noncompliance.

Our findings also have public policy implications for other countries, especially transition economies contemplating a change in the book-tax relationship. One implication is that policymakers should consider not only the positive effect of relaxing tax-based accounting principles on the quality of financial reports, but also the negative impact of this relaxation on tax law compliance. Countries that decouple their financial and tax reporting systems should proactively increase their tax enforcement efforts. To facilitate tax enforcement, we recommend that listed firms be required to disclose more information about the sources and magnitude of significant book-tax differences in their tax returns. This disclosure requirement should improve the transparency of a firm's tax activities and provide up front, before an audit, an important source of supplemental information from which the government can then determine whether to pursue an audit.

Appendix.

See Table A1.

Table A1. Common book-tax differences (BTD) per relevant accounting and tax regulations before and after the departure from tax-based accounting.

Accounting item	Under tax-based accounting		After adoption of IAS/IFRS	
	BTD	Book-tax treatments	BTD	Book-tax treatments
1. Useful life of fixed assets	No	Same useful lives for book and tax purposes.	Yes	Different useful lives for book and tax purposes (e.g., a longer useful life for book).
2. Salvage value of fixed assets	No	Same salvage value (5% of original cost) for book and tax purposes.	Yes	Different salvage values for book and tax (e.g., 5% for tax, but more than 5% of the original cost for book).
3. Depreciation method	No	Same method (usually straight line method, accelerated methods allowed for certain plant assets).	Yes	Different depreciation methods for book and tax purposes (e.g., straight line method for book, but accelerated method for tax for certain plant assets).
4. Inventory valuation	No	Based on historical cost and the same inventory costing method for book and tax purposes.	Yes	Lower of cost or market for book only. Different inventory costing methods for book and tax purposes (e.g., FIFO for book and average method for tax).
5. Bad debt provision	No	Provision ranges from 0.3% to 0.5% of accounts receivable for book and tax purposes.	Yes	No restriction on provision for book, but up to 0.5% of accounts receivable balance for tax purpose.
6. Intangible assets	No	Historical cost and amortize over the contract period or 10 years (not more than 10 years for book, but at least 10 years for tax, thus in practice 10 years). [a]	Yes	Revalue or amortize over not more than 10 years depending on asset useful life for book, but amortize over at least 10 years for tax purpose.
7. Organization costs	No	Amortize over 5 years for book and tax purposes.	Yes	Amortize over not more than 5 years for book, but at least 5 years for tax purposes.[a]
8. Short-term and long-term investments	No	Historical cost and no unrealized gain/loss for book and tax purposes.	Yes	Lower of cost or market for book purpose and unrealized gain/loss recognized for book, but not for tax purpose.
9. Interest income from government bonds	Yes	Interest income recognized for book but exempted for tax purpose.	Yes	Same as tax-based accounting.
10. Revenue from transfer of technologies	Yes	Revenue recognized for book but exempted for tax purpose.	Yes	Same as tax-based accounting.
11. Donations/ income received for environmental protection and charitable projects	Yes	Donations/income recognized as income for book purpose but exempted for tax purpose.	Yes	Same as tax-based accounting.
12. Government subsidies	Yes/No	Subsidies recognized as income for book purpose but exempted for tax purpose if the subsidies relate to food, high-tech R&D and other allowed items as per relevant regulations.	Yes/No	Same as tax-based accounting. However, specific tax exemptions change over time.

[a] The difference in accounting and tax regulations indicates that the Chinese tax authorities do recognize the potential of firms overstating book income and understating taxable income.

References

Ayers, B., Jiang, J., Laplante,S.K.,2009. Taxable income as a performance measure: the effects of tax planning and earnings quality. Contemporary Accounting Research, 26 (1) (2009), pp. 15–54.

Boynton, C., Mills, L., 2004. The evolving Schedule M-3: a new era of corporate show and tell? National Tax Journal, 57 (3) (2004), pp. 757–772.

Chan, K.H., Lin, K.Z., Mo, P., 2006a. A political-economic analysis of auditor reporting and auditor switches. Review of Accounting Studies, 11 (2006), pp. 21–48.

Chan, K.H., Lo, A., Mo, P., 2006b. Managerial autonomy and tax compliance: an empirical study on international transfer pricing. The Journal of the American Taxation Association, 28 (Fall) (2006), pp. 1–22.

Chan, K.H., Mo, P., 2000. Tax holidays and tax noncompliance: an empirical study of corporate tax audits in China's developing economy. The Accounting Review, 75 (October) (2000), pp. 469–484.

Chan, K.H., Mo, P., 2002. The impact of firm characteristics on book-tax-conforming and book-tax-difference audit adjustments. The Journal of the American Taxation Association, 24 (Fall) (2002), pp. 18–34.

Chen, K.C.W., Yuan, H.Q.,2004. Earnings management and capital resource allocation: evidence from China's accounting-based regulation of rights issues. The Accounting Review, 79 (July) (2004), pp. 645–665.

Davidson, R.A., Gelardi, A.M., Li, F.,1996. Analysis of the conceptual framework of China's new accounting systems. Accounting Horizons, 10 (1996), pp. 58–74.

Deloitte Touche Tohmatsu, 2002. China Business and Tax Guide.

Desai, M.A.,2003. The divergence between book and tax income.   In: J. Porterba (Ed.), Tax Policy and Economy (17th ed.), MIT Press (2003), pp. 169–208.

Desai, M.A.,Dharmapala,D.,2006. Corporate tax avoidance and high-powered incentives. Journal of Financial Economics, 79 (2006), pp. 145–179.

Desai, M.A.,Dharmapala,D.,2009.   Corporate tax avoidance and firm value. The Review of Economics and Statistics, 91 (3) (2009), pp. 537–547.

Dhaliwal, D.,Wang,S.W.,1992. The effect of book income adjustment in the 1986 alternative minimum tax on corporate financial reporting. Journal of Accounting and Economics, 15 (1992), pp. 7–27.

Dopuch, N., Holthausen, R.W., Leftwich, R.W., 1987. Predicting audit qualifications with financial and market variables. The Accounting Review, 62 (July) (1987), pp. 431–454.

Erickson, M., Hanlon, M., Maydew, E., 2004. How much will firms pay for earnings that do not exist? Evidence of taxes paid on allegedly fraudulent earnings. The Accounting Review, 79 (April) (2004), pp. 387–408

Ernst and Young, 2002. Guidelines on Implementing the Vietnamese Accounting System. <http://www.ey.com/GLOBAL/content.nsf/Vietnam_E/Guidelines_to_Implementing_New_Vietnamese_Accounting_System>..

Goncharov, I.,Zimmermann,J., 2006. Earnings management when incentives compete: the

role of tax accounting in Russia. Journal of International Accounting Research, 5 (2006), pp. 41–65.

Guenther, D.A., Maydew, E.L., Nutter,S.E., 1997. Financial reporting, tax costs, and book-tax conformity. Journal of Accounting and Economics, 23 (1997), pp. 225–248.

Hamilton, J., 2009. Obama tax reform proposals would repeal LIFO to conform to IFRS; and increase taxes on securities and commodities dealers. CCH Financial Crisis Center (May 12).

Hanlon, M., 2003. What can we infer about a firm's taxable income from its financial statements? National Tax Journal, 56 (4) (2003), pp. 831–864.

Hanlon, M., 2005. The persistence and pricing of earnings, accruals, and cash flows when firms have large book-tax differences. The Accounting Review, 80 (January) (2005), pp. 137–166.

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 (2008), pp. 294–311.

Hanlon, M.,Mills,L.F.,Slemrod,J.,2007. An empirical examination of big business tax noncompliance. In : Auerbach, A.,HinesJr., J.R., Slemrod,J. (Eds.). Taxing Corporate Income in 21st Century, Cambridge University Press, Cambridge (2007), pp. 171–210.

Hanlon, M., Shevlin, T., 2005. Book-tax conformity for corporate income: an introduction to the issues. National Bureau of Economic Research, Working Paper 11067.

Heckman, J.J., 1979. Sample selection bias as a specification error. Econometrica, 47 (February) (1979), pp. 153–162.

Lev, B.,Nissim,D., 2004. Taxable income, future earnings and equity values. The Accounting Review, 79 (4) (2004), pp. 1039–1074.

McClelland, J.,Mills,L.F., 2007. Weighing benefits and risks of taxing book income. Tax Notes (February 19) (2007), pp. 779–787.

Mills, L.F., 1996. Corporate tax compliance and financial reporting. National Tax Journal, 49 (1996), pp. 421–435.

Mills, L.F.,1998. Book-tax differences and Internal Revenue Service adjustments. Journal of Accounting Research, 36 (Autumn) (1998), pp. 343–356.

Mills, L.F., Newberry, K., 2001. The influence of tax and nontax costs on book-tax reporting differences: public and private firms. The Journal of the American Taxation Association, 23 (Spring) (2001), pp. 1–19.

Mills, L.F.,Newberry,K.,2005. Firms' off-balance sheet and hybrid debt financing: evidence from their book-tax reporting differences. Journal of Accounting Research, 43 (2) (2005), pp. 251–282.

Mills, L.F., Plesko, A., 2003. Bridging the reporting gap: a proposal for more informative reconciling of book and tax income. National Tax Journal, 56 (4) (2003), pp. 865–893

Ministry of Finance, 1998. Accounting Regulation for Listed Companies. China Financial and Economic Publishing House, Beijing, China (1998) (in Chinese).

Ministry of Finance, 2001. Accounting Standards for Business Enterprises. China Financial and Economic Publishing House, Beijing, China (2001) (in Chinese).

Murray, N., 1995. Sales tax compliance and audit selection. National Tax Journal, 48 (1995), pp. 515–530.

Phillips, J., Pincus, M., Rego,S., 2003. Earnings management: new evidence based on the deferred tax expenses. The Accounting Review, 78 (2) (2003), pp. 491–522

Radebaugh, L.H., Gray, S.J., Black, E.L., 2006. International Accounting and Multinational Enterprises, 6th ed.   John Wiley and Sons, Inc., Hoboken, NJ.

Rhoades, S.C., 1999. The impact of multiple component reporting on tax compliance and audit strategies. The Accounting Review, 74 (January) (1999), pp. 63–85.

Sanders, D.L., Reckers, P.M.J., Iyer,G.S., 2008. Influence of accountability and penalty awareness on tax compliance. The Journal of American Taxation Association, 38 (2) (2008), pp. 1–20.

SAT (State Administration of Taxation), PRC, 1993. Detailed Procedures Regarding Tax Audits. China Taxation Publishing House, Beijing, PRC (1993) (in Chinese)

SAT (State Administration of Taxation), PRC, 1995. Tax Audit Procedures, Guoshuifa [1995] No. 226 (in Chinese).

SAT (State Administration of Taxation), PRC, 1996. Regulation on the Firms' Overstatement of Tax Losses, Guoshuifa [1996] No. 162 (in Chinese).

SAT (State Administration of Taxation), PRC, 1997. Administrative Measures Concerning Enterprise Income Tax, Guoshuifa [1997] No. 195 (in Chinese).

SAT (State Administration of Taxation), PRC, 2000. Regulation on the Deductions for Enterprise Income Tax, Guoshuifa [2000] No. 84 (in Chinese).

SAT (State Administration of Taxation), PRC, 1996-2004. Tax Yearbook of China : China Taxation Publishing House, Beijing (1996–2004) (in Chinese)

Seida, J., 2003. Enron: The Joint Committee on Taxation's Investigation Report. Testimony before the US Senate Finance Committee (108th Congress—First Session) S. Hrg. 108–117, February 13.

Seidman, J.K., 2008. Interpreting Fluctuations in the Book-Tax Income Gap as Tax Sheltering: Alternative Explanations. University of Texas Working Paper.

Shevlin, T., 2002. Commentary: corporate tax shelters and book-tax differences. Tax Law Review, 55 (3) (2002), pp. 427–443

State Council, PRC, 1994. Tentative Regulations on the Enterprise Income Tax of the People's Republic of China (in Chinese).

Street, D.L., 2002. GAAP Convergence 2002—A Survey of National Efforts to Promote and Achieve Convergence with International Financial Reporting Standards. BDO, Deloitte Touche Tohmatsu, Ernst & Young, Grant Thornton, KPMG and PricewaterhouseCoopers (available on www.ifad.net).

Tang, T., 2006. Book-Tax Differences, a Proxy For Earnings Management and Tax Management—Empirical Evidence from China. Working paper, The Australian National University.

Watts, R., Zimmerman, J., 1986. Positive Accounting Theory. Prentice Hall, Englewood Cliffs, NJ (1986)

Xiao, J.Z., Weetman, P., Sun, M., 2004. Political influence and coexistence of a uniform accounting system and accounting standards: recent development in China Abacus, 40 (2004), pp. 193–218