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An empirical analysis of book-tax reporting difference and tax noncompliance behavior in China

Feng TANG

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AN EMPIRICAL ANALYSIS OF
BOOK-TAX REPORTING DIFFERENCE AND
TAX NONCOMPLIANCE BEHAVIOR IN CHINA

TANG FENG

MPHIL

LINGNAN UNIVERSITY

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AN EMPIRICAL ANALYSIS OF
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by
TANG Feng

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ABSTRACT

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by

TANG Feng

Master of Philosophy

The traditional accounting system in China was directly linked to the tax assessment. The close linkage between the two sets of reporting rules has substantially weakened, as China promulgated a series of accounting standards and regulations in the late 1990s. As a result, accounting for financial reporting purposes does not have to conform to accounting for tax reporting purposes. This divergence between the two measures of income will inevitably cause accounting book income to differ from taxable income. This is because the more the excess of book income over taxable income, the more the magnitude of tax audit adjustments. Mills (1998) suggests that book tax difference is an indicator of a firm's tax noncompliance. This implies that additional tax-related costs may arise when accounting book income is higher than taxable income, and these costs may have an impact on the tradeoff between tax incentives and financial reporting incentives.

Based on data from the Chinese stock market, this study tests empirically whether book tax differences due to the tradeoff between tax and non-tax cost results in tax audit adjustments. I hypothesize that the magnitude of tax noncompliance increases as book tax differences increase, and this relationship is stronger after the departure of financial reporting from tax rules in China. The results provide evidence in support of the hypothesis. This study extends prior research and contributes to the understanding of tax and non-tax tradeoffs in a different context. The results have rich implications for corporate managers and policymakers in other developing countries experiencing a similar transition from a tax-based accounting system to a system that gives corporate managers considerable discretion over the choice of accounting methods. One implication is that although book tax delinking may improve the usefulness of financial reports, it could weaken the perceived equity of the tax system and increase corporate tax avoidance behavior. Therefore, when setting accounting standards, policy makers should not only look at the impact of information relevance on the capital market, but also consider the consequence of these standards on government revenue.

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

TANG Feng
(Date)

CERTIFICATE OF APPROVAL OF THESIS

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Panel of Examiners:

_____ (Chairman)
Dr. William SHAFER

_____ (External Member)
Dr. Phyllis L. L. MO

_____ (Internal Member)
Dr. Kenny Z. P. LIN

_____ (Internal Member)
Dr. Richard SIMMONS

Chief Supervisor:
Dr. Kenny Z. P. LIN

Co-supervisor:
Prof. Koon-hung CHAN

Approved for the Senate:

_____
Prof. Mee-kau NYAW
Chairman, Research and Postgraduate Studies Committee

_____
Date

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Chapter 1

Introduction

This chapter summarizes the motivation of this study, research objective and main findings. Theoretical contributions and practical implications are also discussed at large.

1.1 Motivation

With the rapid economic development of China and its entry into the World Trade Organization, China's accounting and tax regulations have gone through great revisions in the last few years. Traditional accounting systems in China have been criticized as being incapable of reflecting the truth and fairness of a financial situation, and tax-oriented accounting rules have been regarded as a major barrier impeding accounting harmonization with international accounting practices (Gao, 2001; Liu, 2001; Gao, 2003). Since the late 1990s, a series of accounting standards and new accounting systems have been promulgated, and as a result, the close link between accounting and tax has been gradually removed. In particular, the new comprehensive *Accounting System for Business Enterprises* issued on December 29, 2000 has led to substantive separation of accounting and tax treatments, and thus, accounting for financial reporting purposes does not necessarily have to conform to accounting for tax reporting purposes. This divergence of accounting and tax rules generally causes accounting book income to differ from taxable income.

Mills (1998) suggests that book tax difference (i.e., the difference between book income and taxable income) is an indication of tax noncompliance, and the more the excess of book income over taxable income, the more the magnitude of tax

audit adjustments. This implies that additional tax-related costs may arise when accounting income is higher than taxable income, and that these additional costs have an impact on the tradeoff between tax incentives and financial reporting incentives. Therefore, it would be most interesting to examine the relationship between book tax difference and tax noncompliance in China's specific situations.

Tax noncompliance behavior is attracting the interest of increasing numbers of researchers, and has become a booming research area in accounting. As Shackelford and Shevlin (2001) summarize, three areas in tax research – tax and non-tax cost tradeoffs, taxes and asset prices, and multijurisdictional, have been emerging in recent years. Most empirical studies focus on the tax and non-tax cost tradeoffs, especially the tradeoff between tax incentives and financial reporting considerations (Cloyd et al., 1996; Mills, 1996, 1998; Mills and Newberry, 2001). Other studies examine the factors that affect tax noncompliance behavior (e.g., Rice, 1992; Bradley, 1994). However, most of this line of research was carried out based on data from developed economies, especially the US. Research on tax noncompliance behavior in developing economies is limited. While Chan and Mo (2000, 2002) study how tax holiday positions and corporate characteristics are associated with tax noncompliance of foreign investment enterprises in China, they have not directly examined the impact of book tax differences originating from the tax and non-tax cost tradeoffs on tax noncompliance behavior in China.

1.2 Research Objective

As significant reforms of accounting and tax rules have occurred in China since the late 1990s, the objective of the study is to investigate whether book tax differences arising from the separation of accounting and tax regulations lead to tax

noncompliance by listed companies in China. Specifically, this study attempts to test empirically whether book tax differences due to the tradeoff management makes between tax and non-tax costs result in tax audit adjustments on the companies listed in China's capital markets, and whether the relationship differs in the periods of pre- vs. post-delinking of book tax reporting rules. I hypothesize that the magnitude of tax noncompliance will increase as book tax difference increases, especially after 2001 when financial reporting was detached from tax reporting. Following Chan and Mo (2002), I use the amount of tax audit adjustments required by tax authorities to proxy for the magnitude of tax noncompliance. Data used for the study were collected from companies' annual reports, prospectuses, announcements, and other publicized documents, as well as tax returns from tax authorities and CPA firms.

1.3 Main findings

Based on 2,207 firm-year observations during the period 1998-2003, the regression results suggest that book tax difference and tax audit adjustment are positively related. Moreover, this relationship is significantly stronger after 2001 than before. I estimate that as book tax difference increases by one unit, tax audit adjustment will be greater during the post- than the pre-delinking period to the extent of 0.05% of sales revenue. This implies that while it may facilitate business decision-making and is more consistent with the "true and fair" view concept, book tax separation may reduce tax compliance levels and increase tax audit costs.

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1.4 Significance of the study

1.4.1 Theoretical contributions

This research extends Mills' (1998) study to the Chinese context, which is dramatically different from that in the US, and the empirical evidence obtained contributes to the prior literature in the following three aspects. First, the results suggest that book tax difference leads to tax audit adjustment by the Chinese tax authorities, which confirms that book tax difference is a useful indicator of tax noncompliance behavior in China when substantial book tax separation occurs. That is, in the context of China, the magnitude of book tax difference, resulting from corporate managers' decisions on the choice of financial accounting and tax treatments, may also incur tax authorities' increased scrutiny of corporate tax reporting. Second, based on the tax and non-tax costs tradeoff theory developed in the literature, I argue that tax and non-tax cost tradeoffs operated differently before book tax separation in China compared with the tradeoffs in the US, and that they become somewhat similar after book tax delinking in both countries. In other words, the application of tax and non-tax costs tradeoff theory is applicable in China with some necessary modification. That is, before book tax separation, managers simply trade off the relative importance of financial reporting and tax reporting without considering additional tax-related costs, while after book tax separation, additional tax-related costs (such as tax examination costs and tax fines) originating from book tax difference should be taken into account. Finally, the empirical evidence contributes to the Scholes-Wolfson framework which attempts to explain the role of taxes in organizations (Scholes and Wolfson, 1992; Shackelford and Shevlin, 2001). That is, to some extent, tax does have an impact on Chinese managers' financial decisions. Managers should consider "all parties", "all taxes", and "all costs" to

achieve effective tax planning, and tax and non-tax cost tradeoffs affect managers' choice of financial and tax reporting treatments. Therefore, for researchers interested in studying tax noncompliance in transitional economies such as China, all tax and non-tax related factors should be included in the analysis. Omitting otherwise relevant variables could confound the test results.

1.3.2 Practical implications

The results of the study are rich in implications. From the perspective of corporate managers, the results suggest that while the separation of book tax regulations may provide opportunities for tax planning and earnings management, firms cannot costlessly manipulate book income and taxable income independently without incurring probable tax examination costs. From the perspective of accounting and tax policy makers, the results suggest that while the detachment of the two sets of rules may improve the usefulness of financial reports, it could weaken the perceived equity of the tax system and increase the tax noncompliance level, as the tax authorities have to put great efforts into detecting potential tax violations by carrying out in-depth tax audits. Therefore, when policy makers set financial accounting standards, they should not only look at the impact of the true and fair view concept on the capital market, but also consider the effect of these standards on tax revenue forfeited due to noncompliance.

Moreover, the results of this study may be irradiative for other countries. Relationships between accounting and tax systems tend to vary among countries. Generally, there are three types of book tax systems around the world (OECD, 1987; Porcano & Tran, 1998; Eberhartinger, 1999; Lamb, Nobes, and Roberts, 1998; Haller, 1992; Takatera and Daigo, 1989; PricewaterhouseCoopers, 2000). In the first, accounting rules are significantly affected by tax rules. No book entries contrary to

tax rules are allowed in financial reporting. Typical countries using the tax-based accounting system include Brazil, India, Mexico, Norway, Japan, and Russia.[1] In these countries, the major users of financial reports are government agencies and financial institutions. As the objective of financial reporting is to provide information to these homogeneous groups of users, uniform financial reports conforming to tax reporting are adequate to serve the purpose. As such, accounting rules and tax rules conform in all aspects. Although there may be less tax noncompliance, tax-oriented financial accounting information may not truly reflect the financial position and operating results of the companies. Hence, Porcano and Tran (1998) suggest that a certain degree of separation of the two rules may be beneficial. In the second, accounting rules are independent of tax rules. That is, financial reporting is based on accounting rules, while tax reporting is based on an independent framework outside financial accounting principles. Countries adopting this type of system include Australia, Canada, Demark, Ireland, Netherlands, and New Zealand, the UK, and the US. As pointed out by Mills (1996), government enforcement costs are high when tax rules and accounting rules are not closely related. Further, preparing financial reports and tax reports separately may not be cost effective both for individual taxpayers and for the society. Since conformity of accounting and tax rules may improve the perceived equity of the tax system, reduce tax compliance costs, and enhance tax compliance levels, there has been a call for a reasonable book-tax alignment in these countries (Porcano and Tran, 1998).

In the third, financial accounting is based on generally accepted accounting principles (GAAP), with some exceptions to meet specific tax purposes. Tax reporting, to some extent, depends on financial reporting. They are relevant to each

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[1] In fact, reforms have recently occurred in all these countries except Brazil, leading to some degree of separation between accounting and tax rules (Alexander and Schwencke, 1997; Takatera and Daigo, 1989; Rahman et al., 2004; Motorin, 2000).

other, but not strictly in conformity. Countries using this type of system include Austria, Belgium, Finland, France, Germany, Greece, Italy, Portugal, Spain, and Sweden. While the main users of financial information in the first category tend to be the government, the major users in the second and third categories are more diversified and include investors, bankers, creditors, and the public. In order to satisfy the needs of these heterogenous groups of users, accounting for financial reporting and accounting for tax reporting cannot be in conformity for all business transactions. While financial reporting is independent of tax reporting in the second category, the two systems are interdependent in the third category. In countries in the last category, accounting rules and tax rules are not the same under certain circumstances, in order to achieve accounting harmonization with international practice and to fulfill the differential objectives of the two systems simultaneously. As China can also be classified, respectively, into the first and the last category pre- and post-2000, its experience can provide a useful reference for other countries undergoing similar transitions, especially for major developing countries, such as India, Brazil, and Mexico.

1.5 Organization of the thesis

The organization of the remaining chapters is as follows. Chapter 2 reviews the prior literature on tax noncompliance and discusses the tax and non-tax costs tradeoff theory. Chapter 3 provides the institutional background on the development of China's accounting and tax regulations. Chapter 4 develops the research hypothesis. Chapter 5 describes the research methods, including data collection, sample selection, and the regression model. Chapter 6 presents empirical results. Chapter 7 concludes, and discusses some limitations and further research.

Chapter 2

Literature Review

Research in taxation is becoming an increasingly important area of research in accounting. This chapter reviews in detail studies on tax noncompliance and tax non-tax costs tradeoff theory in developed countries, and limited studies on tax noncompliance in China.

2.1 Studies on tax noncompliance in developed economies

Due to the difficulty of data collection, there are not many studies on corporate tax noncompliance behavior. Some studies have attempted to find the organizational factors that affect tax noncompliance behavior. As commented by MacKie-Mason (1992), Rice (1992) may be the first to have empirically examined corporate tax evasion behavior. Rice (1992) examines small corporations' tax noncompliance behavior, and finds that while public information disclosure requirements encourage tax compliance, marginal tax rates, firm size, and location in a poor compliance region have a negative association with tax compliance. Bradley (1994) examines the influence on tax compliance behavior of six factors – complexity of tax law, supportive corporate environment, financial stress, perceived costs of noncompliance, risk of audit adjustment, and personal compliance profile of the corporate tax employee. She was the first to develop a set of scales to measure these six potential factors. Murray (1995) focuses on sales tax compliance, and finds that firm size affects tax noncompliance, that is, newer firms are more tax compliant than older firms.

The majority of previous studies on tax noncompliance are based on the tax and non-tax costs tradeoff theory, especially the tradeoff between tax related costs and financial reporting cost. As Shackelford and Shevlin (2001) summarize, the tax and non-tax costs tradeoff has been one of the major areas of tax research in accounting. Selected papers are reviewed in the following section.

2.2 Studies on tax and non-tax costs tradeoff

Tax and non-tax costs tradeoff theory originates from the framework proposed by Scholes and Wolfson (1992), who attempt to investigate the role of taxes in organizations by adopting a positive perspective. The Scholes-Wolfson conceptual framework involves three central aspects, that is, all parties, all taxes and all costs. Scholes and Wolfson state:

"Effective tax planning requires the planner to consider the tax implications of a proposed transaction for all of the parties to the transaction."

"Effective tax planning requires the planner, in making investment and financing decisions, to consider not only explicit taxes (tax dollars paid directly to taxing authorities) but also implicit taxes (taxes that are paid indirectly in the form of lower before-tax rates of return on tax-favored investments."

"Effective tax planning requires the planner to recognize that taxes represent only one among many business costs, and all costs must be considered in the planning process: to be implemented, some proposed tax plans may require exceedingly costly restructuring of the business." (Page 2)

The Scholes-Wolfson paradigm implies that managers should consider "all parties", "all taxes", and "all costs" to achieve the goals of effective tax planning, such as tax minimization. Minimizing the present value of tax-related costs should be traded off with or weighed against other objectives, such as maximizing reported

accounting income and the wealth of shareholders. Based on this framework, a number of empirical studies have examined tax and non-tax cost tradeoffs, particularly the tradeoff between financial reporting costs and tax costs in the US. For example, Mills (1998) and Dhaliwal et al. (1994) examine the aggregate effects of the tradeoff and the tradeoff in specific settings, such as LIFO inventory accounting treatment and income shifting around the US tax reform in 1986. Financial reporting costs, extensively addressed in earnings management literature (Watts and Zimmerman, 1986, 1990; Healy and Wahlen, 1999), are those real or perceived costs related to decreases in reported accounting income or shareholders' equity (Shackelford and Shevlin, 2001). In many cases, tax planning will lead to lower reported accounting income. Rational managers, attempting to realize the objectives of effective tax planning, will evaluate the relative importance of tax incentives and financial reporting incentives to maximize the expected benefits for themselves and for the whole firm, as financial contracts (e.g., compensation plan and debt contract) are often tied up with accounting income, and firms' market value is closely related to accounting numbers (Ball and Brown, 1968; Dechow, 1994; Kothari, 2001; Nichols and Wahlen, 2004). As such, tax and non-tax costs tradeoff can be used to investigate corporate tax noncompliance behavior.

Cloyd (1995) uses an experimental design, in which experienced tax professionals responded to questions on two hypothetical scenarios. He finds that when accounting treatment and tax treatment are ambiguous, tax preparers tradeoff tax benefits against non-tax costs in the process of choosing methods for financial accounting and tax reporting, as book tax conformity or nonconformity can have influences on tax and non-tax costs or benefits. Specifically, when accounting and tax treatment are not in conformity, tax preparers predict that the probability of being

tax audited by the US Internal Revenue Service (IRS) is higher and the probability of successfully defending aggressive tax positions is lower; and it is the opposite case when accounting and tax treatment are in conformity. Similarly, Cloyd et al. (1996) use a mail survey to ask senior financial officers of selected large- and medium-sized manufacturing companies to respond to questions in a short case. They also find that tax reporting considerations have impacts on financial accounting choice, because book-tax conformity decreases the probability of the IRS's audit and scrutiny. From the perspective of tax authorities, book tax difference is a "red flag" of aggressive tax reporting. Moreover, public firms are less aggressive in tax noncompliance than private firms, because of the higher non-tax costs they face.

Mills (1996) provides preliminary evidence that tax audit adjustments by the IRS are related to the level of book tax conformity, which is also related to the tradeoff between incentives of financial reporting and tax reporting. She also finds some evidence that public firms generally have larger book tax differences than private firms, supporting the hypothesis that public firms have stronger book incentives relative to tax incentives than private firms. Using archival data, Mills (1998) finds that the proposed audit adjustments by the IRS will be greater as book-tax differences increase, indicating that corporate managers cannot costlessly manipulate financial accounting reporting and tax reporting independently, as there exist tradeoffs between current tax savings, costs of tax examination and financial reporting benefits. The empirical results also suggest that public firms generally have lower IRS proposed audit adjustments than private firms, because public firms face more non-tax costs and thus are less aggressive in tax planning, The findings triangulate the conclusions of Cloyd (1995) and Cloyd et al. (1996).

Mills and Sansing (2000) attempt to formulate tax and non-tax cost tradeoffs by constructing a stylized game theory tax compliance model. Their model considers both taxpayers and the tax authority as strategic players, and predicts that book tax difference is highly correlated with the chance of tax audit by the tax authority, but is not related to detected understatements of tax liability. Specifically, they propose that the probability of being tax audited increases as positive book tax difference increases, and that the probability of additional tax costs incurred, conditional on being audited, is similar, regardless of whether positive book tax difference is generated or not. The strategic tax compliance model is empirically tested in the study, and the results validate the model. Mills and Newberry (2001) also examine tax and non-tax cost tradeoffs by public vs. private firms, and find evidence of the effect of tax and non-tax costs on aggregate book tax reporting difference. Their results also confirm that public firms generally report larger book tax difference than private firms, due to higher financial reporting costs and thus fewer incentives for conforming financial reporting to tax reporting. This implies that book tax difference may be a stronger indicator of aggressive tax reporting for public firms than for private firms.

In addition to these studies testing aggregate and general effects of tax and non-tax tradeoffs on tax noncompliance behavior, other research focuses on a number of specific settings, such as LIFO (Last In First Out) inventory accounting treatment (Dhaliwal et al., 1994; Frankel, and Trezevant, 1994; Hunt et al., 1996), management compensation (Matsunaga et al., 1992), capital structure and divestiture (Maydew et al., 1999; Klassen, 1997), income shifting corresponding to the US Tax Reform Act in 1986 (Scholes et al., 1992; Dhaliwal and Wang, 1992; Guenther, 1994; Guenther et al., 1997; Maydew, 1997) and specific regulated industries (Scholes et

al., 1990; Beatty et al., 1995; Beatty and Harris, 1999; Mikhail, 1999). All these studies directly or indirectly suggest that tax and non-tax tradeoffs are related to tax noncompliance behavior. For example, Guenther et al. (1997) provide evidence that public firms which were required to switch from the cash method to the accrual method for tax reporting purposes as a result of the Tax Reform Act of 1986 deferred income to later years at a lower tax rate. They argue that this behavior is consistent with the tax and non-tax costs tradeoff arising from the tax reform. Beatty and Harris (1999) and Mikhail (1999) examine banks and life insurance companies, and find that tax considerations have a greater influence on private firms than on public firms. The results suggest that private firms view tax savings as more important than financial reporting benefits, and achieving optimal tax strategy is less costly for private firms. Using a sample of major capital divestitures (i.e., large dispositions of operating units), Klassen (1997) provides evidence that inside ownership concentration has impacts on the tradeoff between book and tax incentives. He finds that the financial reporting consequences of tax planning strategies are less important where firm ownership is concentrated in the hands of relatively few owners, and thus manager-owned companies tend to put a higher priority on tax planning, because they are less sensitive to financial reporting costs.

2.3 Studies on tax noncompliance in developing economies

Although there is an increasing number of empirical studies in the developed economy framework, particularly the US, studies on tax noncompliance behavior in China are limited. The exception to this is the study by Chan and Mo (2000). By obtaining tax audit data from selected Chinese tax bureau, they measure tax noncompliance as tax audit adjustments required by the tax authorities, and find

empirical evidence to suggest that tax noncompliance behavior of foreign investment enterprises is significantly affected by their tax holiday positions. Specifically, they find that companies' least compliant behavior occurs in the pre-holiday periods, while their most compliant behavior occurs in the tax-exemption period. They also find that companies have long-term considerations on tax noncompliance strategy, and that some firm characteristics, such as activity orientation, technology status, form of investment and inside ownership concentration, influence noncompliance. Chan and Mo (2002) extend their previous study of 2000 by decomposing tax audit adjustments into book-tax conforming adjustments and book-tax difference adjustments to investigate the impact of firm characteristics on tax noncompliance. Book-tax conforming tax audit adjustments represent those adjustments that affect both accounting income and taxable income, while book-tax difference tax audit adjustments represent those adjustments that affect only taxable income. The decomposition is a useful starting point to study different incentives and forms of noncompliance and helps better analyze tax noncompliance behavior. Chan and Mo (2002) find that firm characteristics have a significant impact on book-tax conforming adjustments and book-tax difference adjustments. Specifically, they find that export-oriented and high-tech foreign investment enterprises generally have larger book-tax conforming noncompliance, while domestic-oriented and non-high-tech foreign investment enterprises have larger book-tax difference noncompliance. These results also reflect tax and non-tax tradeoffs faced by corporate managers when they try to achieve a certain business goal.

In summary, tax noncompliance has been an important research area in the last two decades. While the majority of studies conducted in the US examine how organizational factors and tax and non-tax cost tradeoffs influence tax

noncompliance, few studies have been carried out in China. This study contributes to the literature by investigating the effect of tax and non-tax cost tradeoffs on tax noncompliance in a transitional economy framework. The specific situations concerning the evolution of accounting and tax rules are described in the next chapter.

Chapter 3

Institutional Background

This chapter describes the specific situations concerning the evolution of accounting and tax rules in China, including the periods of book tax conformity and book tax separation. Differential interactions of accounting and tax rules in China and the US are also discussed.

3.1 The interaction of accounting and tax rules in China

3.1.1 Book tax conformity

The traditional accounting system in China was directly linked to the fiscal budget and tax assessment. Before 1978, China adopted the fiscal policy of "unified receipts and allocations by the state". That is, profits earned by state-owned enterprises (SOEs) were handed over to the state; their losses incurred were covered by the state; and the funds they needed were allocated by the state. There were no personal or enterprise income taxes, and thus no tax policy. Accounting simply facilitates fiscal policy to fulfill its budgetary resource allocation function. In 1979, the government introduced the profit retention system, under which SOEs were allowed to retain a portion of their profit. The chief objective of this reform was to provide incentives for enterprises to increase production and profits. However, the profit retention rate was highly discretionary and differentiated, as it was based on ad hoc, one-to-one negotiations between the enterprise and the government. In July 1983, the profit retention system was replaced by a tax remittance system in which all SOEs paid standard income taxes according to the tax law. Tax laws have since

played a significant role in financial reporting. The Ministry of Finance (MOF) determines the tax rules, which in turn dictate accounting rules. Financial statements and tax returns must conform in all respects for domestic enterprises. Consequently, accounting income did not differ significantly from taxable income.[2]

In the early 1990s, significant revisions were made to China's accounting and tax regulations. For tax rules, the *Income Tax Law for Foreign Investment Enterprises and Foreign Enterprises* was implemented in 1991, while the *Enterprise Income Tax Law (EIT)* for domestic enterprises became effective in 1994. For accounting regulations, the MOF promulgated *Accounting Regulations for Experimental Listed Companies* in 1992 and "Two Standards and Two Systems" in 1993.[3] These rules transformed the old accounting process tailored to the centrally planned economy to the new one in accordance with the market economy. This was the first attempt by the government to realize harmonization of China's accounting rules with international accounting practices (Liu and Zhang, 1996; Gao, 2001; Chen, Sun, and Wang, 2002; Gao, 2003). For instance, six financial accounting elements – asset, liability, equity, revenue, expense and earnings were defined for the first time, a debit and credit double-entry bookkeeping system was adopted, and the outdated financial statements were replaced by a commonly recognized balance sheet and income statements. However, although some accounting and tax reforms have taken place during this period, accounting treatment should still conform to tax rules in most respects.

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[2] Although the MOF allows foreign investment enterprises to prepare their financial statements based on international practices, the financial statements, even though they are drawn up in line with international standards, are still considerably influenced by the tax rules (Liu and Zhang, 1996; Gao, 2001; Gao, 2003). For example, the *Income Tax Law for Joint Ventures* states that, where accounting treatment adopted by the business contradicts tax regulation, tax rules prevail over general accounting principles.

[3] 'Two Standards' refers to *Accounting Standards for Business Enterprises – Basic Standard* and *Enterprise Financial General Standards*. 'Two Systems' refers to *Enterprise Financial and Accounting Systems*.

3.1.2 Book tax separation

Since the late 1990s, the close relationship between financial accounting and accounting for tax purposes has been criticized by both academics and business communities. The major criticism is that tax oriented financial reporting distorts both the business decisions and "true and fair view" concept, and tax-driven accounting standards are regarded as one of the major reasons for accounting disharmony with internationally accepted practice (Liu, 2001; Gao, 2001; Gao, 2003). For example, tax law stipulates that bad debt provisions should not exceed 0.3-0.5% of the ending balances of accounts receivable. While the intent of this regulation is to prevent companies from overstating expenses to reduce tax payments, it is likely that in fact over 0.5% of accounts receivable may become uncollectible. If financial accounting should conform to tax accounting, the presentation of financial statements for external reporting may be distorted. Another example is the rules concerning depreciation of capital assets. The tax law stipulates that the straight-line method should be used except in some special cases, and specifies a minimum useful life for different categories of capital assets. This regulation may also be incompatible with the true and fair view, since the depreciation methods and the economic life of the asset are not determined by the business according to its underlying business conditions for the purposes of external reporting. A third instance is revenue recognition. The tax law generally does not consider the risks related to revenue realization. Ignoring risk factors may harm the decision usefulness of financial accounting information, because users need relevant information not only on expected returns, but also on potential risks.

In addition, critics argue that accounting rules should be independent of tax rules because the objectives of the two sets of rules are quite different. While the

primary objective of a tax system is to raise revenue for government programs, the objective of general purpose financial reporting is to provide information useful to users for making and evaluating decisions about the use of firm resources. Since the role of tax rules is revenue raising, it is reasonable to expect that certain provisions of the tax law are designed to increase revenue and decrease deductions, which differs from accounting rules. While financial reporting should reflect a number of qualitative characteristics, such as relevance, reliability, comparability, and consistency (SFAC No.2, 1980), the tax system should be equitable, efficient (neutral), certain, and economical (Porcano and Tran, 1998). Whereas a certain degree of flexibility may be allowed in financial reporting, uniformity is necessary for tax reporting (Eberhartinger, 1999). Therefore, critics argue that accounting for financial reporting and accounting for tax reporting should be delinked, to fulfill their respective objectives and to satisfy their respective information qualities.

In light of domestic and international pressures, on January 1 1998, China revised the *Accounting Systems for Listed Companies*, in an effort to relax the tax oriented accounting principle, including the removal of rigid limits on bad debt provisions and inventory and temporary investment valuation. In late 2000, the MOF further revised the accounting system, and required shareholding companies to comply with the new *Accounting System for Business Enterprises* effective on January 1, 2001.[4] The new accounting standards and system were designed to move away from the close link between financial reporting and tax reporting.[5] One of the most significant changes was that listed companies are allowed to determine, based

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[4] The new Accounting System for Business Enterprises differs from the Enterprise Financial and Accounting Systems effective in 1993, in that while the old systems differentiated enterprises in terms of industry, the new system unified accounting treatments for all enterprises in different industries except financial institutions.

[5] Refer to Appendix I for a list of China's accounting standards and systems issued by 2003.

on their specific situations, the amounts of eight free-choice provisions, including bad debt provision, provision on impairment of inventories, current investments, long-term investments, fixed assets, construction in process, intangible assets, and consigned loans. These provisions can be charged into corresponding costs, expenses or losses accounts for financial reporting purposes, but they are not deductible from taxable income. Thus, large book tax differences may be generated. While this improves greatly the information quality of financial accounting, the accounting reform leads to more items of differential treatments for financial reporting and tax reporting. With regard to tax regulations, the State Administration of Taxation issued *Measures on Enterprise Income Tax Pretax Deductions* on May 16, 2000, which specifies items deductible from taxable income. A number of supplementary documents were subsequently published in 2003 to clarify ambiguous areas of tax treatment which differ from accounting rules. The new system, together with sixteen specific accounting standards, has caused accounting regulations to substantially depart from tax regulations since 2001.[6]

Appendix III describes the major divergence of the two sets of rules. This divergence can be grouped into the following five categories: 1) differences in the timing of recognition of sales and cost of sales; 2) differences in the method of determining bad debt, management fees, R&D expenses, and entertainment expenses; 3) differences in treating certain operating expenses, such as advertising expenses, commission and insurance expenses, etc.; 4) differences in handling finance expenditures relating to the cost of debt; and 5) differences in the treatment of non-operating expenses such as donations, tax late-payment surcharges and penalties, loss arising from debt restructuring, etc. Under these circumstances, accounting income

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[6] Refer to Appendix II for the flowchart of significant reforms of accounting and tax rules in China since the early 1990s.

prepared under China's GAAP is expected to be different from taxable income prepared under the tax regulations, and companies are allowed to make any entries in their books of account that are contrary to the tax rules. Companies are required to strictly comply with the new accounting system when recognizing revenue, costs, expenses and losses, and preparing financial accounting statements. When filing tax returns, companies need not change book-keeping documents, but instead adjust tax returns only, if accounting income and taxable income are not in conformity due to differences on the bases and timing of income recognition and calculation.

The departure of accounting regulations from tax regulations will inevitably cause book income to differ significantly from taxable income. Although the departure of the two accounting schemes may have increased harmonization with international norms, the flight-from-tax financial accounting rules may also have provided management with opportunities to manipulate both book income and taxable income, and have as a result increased difficulties for tax authorities in tax collection and investigation.

3.2 Comparison of book tax interaction in China and the US

In the US, financial accounting rules and tax rules are generally regarded as two separate systems with little conformity. An examination of the historical development of these two rules in the US reveals that book tax conformity existed prior to the 1950s, and the two sets of rules separated gradually over time (Porcano and Tran, 1998). At first, tax rules were fundamentally dependent on accounting rules. Taxable income was determined in accordance with GAAP, and was calculated based on books of account. The alignment of book tax regulations was designed to ensure that proper accounting methods were used to clearly reflect income. However,

since the 1960s, the extent of reliance of tax reporting on accounting rules began to decrease, because of the divergent objectives of the accounting and tax systems. According to the current Internal Revenue Code (IRC), tax rules do not conform to accounting rules in most aspects, except in the case of inventory valuation (Lamb, Nobes, and Roberts, 1998). That is, if the LIFO method is used for tax reporting purposes, it should also be used for financial reporting (Mills, 1998). There are also some minor areas where book tax conformity exists, such as fixed asset valuation and research and development expenditure (Lamb, Nobes, and Roberts, 1998).

As described above, book income was detached from taxable income during the late 1990s in China. Although there are quite a number of items, stipulated in accounting and tax regulations, where financial accounting treatments and tax treatments are not the same, determination of taxable income is still based on accounting income. Taxable income is calculated by starting from book income and making some adjustments to reach the final amount. The two sets of rules are not separate in China to the same extent as in the US. As mentioned in Chapter 1, China belongs to the third type of relationship between accounting and tax regulations, whereas the US falls into the second type of relationship. Therefore, the book tax interaction in China is not the same as that in the US. Due to independence of accounting and tax rules in the US and interdependence of the two systems in China, tax and non-tax cost tradeoffs may differ. This difference may result in a differential relationship between book tax difference and tax noncompliance behavior in these two countries.

Chapter 4

Hypothesis Development

As mentioned above, there have been increasing studies on tax noncompliance in developed countries, especially in the US, and theories and hypotheses in this line of research are well developed and empirically tested. However, few studies focus on tax noncompliance behavior in developing economies. Although no country can be immune to tax noncompliance, there is, however, a likelihood that more tax abuses are encountered in developing countries than in developed countries, as developing countries generally lack infrastructure and experience in tax administration. Further, the separation of accounting and tax regulations in China provides a unique opportunity to study the relationship between book tax difference and tax noncompliance. In this chapter, I develop the hypothesis about the impact of book tax differences arising from the separation of the two sets of rules on tax noncompliance by using relevant conclusions drawn from the experience in the US and also considering China's unique institutional background.

4.1 Relationship between book tax difference and tax noncompliance during the period 1998-2000

Prior research conducted in the US indicates that tax noncompliance behavior is affected by corporate managers' tax and non-tax considerations. Mills (1998) argues that book tax differences represent aggressive tax reporting of the firm, and thus the more book income exceeds taxable income, the greater are the proposed audit adjustments by the tax authorities. While this relation between book tax

difference and tax audit adjustments may be evident in the US, where the accounting rules are independent of tax rules, it may not be applicable to the Chinese context prior to 2001 when accounting and tax regulations were largely aligned. Before 2001, financial accounting treatments and tax treatments conformed in most aspects, and thus there were few instances where accounting income differed from taxable income. In such a context, book tax differences may not be an effective signal of tax noncompliance behavior. Specifically, if corporate managers lower taxable income, book income will also be lowered by a similar amount, and vice versa. There is limited room for management to manipulate book income and taxable income separately and simultaneously to achieve certain business goals. Therefore, book tax difference may not be correlated to tax audit adjustments in this circumstance.

4.2 Relationship between book tax difference and tax noncompliance during the period 2001-2003

As described earlier, China has undergone major reforms in its accounting and tax systems since the late 1990s. Particularly in 2001, a series of accounting regulations were promulgated and implemented. Appendix II lists a number of accounting rules which were put into effect in 2001. These new regulations directly or indirectly cause financial accounting to depart from tax accounting. In particular, the issuance of the *Accounting System for Business Enterprises* effective on 1 January 2001 can be seen as a milestone of substantial book tax separation. Appendix III describes the major items for which the accounting treatments stipulated in the new accounting system differ from those stipulated in the tax laws.

This separation of accounting and tax rules gives managers some leeway to manipulate book income and taxable income separately, and inevitably results in

large book tax differences. Managers can make income-increasing/decreasing accounting changes through bad debt provisions, depreciation estimates, and other discretionary accruals. For example, Chen et al. (2000) find that listed Chinese companies use discretionary accruals to manage earnings to a level required for maintaining listing status and raising additional capital through rights issue. Furthermore, book tax separation produces flexibility not only for financial reporting, but also for tax reporting, because there are more adjusting items in the tax returns which can be employed by managers to manipulate taxable income. As a result, it is possible that managers can manipulate book income and taxable income in a nonconforming way. That is, managers can choose one treatment for tax reporting and another one for financial accounting reporting. For example, when the straight-line depreciation method is required for tax reporting and minimum useful life of the asset is stipulated in the tax regulation, managers can adopt other depreciation methods, such as double-declining balance method and sum-of-the-years-digits method for financial reporting, and determine expected useful life based on the specific situation. Another example is that managers can choose difference inventory methods for accounting and tax purposes. Thus, book income and taxable income differ in such contexts.

However, tax and non-tax costs tradeoff theory implies that managers cannot costlessly overstate accounting income and understate taxable income independently. This tradeoff theory suggests that rational corporate managers should attempt to maximize the expected utility of known current tax payments, probable future extra tax costs, and other non-tax costs such as financial reporting costs.[7] In the simplest situation, that is, without probable extra tax costs and other non-tax costs, corporate

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[7] As pointed out by Mills and Newberry (2001), some firms that face significant non-tax financial reporting costs still report small book-tax differences. Such irrational behavior is difficult to predict and test empirically.

managers have the incentive to report as low taxable income as possible, even zero taxable income, to minimize tax payments, and to report as high book income as possible to maximize financial reporting benefits. In a realistic complex situation, a firm faces two kinds of costs. The first one is the probable extra tax costs, such as tax examination costs and tax fines. On one hand, when taxable income is held constant, increasing book income will result in larger book tax differences. However, as both book income and taxable income are based on the same underlying economic transactions, increasing book income will in many cases increase taxable income. In other words, if book income is increased while taxable income is not, tax noncompliant behavior is probably committed. It is known that an increase in book income will normally lead to an increase in taxable income as well, even when accounting and tax regulations are separated. That is, if book income is overstated accompanying larger book tax differences, tax authorities may suspect that tax noncompliance exists, and thus additional tax related costs are likely to be incurred. On the other hand, when the accounting income remains unchanged, reducing taxable income can also lead to larger book tax differences. Prior literature (Cloyd et al., 1996; Mills, 1996, 1998; Mills and Sansing, 2001) suggests that book tax differences attract the attention of the tax authorities, increase the possibility of tax examination, and thus incur extra tax costs. Cloyd et al. (1996) find that book-tax conformity decreases the probability of the IRS' audit and scrutiny. Mills (1996) finds that tax audit adjustments by the IRS increase as conformity between accounting for financial reporting and tax reporting decreases, and argues that reporting higher book income relative to taxable income may incur additional tax costs relating to probable tax examination. Mills also examines the relationship between the level of book tax conformity and the variation in managers' incentives

for book income reporting versus tax savings, and finds preliminary evidence that book income is closer to taxable income when tax incentives are more important than financial reporting incentives. Mills (1998) and Mills and Sansing (2000) conclude that book tax differences can be seen as a signal of aggressive tax reporting behavior, and book tax differences increase tax examination costs whenever the differences originate from understating taxable income or overstating accounting income.

The other type of cost a firm faces, when reporting lower book income, is the non-tax financial reporting costs. In order to alleviate the scrutiny of tax authorities due to large book tax difference arising from understatement of taxable income, corporate managers may report lower book income to narrow the gap. However, reporting conformity would incur financial reporting costs, because firm contracts are usually connected with, or based on, accounting income. For example, managers' compensation plans are often tied to the level of accounting income. Lower book income impairs their annual bonuses and personnel actions. Another example of an accounting-based contract is debt covenant, because book income has a great influence on a company's future potential power of obtaining loans from banks. In addition, lowering book income negatively affects a firm's market value and corporate reputation.

Therefore, additional tax-related costs may be incurred when companies report large book tax differences. According to the Scholes-Wolfson conceptual framework, managers need to consider all taxes and all costs to choose the best book and tax reporting strategies with the highest expected utility. As such, there can be a close relationship between book tax differences and tax noncompliance, consistent with Mills (1998).

4.3 Research Hypothesis

Tax and non-tax cost tradeoffs are not the same before and after substantial book tax separation. When financial accounting and tax rules were in alignment before 2001, the tax and non-tax tradeoff was simple, as book income and tax income varied in the same direction and with similar magnitude. In this context, managers traded off the relative importance of book income against taxable income, i.e., traded off the financial reporting benefits against tax savings. Specifically, if tax incentive outweighs book incentive, firms would report lower taxable income and correspondingly lower book income. Contrarily, if book incentive outweighs tax incentive, firms would report higher book income and pay higher tax as well. There were few additional tax costs in this situation, and these costs were irrelevant in the tradeoff consideration.

When accounting and tax rules became detached after 2000, thus creating an opportunity for firms to manipulate both book income and taxable income separately, firms had to consider extra costs of tax examination and tax fines, which firms did not have to consider before book tax separation. More specifically, when tax incentive outweighs book incentive, firms may report lower taxable income without affecting book income. In China, taxable income is calculated based on book income and through a number of tax deductions. Book tax separation increases the complexity of reconciliation between book income and taxable income. Firms may have more opportunities and flexibility to minimize taxable income with less of an effect on book income. For example, a firm may record bad debt provisions (a partially deductible adjusting item) exceeding 0.5% of accounts receivable year-end balances for financial accounting reporting purposes. When calculating taxable income that uses book income as a starting point in the tax returns, the firm may

intentionally not add back the proportion of bad debt provisions that exceeds the limit allowable by the tax rules. As a result, taxable income determined is smaller than the correct one based on tax rules, and the resultant book tax difference becomes larger. [8] Another example is the tax deductible adjusting item – profits obtained from affiliate companies. Firms may intentionally exclude these profits more than the actual amount obtained. As such, taxable income is decreased with book income unaffected, and book tax differences become larger.[9] Similar cases can be found for all other book tax differential items, including both tax deductible and non-deductible adjusting items, such as seven free-choice provisions, income for previous loss making-up and so on.[10] When book incentive outweighs tax incentive, some firms may be able to report higher book income with little impact on taxable income. In fact, it is even more likely for firms to overstate book income and understate

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[8] I assume the following numerical example. Suppose the book income before considering bad debt provisions is $10,000,000, and taxable income before considering these provisions is $8,000,000 (i.e., assume that this amount is obtained by starting from the book income and subjected to a number of adjusting items). Also assume that the firm, based on its specific situation, records bad debt provisions at an average 10% of accounts receivable ending balances of $5,000,000 for financial reporting. Based on these numbers, the book income after considering the bad debt provisions should be $9,500,000 ($10,000,000 - $5,000,000 * 10%). As the stipulated percentage of bad debt provision by tax rules is 0.5% of ending balances of accounts receivable, the correct amount of bad debt provision that ought to be added back to the taxable income should be $475,000 ($5,000,000 * (10% - 0.5%)), and thus the correct amount of taxable income should be $8,475,000 ($8,000,000 + $475,000). Therefore, book tax differences absent of tax avoidance should be $1,025,000 ($9,500,000 - $8,475,000). When the firm intends to reduce taxable income by not adding back the amounts of $475,000, book tax differences will become $1,500,000 ($9,500,000 - $8,000,000). As a result, book tax differences increase by $475,000 ($1,500,000 - $ 1,025,000), originating from an intentionally understatement of taxable income while book income is not affected.

[9] Suppose the book income and taxable income before considering profits obtained from affiliate companies are $10,000,000 and $8,000,000, respectively. Also assume that the amount of profits obtained from affiliate companies is $100,000, which is fully tax deductible. Further assume that the firm intentionally deducts $110,000 (i.e. $10,000 more than the actual amount) for tax reporting. Based on these numbers, the book income after considering profits obtained from affiliate companies should be $10,100,000 ($10,000,000+$100,000). The correct amount of taxable income should be $7,900,000 ($8,000,000-$100,000), while the incorrect amount due to over-deduction should be $7,890,000 ($8,000,000-$110,000). As a result, the correct book tax difference is $2,200,000 ($10,100,000-$7,900,000), while the incorrect one is $2,210,000 ($10,100,000-$7,890,000). Therefore, book tax differences would increase by $10,000 ($2,210,000-$2,200,000), as taxable income is decreased by the same amount while book income is not affected.

[10] For more adjusting items, see Table 1.

taxable income simultaneously to obtain both financial reporting and tax benefits.[11]

All these cases indicate that both tax deductible and non-deductible adjusting items are likely to attract the tax authorities' attention when book tax difference arises, and firms may incur tax-related costs as a result. Tax authorities may suspect that there could be something wrong when a firm reports large book tax difference, and therefore would regard book tax difference as a red flag of tax noncompliance behavior.

In this way, the major distinction of tax and non-tax tradeoffs before and after book tax separation is that additional tax-related costs have a greater impact on the tradeoff between tax incentives and financial reporting incentives after separation than before. In addition, there may be more incentives for tax planning after book tax separation than before. These differential incentives for tax planning are ascribed to

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[11] Continue with the above numerical example of bad debt provision. It is also very likely that firms can intentionally record less bad provision for financial reporting (e.g., only 8% instead of 10%) to overstate book income, while taxable income is still reduced. Suppose the taxable income before bad debt provisions are considered becomes $8,100,000. (This assumption is reasonable, because taxable income should be increased accordingly when book income is overstated.) The new book income would be $9,600,000 ($10,000,000 - $5,000,000 * 8%), an overstatement of $100,000 from the previous one ($9,600,000 - $9,500,000. The correct amount of taxable income should be $8,475,000 ($8,100,000 + $5,000,000 * (8% - 0.5%). While the book tax difference absent of tax avoidance and earnings management is $1,025,000 ($9,600,000 - $8,475,000), book tax differences in the presence of tax avoidance and earnings management become $1,500,000 ($9,500,000 - $8,100,000). As a result, book tax differences increase by $475,000 ($1,500,000 - $1,025,000). In other words, book income is overstated by $100,000 and taxable income is understated simultaneously by $375,000 ($8,475,000 - $8,100,000).

The much more sophisticated examples can be found in the *Report of Investigation of Enron Corporation and Related Entities Regarding Federal Tax and Compensation Issues, and Policy Recommendations* by Joint Committee on Taxation in the US in 2003. Enron deliberately structured complicated transactions to obtain financial reporting and tax benefits, by utilizing the various differential items of book and tax treatments. This report discusses 12 typical structured transactions from 1995 through 2001 when Enron was filed for bankruptcy. For example, Project Tanya, Project Valor, Project Steele, and Project Cochise that were designed to duplicate tax losses (i.e., deduct the same tax loss twice) generated significant accounting income; Project Thomas, Project Condor, and Project Teresa that were designed to shift tax basis from a non-depreciable asset to a depreciable asset also produce financial reporting benefits.

For more details, see "Joint Committee on Taxation, *Written Testimony of the Staff of the Joint Committee on Taxation on the Report of Investigation of Enron Corporation and Related Entities Regarding Federal Tax and Compensation Issues, and Policy Recommendations* (JCX-10-03), February 13, 2003" and "Joint Committee on Taxation, *Report of Investigation of Enron Corporation and Related Entities Regarding Federal Tax and Compensation Issues, and Policy Recommendations* (JCS-3-03), February 2003".

the fact that there is more room for manipulating book income and taxable income separately and more additional tax costs to consider after separation.

According to the above discussion, book tax separation since 2001 may have led to large book tax differences and created more room for Chinese managers to manipulate accounting and tax income in a nonconforming manner. However, managers cannot costlessly maximize both financial reporting benefits and tax savings at the same time (Mills, 1998). Firms maximizing financial reporting benefits or minimizing current tax liabilities face probable costs of tax examination and sanctions. The tradeoff a firm makes between (1) current tax savings, (2) financial reporting benefits, and (3) costs of the examinations and fines may give rise to book tax differences. As book tax differences represent the possibility of aggressive tax planning (Mills, 1998), I hypothesize that:

All else being equal, the magnitude of tax noncompliance for Chinese listed companies will be greater as book tax differences increase, especially after book tax separation in 2001.[12]

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[12] Similar to other studies, this hypothesis assumes a low level of ethics amongst management in preparing accounts and tax returns. Quite a number of studies have documented the relationship between business ethics and tax compliance behavior. A thorough discussion would be beyond the scope of this study with the focus on the relationship between book tax difference and tax noncompliance behavior. For more details on business ethics and income tax, see relevant literature including Schwartz and Orleans (1967), Hunt and Vitell (1986), Jackson and Milliron (1986), Roth et al. (1989), Hite (1996), and Henderson and Kaplan (2005).

Chapter 5

Research Design

This chapter describes data collection and sample selection, and develops a multiple regression model for empirical testing of hypothesis with regard to the relationship between book tax difference and tax noncompliance in China.

5.1 Data collection and sample selection

Since this study intends to investigate the effect of book tax differences which have originated from the separation of accounting and tax regulations on tax noncompliance behavior of listed Chinese companies, most data for the purpose of empirical testing are collected from annual reports of companies listed on the Shanghai and Shenzhen stock exchanges for the period 1998-2003.[13] While book income, ownership structure, and other control variables are publicly available from financial statements, notes and announcements of the companies, taxable income and tax audit adjustments are obtained from local tax authorities and CPA firms.[14]

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[13] There are two major reasons why I choose data beginning from 1998. One reason is that it is difficult to find the hypothesized relationship as book tax differences are relatively small before 1998. The other reason is that partial delinking of book tax reporting taking place in 1998 provides an equal basis for analysis across the years.

[14] Some researchers argue that the use of unpublicized data, such as tax audit adjustments, may give rise to significant methodology issues, because it will be difficult for other researchers to replicate the study, and thus impair the validity and reliability of empirical results and conclusions. However, Shackelford and Shevlin (2001) argue that research using unpublicized data should be encouraged for several reasons. One reason is that such studies can also be replicated, because other researchers can access the same unpublicized data using different methods. In addition, in some sense, collecting unpublicized data is similar to collecting costly and private data, such as data collection in field research, experimental economics and so on. Another reason is that conclusions and theories obtained from unpublicized data can be tested and proved, although imperfectly, by studies using publicized data. Triangulation is possible to reexamine the conclusions, and thus enhance the validity and reliability.

The full sample consists of 3,000 firm-years during 1998-2003, that is, 500 companies per year. As the total number of A-share companies is 825 in 1998, I randomly select 500 of them (264 in the Shanghai Stock Exchange and 236 in the Shenzhen Stock Exchange), and obtain data for the 500 A-share companies during the studied period. As there are missing values for some observations, 159 firm-years are excluded.[15] Then I exclude 30 firm-years of financial institutions, because book tax separation in 2001 may not have any impact on financial institutions.[16] To reduce noise and avoid the need to control for the effect of some variables on audit adjustments, I exclude 126 firm-years with zero or negative tax audit adjustments (i.e., taxable incomes filed by listed companies are larger than, or equal to, audited taxable incomes by tax authorities). I further exclude 466 firm-years with zero or negative book tax differences (i.e., taxable incomes are larger than, or equal to, pre-tax accounting incomes in the annual financial reports), because the magnitude of tax audit adjustments may not be associated with negative book tax differences (Mills, 1998).[17] I also exclude 12 firm-years with standardized residuals larger than 3 as

outliers for the purpose of regression tests.[18] Hence, the final sample consists of 2,207 firm-year observations.

5.2 Regression Model

Both univariate and multivariate analysis are used to examine the association between tax audit adjustments and book tax differences pre- and post-delinking of tax accounting from financial accounting. I first use independent sample t-test to compare the mean tax audit adjustments and book tax differences in terms of pre- and post-2000[19]. I also use the Kruskal-Wallis Test and median tests to compare the median tax audit adjustments and book tax differences for the two periods. Then I calculate the simple correlation for the final sample to preliminarily examine the extent to which book tax differences are correlated with tax audit adjustments, and to check for the existence of any multicollinearity problem.

To test the hypothesis, I establish the following multiple regression model.

$$Ln(TAXADJ) = a_0 + a_1 BT + a_2 POST00 + a_3 POST00*BT + a_4 OWNER$$

$$+ a_5 STRESS + a_6 AGE + a_7 SIZE + a_i INDUSTRY_i + e_i$$

where:
Dependent variable:
$Ln(TAXADJ)$ = natural logarithm of tax audit adjustments divided by sales revenue.
Explanatory variables:
BT = pre-tax accounting income minus taxable income and scaled by sales revenue.
POST00 = 1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.

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[18] Outliers need to be eliminated, as the presence of outliers will adversely affect the fitted values of the regression model, and may give rise to the problem of heteroscedasticity, which can cause difficulties of hypothesis testing due to inefficient estimators, and bring about misleading results.
[19] "Pre-2000" and "prior to 2000" include the year 2000, and "post-2000" and "subsequent to 2000" do not include the year 2000.

Control variables:

OWNER	=	1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS	=	1, if the company issues new stock in the next two years, zero otherwise.
AGE	=	number of years since the company's initial public offering.
SIZE	=	natural logarithm of year-end total assets.
$INDUSTRY_i$	=	dummy variables representing 13 sub-industries.

The dependent variable is measured as the magnitude of tax audit adjustments scaled by sales revenue, subject to a natural logarithm transformation. The natural logarithm always makes sense, since companies with zero or negative tax audit adjustments are excluded from the sample, and tax audit adjustments and sales revenue are positive all the time in this context

Three explanatory variables are included in the regression model. BT, representing book tax differences, is equal to pre-tax accounting income less taxable income, scaled by sales revenue. The expected coefficient of this variable will be positive, because I predict that tax audit adjustments will be greater as book tax differences increase. POST00 is a dummy variable, which equals 1 if tax audit adjustments occurred after 2000, and equals 0 otherwise. If tax audit adjustments are greater after the separation of accounting and tax regulations in 2001, the coefficient of POST00 will be positive. The interaction term POST00*BT tests the hypothesis that book-tax differences subsequent to 2000 result in greater tax audit adjustments than those prior to 2000. A positive coefficient on this interaction term suggests that book tax differences are more predictive of tax aggressiveness subsequent to 2000.

Five audit adjustment related variables are included as control variables. Prior literature suggests that ownership type (public and private) has an impact on book tax differences and tax noncompliance behavior (Cloyd et al., 1996; Mills, 1996, 1998; Mills and Newberry, 2001). Cloyd et al. (1996) argue that public firms are less

aggressive in tax noncompliance than private firms, because public firms face more significant financial reporting costs originating from capital market pressure and agency problems. Mills (1996) and Mills and Newberry (2001) find that public firms have a larger book tax difference than private firms, because public firms face more non-tax costs, and have fewer incentives for book tax conformity. Mills (1998) suggests that public firms have less tax audit adjustments than private firms, as higher financial reporting costs restrict public firms from engaging in tax noncompliance activities. As I examine the tax noncompliance behavior of publicly traded firms in this study, ownership structure may be more applicable here than ownership type. In China's capital market, stock shares of listed companies consist of state shares, institutional shares, and individual shares. In the early years, most listed companies' stocks are dominated by state shares. State shares have recently been gradually decreasing. Thus, control of ownership structure is applicable in this context. In the regression model, the dummy variable OWNER, as a measure of ownership structure, equals 1 if the percentage of state ownership of a company is greater than that of institutional shares, and equals 0 otherwise. In other words, OWNER=1 represents the state-dominated or government-controlled companies. In China, the tax incentives of state-dominated versus other companies are different. As managers of state-dominated companies regard tax payment submitted to the government as a symbol of prestige and success, they may have little incentive to intentionally report lower taxable income and to engage in tax noncompliance behavior. Therefore, I expect the coefficient of this variable to be negative.

As prior studies suggest that financial stress is associated with book tax differences and tax noncompliance (Bradley, 1994; Mills and Newberry, 2001), the dummy variable STRESS is included in the regression. STRESS equals 1 if the

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company issues new stock in the next two years, and equals 0 otherwise.[20] In China, there are relevant regulations on stock rights issue, which create pressures on listed companies to meet a target profitability level. In order to satisfy the requirements, listed companies may attempt to mitigate the financial stress by manipulating earnings and tax payments. That is, if a company intends to raise additional capital through rights issue, it is likely that the company may manipulate both earnings and tax liabilities to present a healthy cash flow in their annual financial statements (Chen et al., 2000). As such, the coefficient is expected to be positive.

The variable AGE represents firm age, that is, the number of years since a company's initial public offering (IPO). Based on the US data, Murray (1995) finds that older companies are less compliant with sales tax regulations than newer companies, but this conclusion does not involve income tax noncompliance. Based on China, DeFond et al. (2001) argue that as firms are getting older, they are more likely to have exhausted capital raised in the IPOs. Thus, they may be aggressive in tax planning in order to improve their cash flows. However, it is also possible that the longer a firm is listed, the more mature and established it becomes in the industry, and hence the less likely the firm will engage in tax avoidance activities. Therefore, I do not predict the sign of the coefficient.

The control variable SIZE is measured as total assets subject to a natural logarithm transformation. Rice (1992) finds that firm size has a positive association with tax noncompliance. On the contrary, Mills (1998) argues that as large firms may have more resources for tax planning, it will be difficult for tax authorities to detect

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[20] One of the requirements for stock rights issue in China prior to March 1999 was that the return on equity (ROE) of each year was no less than 10% for the past three consecutive years. In March 1999, the China Securities Regulatory Commission promulgated a new regulation which specified that a company was qualified for stock rights issue if (a) the average ROE for the past three years was no less than 10% and (b) the ROE of each year in the past three years was no less than 6%. In March 2001, the requirement was modified again. From then on, the qualification concerning ROE for stock rights issue is that the average ROE (lowering of ROE with exclusion and inclusion of extraordinary items) for the past three years is no less than 6%.

their noncompliance behavior. On the other hand, as large firms are more visible to the public and tax authorities, they have less incentive to undertake tax noncompliance. As such, I do not make any prediction on the sign of this variable.

Finally, the dummy variable $INDUSTRY_i$ controls for firm fixed effects in the pooled regression. The coding of $INDUSTRY_i$ is based on the industry classification proposed by the Shanghai and Shenzhen stock exchanges. There are thirteen industries in this classification, and the industry of financial institutions is excluded as mentioned before.

Chapter 6

Empirical Results

This chapter presents data analysis results for hypothesis testing, including descriptive statistics, univariate tests of mean comparison (independent samples t-test) and median comparison (Kruskal-Wallis Test and Median Tests), simple correlation matrix, and multiple regression test. The results of various sensitivity tests are also reported in this chapter.

6.1 Descriptive statistics

Table 1 lists the major items resulting in book tax differences for 2,207 firm-year observations. For tax non-deductible adjusting items, bad debt provision, seven free-choice allowances, and capital expenditure, average 42.23%, 36.23%, and 8.16% of total tax non-deductible adjustments over the study period, respectively.[21] For tax deductible adjusting items, profits obtained from affiliate companies, income for previous loss making-up, and interest revenue of treasury bond, take up 40.44%, 26.90%, and 7.33%, on average, of total tax deductible adjustments, respectively. These differential items, due to the divergence of accounting and tax regulations, produce book tax differences, which constitute the necessary background of this empirical study.

[Table 1]

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[21] The seven free-choice allowances significantly decrease in 2002 and 2003. The possible reason is that after firms record more seven free-choice allowances than the amount they should be, the overstated portion may have been released in the subsequent years.

Table 2 presents descriptive statistics by year for the variables used in the empirical tests. Tax audit adjustments average 0.51% of sales revenue, and fluctuate slightly between 0.46% and 0.63% of sales revenue over the study period. Book tax difference is about 17.25% of sales revenue, and it increases gradually in the period 1998-2000, but sharply in the period 2001-2003, indicating that book tax separation did lead to larger book tax differences subsequent to 2000. The medians of TAXADJ and BT (0.22% and 6.29% respectively) are much lower than their means, suggesting that the observations with larger tax audit adjustment and book tax difference deviate from the means much more than those with smaller tax audit adjustment and book tax difference. The standard deviations of TAXADJ and BT are 0.0098 and 0.5347, which appear to be large enough for statistical analysis.

For the 2,207 firm-year observations, about 59% of firm-years are state-dominated, and 47% face financial stress. The mean number of years since IPO is 6.05, and the average firm size is RMB 187 million.

[Table 2]

6.2 Univariate and bivariate tests

The sample period is divided into two for the empirical tests. Period I (pre-delinking period) refers to the years 1998-2000, and period II (post-delinking period) refers to the years 2001-2003. Table 3 reports the descriptive statistics by period and the results of univariate comparison of mean, median, and variance between the two periods. The mean adjustment scaled by sales revenue for period II is greater than period I (0.54% vs. 0.49%), but they are not significantly different. As expected, the mean book tax difference scaled by sales revenue for period II is significantly larger than period I (23.39% vs. 12.55%), at the 0.01 significance level. These statistics

provide suggestive evidence that separation of accounting and tax regulations in 2001 did lead to a larger book tax difference and tax audit adjustment. The results of Levene's tests for equality of variance indicate that TAXADJ and BT significantly vary much more in period II than in period I. This may lead to the problem of heteroscedesticity in the regression analysis (Gujarati, 2003). Thus, TAXADJ is subjected to the natural logarithm in the regression model to mitigate the problem.

[Table 3]

Table 4 presents Pearson correlations amongst the variables used in the study. With respect to correlations between TAXADJ and the other variables, except the negative correlation between TAXADJ and STRESS, the directions of pairwise correlations are generally in accordance with previous predictions. Specifically, TAXADJ is significantly correlated with the interaction term POST00*BT ($r=0.314$, $p=0.000$), preliminarily supporting the hypothesis that book tax difference is more indicative of tax noncompliance after 2001 than before 2001. However, since the simple correlations do not control for other effects, evidence from the correlation matrix is not affirmatory.

All correlations between independent variables are below 0.30, except correlations between BT and POST00*BT (0.924), between STRESS and POST00 (-0.375), between AGE and POST00 (0.597), and between STRESS and AGE (-0.312). As BT and the interaction term POST00*BT have an approximate linear relationship, a serious multicollinearity problem may exist. Although the ordinary least squares (OLS) estimators are still BLUE (Best Linear Unbiased Estimators) in the regression model, their standard errors are higher, making the t-statistics lower and p-value higher. This makes it difficult to interpret individual coefficients. To correct for the problem of multicollinearity, BT is subject to Z-standardization by year (Kim, 1999;

Fischer, 2004).[22] The major advantage of the standardization transformation of BT is that the multicollinearity problem between BT and POST00*BT can be removed or dramatically reduced by standardization, without losing information in the original regression model (Kim, 1999).

[Table 4]

6.3 Multivariate test

Table 5 presents the results of pooled regression of tax audit adjustment on book tax difference for the 2,207 firm-year observations. The explanatory variable BT is positively related to tax audit adjustment, although it is not significant (a_1=0.030, t=1.265, p=0.206). This insignificance may be due to a weak relationship between tax noncompliance and book tax difference prior to book tax separation in 2001. The coefficient of POST00 is significant at 0.01 (a_2=0.062, t=2.723, p=0.007), suggesting that the magnitude of tax audit adjustments before 2000 significantly differ from the magnitude after 2000. The interaction term POST00*BT has a significantly positive relationship with tax audit adjustments (a_3=0.100, t=4.220, p=0.000). These results support the hypothesis that the magnitude of tax noncompliance is more closely related to book tax difference after compared to before the separation of accounting and tax regulations in 2001. I estimate that when compared with pre-2000, tax audit adjustment in post-2000 will be (on average)

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[22] Based on Kim (1999) and Fischer (2004), BT is subjected to Z-standardization transformation as follows.

Standardized BT_t = (BT_t - Mean (BT_t)) / Standard Deviation (BT_t)
Standardized POST00* BT_t = POST00 * Standardized BT_t
(t=1998,…,2003)

The resulting means and standard deviations of BT_t in each year is zero and one respectively.

greater by 0.05% of sales revenue as book tax difference increases by one standardized unit.[23]

[Table 5]

The results of control variables are mixed. The signs of the coefficients of OWNER and STRESS are contrary to prior expectation, but they are not significant. The coefficient of the variable AGE is negative and significant, suggesting that tax audit adjustments are smaller for older companies, possibly because once firms have become more established, they are less inclined to enter into tax shelter activities. The variable SIZE is negatively related to tax audit adjustment at the 0.01 level, consistent with Mills' (1998) discussion that large firms are more capable of tax planning, and therefore tax authorities face more challenges in detecting their tax noncompliance behaviors.

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[23] Suppose there is the regression $Ln(Y) = \alpha_0 + \alpha_1 \times X + \varepsilon$. We can interpret α_1 as follows.

$$\alpha_1 = \frac{dY/Y}{dX} \Rightarrow \frac{dY}{dX} = \alpha_1 \times Y$$

Therefore, as X increases by one unit, Y increases by $\alpha_1 \times \overline{Y}$ units on average.
In the pooled regression of tax audit adjustment on book tax difference (control variables are included in ε),

$$Ln(TAXADJ) = \alpha_0 + \alpha_1 \times BT + \alpha_2 \times POST00 + \alpha_3 \times (POST00 \times BT) + \varepsilon$$

when POST00=0, $Ln(TAXADJ) = \alpha_0 + \alpha_1 \times BT + \varepsilon$.
When POST00=1, $Ln(TAXADJ) = (\alpha_0 + \alpha_2) + (\alpha_1 + \alpha_3) \times BT + \varepsilon$.
Hence, the results can be interpreted as follows. When POST00=0, as BT increases by one standardized unit, TAXADJ increases by

$$\alpha_1 \times \overline{(TAXADJ)}_0 \text{ (i.e., 0.030*0.0049=0.000147)},$$

where $\overline{(TAXADJ)}_0$ represents the mean of TAXADJ for pre-2000 observations. When POST00=1, as BT increases by one standardized unit, TAXADJ increases by

$$(\alpha_1 + \alpha_3) \times \overline{(TAXADJ)}_1 \text{ (i.e., (0.030+0.100)*0.0054=0.000702)},$$

where $\overline{(TAXADJ)}_1$ represents the mean of TAXADJ for post-2000 observations. Moreover, as BT increases by one standardized unit, there is, on average,

$$[(\alpha_1 + \alpha_3) \times \overline{(TAXADJ)}_1 - \alpha_1 \times \overline{(TAXADJ)}_0]$$
(i.e. (0.030+0.100)*0.0054-0.030*0.0049=0.000555)

more units increase in TAXADJ after 2000 than before.

The overall model fit of this pooled regression is reasonably good (Adjusted R-square=0.318; F=61.597; p-value=0.000), and has enough explanatory power to test the hypothesis on the relationship between tax noncompliance and book tax difference. All variance inflation factor values of independent variables are less than one, indicating that no serious multicollinearity problem exists in the regression model after BT is subjected to Z-standardization transformation. To check the problem of heteroscedasticity, the scatter graph is plotted with estimated squared residual as the y-axis and estimated dependent variable as the x-axis. No systematic pattern is identified, indicating no serious heteroscedasticity in the regression model. Also, White's test is performed, and the null hypothesis that homoscedasticity prevails is not rejected at 0.01. Therefore, the regression results are reliable and credible.

6.4 Sensitivity tests

To check the robustness of the regression results, several additional regression tests are conducted. Table 6 presents the results of these sensitivity tests.

First, annual regressions are performed to examine the yearly relationships between book tax difference and tax audit adjustment.[24] For the three annual regressions prior to 2000, the coefficients of BT are all positive but insignificant, while for the three annual regressions subsequent to 2000, the coefficients of BT are all positive and significant at 0.01. Regressions by the two periods (pre-2000 and post-2000) are also performed. For the pre-delinking period, BT is insignificantly positively related to TAXADJ (a_1=0.040, t=1.571, p=0.116). For the post-delinking

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[24] Mills (1998) argues that an alternative to the pooled regression with fixed effects is annual regressions, which eliminates potential understated standard errors and removes the yearly measurement error to some extent.

period, BT has a significantly positive relationship with TAXADJ (a_1=0.156, t=5.796, p=0.000). These additional analyses provide reinforcing evidence to support the hypothesis.

Second, tax audit adjustment and book tax difference are scaled by total assets, instead of sales revenue, to validate the empirical results. Compared with the previous empirical results, the coefficient of BT becomes negative but is still insignificant, and the coefficient of POST00 is positive and insignificant. The coefficient of the interaction term POST00*BT is positive and significant (a_3=0.290, t=4.615, p=0.000), consistent with the main results. As for the control variables, the coefficient of STRESS becomes positive and significant (a_5=0.076, t=3.531, p=0.000). Although it is different from the previous pooled regression results, the result is consistent with the literature and the prior prediction that the financial stress rooted in the motivation of stock rights issue puts pressure on the listed companies in China, and has an influence on their tax noncompliance behavior. However, the contradictory results are not conclusive. In addition, the coefficient of AGE becomes insignificant, which fails to validate the result in the previous regression that age has significant impacts on tax audit adjustment.

Third, I examined the sample consisting of zero and negative tax audit adjustments and book tax differences. Tax audit adjustment and book tax difference are scaled by sales revenue (not subject to natural logarithm transformation) and total assets in two separate regression equations. No relationships are found, and all explanatory variables and control variables are insignificant at 0.05. The results are similar to Mills' (1998) study, in which she asserts that the insignificant relationship should not be surprising, and it cannot be concluded temporarily whether managers

can manipulate book income and taxable income without cost when book tax differences are negative.

Finally, observations with zero and negative tax audit adjustments and book tax differences are added back into the main sample, with zero and negative tax audit adjustments transformed into one unit of local currency. The hypothesis is not clearly supported, as the coefficients of BT and POST00*BT in the two regressions, with tax audit adjustments and book tax differences scaled by sales revenue and total assets, respectively, are not consistent. OWNER is significant in the regression of Panel D1 at 0.05, but becomes insignificant in the regression of Panel D2, and thus the influence of ownership structure is not conclusive. SIZE is significant in both regressions, which is consistent with the main results.

[Table 6]

Chapter 7

Conclusions and Limitations

This chapter summarizes main results of this empirical study, and discusses several limitations and possible areas for future research.

7.1 Conclusions

Most tax noncompliance research has been conducted based on data from the US and other developed countries. Studies on tax noncompliance in developing countries are limited. China's substantial separation of accounting and tax regulations in the late 1990s, especially in 2001, offers an opportunity to examine Mills' (1998) findings on the relationship between book tax difference and tax noncompliance in the transitional economy framework. Due to China's specific context, the relationship studied here is different from that of Mills. In China, tax and non-tax cost tradeoffs before and after book tax separation are not the same, as additional tax-related costs have to be considered by managers to achieve maximization of expected financial and tax benefits. In addition, companies have differential incentives of tax planning in the two periods, because there is different room for managers to manipulate book income and taxable income freely. Based on the tax and non-tax cost tradeoff, I hypothesize that the magnitude of tax noncompliance increases as the book tax difference increases, especially after the book tax separation in 2001.

The sample for the study comprises the companies listed on the Shanghai and Shenzhen stock exchanges during the period 1998-2003, with 2,207 firm-year observations. Publicized data are collected from annual financial reports, notes,

announcements, and other documents, while unpublicized data are obtained from local tax authorities and CPA firms. Univariate and multivariate methods are performed to test the hypothesis, including independent sample t-test, Kruskal-Wallis test and median test, Pearson correlations, and multiple regression analysis. The empirical results suggest that book tax difference arising from the separation of book tax rules is positively related to tax audit adjustment, and that the relationship is more significant subsequent to 2000 than before, consistent with the hypothesis stated in the study. After book tax separation, book tax difference becomes more informative about tax aggressiveness in China. The results imply that although it is necessary for financial accounting regulations and tax rules to separate, policy makers, when setting financial accounting standards, should consider not only the true and fair view of financial accounting on the capital market, but also the impact of tax noncompliance behavior on government revenue. There should be an optimal level of divergence of accounting and tax rules, where truthfulness and fairness of financial accounting are best attained, and at the same time the magnitude of tax noncompliance is minimized.

7.2 Limitations and suggestions for future studies

There are several potential limitations in this empirical analysis. First, no statistically significant relationship between negative book tax difference and tax audit adjustment is found. This is possibly because the regression model is not powerful enough to test the relation, which should be investigated by further studies. Further research may try devising a proper model to test whether negative book tax difference is correlated with negative tax audit adjustment, complementing the results of this study. Second, prior literature suggests that tax noncompliance can be

decomposed into book tax conforming noncompliance and book tax difference noncompliance (Chan and Mo, 2002). Nevertheless, the decomposition is constrained by data availability. Future research on this area should be warranted. Third, it is premature to conclude whether financial stress and firm age have impacts on tax noncompliance, as the empirical results are mixed when tax audit adjustment and book tax difference are scaled by sales revenue and total assets in two separate regressions. Future studies may focus on the effects of these two factors on tax noncompliance behavior. Fourth, self-selection bias may arise because firm characteristics and other factors may influence tax authorities' choice of tax audit targets. The existence of the problem may result in misleading conclusions. However, self-selection bias cannot be corrected in this study due to a lack of relevant data. Future research may be needed to take the self-selection problem into analysis by accessing more relevant unpublicized data. Finally, studies on tax noncompliance behavior based on data from other developing countries are needed to strengthen and triangulate the results of this study, and to provide more reference for other economies experiencing a similar transition of tax-based accounting to international accounting standards.

Table 1   Sources of Book Tax Difference

Sources of Book Tax Difference	1998	1999	2000	2001	2002	2003	Total
Tax Non-deductible Adjusting Items (%)							
Bad Debt Provisions	18.97%	55.18%	30.36%	16.14%	72.46%	58.67%	42.23%
Seven Free-Choice Allowances	19.65%	32.85%	29.23%	71.28%	4.66%	6.87%	36.23%
Capital Expenditure	22.06%	4.41%	14.53%	4.74%	9.93%	13.14%	8.16%
Salary Expenses	11.40%	2.21%	7.50%	2.38%	3.71%	6.05%	3.90%
Business Reception Expenses	5.65%	1.09%	3.55%	1.06%	1.93%	3.16%	1.91%
Sponsoring Expenditure	3.65%	0.69%	2.42%	0.72%	1.22%	1.98%	1.24%
Donations for Commonweal and Relief Purpose	3.60%	0.69%	2.37%	0.69%	1.16%	1.87%	1.20%
Donations Not for Commonweal and Relief Purpose	3.48%	0.67%	2.33%	0.67%	1.15%	1.92%	1.18%
Expenditure Not Related to Sales	2.67%	0.52%	1.77%	0.53%	0.86%	1.46%	0.91%
Miscellaneous Items	8.87%	1.69%	5.94%	1.79%	2.92%	4.88%	3.04%
Total	100%	100%	100%	100%	100%	100%	100%
Tax Deductible Adjusting Items (%)							
Profits Obtained from Affiliate Companies	49.84%	46.38%	49.09%	35.68%	30.81%	30.07%	40.44%
Income for Previous Loss Making-up	6.89%	16.55%	16.34%	33.08%	41.20%	46.16%	26.90%
Interest Revenue of Treasury Bond	10.18%	8.50%	7.90%	6.57%	6.37%	4.95%	7.33%
Dividends Obtained	9.38%	8.01%	7.27%	5.79%	5.15%	4.23%	6.58%
Technology Transferring Proceeds	5.07%	4.96%	4.49%	4.43%	3.86%	2.54%	4.16%
Foreign Income	2.39%	1.93%	2.15%	1.85%	1.60%	2.17%	2.03%
Profits from "Three Wastes" Harnessing	2.73%	2.15%	2.08%	2.02%	1.62%	1.52%	2.00%
Miscellaneous Items	13.52%	11.52%	10.68%	10.58%	9.39%	8.36%	10.56%
Total	100%	100%	100%	100%	100%	100%	100%

Note: The percentages presented in the table are equal to the proportions of the amounts of the line-items to the total tax non-deductible adjustments for tax non-deductible adjusting items and to the total tax deductible adjustments for tax deductible adjusting items.

Variables	Descriptive	1998	1999	2000	2001	2002	2003	Pooled
N		428	409	414	359	297	300	2207
Tax Audit Adjustment / Sales	Mean	0.0053	0.0047	0.0046	0.0063	0.0050	0.0046	0.0051
	Median	0.0027	0.0024	0.0020	0.0023	0.0018	0.0016	0.0022
	Std. Dev.	0.0077	0.0084	0.0080	0.0144	0.0088	0.0104	0.0098
	Minimum	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Maximum	0.0753	0.1082	0.0824	0.1594	0.0698	0.1315	0.1594
Book Tax Difference / Sales	Mean	0.1170	0.1216	0.1380	0.1771	0.2391	0.2968	0.1725
	Median	0.0819	0.0717	0.0730	0.0524	0.0366	0.0447	0.0629
	Std. Dev.	0.1535	0.2245	0.3580	0.5846	0.8339	0.8384	0.5347
	Minimum	0.0000	0.0013	0.0003	0.0000	0.0000	0.0001	0.0000
	Maximum	2.2968	3.2994	5.8204	7.1969	8.2427	6.6344	8.2427
OWNER (Dummy)	Mean	0.6100	0.5900	0.5900	0.5700	0.5900	0.5900	0.5900
	Median	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Std. Dev.	0.4890	0.4920	0.4930	0.4960	0.4920	0.4930	0.4920
	Minimum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Maximum	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
STRESS (Dummy)	Mean	0.7500	0.6400	0.5000	0.3100	0.2000	0.2400	0.4700
	Median	1.0000	1.0000	1.0000	0.0000	0.0000	0.0000	0.0000
	Std. Dev.	0.4310	0.4820	0.5010	0.4650	0.3970	0.4280	0.4990
	Minimum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Maximum	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
AGE (Years)	Mean	3.7600	4.7400	5.8000	6.7900	7.7800	8.8100	6.0500
	Median	3.0000	4.0000	5.0000	6.0000	7.0000	8.0000	6.0000
	Std. Dev.	1.7590	1.7660	1.8000	1.8110	1.8390	1.8100	2.4670
	Minimum	2.0000	3.0000	4.0000	5.0000	6.0000	7.0000	2.0000
	Maximum	9.0000	10.0000	11.0000	12.0000	13.0000	14.0000	14.0000
SIZE Log (Total Asset)	Mean	11.4341	11.5861	11.7600	11.8063	11.9045	12.0402	11.7296
	Median	11.3508	11.5012	11.6904	11.7812	11.8791	12.0352	11.6739
	Std. Dev.	0.7824	0.8022	0.7850	0.8159	0.9189	0.9303	0.8548
	Minimum	9.5783	9.8228	9.9093	9.6232	9.8957	9.9051	9.5783
	Maximum	13.6954	14.8073	14.6085	14.7226	14.9606	14.8300	14.9606

Table 2   Descriptive Statistics by Year

Table 3   Descriptive Statistics and Univariate Comparison of Mean, Median and Variance by Period

Variables	Descriptive Statistics	Period I (1998-2000)	Period II (2001-2003)	Equal Variance Assumed		Equal Variance Not Assumed		Kruskal-Wallis Test		Median Test		Test for Equality of Variance (Levene's Test)	
				T	P	T	P	Chi-Square	Asym. P	Chi-Square	Asym. P	F	P
N		1251	956										
Tax Audit Adjustment / Sales	Mean	0.0049	0.0054	1.171	0.242	1.116	0.265						
	Median	0.0024	0.0020					7.822	0.005	7.933	0.005		
	Std. Dev.	0.0080	0.0117									11.304	0.001
	Minimum	0.0000	0.0000										
	Maximum	0.1082	0.1594										
Book Tax Difference / Sales	Mean	0.1255	0.2339	4.745	0.000	4.268	0.000						
	Median	0.0762	0.0442					64.133	0.000	73.496	0.000		
	Std. Dev.	0.2587	0.7524									104.688	0.000
	Minimum	0.0000	0.0000										
	Maximum	5.8204	8.2427										
OWNER (Dummy)	Mean	0.6000	0.5800	-0.735	0.462	-0.734	0.463						
	Median	1.0000	1.0000					0.540	0.462	N/A #	N/A #		
	Std. Dev.	0.4910	0.4940									2.098	0.148
	Minimum	0.0000	0.0000										
	Maximum	1.0000	1.0000										
STRESS (Dummy)	Mean	0.6300	0.2500	-19.022	0.000	-19.283	0.000						
	Median	1.0000	0.0000					310.984	0.000	311.125	0.000		
	Std. Dev.	0.4820	0.4360									137.236	0.000
	Minimum	0.0000	0.0000										
	Maximum	1.0000	1.0000										
AGE (Years)	Mean	4.7600	7.7300	34.962	0.000	34.866	0.000						
	Median	4.0000	7.0000					811.164	0.000	469.305	0.000		
	Std. Dev.	1.9610	2.0020									0.768	0.381
	Minimum	2.0000	5.0000										
	Maximum	11.0000	14.0000										
SIZE (LogTA)	Mean	11.5916	11.9102	8.826	0.000	8.702	0.000						
	Median	11.5179	11.8877					77.702	0.000	57.444	0.000		
	Std. Dev.	0.8004	0.8897									10.263	0.001
	Minimum	9.5783	9.6232										
	Maximum	14.8073	14.9606										

\# Median Test for OWNER cannot be performed, as all values are less than or equal to the median.

Table 4   Pearson Correlations Matrix

Variables	TAXADJ	BT	POST00	POST00*BT	OWNER	STRESS	AGE	SIZE
TAXADJ	1.000 -							
BT	0.310* 0.000	1.000 -						
POST00	0.025 0.242	0.101* 0.000	1.000 -					
POST00*BT	0.314* 0.000	0.924* 0.000	.228* 0.000	1.000 -				
OWNER	-0.017 0.422	-0.021 0.327	-0.016 0.462	-0.015 0.473	1.000 -			
STRESS	-0.018 0.410	-0.109* 0.000	-0.375* 0.000	-0.147* 0.000	0.025 0.241	1.000 -		
AGE	-0.009 0.688	0.108* 0.000	0.597* 0.000	0.175* 0.000	-0.065* 0.002	-0.312* 0.000	1.000 -	
SIZE	-0.305* 0.000	-0.209* 0.000	0.185* 0.000	-0.170* 0.000	0.071* 0.001	-0.031 0.139	0.209* 0.000	1.000 -

* Correlation is significant at the 0.01 level (two-tailed).

Table 5   Pooled Regression of Tax Audit Adjustment on Book Tax Difference

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	+	0.030	1.265	0.206	0.549	1.822
POST00	+	0.062*	2.723	0.007	0.592	1.689
POST00*BT	+	0.100*	4.220	0.000	0.553	1.809
Control Variables						
OWNER	-	0.029	1.575	0.115	0.936	1.068
STRESS	+	-0.031	-1.617	0.106	0.833	1.201
AGE	?	-0.097*	-4.258	0.000	0.592	1.689
SIZE	?	-0.450*	-23.568	0.000	0.849	1.178
INDUSTRY	Not Reported					
N: 2207 Adjusted R-square: 0.318 F: 61.597 p-value: 0.000						

* Coefficient is significant at the 0.01 level (two-tailed).

$$Ln(TAXADJ)=a_0+a_1BT+a_2POST00+a_3POST00*BT+a_4OWNER+a_5STRESS+a_6AGE+a_7SIZE+a_iINDUSTRY_i+e_i$$

where:

Dependent variable:

$Ln(TAXADJ)$ =   natural logarithm of tax audit adjustments divided by sales revenue.

Explanatory variables:

BT   =   pre-tax accounting income minus taxable income and scaled by sales revenue.

POST00   =   1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.

Control variables:

OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.

STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.

AGE   =   number of years since the initial public offering.

SIZE   =   natural logarithm of total assets.

$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

Table 6   Sensitivity Tests
Panel A1:   Annual Regressions of Tax Audit Adjustment on Book Tax Difference

Variables	Expected Sign	1998			1999			2000			2001			2002			2003		
		Coef.	T	P	Coef.	T	P	Coef.	T	P	Coef.	T	P	Coef.	T	P	Coef.	T	P
BT	+	0.012	0.259	0.796	0.036	0.811	0.418	0.073	1.678	0.094	0.186*	4.041	0.000	0.142*	2.918	0.004	0.139*	2.824	0.005
OWNER	-	0.057	1.294	0.196	0.010	0.212	0.832	0.022	0.490	0.625	0.055	1.229	0.220	0.005	0.110	0.913	0.027	0.563	0.574
STRESS	+	0.022	0.502	0.616	-0.005	-0.103	0.918	-0.019	-0.449	0.654	-0.023	-0.515	0.607	-0.073	-1.559	0.120	-0.044	-0.955	0.340
AGE	?	0.000	0.001	0.999	-0.051	-1.123	0.262	-0.056	-1.285	0.199	-0.084	-1.868	0.063	-0.121	-2.503	0.013	-0.105	-2.229	0.027
SIZE	?	-0.398*	-8.850	0.000	-0.439*	-9.713	0.000	-0.410*	-9.142	0.000	-0.390*	-8.341	0.000	-0.504*	-10.115	0.000	-0.514*	-10.061	0.000
INDUSTRY		Not Reported																	
N		428			409			414			359			297			300		
Adjusted R-square		0.211			0.227			0.249			0.334			0.374			0.408		
F		8.604			9.005			10.129			12.972			12.776			15.737		
P		0.000			0.000			0.000			0.000			0.000			0.000		

* Coefficient is significant at the 0.01 level (two-tailed).

$$Ln(TAXADJ)_t = a_{0t} + a_{1t}BT + a_{2t}OWNER + a_{3t}STRESS + a_{4t}AGE + a_{5t}SIZE + a_{it}INDUSTRY_{it} + e_{it} \qquad (t=1998,\dots2003)$$

where:

Dependent variable:

$Ln(TAXADJ)$ =   natural logarithm of tax audit adjustments divided by sales revenue.

Explanatory variables:

BT   =   pre-tax accounting income minus taxable income and scaled by sales revenue.

Control variables:

OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.

STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.

AGE   =   number of years since the initial public offering.

SIZE   =   natural logarithm of total assets.

$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

Table 6   Sensitivity Tests (Continued)
Panel A2:   Regressions of Tax Audit Adjustment on Book Tax Difference by Period

Variables	Expected sign	Period I (1998-2000)			Period II (2001-2003)		
		Coefficient	T	P	Coefficient	T	P
BT	+	0.040	1.571	0.116	0.156*	5.796	0.000
OWNER	-	0.028	1.114	0.265	0.029	1.089	0.276
STRESS	+	-0.005	-0.205	0.838	-0.043	-1.688	0.092
AGE	?	-0.040	-1.554	0.120	-0.120*	-4.588	0.000
SIZE	?	-0.419*	-16.287	0.000	-0.472*	-17.000	0.000
INDUSTRY	Not Reported						
N		1251			956		
Adjusted R-square		0.247			0.392		
F		28.348			41.994		
P		0.000			0.000		

* Coefficient is significant at the 0.01 level (two-tailed).

$$Ln(TAXADJ)_p = a_{0p} + a_{1p}BT + a_{2p}OWNER + a_{3p}STRESS + a_{4p}AGE + a_{5p}SIZE + a_{ip}INDUSTRY_{ip} + e_{ip} \qquad (p=1,2)$$

where:
Dependent variable:
Ln(TAXADJ)   =   natural logarithm of tax audit adjustments divided by sales revenue.
Explanatory variables:
BT   =   pre-tax accounting income minus taxable income and scaled by sales revenue.
Control variables:
OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.
AGE   =   number of years since the initial public offering.
SIZE   =   natural logarithm of total assets.
$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

Table 6 Sensitivity Tests (Continuted)
Panel B: Pooled Regression with Tax Audit Adjustment and Book Tax Difference Scaled by Total Assets

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	+	-0.077	-1.261	0.208	0.103	9.700
POST00	+	0.025	0.869	0.385	0.481	2.081
POST00*BT	+	0.290*	4.615	0.000	0.097	10.336
Control Variables						
OWNER	-	0.013	0.635	0.525	0.936	1.069
STRESS	+	0.076*	3.531	0.000	0.833	1.200
AGE	?	-0.032	-1.252	0.211	0.590	1.696
SIZE	?	-0.269*	-12.591	0.000	0.841	1.190
INDUSTRY	Not Reported					
N: 2207	Adjusted R-square: 0.156		F: 24.949		p-value: 0.000	

* Coefficient is significant at the 0.01 level (two-tailed).

$$TAXADJ = a_0 + a_1 BT + a_2 POST00 + a_3 POST00*BT + a_4 OWNER + a_5 STRESS + a_6 AGE + a_7 SIZE + a_i INDUSTRY_i + e_i$$

where:

Dependent variable:

Ln(TAXADJ) = natural logarithm of tax audit adjustments divided by sales revenue.

Explanatory variables:

BT = pre-tax accounting income minus taxable income and scaled by sales revenue.

POST00 = 1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.

Control variables:

OWNER = 1, if the book value of state shares is greater than that of institutional shares, zero otherwise.

STRESS = 1, if the company issues new stocks in the next two years, zero otherwise.

AGE = number of years since the initial public offering (IPO).

SIZE = natural logarithm of total assets.

$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

Table 6 Sensitivity Tests (Continued)
Panel C1:   Pooled Regression for the Sample of Zero and Negative
Tax Audit Adjustment and Book Tax Difference Scaled by Sales Revenue

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	?	-0.770	-1.298	0.195	0.003	325.342
POST00	?	0.041	1.050	0.294	0.694	1.441
POST00*BT	?	0.190	0.320	0.749	0.003	325.232
Control Variables						
OWNER	?	-0.009	-0.246	0.806	0.868	1.151
STRESS	?	-0.018	-0.530	0.597	0.914	1.095
AGE	?	-0.038	-0.956	0.339	0.681	1.469
SIZE	?	-0.002	-0.050	0.960	0.860	1.163
INDUSTRY	Not Reported					
N: 592 Adjusted R-square: 0.361 F: 20.611 p-value: 0.000						

* Coefficient is significant at the 0.01 level (two-tailed).

$Ln(TAXADJ)=a_0+a_1BT+a_2POST00+a_3POST00*BT+a_4OWNER+a_5STRESS+a_6AGE+a_7SIZE+a_iINDUSTRY_i+e_i$

where:
Dependent variable:
Ln(TAXADJ)   =   natural logarithm of tax audit adjustments divided by sales revenue.
Explanatory variables:
BT   =   pre-tax accounting income minus taxable income and scaled by sales revenue.
POST00   =   1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.
Control variables:
OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.
AGE   =   number of years since the initial public offering (IPO).
SIZE   =   natural logarithm of total assets.
$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

Table 6 Sensitivity Tests (Continued)
Panel C2:   Pooled Regression for the Sample of Zero and Negative
Tax Audit Adjustment and Book Tax Difference Scaled by Total Assets

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	?	-0.076	-0.950	0.343	0.239	4.179
POST00	?	0.056	1.193	0.233	0.697	1.435
POST00*BT	?	-0.145	-1.824	0.069	0.239	4.180
Control Variables						
OWNER	?	0.009	0.208	0.836	0.871	1.148
STRESS	?	-0.015	-0.363	0.717	0.912	1.097
AGE	?	0.036	0.758	0.449	0.678	1.474
SIZE	?	-0.053	-1.244	0.214	0.834	1.198
INDUSTRY	Not Reported					
N: 592 Adjusted R-square: 0.105 F: 5.095 p-value: 0.000						

* Coefficient is significant at the 0.01 level (two-tailed).

$$TAXADJ=a_0+a_1BT+a_2POST00+a_3POST00*BT+a_4OWNER+a_5STRESS+a_6AGE+a_7SIZE+a_iINDUSTRY_i+e_i$$

where:
Dependent variable:
TAXADJ   =   tax audit adjustments divided by total assets.
Explanatory variables:
BT   =   pre-tax accounting income minus taxable income and scaled by total assets.
POST00   =   1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.
Control variables:
OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.
AGE   =   number of years since the initial public offering (IPO).
SIZE   =   natural logarithm of total assets.
INDUSTRY$_i$ are dummy variables to control for firm fixed effects.

Table 6 Sensitivity Tests (Continued)
Panel D1:   Pooled Regression for the Main Sample Including Zero and Negative
Tax Audit Adjustment (codes as 1) and Book Tax Difference Scaled by Sales Revenue

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	?	0.057	0.611	0.542	0.030	32.974
POST00	?	-0.015	-0.653	0.514	0.538	1.860
POST00*BT	?	-0.045	-0.484	0.629	0.030	33.102
Control Variables						
OWNER	?	0.038	2.228	0.026	0.930	1.075
STRESS	?	0.030	1.686	0.092	0.832	1.202
AGE	?	-0.056*	-2.617	0.009	0.584	1.712
SIZE	?	-0.436*	-25.053	0.000	0.882	1.133
INDUSTRY	Not Reported					
N: 2799	Adjusted R-square: 0.253		F: 56.640		p-value: 0.000	

* Coefficient is significant at the 0.01 level (two-tailed).

$Ln(TAXADJ)=a_0+a_1BT+a_2POST00+a_3POST00*BT+a_4OWNER+a_5STRESS+a_6AGE+a_7SIZE+a_iINDUSTRY_i+e_i$

where:
Dependent variable:
Ln(TAXADJ)   =   natural logarithm of tax audit adjustments divided by sales revenue.
Explanatory variables:
BT   =   pre-tax accounting income minus taxable income and scaled by sales revenue.
POST00   =   1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.
Control variables:
OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.
AGE   =   number of years since the initial public offering (IPO).
SIZE   =   natural logarithm of total assets.
$INDUSTRY_i$ are dummy variables to control for firm fixed effects.

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Table 6 Sensitivity Tests (Continued)
Panel D2:   Pooled Regression for the Main Sample Including Zero and Negative
Tax Audit Adjustment (codes as 1) and Book Tax Difference Scaled by Total Assets

Variables	Expected Sign	Coefficient	t-value	p-value	Tolerance	VIF
Explanatory Variables						
BT	?	-0.078	-1.678	0.093	0.146	6.841
POST00	?	0.016	0.655	0.513	0.515	1.942
POST00*BT	?	0.220*	4.663	0.000	0.141	7.085
Control Variables						
OWNER	?	0.014	0.757	0.449	0.930	1.075
STRESS	?	0.090*	4.637	0.000	0.831	1.204
AGE	?	-0.003	-0.131	0.896	0.582	1.718
SIZE	?	-0.275*	-14.298	0.000	0.846	1.182
INDUSTRY	Not Reported					
N: 2799	Adjusted R-square: 0.124		F: 24.340		p-value: 0.000	

* Coefficient is significant at the 0.01 level (two-tailed).

$$TAXADJ=a_0+a_1BT+a_2POST00+a_3POST00*BT+a_4OWNER+a_5STRESS+a_6AGE+a_7SIZE+a_iINDUSTRY_i+e_i$$

where:
Dependent variable:
TAXADJ)   =   tax audit adjustments divided by total assets.
Explanatory variables:
BT   =   pre-tax accounting income minus taxable income and scaled by total assets.
POST00   =   1, if tax audit adjustments are made for the fiscal years subsequent to 2000, zero otherwise.
Control variables:
OWNER   =   1, if the book value of state shares is greater than that of institutional shares, zero otherwise.
STRESS   =   1, if the company issues new stocks in the next two years, zero otherwise.
AGE   =   number of years since the initial public offering (IPO).
SIZE   =   natural logarithm of total assets.
INDUSTRY$_i$ are dummy variables to control for firm fixed effects.

Appendix I
Panel A: China's Accounting Standards Issued by 2003

Accounting Standard for Business Enterprises	Promulgation Date	Effective Date	Revision Date
Basic Standard	Nov 30, 1992	July 1, 1993	
Disclosure of Related Party Relationships and Transactions	May 22, 1997	Jan 1, 1997	
Cash Flow Statements	March 20, 1998	Jan 1, 1998	Jan 18, 2001
Events Occurring After the Balance Sheet Date	May 12, 1998	Jan 1, 1998	April 14, 2003
Debt Restructuring	June 12, 1998	Jan 1, 1999	Jan 18, 2001
Revenue	June 20, 1998	Jan 1, 1999	
Investments	June 24, 1998	Jan 1, 1999	Jan 18, 2001
Construction Contracts	June 25, 1998	Jan 1, 1999	
Changes in Accounting Policies And Accounting Estimates, and Corrections of Accounting Errors	June 25, 1998	Jan 1, 1999	Jan 18, 2001
Non-monetary Transactions	June 28, 1999	Jan 1, 2000	Jan 18, 2001
Contingencies	April 27, 2000	July 1, 2000	
Intangible Assets	Jan 18, 2001	Jan 1, 2001	
Borrowing Costs	Jan 18, 2001	Jan 1, 2001	
Leases	Jan 18, 2001	Jan 1, 2001	
Interim Financial Reporting	Nov 2, 2001	Jan 1, 2002	
Inventories	Nov 9, 2001	Jan 1, 2002	
Fixed Assets	Nov 9, 2001	Jan 1, 2002	

Notes:

(1) All the above standards are applicable to publicly traded companies in China.

(2) The new effective dates of those revised standards are Jan 1, 2001, except the new effective date July 1, 2003 of Events Occurring After the Balance Sheet Date.

Panel B: China's Accounting Systems and Other Regulations Issued by 2003

Title	Promulgation Date	Effective Date
Accounting System for Listed Companies	Jan 27, 1998	Jan 1, 1998
Accounting System for Business Enterprises	Dec 29, 2000	Jan 1, 2001
Accounting System for Financial Institutions	Nov 27, 2001	Jan 1, 2002
Enterprises Financial Accounting Reporting Ordinance	June 21, 2000	Jan 1, 2001
Accounting Law of The People's Republic of China	Oct 31, 1999	July 1, 2000

Notes:

(a) All the above accounting rules are applicable to publicly traded companies in China.

(b) Accounting System for Listed companies was abolished after Accounting System for Business Enterprises became effective on January 1, 2001.

Appendix II
Significant Reforms of Accounting and Income Tax Rules in China

Year	Accounting Regulations	Income Tax Regulations
1991		Income Tax Law for Foreign Investment Enterprises and Foreign Enterprises
1992	Accounting Regulation for Experimental Listed Companies	
1993	Accounting Standards for Business Enterprises – Basic Standards	
1993	Enterprise Financial General Standards	
1993	Enterprise Financial and Accounting Systems	
1994		Enterprise Income Tax Law
1995		
1996		
1997	Accounting Standards for Business Enterprises - Disclosure of Related Party Relationships and Transactions	
1998	Accounting Systems for Listed Companies	
1998	Accounting Standards for Business Enterprises - Cash Flow Statements - Events Occurring After the Balance Sheet Date	
1999	Accounting Standards for Business Enterprises - Debt Restructuring - Revenue - Investments - Construction Contracts - Changes in Accounting Policies And Accounting Estimates, and Corrections of Accounting Errors	
2000	Accounting Law	Enterprise Income Tax Pretax Deduction Approaches
2000	Accounting Standards for Business Enterprises - Non-monetary Transactions - Contingencies	

Notes: All the above rules are classified into corresponding periods according to their effective dates of their latest editions.

Significant Reforms of Accounting and Income Tax Rules in China (Continued)

Year	Accounting Regulations	Income Tax Regulations
2001	Accounting Systems for Business Enterprises Enterprises Financial Accounting Reporting Ordinance Accounting Standards for Business Enterprises - Cash Flow Statements (Revised) - Debt Restructuring (Revised) - Investments (Revised) - Changes in Accounting Policies And Accounting Estimates, and Corrections of Accounting Errors (Revised) - Non-monetary Transactions (Revised) - Intangible Assets - Borrowing Costs - Leases	Supplementary Documents (e.g., Circular on modification of pre-tax deduction standards of advertising expenses for certain industries; Circular on taxation on commission charges from checkoff of personal income tax on interest revenues of saving deposits)
2002	Accounting Systems for Financial Institutions Accounting Standards for Business Enterprises - Interim Financial Reporting - Inventories - Fixed Assets	Supplementary Documents (e.g., Circular on corporate income tax of national debt interests after trial implementation of net-price trading of national debts; Circular on taxation policies Concerning re-employment of laid-off unemployed persons)
2003	Accounting Standards for Business Enterprises - Events Occurring After the Balance Sheet Date (Revised)	Supplementary Documents (e.g., Approaches of income tax treatments on debt restructuring transactions; Circular on income tax concerning the implementation of Accounting Standards for Business Enterprises)

Notes: All the above rules are classified into corresponding periods according to their effective dates of their latest editions.

Appendix III

Major Differential Items
Between Accounting Standards for Business Enterprises and Tax Rules

Item	Accounting Treatments	Tax Treatments
Category 1		
Sales-equivalent transactions	Do not need to recognized as revenue.	Recognized as revenue.
Sales revenue from preliminary operation of construction in process	Write down the costs of the construction project.	The revenue should be charged into taxable income.
Technology transfer revenue	Recognized as revenue.	Revenue less than RMB300,000 is exempted from taxation.
Cash dividends or interest on current investments	Write down the carrying value of investment upon receipt.	Recognized as revenue.
Long-term equity investments (equity method)	Adjust the carrying amount of the investment according to its attributab1e share of the investee enterprise's net profit or loss, and recognize it as investment income for the current period accordingly.	Investment loss should not be recognized if net loss of the investee enterprise occurs.
Long-term debt investments	Interest should be recognized as revenue periodically based on par value and interest rate.	Interest revenue from national debts does not need to be charged into taxable income.
Category 2		
Bad debt provision	The method and amount of bad debt provision can be determined by the enterprises according to the specific situations.	The amount of bad debt provision should not exceed 0.5% of the ending balance of accounts receivables
Provision on impairment of inventories, current investments, long-term investments, fixed assets, construction in process, intangible assets, and consigned loans	Charged into corresponding costs, expenses or losses accounts.	The amount is not deductible from taxable income.

Item	Accounting Treatments	Tax Treatments
Category 2 (Continued)		
Depreciation of capital assets	Depreciation methods, including straight-line method, units-of-production method, double-declining balance method, and sum-of-the-years-digits method, can be adopted. The expected useful life and estimated residual value can be determined based on the specific situation of the capital assets.	In general, straight-line depreciation method should be used except special cases. The minimum useful life is stipulated for different categories of capital assets.
Amortization of intangible assets	If the relevant contract does not stipulate the beneficial period and the law does not stipulate the effective period, the amortization period should not exceed 10 years.	The amortization period should not be less than 10 years.
Amortization of initial establishment expenditures	Charged to the expenses for the period of the establishment of business.	The amortization period should not be less than 5 year since the commencement of the operation of business.
Management fees to higher authorities	Recognized as expenses.	The upper limit of deductible amount is 2% of total revenue.
Research and development expenses	Recognized as expenses.	If the research and development expenditures of the eligible enterprises increase by more than 10%, 50% of the actual expenditures are deductible.
Business entertainment expenses	Recognized as overhead expenses.	The upper limit of deductible amount is 5% of net sales revenue for the enterprises with net sales revenue less than RMB15 million, and 3% for those with net sales revenue more than RMB15 million.
Salary expense	Charged into corresponding accounts of costs and expenses.	Salary expense cannot be deducted over a certain limit.

Major Differential Items
Between Accounting Standards for Business Enterprises and Tax Rules
(Continued)

Item	Accounting Treatments	Tax Treatments
Category 3		
Advertising expenses	Charged into operational expenses.	In general, the advertising expenses in a fiscal year should not exceed 2% of sales revenue, or 8% for a certain industries. For some industries, the advertising expenses are not deductible.
Business promotion expenses	Charged into operational expenses.	The business promotion expenses should not exceed 0.5% of sales revenue.
Commission fees	Charged into operational expenses.	The commission fees paid to individuals should not exceed 5% of the total amount of service fees except some special cases.
Category 4		
Expenses related to fund raising for the purpose of production and operation	Charged into financial expenses.	When the amount of loans obtained from the related parties exceeds 50% of registered capital, the interest expenses of the excess portion are not deductible.
Borrowing costs	Borrowing costs, except the costs incurred for the purpose of purchase and construction of fixed assets, should be charged into financial expenses for the current period.	Borrowing costs for the purpose of investments should be recognized as costs of investments and are not deductible.

Item	Accounting Treatments	Tax Treatments
Category 5		
Donation expenditures	Charged into extraordinary expenses.	Donation expenditures for public benefit and relief can be deductible with the upper limit of 3% of taxable income (1.5% for donations by financial institutions. Besides, the donation expenditures are deductible in some cases, and are not deductible in some other cases.
Sponsoring expenditures	Charged into extraordinary expenses.	Non-advertising sponsoring expenditures are not deductible.
Penalty expenditures	Charged into extraordinary expenses.	The following penalty expenditures are not deductible: 1) penalty of illegal operations and loss of confiscated properties; 2) overdue fines and other penalty expenditures related to taxation.
Long-term equity investments acquired in exchange for non-monetary assets	The initial costs of investments should be determined according to the carrying value of the assets surrendered.	Equivalent to sales of non-monetary assets at the fair value and charged into taxable income.
Debt settlement	The differential amount from debt restructuring should be recognized as capital surplus or extraordinary loss.	Debt payable should be charged into taxable income if debt can not be settled owing to debtee.

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The State Administration of Taxation (SAT), PRC