The Hong Kong Polytechnic University

The School of Accounting and Finance

ESSAYS ON ACCOUNTING CONSERVATISM

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CERTIFICATE OF ORIGINALITY

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Yinping JIA

To Cai Dong, Zeliang, and my parents.

Essays on Accounting Conservatism

Abstract

This dissertation consists of three essays that investigate patterns of accounting conservatism in different institutional contexts. The first essay examines the cross-country determinants of accounting conservatism. Consistent with three primary explanations for conservatism (Watts, 2003), results show that accounting conservatism is positively related to auditor litigation risk, legal enforcement and tax-book conformity and findings provide direct evidence on the cross-country determinants of accounting conservatism.

The second essay examines the cross-sectional determinants of accounting conservatism in Japanese institutional environment. Japan provides a unique setting to revisit the contracting argument for accounting conservatism. First, the joint equity and debt ownership enables Japanese financial institutions to resolve agency problem internally. Second, prior studies suggest that the choice between public bonds and bank loans depends on the agency cost of debt. Consistent with the contracting perspective, results provide strong evidence supporting my hypotheses that accounting conservatism decreases in the shareholdings by financial institutions, while it increases in the extent of public bond financing.

The third essay documents the time-series variation in accounting conservatism and examines whether institutional characteristics can explain the patterns of accounting conservatism in the emerging Chinese market. The institutional setting in China provides an interesting background for investigating the time-series effect of litigation on accounting conservatism. Especially, auditors face an increasing litigation risks after a

significant event, disaffiliation program, which has severed the ties between Chinese CPA firms and the sponsoring government bodies. Therefore, I hypothesize that accounting conservatism increases after the implementation of disaffiliation program and results provide strong supporting evidence. I also find that accounting conservatism decreases in the state ownership and increases in the bank financing.

In sum, this dissertation provides systematic evidence on how different types of institutional factors are related to accounting conservatism. In particular, the primary findings suggest that various institutional characteristics lead to different demands for accounting conservatism. This study complements the extant literature by providing direct cross-country and cross-firm evidence on the relation between accounting conservatism and institutional factors based on those explanations proposed in recent work (Watts, 2003). The results of this study should be of interest to standard-setters, regulators and researchers.

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Table of Contents

Abstract i
Acknowledgements iii
Table of Contents iv
List of Tables vii

Chapter 1 Introduction 1

1.1 Objective 1
1.2 Definitions and Origins of Accounting Conservatism 1
1.3 Research Questions 3
1.4 Research Methodology 5
1.5 Main Findings 6
1.6 Contribution 6
1.7 Organization of the Study 7

Chapter 2 Country-Specific Institutional Factors Related to Accounting Conservatism 8

2.1 Introduction 8
2.2 Literature Review 10
2.2.1 Primary Explanations for Accounting Conservatism 10
2.2.2 Accounting Conservatism and Institutional Characteristics 12
2.3 Hypotheses Development 14
2.3.1 Auditor Litigation Risk 14
2.3.2 Legal Enforcement 15
2.3.3 Tax-Book Conformity 16
2.4 Research Design 17
2.4.1 Two Empirical Measures of Accounting Conservatism 17
2.4.2 Empirical Proxies for Institutional Characteristics 19
2.4.3 Control Variables 20
2.4.4 Research Methodology 21
2.5 Empirical Results 23

2.5.1 Sample and Descriptive Statistics 23
2.5.2 Descriptive Analysis 25
2.5.3 Multiple Regression Analysis 27
2.5.4 Robustness Checks 29
2.6 Conclusions 31

Chapter 3 Firm-Specific Institutional Factors Related to Accounting Conservatism in the Japanese Market.....33

3.1 Introduction 33
3.2 Institutional Environments in Japan 39
3.2.1 Financial Institutions: Joint Debt and Equity Ownership 39
3.2.2 Deregulation: Shift towards Public Bond Financing 40
3.3 Related Literature 41
3.3.1 Efficient Contracting Perspective and Accounting Choices 42
3.3.2 Accounting Conservatism and Debt Contracting 43
3.4 Research Hypotheses 45
3.4.1 Financial Institutional Shareholdings 45
3.4.2 Debt Structure: the Choice between Public Bonds and Bank Loans 46
3.5 Research Design 47
3.5.1 Two Empirical Measures of Accounting Conservatism 47
3.5.2 Two Institutional Dimensions for Debtholder-Shareholder Conflicts 48
3.5.3 Control Variables 50
3.5.4 Research Methodology 53
3.6 Empirical Results 55
3.6.1 Sample and Descriptive Statistics 55
3.6.2 Regression Results 57
3.6.3 Robustness Checks 59
3.7 Conclusions 62

Chapter 4 Time-Series and Cross-Sectional Institutional Factors Related to Accounting Conservatism in the Emerging Chinese Market..... 64

4.1 Introduction 64
4.2 Institutional Background 69
4.2.1 Development of the Chinese Stock Market 69
4.2.2 Chinese Accounting Reform 70
4.2.3 Reform of the Chinese Banking System 70
4.3 Research Questions and Hypotheses Development 72
4.3.1 The Time-Series Variation in Accounting Conservatism 72
4.3.2 Institutional Factors 74
4.3.3 Accounting Standards 77
4.4 Research Design 79
4.4.1 Empirical Measures of Accounting Conservatism 79
4.4.2 Research Methodology 80
4.5 Empirical Results 82
4.5.1 Sample and Descriptive Statistics 82
4.5.2 The Time-Series Variation in Accounting Conservatism 84
4.5.3 Institutional Factors 85
4.5.4 Accounting Standards 87
4.5.5 Robustness Checks 88
4.6 Conclusions 90

Chapter 5 Conclusions, Implications and Limitations.....91

5.1 Conclusions and Discussion on Research Findings 91
5.2 Implications of findings on Policy Debate 93
5.3 Limitations and Future Research 93

Tables.....96

References 121

List of Tables

Table 2.1 Definition and Data Sources for Country-Level Variables 96
Table 2.2 Summary Information on Country-Specific Characteristics 97
Table 2.3 Descriptive Statistics and Correlations 98
Table 2.4 Accounting Conservatism and Auditor Litigation Risk 99
Table 2.5 Accounting Conservatism and Legal Enforcement 100
Table 2.6 Accounting Conservatism and Tax-Book Conformity 101
Table 2.7 Regression Results for Conservatism and Litigation, Enforcement & Taxation 102
Table 2.8 Robustness Check I: Rank Regression Results 104
Table 2.9 Robustness Check II: Residual LIT, ENF & TAX 105

Table 3.1 Descriptive Statistics for Firm-Level Variables Unique to Japanese Market 107
Table 3.2 Correlation Matrix 108
Table 3.3 Book-to-Market Measure of Accounting Conservatism 109
Table 3.4 Earnings/Returns Relation Measure of Accounting Conservatism 110
Table 3.5 Robustness Checks 112

Table 4.1 Descriptive Statistics for Pooled Chinese Sample and Selected Years 114
Table 4.2 Yearly Regression Estimates for Full Sample 115
Table 4.3 Time-Series Variation in Accounting Conservatism 116
Table 4.4 Accounting Conservatism and State Ownership 117
Table 4.5 Accounting Conservatism and Bank Financing 118
Table 4.6 Accounting Conservatism and Accounting Standards 119
Table 4.7 Robustness Check: Book-to-Market Measure of Conservatism 120

Essays on Accounting Conservatism

Chapter I

Introduction

1.1 Objective

The objective of this study is to provide cross-country and cross-firm evidence on the determinants of accounting conservatism. Researchers have advanced a number of explanations for accounting conservatism, but there has been little empirical evidence on how accounting conservatism varies with the institutional arrangement across countries. The exception is the study by Ball et al. (2000a), who find that institutional differences in the corporate governance models of common-law and code-law countries lead to a different demand for accounting conservatism. In particular, accounting income in common-law countries is more conservative than in code-law countries. Thus, accounting conservatism is a function of varying demands that accounting information satisfies under different institutional arrangements (Ball et al. 2000a, p. 4). In this dissertation, I conduct three separate but related studies to explore vast differences in institutional characteristics across countries as well as across firms within two specific countries, namely, Japan and China. The rich and unique institutional backgrounds provide different angles to investigate the determinants of accounting conservatism.

1.2 Definitions and Origins of Accounting Conservatism

Conservatism is an important convention of financial reporting. It implies the exercise of caution in the recognition and measurement of income and assets. However, despite its central role in accounting theory and practice, no authoritative definition of conservatism exists.

Traditionally, conservatism is defined in an extreme form as the rule to "anticipate no profit, but anticipate all losses" (Bliss 1924). The only 'official' definition is that offered in the glossary of Statement of Concepts No. 2 of the FASB, namely, that conservatism is 'a prudent reaction to uncertainty to try to ensure that uncertainty and risks inherent in business situations are adequately considered'. However, this definition is ambiguous since it does not specify the nature of the 'prudent reaction' called for by conservatism nor does it explain how such a 'reaction' may ensure that risks are 'adequately considered'. In the empirical literature, it is interpreted as representing "the accountant's tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses" (Basu, 1997, p7). This interpretation reflects the asymmetrical verification requirements for gains vs. losses, however, earnings alone are not sufficient for the valuation effect of conservatism.

Accounting conservatism is defined in this study as a selection criterion between accounting principles that leads to the minimization of cumulative reported earnings and net assets by lower revenue recognition and lower asset valuation (Givoly and Hayn, 2000, p. 292). Following prior studies, accounting conservatism implies the exercise of caution in the recognition and measurement of income and assets. Relative to above alternative definitions, this definition is more descriptive and properly recognizes the overall effects of accounting conservatism.

The origins of accounting conservatism include litigation, contracting and taxation (Holthausen and Watts, 2001; Watts, 2003). First, litigation is an important source of conservatism in reporting (Basu, 1997; Givoly and Hayn, 2000; Holthausen and Watts, 2001). In general, litigation risk is more likely due to overstatement of earnings or assets than understatement (Kellogg, 1984), and this induces managers to use conservatism in the financial reporting. Second, contracting creates another important incentive for accounting conservatism. Conservatism is viewed as an efficient technology to address agency conflicts among contracting parties (Holthausen and Watts, 2001; Ahmed et al., 2002; Watts, 1993, 2003). Finally, tax-book conformity encourages conservatism in the financial reporting. The connection between taxable income and reported income provides managers with an incentive to defer tax payments by adopting conservative methods (Guenther et al., 1997; Guenther and Young, 2000).

1.3 Research Questions

The research question of this study is how various institutional factors explain the patterns of accounting conservatism in different contexts. In order to answer this question, I identify three types of institutional factors in three essays: country-specific institutional factors, firm-specific institutional factors within the bank-oriented Japanese market, and time-series and firm-specific institutional factors within the emerging Chinese market.

In the first essay, considerable differences in the institutional environment across countries provide a good opportunity to examine cross-country determinants of accounting conservatism. Based on three origins of accounting conservatism (Watts,

2003), I hypothesize that auditor litigation risk, legal enforcement and tax-book conformity explain the cross-country variation in accounting conservatism.

In the second essay, the bank-oriented Japanese market offers a rare opportunity to study the cross-sectional determinants of accounting conservatism with respect to contracting argument. In Japan, financial institutions are allowed to hold both debt and equity in the same firm and thus they are more likely to rely on private communications to resolve the information asymmetry problem. In addition, many Japanese firms shift from bank-centered financing towards public bonds after deregulation. Especially in 1990s, they can choose more freely between monitored bank loans and public bonds. Relative to informed banks, bondholders possess only public information and depend more on public disclosure to reduce information asymmetry. Based on an efficient contracting role of conservatism in reducing agency cost of debt, I hypothesize that accounting conservatism is negatively associated with financial institutional shareholdings and positively associated with public bond financing.

In the third essay, emerging Chinese market provides a natural laboratory to investigate the time-series effect of litigation environment on accounting conservatism. Recent Chinese accounting reform has brought about fundamental changes in the audit environment. In particular, auditors' litigation risk increases after the disaffiliation program in 1998, a significant event that has severed the ties between auditors and government bodies. Following the litigation argument, I hypothesize that accounting conservatism increases as auditors are exposed to increased legal liability after the disaffiliation program. In addition, based on the notion that state ownership and debt financing are associated with different levels of external monitoring and moral hazard

problem, I hypothesize that accounting conservatism is negatively related to state ownership and positively related to debt financing.

1.4 Research Methodology

In this study, I use two empirical measures of accounting conservatism: a book-to-market measure developed by Beaver and Ryan (2000) and an earnings/returns relation measure derived by Basu (1997). The first book-to-market measure reflects the extent to which net assets are persistently understated relative to their market value and evaluates the degree of "balance-sheet-oriented conservatism". The second earnings/returns relation measure reflects the extent to which current-period accounting income asymmetrically incorporates economic losses relative to economic gains and evaluates the degree of "income-statement-oriented conservatism" (Givoly and Hayn, 2000, p. 293).

Using these two measures of accounting conservatism, I conduct two types of analyses in this dissertation: cross-country test and within-country test. In the cross-country test, I perform both descriptive analysis and cross-country regressions to test the relation between accounting conservatism and country-specific institutional factors. To estimate the cross-country regression, I use the two empirical measures of accounting conservatism as dependent variables and control for the country-level variations in the legal system, financial structure and economy size.

In the within-country test, I use cross-sectional regressions to test the relation between accounting conservatism and firm-specific institutional factors. To estimate the cross-sectional regressions, I use the book-to-market measure of accounting conservatism

as the dependent variable and control for the cross-sectional variation in the firm size, firm performance and growth opportunity. In addition, for the earnings/returns relation measure, I include the institutional factors in the Basu (1997) model to test the effect of those institutional factors on accounting conservatism.

1.5 Main Findings

Overall results of this study are consistent with my hypotheses. Findings provide direct confirmation on those prime explanations for accounting conservatism within different institutional contexts. In the first essay, I find that accounting conservatism is positively related to country-specific institutional factors such as auditor litigation risk, legal enforcement and tax-book conformity. Results provide cross-country evidence on three explanations for accounting conservatism.

In the second essay, I find that accounting conservatism decreases in financial institutional shareholdings and increases in public bond financing. Results in the Japanese market provide cross-sectional evidence supporting the contracting explanation.

In the third essay, I obtain the evidence suggesting that an increase in accounting conservatism coincides with increased auditors' litigation risk in China. Furthermore, I find that accounting conservatism decreases in state ownership and increases in bank financing. Results in Chinese market provide evidence supporting the litigation and contracting argument.

1.6 Contribution

This study contributes to the existing literature in several ways. First, I provide the cross-country and cross-firm evidence on determinants of accounting conservatism. In particular, the findings suggest that three types of institutional factors explain the variation in the accounting conservatism across countries and across firms. Second, I provide evidence consistent with Watts's (2003) prime explanations for accounting conservatism in the three different contexts. Therefore, findings of this study have implications for standard-setters, regulators and accounting researchers.

1.7 Organization of the Study

The reminder of this dissertation is organized as follows. Chapter II contains the first essay on how country-specific institutional factors are related to accounting conservatism. Chapter III includes the second essay on how firm-specific institutional factors are related to accounting conservatism in Japanese market. Chapter IV presents the third essay on the time-series and cross-sectional effect of accounting conservatism in the emerging Chinese market. Chapter V concludes.

Chapter II

Country-Specific Institutional Factors Related to Accounting Conservatism

2.1 Introduction

This study examines how country-specific institutional factors are related to accounting conservatism. A stream of recent research documents that accounting conservatism varies with the institutional arrangements in different countries. For example, Ball et al. (2000a) show that the legal system appears to be a fundamental factor influencing the conservative property of accounting income. I extend this line of inquiry to examine systematically whether and how institutional characteristics explain the substantial variation in accounting conservatism across countries.

Recent research has suggested a number of forces that may encourage the use of conservatism in financial reporting, including litigation, contracting and taxation (Holthausen and Watts, 2001; Watts, 2003). For example, based on the notion that the UK has less litigation than other common law countries, Ball et al. (2000a) predict a lower level of accounting conservatism in the UK and their results provide weak evidence of this assumption. Based on three prime explanations for accounting conservatism, I hypothesize that accounting conservatism is positively related to litigation risk, legal enforcement and tax-book conformity.

In this study, I use two empirical measures of accounting conservatism: (1) a book-to-market measure derived by Beaver and Ryan (2000), and (2) an earnings/returns relation measure developed by Basu (1997). The first measure is based on the argument that the firm-specific variation in book-to-market ratios reflects persistent differences

between book and market values that are primarily due to conservatism. This measure is constructed by regressing book-to-market ratios onto current and lagged returns with fixed firm and time effects, and thus the firm-specific effect reflects the persistent bias component due to accounting conservatism. The second measure is based on the notion that accounting conservatism induces asymmetric timeliness of incorporating economic losses relative to economic gains in reported earnings. Following Basu (1997), I interpret this measure of accounting conservatism as asymmetric timeliness by regressing earnings on contemporaneous stock returns. This measure of accounting conservatism is thus the excess of the association of negative returns ('bad news') over positive returns ('good news') with earnings (Givoly and Hayn, 2000).

To test my hypotheses, I first perform a descriptive analysis to identify groups of countries with similar institutional characteristics and show how accounting conservatism varies systematically across these institutional factors, which include auditor litigation, legal enforcement and tax-book conformity. Furthermore, I use cross-country regressions to formally test the relation between accounting conservatism and those predicted influential institutional factors.

The findings are consistent with my hypotheses. In particular, I find that accounting conservatism is positively related to litigation risk, legal enforcement and tax-book conformity. Based on two empirical measures of accounting conservatism, this study provides cross-country evidence on three prime explanations for accounting conservatism.

This study complements the literature on accounting conservatism and corporate governance by providing direct evidence on the effect of country-specific institutional

factors on accounting conservatism. In particular, it contributes to the literature on accounting conservatism that includes the work of Basu (1997), Beaver and Ryan (2000), Givoly and Hayn (2000), Holthausen and Watts (2001), Ahmed et al. (2002), Francis et al. (2003a) and Watts (1993, 2003). Furthermore, the study contributes to a growing literature on the effects of international corporate governance on the quality of national accounting information disclosure that includes the work of Ball et al. (2000a, 2000b), Defond and Hung (2002), Leuz et al. (2003) and Francis et al. (2003a, 2003b).

The reminder of this chapter is organized as follows. The following section provides a brief review of the related literature. Section three develops research hypotheses. Section four describes empirical measures and presents research methodology. Section five describes sample selection and reports empirical results, and section six concludes.

2.2 Literature Review

2.2.1 Primary Explanations for Accounting Conservatism

Recent studies have put forward a number of explanations for accounting conservatism. For example, Holthausen and Watts (2001) propose that accounting conservatism could be due to litigation, contracting and taxation. In particular, Watts (2003) shows that litigation and contracting might be the most important explanations by providing relatively stronger evidence than taxation.

Litigation has been an important source of accounting conservatism in recent decades (Basu, 1997; Givoly and Hayn, 2000; Holthausen and Watts, 2001). In general,

litigation cost is more likely to arise from overstatement of net assets rather than understatement, and this creates incentives for managers to be conservative in financial reporting (Holthausen and Watts, 2001). Basu (1997) investigates the sensitivity of earnings to positive and negative returns over sub-periods of low or high auditor liability identified by Kothari et al. (1988). He finds no differences in the sensitivity in the predicted direction in the low liability periods, but significant differences in the sensitivity in the predicted direction in the high liability periods. These results are consistent with the change in litigation environment affecting the degree of accounting conservatism. The asymmetry in litigation costs is consistent with the legal system evolving to constrain opportunistic payments to managers and other contracting parties to the firm. To that extent, litigation cost is one of the primary reasons to adopt conservatism in reporting to constrain opportunistic management (Watts, 2003).

Contracting is another important source of accounting conservatism. Many contracts use accounting numbers to mitigate agency conflicts among contracting parties to the firm (Holthausen and Watts, 2001; Watts, 1993, 2003). Those contracts include debt contracts, management compensation contracts and employment contracts. In fact, conservatism emerges almost naturally as an efficient contracting mechanism because it is optimal for contract performance measures to have more stringent verification standards for gains than for losses (Watts, 2003). For example, in the management compensation case, without the verification requirement, managers may increase estimates to receive excess payments that leave shareholders with a lower share value. As shareholders are unable to recover overpayments due to the limited liability of individual managers, they are likely to require the use of conservatively measured earnings *ex ante*

in compensation contracts to prevent this from happening (Holthausen and Watts, 2001; Watts, 2003).

Finally, the links between taxation and reporting can also encourage conservatism in financial reporting. Income taxes have long been tied to reported earnings and as a result lead to conservative accounting practice. Guenther et al. (1997, pp. 230–234) suggest that accounting methods influence taxable income. Shackelford and Shelvin (2001) show that taxes provide incentives for reported earnings to conform to taxable income. Such conformance creates an incentive to defer tax payment and therefore leads to understatement of net assets and earnings (Choi and Mueller, 1992; Joos and Lang, 1994; Ali and Hwang, 2000; Watts, 2003).

2.2.2 Accounting Conservatism and Institutional Characteristics

Recent empirical research has developed designs and databases for testing the vast cross-country differences in financial accounting regimes and institutional characteristics (Bushman and Smith, 2001). In a series of studies, La Porta et al. (1997, 1998) point out substantial variation in investor protection and legal enforcement across countries. Beginning with these influential studies, a surge of empirical research has investigated the relation between financial information and corporate governance, which allow accounting researchers using cross-country data to examine theories of conservatism in financial accounting (Bushman and Smith, 2001, p.290).

Extant literature contains evidence suggesting that legal system has a significant impact on the properties of accounting information. Countries with strong investor protection laws generally have more transparent accounting information through accrual-based standards (Ball et al. 2000a; Hung, 2001). Disclosures make the firm more

transparent, and the timely recognition of economic events, especially economic losses, reduces information asymmetry and facilitates contracting among parties to the firm. Furthermore, Leuz et al. (2003) suggest that a country's legal environment is closely related to the quality of financial information reported to outsiders and influences the properties of reported earnings. In particular, they find that income management is less pronounced in countries where there is strong statutory protection of investors. Legal institutions also affect investor assessments of the value relevance of reported income and accruals (Ali and Hwang, 2000; Hung, 2001). The linkage between institutional environment and properties of accounting information is consistent with firm-level studies, which have reported that accounting earnings are more value-relevant for firms in countries with strong investor protection laws (Leuz et al., 2003).

Recent studies show that the institutional arrangement plays an important role in determining the demand for accounting conservatism. For example, Ball et al. (2000a) suggest that international differences in the corporate governance models of common and code-law countries lead to different degree of accounting conservatism. In particular, they find that accounting income is more conservative in common-law countries than in code-law countries. By using the simple common/code-law dichotomy to proxy for the extent of political influence on accounting, they hypothesize that politicization of accounting standard setting and enforcement weakens the demand for conservative accounting disclosure. In addition, Francis et al. (2003a) show that the auditors' litigation risk encourages conservatism in reporting. The results suggest that the Big 5 auditors are conservative in countries where the legal system provides strong investor protection due to a higher auditor litigation cost.

In sum, existing evidence suggests that a country's legal and institutional environment play an important role in determining the conservative property of reported financial information. However, there is little empirical evidence on the cross-country determinants of accounting conservatism, which leaves a lot of room for the current study.

2.3 Hypotheses Development

This section develops research hypotheses about country-specific institutional factors that are related to accounting conservatism, including auditor litigation risk, legal enforcement, and tax-book conformity.

2.3.1 Auditor Litigation Risk

Litigation costs affect issuers' disclosure decisions and encourage the use of conservatism in reporting (Kothari et al., 1988; Basu, 1997; Holthausen and Watts, 2001; Watts, 2003). For example, Francis et al. (2003a) find that Big 5 auditors are more conservative in their treatment of large clients in countries where auditors face a greater litigation risk. Furthermore, Ball et al. (2000a) suggest that accounting conservatism increases in the expected litigation costs among common-law countries. However, they exclude code-law countries because they assume civil litigation is rare. In fact, auditors in some code-law countries (e.g. France and Germany) face widespread litigation, in some cases even greater than some common-law countries (e.g. Malaysia and South Africa). In this study, I directly document the relation between accounting conservatism and auditor litigation risk. In countries where auditors are exposed to pervasive litigation risk, investors usually have a strong ability to sue auditors in the event of financial reporting and auditing failures. Furthermore, given the fact that overstating a firm's net assets is far

more likely to result in legal action than understating its net assets, firms in countries with a high litigation risk usually have a strong incentive for accounting conservatism. I thus develop the first hypothesis as follows.

H1: Auditor litigation risk is positively related to accounting conservatism.

2.3.2 Legal Enforcement

Legal enforcement influences the demand for accounting conservatism which is used in contracts to resolve the information asymmetry problem. In countries with a well-functioning legal system, firms are more likely to use public financial accounting information in external contracts to resolve information asymmetry and agency conflicts among contracting parties (Ball et al., 2000a). As a result, those countries' earnings are more conservative (Watts, 2003). In contrast, in countries with a poor-enforced legal system, information asymmetries among parties are more likely to be resolved privately within the firm without the use of external contracts, therefore creating a weaker demand for conservatism. Furthermore, Ball et al. (2000a) point out that differences in the extent of law enforcement affect the demand and supply of accounting information.

A well-functioning legal and judicial system can protect investors by providing them with strong monitoring and efficient financial contracts (La Porta et al., 2000). Therefore, investors are more likely to depend on public disclosure and transparent accounting information to resolve agency problems arising from information asymmetry (Francis et al., 2003b). La Porta et al. (2003) show that an efficient system would provide issuers with incentives to present information to investors and they would be held liable for misreporting timely information, especially bad news. In addition, they suggest that well-enforced laws result in some preference for contracts as a means to address the

agency problem. In sum, to mitigate inherent incentive conflicts, investors may resort to using conservatism in financial reporting to restrict managerial manipulation of earnings, which is especially efficient when economies have strong legal enforcement. Thus, the second testable hypothesis is as follows.

H2: Legal enforcement is positively related to accounting conservatism.

2.3.3 Tax-Book Conformity

The convergence between tax rules and financial reporting constitutes another origin of accounting conservatism. For example, Guenther et al. (1997) show that increasing tax-book conformity causes firms to defer income. Consequently, conservative accounting methods are used to reduce taxable income. Guenther and Young (2000) suggest that tax considerations may lead firms to prefer conservative accounting methods such as accelerated depreciation and rapid asset write-offs. The introduction of taxes on various activities provides firms with incentives to innovate accounting methods that have the effect of minimizing the tax burden. When income or assets are taxed, the result is a derived demand for conservative accounting procedures (Holthausen and Watts, 2001). Therefore, the conformity of taxable and reported income creates an incentive to defer the tax payment by using conservatism with an understatement of earnings or net assets. In sum, I hypothesize that accounting conservatism is more pronounced in countries where there is a substantial conformance between tax and book value.

The third testable hypothesis is as follows.

H3: The conformity between tax reporting and financial accounting is positively related to accounting conservatism.

2.4 Research Design

2.4.1 Two Empirical Measures of Accounting Conservatism

Relying on the notions that conservative accounting generally (1) reduces book value of equity relative to market value of equity and (2) induces asymmetric timeliness of incorporating economic events in reported earnings, I use two alternative measures of accounting conservatism: a book-to-market measure based on Beaver and Ryan (2000), and an earnings/returns relation measure developed by Basu (1997).

Book-to-Market Measure of Accounting Conservatism

The first measure of accounting conservatism focuses on the firm-specific component of the book-to-market ratio, that is, $\alpha_{i,}$ as used in Beaver and Ryan (2000). This measure captures the persistent portion of the differences between the firm's book and market values of equity.

(1) $$BTM_{it} = \alpha + \alpha_i + \alpha_t + \sum_{k=0}^{6} \beta_k RET_{it-k} + \varepsilon_{it}$$

where:

BTM_{it} = the book-to-market ratio for firm i at fiscal year-end t;

α = the intercept across all firms and years;

α_i = the persistent firm-specific bias component of book-to-market ratio;

α_t = the year-specific component of book-to-market ratio across all firms;

RET_{it} = the stock return (with dividends) for firm i in year t.

This book-to-market measure assesses the extent to which net assets are cumulatively understated. Following Beaver and Ryan (2000), I focus on the firm-specific variation (i.e., the coefficient α_i) in the BTM by performing a fixed-effects

estimation of panel data for sample periods. As a persistent firm-specific component of book-to-market ratio, α_i measures accounting conservatism inversely. Thus, a lower coefficient α_i indicates a higher level of accounting conservatism (the more the book value is biased downward relative to market value). For ease of presentation, I multiply α_i by -1, and denote this book-to-market measure of accounting conservatism as CONBM. As a result, I would expect more conservative accounting to yield a higher value of CONBM.

Earnings/Returns Relation Measure of Accounting Conservatism

The second measure is an alternative earnings/returns relation measure developed by Basu (1997), that is, the estimated coefficient (i.e., γ_3) of negative stock returns in the reverse regression Eq. (2). The accounting income then serves as the dependent variable.

(2) $$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$$

where:

NI_{it} = the earnings per share of firm *i* in year *t*, deflated by the price at *t-1*;

RET_{it} = the annual stock returns of firm i in fiscal year t;

D_{it} = a dummy variable coded one if RET_{it} is negative and zero otherwise.

This earnings/returns relation measure reflects the difference in the speed with which economic gains and losses are captured by accounting earnings. Based on Basu's (1997) interpretation, earnings contain more timely information for 'bad news' firms, resulting in a higher predicted R^2 for this sample. Moreover, the slope coefficient γ_3, is predicted to be greater for the 'bad news' sample because earnings are predicted to be more sensitive to contemporaneous unexpected returns. Therefore, a higher value of

coefficient γ_3 indicates a greater degree of asymmetric verification (i.e., conservatism in financial reporting).

2.4.2 Empirical Proxies for Institutional Characteristics

This section describes empirical measures of institutional factors which are predicted to be related to accounting conservatism in the current study.

Auditor Litigation Risk Index (LIT)

Following Wingate (1997) and Francis et al. (2003a), the auditor litigation risk is measured by an index of auditor litigation risk (LIT), which is a risk rating developed by an international insurance underwriter for one of the Big 5 audit firms. The rating may take on values from 1 to 15 and represents the "risk of doing business as an auditor" in a particular country (Wingate, 1997, p. 140). This index is based on the claims experience of all international audit firms and other professional firms, legal and regulatory environments, political and economic environments, and the professional accounting environment in the country. The rating increases with the risk and cost of performing audit services in a particular country. In sum, this index measures the risk of litigation faced by auditors.

Legal Enforcement (ENF)

In this study, I use legal enforcement (ENF) as an empirical measure to proxy for the efficiency of enforcing contracts in a given country. In different jurisdictions, there are considerable differences in the efficiency of enforcing contract laws. Following Leuz et al. (2003), I use an average measure of ENF, constructed as the mean score across three legal variables used in La Porta et al. (1998): (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables

range from zero to ten. Therefore, a higher index of legal enforcement (ENF) indicates a more efficient enforcement of contracts and therefore more efficient use of accounting conservatism in contracts to resolve information asymmetry problem and agency conflicts among contracting parties.

Tax-Book Conformity

Following Ali and Hwang (2000), Guenther and Young (2000), Hung (2001) and Francis et al. (2003b), I use a tax-book conformity index, TAX, to measure the level of alignment between tax accounting rules and financial reporting rules within a country. The variable TAX is constructed from data in Coopers and Lybrand (1993) and the 1995 *European Accounting Guide*, and is assigned a value of one if there is substantial conformity between tax reporting and financial accounting, and zero otherwise. Therefore, a higher number represents a stronger link between tax and financial reporting.

2.4.3 Control Variables

Three country-level control variables are described, including legal system, financial structure and economy size. First, I include the legal origin (LAW) to control for the potential effects of judicial origin on the accounting conservatism and institutional characteristics. Prior studies suggest that legal origin might be a primitive driving force in choosing conservative accounting methods across countries. For example, Ball et al. (2000a) provide evidence suggesting that reporting in common-law countries is more conservative than reporting in code-law countries. Second, I control for the financial structure (FS) as accounting conservatism is more prevalent in bank-based economies where the majority of a firm's external financing comes from bank credits than in market-based economies where equity financing is common. Given the asymmetric payoff, banks

have an inherent bias toward accounting conservatism (Beck and Levine, 2002). Third, I control for the extent of economy size (LGDP), measured by the natural log of GDP per capita, as economy size may explain differences in the information environments and financial systems across countries (Leuz et al., 2003).

2.4.4 Research Methodology

In this section, I describe the research methodology used to test how country-specific institutional factors are related to accounting conservatism.

Book-to-Market Measure of Accounting Conservatism

To test the effect of predicted institutional factors on accounting conservatism captured by book-to-market measure, I estimate the following regression:

$$(3)\ CONBM_j = \beta_0 + \beta_1 LIT_j + \beta_2 ENF_j + \beta_3 TAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

where:

CONBM = book-to-market measure of conservatism, $-\alpha_i$, derived from Eq. (1).

LIT = index of auditor litigation risk derived from Wingate (1997).

ENF = index of legal enforcement, which is measured as the mean score across three legal variables: (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten, as reported in *La Porta et al. (1998) and Leuz et al. (2003).*

TAX = tax-book conformity index, which represents the extent to which a country's financial accounting standards conform to tax rules. Based on Francis et al. (2003b) and Hung (2001), this index is constructed from data in Coopers and Lybrand (1993) and the 1995 *European Accounting Guide*,

and assigned a value of one if there is substantial conformity between financial reporting and tax rules, and zero otherwise.

LAW = index of legal system, coded one if a country has a common law tradition and zero otherwise, which is used to control for the impact of legal system.

FS = index of financial structure, which is used to measure the comparative activity and size of markets and banks. This measure equals the log of the ratio of Value Traded to Bank Credit. Value Traded equals the value of stock transactions as a share of national output. Bank Credit equals the claims of the banking sector on the private sector as a share of national output. A higher value of this index indicates more market-based financial systems, as reported in *Beck and Levine (2002).*

LGDP = index of economy size, measured as the natural log of GDP per capita in thousand U.S. dollars.

Consistent with my research hypotheses, I predict that there is a positive coefficient for each institutional variable including auditor litigation risk (LIT), legal enforcement (ENF) and tax-book conformity (TAX).

Earnings/Returns Relation Measure

I also test my hypotheses using the earnings/returns relation measure. To derive such a measure for sample countries and formally test for international differences in the degree of accounting conservatism arising from asymmetric recognition of economic losses versus economic gains, I estimate Eq. (2) and derive the average coefficient γ_3 for each country, which is similar to the following regression based on Ball et al. (2000a).

$$(4) NI_{it} = \gamma_0 + \sum_j \gamma_{0j} C_j + \gamma_1 D_{it} + \sum_j \gamma_{1j} D_{it} C_j + \gamma_2 RET_{it} + \sum_j \gamma_{2j} RET_{it} C_j + \gamma_3 RET_{it} D_{it} + \sum_j \gamma_{3j} RET_{it} D_{it} C_j + \varepsilon$$

where:

C_j = the country dummy variables, coded one for firm/years under country *j* and zero otherwise. U.S. is the 'base country' with zero values for all country dummy variables.

All other variables are as defined above.

As discussed earlier, the coefficient γ_3 measures the asymmetric conservatism of accounting income and is used as earnings/returns relation measure in the empirical analysis.

Next, I estimate Eq. (5) to test the effect of institutional factors on accounting conservatism measured by earnings/returns relation.

$$(5) \quad CONER_j = \beta_0 + \beta_1 LIT_j + \beta_2 ENF_j + \beta_3 TAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

where:

$CONER_j$ = the coefficient γ_3 derived from Eq. (2) and used to denote the asymmetric timeliness (i.e., conservatism).

All other variables are as defined above.

2.5 Empirical Results

2.5.1 Sample and Descriptive Statistics

The sample includes firm-level data obtained from Global Vantage Industry Research and Industry Active Files for the period 1992–2002. I exclude each firm/year with a missing value for any variable. I also exclude countries with less than 100 firm/year observations over the sample period. Due to the great differences in the

economic meanings of accounting numbers between financial and non-financial sectors, I exclude firms in the financial service industry. After applying the above selection criteria, a total of 25,894 firm/year observations from 36 countries are included for the calculation of CONBM and a total of 56,334 firm/year observations from 41 countries for the calculation of CONER. The sample also includes country-level corporate governance data derived from prior literature including Wingate (1997), Leuz et al. (2003), La Porta et al. (1998), Hung (2001), Francis et al. (2003a, 2003b) and Beck and Levine (2002).

Table 2.1 summarizes the construction of the variables. As discussed earlier, two empirical measures of accounting conservatism are used in this study: the book-to-market measure, CONBM, is derived from Eq. (1) and reflects the persistent difference between book and market value primarily due to accounting conservatism (Beaver and Ryan, 2000). The second measure, earnings/returns relation measure, CONER, is derived from Eq. (2) and reflects the asymmetric timeliness in incorporating economic gains and losses (Basu, 1997). All institutional variables are drawn from data used in the existing international corporate governance literature.

[INSERT TABLE 2.1 ABOUT HERE!]

Table 2.2 provides summary information on the mean values of the two empirical measures of conservatism, along with summary description on the key institutional variables for each country in the sample. Two measures of conservatism, CONBM and CONER, exhibit striking differences across countries. As discussed earlier, three empirical measures of institutional factors are derived from existing international governance literature. LIT is taken from Wingate (1997) and ranges from 2.42 to 15 in the sample countries. Following Leuz et al. (2003), ENF is measured as the mean score

across three legal variables, which all range from zero to ten as reported in La Porta et al. (1998). Following Hung (2001), TAX equals one if there is substantial conformity between financial reporting and tax rules and zero otherwise.

[INSERT TABLE 2.2 ABOUT HERE!]

Table 2.3 reports the summary statistics and correlation table. Panel A presents the descriptive statistics. The mean value of CONBM is –1.716, with a standard deviation of 1.618. The mean value of CONER is 0.070, with a standard deviation of 0.177, indicating a low level of accounting conservatism on average over sample countries. Panel B of Table 2.3 presents the Pearson correlation coefficients between pairs of research variables. Consistent with the prediction, there is a positive correlation between auditor litigation risk (LIT) and accounting conservatism measured by CONBM or CONER. However, there are also significant correlations between auditor litigation risk (LIT) and legal enforcement (ENF). In addition, the control variables are, to some extent, correlated with those institutional variables.

[INSERT TABLE 2.3 ABOUT HERE!]

2.5.2 Descriptive Analysis

In this section, I conduct a descriptive analysis to identify groupings of countries with similar institutional characteristics and then show that accounting conservatism varies systematically across these institutional arrangements, including auditor litigation risk, legal enforcement and tax-book conformity. I present the average of the estimated CONBM and CONER for each country and compare the mean score for different groupings. In computing these statistics, I weigh all of the countries equally, so that the

U.S. and Japan, where most firms in the sample are located, do not receive any extra weighting on country-level analysis.

Table 2.4 reports the relation between accounting conservatism and auditor litigation risk. The sample is divided into two groups depending on whether the auditor litigation risk index (LIT) is above or below the sample median. Comparing the means of CONBM and CONER in the high and the low LIT groups indicates that countries where auditors face more extensive exposure to litigation exhibit greater average conservatism in reporting. The means of the two groups are statistically different for the CONBM measure, which is consistent with the first hypothesis that accounting conservatism increases according to the level of auditor litigation risk.

[INSERT TABLE 2.4 ABOUT HERE!]

Table 2.5 displays the relation between accounting conservatism and legal enforcement. Similarly, the sample is split into two groups based on the country's legal enforcement. Consistent with the second hypothesis, I find that the average level of CONBM and CONER are greater in the high-enforcement subgroup than in the low-enforcement subgroup, implying that legal enforcement is positively associated with accounting conservatism. However, the differences are generally not statistically significant at conventional levels.

[INSERT TABLE 2.5 ABOUT HERE!]

Table 2.6 reports the relation between accounting conservatism and tax-book conformity. The sample is divided into two groups based on the index of tax-book conformity (TAX). Findings are mixed in that the mean value of CONBM (CONER) is

higher (lower) in countries with substantial tax-book conformity than in countries with low tax-book conformity.

[INSERT TABLE 2.6 ABOUT HERE!]

In sum, the descriptive results are generally consistent with the research hypotheses. In other words, findings provide some descriptive evidence on how country-specific institutional factors are related to accounting conservatism.

2.5.3 Multiple Regression Analysis

In this section, I analyze the relation between accounting conservatism and institutional characteristics in a multiple regression setting, by accounting for how accounting conservatism varies systematically with country-specific institutional factors. The research hypotheses would be supported if the coefficient for each institutional variable, auditor litigation risk, legal enforcement and tax-book conformity, is significantly positive. While vast differences in institutional characteristics result in the variation in the demand for accounting conservatism, the policy implications might differ significantly.

Table 2.7 displays the regression results using the pooled sample. Panel A reports results using the book-to-market measure of accounting conservatism (CONBM) as the dependent variable. The basic model in Column (1) shows that the coefficient on LIT is significantly positive at less than the 1% level, similar to the correlation and descriptive evidence. Consistent with the first hypothesis, the result suggests that accounting conservatism increases according to the extent of litigation exposure by auditors. Column (2) reports the association between accounting conservatism and legal enforcement. The coefficient for the enforcement (ENF) is insignificantly positive. Column (3) presents the

results for the association between accounting conservatism and tax-book conformity. As expected, the coefficient for TAX is significantly positive, implying a positive relation between accounting conservatism and tax-book conformity. Finally, Column (4) displays multiple regression results for the overall effects of all three institutional factors. As expected, the coefficient for each variable is significantly positive at far less than the 1% level. The above results strongly support the three hypotheses developed earlier.

Panel B of Table 2.7 presents regression results using the earnings/returns relation measure of accounting conservatism (CONER) as the dependent variable. Similarly, the basic model in Column (1) shows that the coefficient on LIT is significantly positive at the 5% level, providing significant evidence for the first hypothesis. Column (2) reports the association between accounting conservatism and legal enforcement. The coefficient for enforcement (ENF) is insignificantly positive. Column (3) presents the results for the association between accounting conservatism and tax-book conformity. Contrary to expectation, the coefficient for TAX is insignificantly negative. Finally, Column (4) displays multiple regression results for the overall effects of all three institutional factors. The coefficient for litigation is significantly positive but the coefficients for enforcement and taxation are not statistically significant. In sum, the results show that auditor litigation risk is more closely related to accounting conservatism captured by asymmetric timeliness in the incorporation of earnings than legal enforcement and taxation.

[INSERT TABLE 2.7 ABOUT HERE!]

In short, the findings are consistent with the research hypotheses and provide supporting evidence for the three prime explanations for accounting conservatism within a cross-country context.

2.5.4 Robustness Checks

In this subsection, I briefly describe the results of the robustness checks. Firstly, I estimate the rank regression for all institutional factors and the results confirm primary findings. Secondly, as reported in panel B of Table 2.3, the three institutional variables (LIT, ENF and TAX) are significantly correlated with the country-level control variables (LAW, FS and LGDP). Thus, including them as explanatory variables along with the control variables in a regression (Eq. (3) or Eq. (5)) might cause some statistical problems (e.g., multicollinearity). To try to circumvent these problems, I regress LIT, ENF and TAX on three country-level control variables (LAW, FS and LGDP) in Eqs. (6), (7) and (8) separately to obtain the residual items of auditor litigation risk (RESLIT), legal enforcement (RESENF) and tax-book conformity (RESTAX).

(6) $$LIT_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_1$$

(7) $$ENF_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_2$$

(8) $$TAX_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_3$$

All variables are as defined above.

Then I estimate Eq. (9) and (10) by using the residual litigation (RESLIT, i.e., ε_1), the residual enforcement (RESENF, i.e., ε_2), and the residual taxation (RESTAX, i.e., ε_3), which are orthogonal to the other explanatory variables, to isolate the effect of those institutional factors on the accounting conservatism.

(9)

$$CONBM_j = \beta_0 + \beta_1 RESLIT_j + \beta_2 RESENF_j + \beta_3 RESTAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

where:

$RESLIT_j$ = the residual litigation for country j, defined as the residual of Eq. (6);

$RESENF_j$ = the residual enforcement for country *j*, defined as the residual of Eq. (7);

$RESTAX_j$ = the residual taxation for country *j*, defined as the residual of Eq. (8);

All other variables are as defined above.

(10)

$$CONER_j = \beta_0 + \beta_1 RESLIT_j + \beta_2 RESENF_j + \beta_3 RESTAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

All variables are as defined above.

Rank Regression Results

Following Leuz et al. (2003), I report rank regressions for all variables in the analysis in Table 2.8. Panel A reports rank regression results using CONBM as the dependent variable. As expected, the coefficients for the rank measure of LIT and TAX are significantly positive. However, the coefficient for ENF is non-significant. The results indicate that auditor litigation and taxation explain a greater portion of the variation in accounting conservatism measured by CONBM than legal enforcement. Panel B presents rank regression results using CONER as the dependent variable. Consistent with previous findings, the coefficient of litigation is significantly positive and the coefficients of enforcement and taxation are not statistically significant. In sum, the results are essentially the same as those presented in Table 2.7.

[INSERT TABLE 2.8 ABOUT HERE!]

Regression Results Using Residual Institutional Variables

To control for the potential multicollinearity problem, I re-estimate the regression using the residual items of litigation, enforcement and taxation generated from Eqs. (6), (7) and (8). Table 2.9 reports the regression results using those residual items. Panel A displays the regression results using CONBM as the dependent variable. In general, the results are consistent with previous findings and provide strongly supporting evidence for

all three hypotheses. Panel B presents the regression results using CONER as the dependent variable. The results are essentially the same as previous findings, with a significantly positive coefficient for litigation and insignificantly positive coefficients for enforcement and taxation.

In sum, the robustness checks provide supporting evidence for my hypotheses.

[INSERT TABLE 2.9 ABOUT HERE!]

2.6 Conclusions

In this study, I empirically examine how country-specific institutional factors are related to accounting conservatism as prior work shows that the legal system is a key primitive driving force in accounting conservatism due to asymmetric recognition of gains and losses (Basu, 1997). The international analysis is based on three primary explanations for accounting conservatism proposed in recent work (Holthausen and Watts, 2001; Watts, 2003). I thus hypothesize that institutional characteristics such as auditor litigation, legal enforcement and tax-book conformity are positively related to the accounting conservatism.

The primary findings are consistent with my research hypotheses that accounting conservatism increases according to auditor litigation risk, legal enforcement and tax-book conformity. The results are validated with two robustness checks, a ranking regression and subsequent tests based on the residual institutional variables show that the relation between accounting conservatism and institutional factors is robust to the inclusion of controls for legal system, financial structure and economy size.

The findings highlight an important link between institutional arrangement and the properties of accounting information reported to market participants and complement existing literature that documents systematic patterns in the relation between quality of financial accounting information and corporate governance.

Chapter III

Firm-Specific Institutional Factors Related to Accounting Conservatism in the Japanese Market

3.1 Introduction

Watts (2003) argues that the contracting explanation is the original and most important source of accounting conservatism. Under this contracting explanation, accounting conservatism is viewed as an efficient means to address the moral hazard problem caused by contracting parties to a firm which have asymmetric information, asymmetric payoffs and limited liability (Watts and Zimmerman, 1978; Watts, 1993, 2003). In this regard, "conservatism emerges almost naturally as an efficient contracting mechanism because it is optimal for contracts' performance measures to have more stringent verification standards for gains than for losses" (Watts, 2003, p. 14). Efficient contracting mechanism suggests that it is in the interests of all contracting parties to mitigate agency conflicts. Therefore, accounting conservatism is used to align incentive conflicts and cost-effectively resolve the agency problem.

At the center of the contracting argument is the debtholder–shareholder conflict. One source of such conflict is the asymmetry payoff (Beneish and Press, 1993). Recent studies provide evidence on the role of accounting conservatism in mitigating debtholder–shareholder conflicts arising from asymmetric payoff measured by leverage. For example, Ahmed et al. (2002) show that accounting conservatism is used to reduce agency conflicts associated with leverage (i.e. proxy for asymmetric payoff). According to their argument, higher leverage, ceteris paribus, implies a relatively larger claim on the

firm's assets by debtholders and consequently this is more likely to trigger intense conflicts of interests between debtholders and shareholders. As a result, managers have a higher incentive to employ conservatism in reporting to alleviate the concerns of debtholders.

However, leverage is only one dimension of the agency problem of debt financing. Agency conflicts might originate from the existence of information asymmetry between debtholders and shareholders. In an attempt to better understand the contracting perspective, this study extends prior studies by analyzing two additional dimensions: (1) the presence of large institutional stakeholders (particularly financial institutions), and (2) debt ownership structure, that is, private versus public debt financing.

First, the presence of large institutional stakeholders, especially financial institutions, to some extent alleviates the inherent principle–agent conflict between shareholders and debtholders. The close ties between large institutional investors and firms substantially reduce information asymmetry (Dewenter and Warther, 1998). Financial institutions, in particular, have a variety of relationships with the firm. For example, the tight and long-term commercial and financial relationships enable large stakeholders to have access to private 'inside' information. Furthermore, the joint ownership of both debt and equity claims creates incentives to engage in stringent managerial monitoring, mitigating the underinvestment problem and thus reducing information asymmetry and potential conflicts of interests between debtholders and shareholders (Prowse, 1990; Hoshi et al., 1990; Admati and Pfleiderer, 1994; Morck et al., 2000).

Second, debt structure is closely related to the agency cost of debt (Diamond, 1991; Rajan, 1992; Anderson and Makhija, 1999). In particular, the debt choice between public bonds and bank loans to some extent depends on the agency conflicts resulting from the information asymmetry between public bondholders and informed banks. Various types of debtholders have varying access to information. While typical public bondholders receive only public information, banks can obtain private information about the firm in the process of lending (Rajan, 1992). As a result, the information asymmetry between public bondholders and informed banks creates another dimension of the agency problem. Furthermore, public bonds and banks are associated with different levels of monitoring to mitigate the moral hazard problem (Diamond, 1991). Bondholders are relatively widely dispersed and are less likely to conduct costly monitoring of managers, and therefore they have little control over a firm's investment decisions. However, informed banks often demand access to private information and are able to effectively monitor investment decisions. As a consequence, contrary to public bonds, monitored debts serve to reduce the moral hazard problem (Anderson and Makhija, 1999). In sum, relative to bondholders, informed banks reduce the agency costs by screening prospective clients, resulting in diminished adverse selection through information and reduced moral hazard through the control of the firm's investment decisions (Rajan, 1992).

The unique Japanese market provides a rich institutional context to examine these two additional dimensions. In Japan, financial institutions are allowed to hold large stakes in the debt and equity in the same firm, although they are subjected to antimonopoly regulation that limits them to holding 5% of a single firm's shares. The simultaneous ownership of both debt and equity claims by financial institutions precludes managerial

incentive for transferring wealth from debtholders to shareholders and alleviates potential incentive conflicts (Hoshi et al., 1993; Morck et al. 2000). As Miller (1988) pointed out, "holding-both-securities approach has long been the standard one in Japan where corporate debt ratios are, or at least widely believed to be, substantially higher than for their U.S. counterparts" (Miller, 1988, p. 114).

In addition, financial deregulation in the 1980s provides a good opportunity to investigate the choice of financing with public bonds and monitored bank loans. Japan's financial system experiences sweeping changes when approval standards for bond issuance are relaxed. In 1990s many Japanese firms move towards public bond market and have more discretion in choosing among a variety of debt capital sources. However, the choice between public bonds and bank loans depends on the costs and benefits of monitoring associated with different degrees of information asymmetry and agency conflicts (Diamond, 1991). In particular, while monitored bank loans are associated with diminished agency costs and excessive monitoring costs, public bonds would introduce agency costs with reduced cost of monitoring. As a result, firms facing extensive agency costs are more likely to rely on 'monitored debt' and firms with low potential agency costs switch to issuing more public bonds to reduce the cost of monitoring.

Based on the contracting role of accounting conservatism in reducing the agency cost of debt, I develop two hypotheses. First, I hypothesize that accounting conservatism is negatively associated with substantial shareholdings by financial institutions. Financial institutions usually have close ties with firms and depend more on private communications to resolve the information asymmetry and reduce the agency cost of debt internally and thereby result in a low demand for accounting conservatism. Moreover,

financial institutions are best placed to monitor a firm's investment decisions. In addition, the dual role of financial institutions (i.e., creditors and shareholders) may preclude opportunistic policies that attempt to transfer wealth from debtholders to shareholders and result in a diminished agency cost of debt (Prowse, 1992). In practice, Japanese financial institutions are given more latitude to exert control over firms and are likely to intervene in decisions on investment, production as well as accounting methods.

Second, I hypothesize that accounting conservatism is positively associated with the extent of public bond financing. Relative to informed banks, bondholders rely more on public disclosure to solve the information asymmetry problem and therefore lead to a high demand for accounting conservatism. Prior studies suggest that debt ownership structure, measured by the proportion of public bonds versus monitored bank loans, is positively related to agency cost of debt (Diamond, 1991; Rajan, 1992; Anderson and Makhija, 1999). In particular, public bond financing introduces agency costs resulting from a higher asymmetry of information as bondholders usually possess only public information. Therefore, more reliance on public bond financing generates a stronger demand for accounting conservatism to reduce the agency problem arising from information asymmetry.

To test the above two hypotheses, I use two empirical measures of accounting conservatism: a book-to-market measure and an earnings/returns relation measure. The first measure is based on the notion that accounting conservatism results in lower net assets and lower book-to-market ratios. Following Beaver and Ryan (2000), this measure is constructed by regressing book-to-market ratios onto current and lagged returns with fixed firm and time effects. The second measure is based on the argument that accounting

conservatism induces asymmetric timeliness of incorporating economic losses relative to economic gains in reported earnings. Following Basu (1997), I interpret this measure of accounting conservatism as asymmetric timeliness by regressing earnings on contemporaneous stock returns. This measure of accounting conservatism thus reflects the difference in the speed with which economic losses and economic gains are captured by accounting income (Watts, 2003).

As expected, I find that accounting conservatism decreases in the shareholdings by financial institutions and increases in the public bond financing. In other words, results provide evidence supporting the contracting explanation for accounting conservatism. Results hold after controlling for industry effect and other influential factors such as leverage, profitability, firm size and sales growth.

The current study contributes to the existing literature in two ways. First, it provides further evidence that supports the contracting explanations for accounting conservatism. Recent studies show that accounting conservatism is conducive to mitigating agency conflicts that arise from asymmetric payoffs measured by leverage. This study extends previous research by examining the role of accounting conservatism in reducing debtholder-shareholder conflicts particularly resulting from information asymmetry, which are associated with two special institutional characteristics. The primary findings provide evidence suggesting that accounting conservatism is significantly related to Japanese institutional factors such as financial institutions and debt structure. The implication is that accounting conservatism is in a response to the demand for monitoring to reduce information asymmetry and the agency cost, in the case of lack of large stakeholders and reliance on public debt financing. Second, this study

provides empirical evidence of accounting conservatism in Japan. Prior studies document that the conservative property of earnings vary across countries. For instance, Ball et al. (2000a) show that accounting income in code law countries such as Japan is less timely in incorporating economic losses than that in common law countries. However, there is little direct evidence on the accounting conservatism in Japan.

This chapter proceeds as follows. The following section describes the Japanese institutional settings relevant to research questions. Section three provides a brief review of the related literature. Section four develops research hypotheses. Section five discusses the empirical procedures used in the research design. Section six describes the sample and presents empirical results. The final section provides a summary and conclusion.

3.2 Institutional Environments in Japan

Regulatory constraints play a crucial role in financial development in Japan. Prior to the 1980s, the institutional and legal framework of Japanese financial markets was much in favor of monitored debt. However, during the 1980s and 1990s, the Japanese economy experienced a wide range of transformations. These included substantial reforms in the equity ownership of financial institutions and a liberalization process in Japan's financial markets. "In particular, distinct changes occurred in the distribution of capital across differently informed sources of finance and this gives rise to a significant and prolonged modification in the economic role of financial institutions" (Miarka, 2000, p. 6).

3.2.1 Financial Institutions: Joint Debt and Equity Ownership

Japanese institutional environments are well characterized by debt-dominated capital markets. Financial institutions (particularly banks) become the major sources of external financing. Japanese firms have traditionally relied much more on debt financing, especially monitored bank loans, than on equity financing. However, financial deregulation after the 1980s facilitates the change in the behavior of financial institutions and exerts a strong influence on structural change in corporate finance.

One important feature of the Japanese corporate governance is concentrated equity ownership with financial institutions, which are allowed to hold both debt and equity in the same firm. The origins of bank equity ownership can be traced back to prewar Japan, when powerful Meji families ran large banks that served as financial command centers for closely held family corporate groups called *zaibatsu*. During the early 1980s, financial institutions as a whole owned, on average, about 40% of outstanding equity shares for Japanese firms while in the U.S. they owned less than 5% (Prowse, 1992; Ho et al. 1998). "Due to concerns with banks' excessive control over corporations, the Japanese Anti-Monopoly Act lowered the limit for stock ownership by individual banks and other financial institutions from 10% to 5%, providing a 10-year period until April 1, 1987, for institutions to meet this requirement" (Morck et al. 2000, p. 542).

3.2.2 Deregulation: Shift towards Public Bond Financing

The most important aspect of the liberalization process is probably the deregulation and innovation of Japan's corporate bond market. From the mid-1930s until 1979, the ability of Japanese firms to issue corporate bonds had been rigorously restricted by the principle of collateral and eligibility requirements (Okuda and James 1990;

Hodder and Tschoegel, 1993; Horiuchi 1996). However, deregulation accelerated in the mid-1980s when approval standards for bond issuance were relaxed. As a result of this liberalization, many Japanese firms could choose more freely among alternative sources of debt capital in the late 1980s. "Notably, while aggregate book leverage declines from 81% of assets in 1980 to 68% of assets in 1989, bond financing increases from 3.3% of assets to 12.5%. In fact, bonds are the only liability category to grow faster than total assets during the 1980s. The growth in bond financing relative to other sources of debt is reflected in the ratio of bonds outstanding to total debt." (Anderson and Makhija, 1999, p. 313). Furthermore, since the beginning of 1993, the Corporate Bonds Act has resulted in simplification of the bond issuing process, substantially reducing the cost of bond financing and thus even further increasing the number of firms eligible to issue bonds. Finally, in January 1996 the issuance eligibility criteria were abolished entirely (Miarka, 2000, p. 11).

In general, each step of further liberalizing the domestic bond market has sparked a flurry of bond issues, and prospects for the development of a deep, liquid secondary bond market are better than ever (Choy 1994). Though the Japanese bond market still has much room for improvement, Japanese firms have a much wider variety of capital sources at hand (Miarka, 2000). Recent research by Kang and Stulz (1998) reveals, for example, that in 1989 alone, bank loans constituted about 32% of total debts, which implies that there are many firms who depend more on public bonds than on bank loans.

3.3 Related Literature

In this section, I provide a brief review of previous research relevant to this study.

3.3.1 Efficient Contracting Perspective and Accounting Choices

Prior studies (see Watts and Zimmerman, 1986, 1990; Skinner, 1993) suggest that there are two principle forces that determine a firm's accounting choices: the efficient contracting perspective and the opportunistic behavior perspective.

First, efficient contracting is the general premise underlying some of the early work on the economic consequences of accounting method choice. Under this argument, certain accounting procedures (i.e., the 'accepted set') are chosen for efficiency reasons (i.e., increase the firm's value), that is, they align incentive conflicts and cost-effectively resolve a firm's agency problems *ex ante*. Several studies, for example, Malmquist (1990), Mian and Smith (1990) and Emanuel et al. (2003) take an efficient contracting view and thus serve as useful tools for discussing the potential merits and problems associated with this issue.

Second, the opportunistic behavior perspective suggests that managers may choose particular accounting procedures from among the accepted set *ex post* (that is, after the contracts are in place) to maximize their wealth at the expense of other stakeholders. For example, Watts and Zimmerman (1978) take the view that managers lobby for accounting standards so as to maximize their own utility, where a manager's utility is affected by the firm's stock price and the manager's compensation. A number of previous studies adopt the opportunistic explanation to justify accounting choices. For example, some researchers interpret the debt hypothesis as evidence that managers act opportunistically (Duke and Hunt, 1990; Press and Weintrop, 1990; Christie, 1990). However, Watts and Zimmerman (1990) question whether the documented association is misinterpreted by researchers. "Rather than reflecting managerial opportunism, the

evidence may reflect the association among firms' investment opportunity sets, financial policies, and their efficient set of accounting procedures" (Smith, 1993, p. 290).

Recent research places more emphasis on contract design *ex ante* to alleviate many of the problems associated with incentive alignment given the fact that managers have certain flexibility to behave opportunistically *ex post* (Emanuel et al., 2003). Agency theory and transaction cost economics both assume opportunism can lead to difficulties in interpreting accounting policies. In contrast, "efficient contracting theory can be used to explain details in the institutional structure, including covenants in loan agreements and accounting methods in contracting contexts" (Emanuel et al. 2003, p. 153). In fact, efficiency explanations also assume that people are opportunistic. Williamson (1985, p. 75), for example, assumes opportunism which he describes as 'self-seeking with guile', but this explanation is framed in efficiency terms.

3.3.2 Accounting Conservatism and Debt Contracting

The long-term survival of accounting conservatism strongly suggests that it has benefits and therefore it attracts much attention in the accounting literature. For example, a number of prior studies document that debt contracts often require the use of conservative accounting methods (Leftwich, 1983; El-Gazzar and Pastena 1990; Leuz et al. 1998). Watts (2003) argues that accounting conservatism may arise from the contracting role in addressing agency problems due to parties having asymmetric information and asymmetric payoffs. In debt contract, for example, debtholders may have an asymmetric payoff with respect to net assets. Limited liability makes debtholders bear the possible loss if net assets at maturity are not enough to cover the promised interest payments, while fixed claims mean no participation in the additional residual claim when

the firms' net assets are larger than the face value of the debt. As a consequence, debtholders are concerned with the lower bound of the earnings and net asset distributions and are more likely to use accounting conservatism to restrict opportunistic managerial actions such as dividends overpayment that may reduce the value of net assets (Beneish and Press, 1993).

In a related vein, Basu (1997) suggests that the contracting explanation is advanced for the existence and pervasive influence of accounting conservatism. Debtholders demand timely information about economic losses because the option value of their claims is more sensitive to a decline than an increase in the firm value. As a result, accounting conservatism may play an *ex ante* efficient role in contracting between the parties to the firm. In other words, if accounting were not regulated, contracting parties would voluntarily agree that the accounting figures used to partition cash flows amongst them should be determined conservatively. Consistent with this argument, Leftwich (1983) reports that all departures from GAAP specified in private debt covenants are conservative.

Efficient contracting theory suggests that it is in the interests of all parties to mitigate agency conflicts. The efficient contracting perspective with respect to accounting choice implies that accounting conservatism will be selected to minimize agency costs amongst the various parties to the firm. This optimization will result in maximizing the value of the firm.

In sum, holding the costs of conservatism constant, cross-sectional differences in the severity of debtholder–shareholder conflicts will lead to various degrees of demand for accounting conservatism. As a result, firms facing more severe conflicts between

shareholders and debtholders have more incentives to adopt conservative accounting disclosure (Ahmed et al., 2002).

3.4 Research Hypotheses

3.4.1 Financial Institutional Shareholdings

In Japan, financial institutions are allowed to hold both substantial debt and equity in the same firm and thus they are more likely to depend on private communications to resolve information asymmetry and agency problem. The joint debt and equity ownership of financial institutions provides them with little incentive to engage in wealth-transferring activities (Inoue and Thomas, 1996). Therefore, rational investors will not demand as high a discount on the firm's debt, and the agency conflicts between shareholders and debtholders will be weakened (Prowse, 1990). In addition, financial institutions (especially banks) have close ties with firms and often demand access to private information, thus enabling them to actively monitor investment decisions (Diamond, 1991). As a result, many of the agency problems of borrowing can be circumvented in Japan due to low information asymmetry (Prowse, 1989).

Based on the contracting argument, I hypothesize that financial institutional shareholdings, when associated with diminished information asymmetry and agency conflicts, result in a low demand for conservatism. Extant evidence suggests that financial institutions' large equity positions enable them to resolve the agency problem internally and create a weak incentive for conservatism in reporting. In sum, a substantial shareholding by financial institutions indicates a low level of agency cost, resulting in a weak demand for accounting conservatism. The first hypothesis is thus as follows.

H1: Financial institutional shareholdings are negatively related to accounting conservatism.

3.4.2 Debt Structure: the Choice between Public Bonds and Bank Loans

Public bonds, contrary to monitored bank loans, introduce some sources of agency costs (Anderson and Makhija, 1999). In general, public bondholders only possess public information and are not fully informed about the borrower's investment opportunities, thus they are disadvantaged during renegotiation in periods of financial distress. As a result, they may require a higher interest rate and managers may have to take costly measures to assuage their fears. In this case, firms would face intense agency conflicts arising from a high level of information asymmetry. These costs constitute agency costs of public bond financing.

In view of contracting perspective, I hypothesize that firms with extensive issuance of public bonds are more likely to depend on public disclosure to resolve the information asymmetry and agency conflicts, which creates a strong demand for conservatism in reporting. As shown by previous literature, firms with a heavy reliance on public bond financing might find excessive agency costs resulting from information asymmetry. Therefore, they tend to use accounting conservatism to alleviate potential conflicts between debtholders and shareholders. For example, Anderson and Makhija (1999) suggest that agency costs increase in the proportion of public bonds as opposed to monitored bank loans. Based on the efficient contracting perspective, it is beneficial for all contracting parties to reduce agency costs. Therefore, I hypothesize that firms with extensive issuance of public bonds tend to resort to accounting conservatism for resolving the inherent agency conflicts. I thus develop the second hypothesis as follows.

H2: Public bond financing is positively related to accounting conservatism.

3.5 Research Design

In this section, I describe two empirical measures of accounting conservatism and two institutional dimensions for debtholder-shareholder conflicts. Then I discuss the control variables and present the research methodology.

3.5.1 Two Empirical Measures of Accounting Conservatism

Consistent with prior studies, I use two empirical measures of accounting conservatism. As an important convention of financial reporting, conservatism implies the exercise of caution in the recognition and measurement of income and assets (Givoly and Hayn, 2000).

Book-to-Market Measure of Accounting Conservatism

Following Beaver and Ryan (2000) and Ahmed et al. (2002), I use the firm-specific book-to-market ratio to measure accounting conservatism. Using a regression of the book-to-market ratio on the current and lagged annual returns with fixed firm and time effects, Beaver and Ryan (2000) decompose the book-to-market ratio into the biased and lagged components. They find that the bias component, measured as the firm effect, captures the persistent differences between book and market values partly arising from the accounting conservatism. This notion of conservatism that book values are persistently lower than market values is consistent with that in Feltham and Ohlson (1995). In sum, this measure is used to proxy for the extent to which conservatism varies across firms (Watts, 2003). In particular, I measure conservatism based on the firm-specific coefficient, α_i, in the Eq. (1). As discussed earlier, this book-to-market measure

(i.e., the coefficient α_i) measures conservatism inversely. For ease of presentation, I multiply α_i by –1, and denote this market-based proxy for conservatism as CONBM. Therefore, I assume that greater accounting conservatism would yield higher measures of CONBM.

Earnings/Returns Relation Measure of Accounting Conservatism

Following Basu (1997) and Ball et al. (2000a), I use the estimated coefficient of negative stock returns in the reverse regression as the earnings/returns relation measure for accounting conservatism. Based on Basu (1997), I regress annual earnings on concurrent stock returns and the coefficient of stock returns is predicted to be higher for the negative stock return sample than positive stock return sample because earnings are more sensitive to contemporaneous unexpected returns. In particular, this measure is the estimated slope coefficient γ_3 derived from the Eq. (2) and reflects the excess of the association of stock price movements with earnings signals in 'bad news' periods over their association with earnings signals in 'good news' periods. Therefore, a higher value of coefficient γ_3 implies a higher degree of accounting conservatism.

3.5.2 Two Institutional Dimensions for Debtholder-Shareholder Conflcits

As discussed earlier, this study addresses two additional institutional dimensions of debtholder-shareholder conflicts that arise from information asymmetry: the joint debt and equity ownership of Japanese financial institutions and the debt ownership structure.

Financial Institutional Shareholdings

The first institutional dimension of debtholder-shareholder conflicts is the large position of equity stakes held by financial institutions, measured by the percentage of common shares held by financial institutions in total shares. Prior studies suggest that

financial institutional shareholdings are assumed to reduce the agency costs of debt. For example, Gilson and Roe (1993) argue that large financial institutional shareholdings give rise to efficiency gains in the economy by facilitating monitoring activities, allowing the credible exchange of information (Goto, 1982; Kester, 1991) and lowering incentive conflicts and agency costs between borrowers and lenders (Diamond, 1984; Admati and Pfleiderer, 1994).

I expect an inverse relation between financial institutional shareholdings and debtholder-shareholder conflicts for the following two reasons. First, the simultaneous ownership of both debt and equity claims by financial institutions (especially banks) can create incentives for financial institutions to engage in stringent managerial monitoring and effectively restrict wealth-transferring activities, such as underinvestment and asset-substitution. As a result, large financial institutional shareholdings mitigate inherent conflicts of interest between creditors and equity holders (Jensen and Meckling 1976; Myers 1977; Stulz 1990). Second, the close ties between financial institutions and client firms substantially reduce information asymmetries and agency conflicts (Dwenter and Warther, 1998). Consequently, the higher the shareholdings that are held by financial institutions, the less severe are the conflicts between debtholders and shareholders.

Debt Ownership Structure: Public Bonds vs. Bank Loans

The second institutional dimension of unique debtholder-shareholder conflict is the debt structure in Japan, measured as the proportion of public bonds as opposed to monitored bank loans. Several prior studies suggest that the debt structure (i.e. public bonds vs. bank loans) depends in large part on the inherent agency costs of debts (see Berlin and Loeys, 1988; Diamond, 1991; Rajan, 1992; Chemmanur and Fulghieri, 1994).

For instance, Daley and Vigeland (1983) suggest that the use of public vs. private debt affects the accounting choice due to differential renegotiation costs. Recently, Anderson and Makhija (1999, p. 310) provide further evidence of the positive relation between the agency costs of debts and the mix of public bonds opposed to bank loans in Japan. According to their argument, the issuance of public bonds introduces agency costs relative to the monitoring costs of bank loans.

In particular, I predict a positive relation between public bond financing and debtholder-shareholder conflicts. My intuition is as follows. Typical holders of public bonds only possess public information and lack the incentive for collective monitoring. Furthermore, it is likely to be costly to renegotiate these dispersed bondholders due to the free-rider problem. Bearing these potential costs in mind, public bondholders are likely to demand higher interest rates, and borrowers have to take costly measures to relieve such fears. Therefore, agency conflicts between debtholders and shareholders increase in the proportion of public bonds as opposed to monitored debt. In contrast, monitored bank loans can reduce the agency costs of debt through effective monitoring and the high reputation that is acquired in renegotiation. Consequently, a higher proportion of debt in the form of public bonds as opposed to bank loans is usually associated with more severe inherent conflicts between debtholders and shareholders.

3.5.3 Control Variables

In this study, I use four additional variables to control for the influence of (1) leverage, (2) profitability, (3) firm size and (4) sales growth. Prior studies show that these variables are potentially associated with accounting conservatism and related institutional factors (Anderson and Makhija, 1999; Ahmed et al., 2002).

Leverage

Several recent studies provide evidence that leverage is significant in explaining cross-sectional variation in agency conflicts associated with debt (Press and Weintrop, 1990; Skinner, 1993). For example, Holthausen and Leftwich (1983) point out that leverage is related to the negotiation and renegotiation costs of debt covenant. Furthermore, Begley (1990) suggest a positive relation between the leverage and the agency problems of debt.

There are at least two reasons to assume a positive relation between the leverage and the severity of debtholder–shareholder conflicts. First, high leverage might indicate greater likelihood of financial distress and thus more severe conflicts between the debtholders and shareholders. Second, high leverage increases the probability of debt covenant violation and technical defaults, and thereby is likely to trigger intense conflicts between debtholders and shareholders. In this regard, Ahmed et al. (2002) show that higher leverage, ceteris paribus, implies a relatively larger (smaller) claim on the firm's assets by debtholders (shareholders). Thus, firms with higher leverage are more likely to commit to more conservative accounting in order to alleviate the concerns of debtholders.

Profitability

It is important to control for the accounting performance because firms' recent accounting performance may in large part influence their accounting choices. Firms with poor performance are less likely to select income-decreasing accounting procedures, while firms with good performance can have more discretion to adopt conservative choices (Lilien, Mellman, and Pastena, 1988; Sweeney, 1991). In other words, the lower the profitability of the firm, the higher the cost of accounting conservatism. Therefore, I

include return on assets (ROA) in the model to control for this potential cost of conservatism, and expect firms with higher ROAs to use more conservative accounting. In particular, I use the average annual accounting ROA within the sample period, calculated for each year as net income before extraordinary items, divided by total assets of the firm in that year.

Firm Size

Firm size has been found to be a significant determinant of accounting choices in Japan (Inoue and Thomas, 1996; Douthett and Jung, 2001). Watts and Zimmerman (1978) argue that firms facing high political costs will tend to use more conservative accounting. Prior studies have most commonly used firm size to represent political costs. Some researchers argue that larger firms are more politically sensitive (see Holthausen and Leftwich, 1983; Malmquist, 1990). Alchian and Kessel (1962) suggest that large firms fear greater government action, especially if their profits are large, and therefore tend to defer profits. Consistent with this argument, Zmijewski and Hagerman (1981) show that large firms tend to employ more conservative accounting choices. In other words, the larger the firm, the more likely the manager is to choose income-decreasing accounting methods, i.e., shift reported income from current to future periods.

In order to control for this alternative motivation for accounting conservatism, I include the firm size, i.e. natural log of total assets, in the research model. I expect a positive relation between firm size and accounting conservatism because larger firms have greater incentive to adopt conservative accounting choices. "An additional motivation to control for total assets is that it helps to ensure that any observed positive

relation between conservatism and leverage is not induced mechanically by lower asset values in the denominator of the ratios" (Ahmed et al. 2002, p. 877).

Sales Growth

I include a fourth control variable for sales growth because growth opportunities may influence the book-to-market measure of conservatism, CONBM. Since market values also reflect changes in the market expectations of growth, sales growth is likely to influence the market's expectations of future growth captured in the book-to-market ratio. For example, Beaver and Ryan (1997) show that growth drives the BTM under bias toward one, and Beaver and Ryan (2000) find a positive relation between growth and the firm-specific component of the book-to-market ratio (i.e., the coefficient α_i in Eq. (1), a decreasing indicator of accounting conservatism). Furthermore, Givoly and Hayn (2000) include sales growth in their analysis to control for growth expectations. In short, including a control for growth reduces the likelihood of an omitted-variables bias. (Ahmed et al. 2002).

3.5.4 Research Methodology

Book-to-Market Measure of Accounting Conservatism

Following Ahmed et al. (2002), I employ the following models to explain cross-sectional variation in accounting conservatism which is captured by book-to-market measure.

(11) $CONBM_i = \beta_0 + \beta_1 FIH_i + \beta_2 BOND_i + \beta_3 LEV_i + \beta_4 ROA_i + \beta_5 SIZE_i + \beta_6 SALEGROW_i + \varepsilon$

where:

$CONBM_i$ = book-to-market measure of conservatism, $-\alpha_i$, derived from the Eq. (1);

FIH_i = the firm i's percentage of common shares held by financial institutions;

$BOND_i$ = the proportion of bond in total debts;

LEV_i = the firm i's leverage ratio, defined as the total debt divided by total assets;

ROA_i = the firm i's net income divided by its total assets;

$SIZE_i$ = the natural log of firm i's total assets;

$SALEGROW_i$ = the annual percentage change in firm i's sales.

Based on two hypotheses, I expect a negative coefficient on financial institutional holdings (FIH) and a positive coefficient on public bond financing (BOND) in Eq. (11).

Earnings/Returns Relation Measure of Accounting Conservatism

An alternative earnings/returns relation measure of accounting conservatism developed by Basu (1997) is also used to test the relation between accounting conservatism and financial institutional shareholdings as well as public bond financing. First, following Ball et al. (2000a), I estimate Eq. (12), which includes FIH in the model to test the effect of financial institutional shareholdings on accounting conservatism.

(12)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} FIH_{it} + \gamma_5 RET_{it} FIH_{it} + \gamma_6 RET_{it} D_{it} FIH_{it} + \varepsilon$$

All variables are as defined before.

Next, I test the effect of public bond financing on accounting conservatism. However, prior studies show that the choice between public and private debt depends on such firm-specific factors as leverage, firm size, performance and growth opportunities (Johnson, 1997; Anderson and Makhija, 1999). I extend their study by including financial institutional shareholdings. To control for the effect of potential determinants of debt

ownership structure and isolate the effect of public bond financing on accounting conservatism, I firstly regress the bond ratio on potential determinants, including the above influential factors, as well as financial institutional shareholdings to generate a residual bond (ε).

(13) $$LOGBOND_i = \delta_0 + \delta_1 LEV_i + \delta_2 SIZE_i + \delta_3 FIH_i + \delta_4 ROA + \delta_5 SALEGROW_i + \varepsilon$$

where:

LOGBOND = the logarithm of bond ratio.

All other variables are defined as before.

I then estimate Eq. (14) by using the residual bond (RBOND, i. e.,ε) which is derived from Eq. (13) to test the relation between accounting conservatism and bond financing.

(14)
$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} RBOND_{it} + \gamma_5 RET_{it} RBOND_{it} + \gamma_6 RET_{it} D_{it} RBOND_{it} + \varepsilon$$

where:

RBOND = the residual bond, defined as the residual of the Eq. (13) to control for the potential influence of firm-specific factors on the debt choice.

All other variables are defined as before.

3.6 Empirical Results

3.6.1 Sample and Descriptive Statistics

The initial sample for this study consists of all non-financial firms that are included in the 2002 Pacific-Basin Capital Market (PACAP) Industrial Files for Japan, compiled by the PACAP Research Center at the University of Rhode Island. This database contains stock market data, including daily and monthly returns, and financial

statement data for the period from January 1975 to December 2001. I exclude firms in the financial service industry because economic meanings of accounting figures used in this study may differ between financial and non-financial firms.

As noted earlier, Japanese firms were prohibited from issuing unsecured bonds prior to deregulation in the 1980s and it was in the 1990s when Japanese firms could choose freely among alternative sources of debt capital (Okuda and James, 1990; Hoshi et al. 1993). To obtain a meaningful measure of bond ratio, following Hosono (2002), I extract data from 1990 to 1996 and exclude the data after 1997 when the bank crisis occurred in Japan. In addition, I restrict the sample to firms with the March 31 fiscal-year end (FYE). This restriction allows me to ensure all firms in the sample have the same interval for compounding monthly returns to obtain annual returns. For this sample period, firm observations are excluded if they do not have the data required to acquire empirical measures of research variables defined as before. These additional data requirements reduce the sample of firms to 573 for the CONBM analysis.

Table 3.1 reports descriptive statistics on major variables used in the study. CONBM, the first book-to-market measure of accounting conservatism, has a median of –0.728 and a mean of –0.735, with a standard deviation of 0.207. Two unique institutional dimensions for the agency conflicts, FIH and BOND, have a mean of 0.318 and 0.447, respectively. In addition, LEV has a median of 0.634 and a mean of 0.618, with a standard deviation of 0.186, consistent with the higher leverage, on average, for Japanese firms compared with U.S. firms (with a median of 0.233 and a mean of 0.236 in Ahmed et al. (2002)). Finally, the sample firms are relatively large with a mean log total

assets of 17.948 and mean ROA of 0.016, with a low standard deviation of 0.023. The annual growth in sales is approximately 0.023 during the sample period.

[INSERT TABLE 3.1 ABOUT HERE!]

Table 3.2 presents Pearson correlation coefficients between pairs of research variables. As expected, the book-to-market measure of conservatism, CONBM, is positively correlated with BOND while it is negatively and insignificantly correlated with FIH.

[INSERT TABLE 3.2 ABOUT HERE!]

3.6.2 Regression Results

The main purpose of this section is to investigate whether two institutional dimensions for debtholder–shareholder conflicts are related to accounting conservatism. In doing so, I estimate the research models by using two alternative empirical measures of accounting conservatism.

Book-to-Market Measure of Accounting Conservatism

First, I estimate Eq. (11) by using the book-to-market measure of accounting conservatism. In the context of Eq. (11), the first hypothesis would be supported if β_1 is significantly negative, while the second hypothesis would be supported if β_2 is significantly positive.

Table 3.3 reports the results of regressions with the book-to-market measure as the dependent variable. Overall, the results strongly support the two hypotheses. Consistent with the first hypothesis, the coefficient on FIH (i.e. β_1) is significantly negative, with a value of –0.039 (t = –2.38). This suggests that firms with substantial shareholding by financial institutions have a lower incentive to adopt conservative

accounting. Consistent with the second hypothesis, the coefficient on BOND is significant positive, with a value of 0.021 (t = 2.63). This implies that firms with more reliance on the public bond market tend to use more conservative accounting. In addition, as expected, I find a positive coefficient on LEV, with a value of 0.642 (t = 13.02). Consistent with prior studies, size (SIZE) and firm profitability (ROA) are positively related to the book-to-market measure of conservatism, CONBM. The coefficient on sales growth (SALEGROW) is insignificantly negative, with a t-value of -0.50.

[INSERT TABLE 3.3 ABOUT HERE!]

Earnings/Returns Relation Measure of Accounting Conservatism

In this section, I test my hypotheses by using the earnings/returns relation measure of accounting conservatism. As shown before, I posit a negative relation between financial institutional shareholdings and accounting conservatism and a positive relation between public bond financing and accounting conservatism.

Following prior studies, I estimate the Eq. (12) to formally test the the relation between the financial institutional holdings and accounting conservatism by using the earnings/returns relation measure. In the context of Eq. (12), the first hypothesis would be supported if γ_6 is significantly negative.

Next, I investigate the effect of public bond financing on the accounting conservatism captured by the earnings/returns relation measure. As discussed earlier, to control for the effect of potential determinants of debt structure such as firm size and leverage (Anderson and Makhija, 1999), I use Eq. (13) to generate the residual bond (RBOND). I then estimate Eq. (14) by including the residual bond as an independent variable to formally test the effect of bond financing on accounting conservatism. In the

context of Eq. (14), the second hypothesis would be supported if γ_6 is significantly positive.

Table 3.4 displays the regression results by employing the earnings/returns relation measure of accounting conservatism. Panel A reports the estimates of Eq. (12) for the pooled sample. The results show that the coefficient on the FIH interaction dummy variable (γ_6) is negative and statistically significant at the one percent level. In other words, findings provide strong evidence supporting my first hypothesis that accounting conservatism is negatively related to financial institutional shareholdings.

Panel B reports the determinants of public bond financing, as well as coefficients and explanatory power of Eq. (14) for the pooled sample. Section I presents the results for the determinants of public bond financing. In model (1), I include leverage and firm size, which appears to play a predominant role in determining bond financing, with an R^2 of 27.79 per cent as compared with an R^2 of 28.22 per cent for the regression with all explanatory variables (model 2).

Section II presents the results of regressions based on residual bond, where the residual bond is generated from the regression Eq. (13) (i.e., model 2). The results of Eq. (14) for the pooled sample show that the coefficient on the RBOND interaction dummy variable (γ_6) is positive and statistically significant at the ten percent level, implying a positive relation between accounting conservatism and public bond financing. Overall, the results from the earnings/returns relation measure of accounting conservatism are generally consistent with my two hypotheses.

[INSERT TABLE 3.4 ABOUT HERE!]

3.6.3 Robustness Checks

To control for the industry effects, I repeat my analyses by using industry-adjusted measures. Beaver and Ryan (2000) show that accounting conservatism may vary across industries. Therefore, I measure all variables according to their deviation from the industry mean, with industry defined as firms in the same three-digit SIC code. Moreover, as another robustness check, I include the residual bond to control for the influence of potential determinants of debt structure. As discussed earlier, the debt structure is related to leverage, firm size, growth opportunities and performance, as well as financial institutional shareholdings. Thus, including bond structure as an explanatory variable along with these variables in a regression (Eq. (11)) might cause some statistical problems (e.g., multicollinearity). To try to circumvent these problems, I estimate Eq. (15) by using the residual bond (RBOND, i.e., ε) derived from Eq. (13), which is orthogonal to the other explanatory variables, to isolate the effect of bond financing on accounting conservatism captured by the book-to-market measure.

(15)

$$CONBM_i = \beta_0 + \beta_1 FIH_i + \beta_2 RBOND_i + \beta_3 LEV_i + \beta_4 ROA_i + \beta_5 SIZE_i + \beta_6 SALEGROW_i + \varepsilon$$

All variables are as defined above.

In addition, I also use the ordinal variables as the third robustness check. Firstly, to test the effect of FIH, I rank the sample based on their FIH (or RBOND) and estimate Eq. (2) for a quintile-partitioned groups as well as high- and low-FIH (or RBOND) groups based on the median value of FIH. Secondly, to test the effect of RBOND, I also rank the sample according to their residual bond and estimate Eq. (2) for the quintile-partitioned groups as well as the high- and low-RBOND groups.

Table 3.5 reports the results for the above two robustness checks. Panel A reports estimation of the book-to-market measure of accounting conservatism with industry-adjusted measures. In general, the regression results are consistent with my primary findings. As expected, the coefficient on FIH is significantly negative and the coefficient on BOND is significantly positive. This suggests that the results hold by controlling for industry effect.

Panel B displays the results of regression by using residual bond as an independent variable in Eq. (15) to explain the effect of bond financing on the accounting conservatism captured by the book-to-market measure. Consistent with my expectation, the coefficient of FIH is still significantly negative with $t = -2.02$ and the coefficient of RBOND is significantly positive with $t = 1.99$, suggesting that the results are robust in support of my hypotheses.

Panel C reports the coefficients and explanatory power of Eq. (2) for the quintile-partitioned groups and median-partitioned groups. Section I presents the results for the effect of FIH. As expected, the slope coefficient on negative returns (γ_3) and the explanatory power (adjusted R^2) decrease as FIH increases from Q1 to Q5. Similarly, the coefficient γ_3 and explanatory power is greater for the low-FIH sample than for the high-FIH sample. Section II displays the results for the effect of RBOND. Consistent with my hypothesis, the slope coefficient for negative returns (γ_3) increases as the RBOND increases from Q1 to Q5. Similarly, the coefficient γ_3 is greater for the high-RBOND groups than for the low-RBOND groups.

[INSERT TABLE 3.5 ABOUT HERE!]

3.7 Conclusions

This study examines the question of whether and how accounting conservatism is related to unique Japanese institutional characteristics. I posit that some institutional factors are associated with agency conflicts, particularly arising from information asymmetry, and thereby create different levels of demand for accounting conservatism. In particular, I take advantage of two salient features of the Japanese market, financial institutional shareholdings and public bond financing after deregulation to explain the firm-specific variation in accounting conservatism.

Consistent with the contracting argument, I develop two hypotheses. First, I argue that accounting conservatism is negatively related to Japanese financial institutional shareholdings. In Japan, financial institutions have close ties with firms and are more likely to depend on private communication to reduce the information asymmetry and resolve agency problem internally, creating a low demand for accounting conservatism. Japanese financial institutions are allowed to have sizable equity stakes in firms and can actively monitor investment decisions. Consequently, information asymmetry and agency conflicts between debtholders and shareholders are reduced. Second, I predict that accounting conservatism is positively related to the extent of public bond financing. Relative to monitored bank loans, bondholders rely more on public disclosure to solve the information asymmetry and agency problem, which results in an increasing demand for accounting conservatism. Following contracting explanations, public bond financing introduces agency costs and creates a strong demand for accounting conservatism to alleviate the increasing agency conflicts arising from the information asymmetry problem.

Using two empirical measures of accounting conservatism, I find that accounting conservatism decreases in the shareholdings by financial institutions and increases in the extent of public bond financing. Based on two unique institutional dimensions of agency conflicts between debtholders and shareholders, findings suggest that accounting conservatism evolves as a contracting technology to resolve agency conflicts arising from information asymmetry. In other words, results in Japanese market provide empirical evidence supporting the contracting explanations for accounting conservatism. Collectively, the empirical results support my hypotheses and suggest that accounting conservatism can be used to mitigate agency conflicts between debtholders and shareholders.

Chapter IV

Time-Series and Cross-Sectional Institutional Factors Related to Accounting Conservatism in the Emerging Chinese Market

4.1 Introduction

Prior studies suggest that financial reporting has become more conservative over time. Auditor litigation has been an important reason for accounting conservatism in recent decades (Watts, 2003). Kothari et al. (1988) find a generally increasing trend in the exposure of auditors to legal liability over the last few decades. Consistent with the rising risk of litigation faced by auditors, past studies have documented an increased conservatism in reporting (Basu, 1997; Givoly and Hayn, 2000). They argue that if losses are not reflected in financial reports in a timely manner, managers and auditors face an increased possibility to be sued. In other words, accounting conservatism may arise from the fear of litigation, and accounting conservatism has increased under the increasingly litigious environment (Holthausen and Watts, 2001).

In this essay, I use a sample of stocks from the emerging Chinese market to document time-series patterns in accounting conservatism. Recently, substantial Chinese accounting reform has greatly changed the audit environment. For example, a growing number of lawsuits were brought against auditors. According to a recent report, lawsuits against auditors have been steadily increasing since the first litigation in 1996 (Yang et al., 2001). Especially, auditors face an environment with increased litigation risks after a significant event, *disaffiliation program*, and create a rising demand for accounting conservatism. The disaffiliation program commenced at the end of 1996 and aimed to

convert Chinese CPA firms from government-sponsored units into independent entities. As the disaffiliation took place, more and more CPA firms moved away from the protection of their sponsoring governments and faced more exposure to the litigation risk when performing audits (Yang et al., 2001). Following the litigation argument, I hypothesize that an increased accounting conservatism coincides with the greater exposure of auditors to litigation after the disaffiliation program.

Recent studies document a substantial variation in accounting conservatism across regimes and attribute this to differences in institutional environments. Ball et al. (2000a) find that there is less demand for accounting conservatism in code law countries than in common law countries due to the different governance structures. Their results indicate that the conservative property of accounting income around the world is a function of different institutional arrangements. Furthermore, Ball et al. (2000b) argue that accounting conservatism is determined mainly by underlying institutional factors rather than by accounting standards. As four East Asian accounting standards have been strongly influenced by the International Accounting Standard (IAS), they contend that their financial reports would display a high level of conservatism based on accounting standards alone. However, the results suggest the opposite and they ascribe this to a low incentive for issuers within weak investor protection settings.

Other studies attribute the variation in accounting conservatism to differences in accounting standards. Given institutional similarities between the US and the UK stock markets, Pope and Walker (1999) argue that the apparent differences in conservatism between US and the UK accounting income result from the variation in accounting

standards pertaining to extraordinary items.[1] They find that the US GAAP appears to be more conservative than the UK GAAP when comparing earnings before extraordinary items, but that the situation is reversed for bottom-line earnings.

In this study, I extend this line of inquiry to the emerging Chinese stock market. China is a developing country that formulates its accounting standards along IAS lines (Xiang, 1998). However, many unique features of China's institutional environment may hinder standards enforcement and lead to a relatively low level of accounting conservatism. In a related study, Ball et al. (2000c) find that earnings for domestic A-share companies in China lack conservatism. They suggest that institutional factors may explain their findings, but they do not provide any supporting evidence, which is the objective of current study.

Like Ball et al. (2000c), I examine whether institutional factors or accounting standards can explain the pattern of accounting conservatism in the emerging Chinese market. The rudimentary legal framework and frequent turnover of top management provide managers with a strong incentive to hide losses (Ball et al., 2000c; Lee and Cao, 2002). In this regard, I propose that some institutional factors are associated with external monitoring which reduces managerial incentive to hide losses. I also develop two hypotheses concerning the impact of state ownership and leverage on accounting conservatism. First, I posit an inverse relationship between state ownership and accounting conservatism. A unique feature of Chinese companies is the varying levels of state ownership, as a result of them being State-Owned Enterprises (SOEs) before being

[1] The US GAAP defines extraordinary items as discontinued operations and other unusual and infrequent items, while the UK GAAP has a relatively permissive and ambiguous definition of extraordinary items, which has created opportunities for firms to manage ordinary earnings by taking large transitory write-offs and classifying transitory bad news as extraordinary.

listed (Xiang, 1998). According to the ownership literature, state ownership affects management incentives and accounting choices (Gul, 1999). The absence of a principal in State-owned firms causes a lack of supervision and provides more opportunity for managerial manipulation, in particular, managers hiding losses. In addition, Qi et al. (2000) suggest that directors representing state owners have inadequate resources and expertise to control and discipline the management of a company. Therefore, firms with a higher proportion of state ownership usually have a weaker monitoring mechanism and a consequent lower demand for accounting conservatism.

My second hypothesis is that financing through bank loans provides incentives for accounting conservatism. Banks in China provide increasingly stronger monitoring, thereby encouraging conservative accounting practices. Prior studies suggest that informed banks generally provide efficient monitoring with bank loans and therefore give borrowers an incentive to behave cooperatively (Jensen, 1986). Beck and Levine (2002) show that banks have an inherent bias toward conservatism due to the asymmetric payoff to debtholders. Especially, in undeveloped economies, powerful banks are better able to induce firms to reveal their information (including losses) than the market. In China, a series of financial reforms have provided banks with more power and incentives to actively monitor their clients' operations (Park and Sehrt, 2001). For example, state-owned banks began to institute bank director responsibility systems in the late 1980s, which improved the responsiveness of lending and induced banks to exert more efficient control over borrowers. Furthermore, the establishment of policy banks in 1994 enabled state-owned banks to focus on commercial lending without being burdened by policy responsibilities. Also, more prudential financial regulations are adopted in state-owned

banks modeled after international standards, which creates a greater demand for the use of conservatism in financial reporting. As a consequence, I predict that the degree of conservatism in reporting will increase with bank monitoring after recent financial reform.

Overall, my findings provide supporting evidence for my hypotheses. I find that earnings have become more conservative since 1998 when audit firms implemented the disaffiliation program. I attribute the change in accounting conservatism to an increased litigation risk for auditors. In addition, I find that accounting conservatism decreases in the state ownership and increases in the leverage. Finally, I find that there is little difference in the conservatism of earnings reported under IAS and Domestic Accounting Standards (DAS). This implies that institutional factors, rather than accounting standards, appear to explain the variation in the accounting conservatism.

My study contributes to the existing literature by providing empirical evidence on accounting conservatism over time in the emerging Chinese market. Furthermore, I provide additional empirical evidence concerning the effect of institutional factors as well as accounting standards on accounting conservatism. Results have implications for the analysis of financial statements, the setting of accounting standards and the regulation of securities.

The remainder of this chapter is organized as follows. Section two briefly presents the institutional background of capital markets and the financial system in China. Section three presents research questions and develops hypotheses. Section four discusses the research design. Section five describes the sample and reports the empirical results, and section six concludes.

4.2 Institutional Background

4.2.1 Development of the Chinese Stock Market

Despite their short history, security markets in China have developed quickly following the introduction of the share capital system in the 1980s and the establishment of the Shanghai Stock Exchange in 1990 and the Shenzhen Stock Exchange in 1991. The number of listed companies increased from eight in 1990 to 947 by the end of 1999, and the total market capitalization increased from RMB 3.2 billion to RMB 2647 billion during the same period. The emergence of capital markets means that a more comprehensive regulatory framework of financial reporting is required and the state is no longer the sole user of financial statements. The shareholders of joint-stock companies, especially those of listed companies, are a new group of users of financial information. They demand high-quality financial information to help them make business decisions (Tang et al., 2000). This demand has become a major force behind the implementation of accounting reforms.

Companies listed on Chinese domestic and overseas exchanges have several interesting features. First, shares are classified as A-shares designated for domestic investors and B-, H- and N-shares designated for overseas investors. A-shares are further divided into state shares, Legal Person (LP) shares, tradable A-shares and employee shares. Second, most listed firms were formerly SOEs. Therefore, the Chinese government has typically retained a majority ownership in these firms after the initial public offer (Eccher and Healy, 2000). Firms listed on the local stock exchanges are majority-controlled either directly by the state or indirectly by other SOEs and state institutions. Moreover, significant state ownership is also common among Chinese

companies that are listed in overseas stock markets such as the Stock Exchange of Hong Kong and the New York Stock Exchange (that is, H-share and N-share companies).

4.2.2 Chinese Accounting Reform

Current Chinese accounting regulations and practices evolved from a rigid, fund-based bookkeeping system modeled on that of the Soviet Union (Tang et al., 2000). As a result of economic reform aimed at building a market economy, China undertook far-reaching changes to its accounting system in the 1980s. Two important regulations were largely responsible for changing the accounting system for the listed firms. The first, known as the *Accounting Regulations for Share Capital Companies (the Regulations),* was promulgated by the Ministry of Finance in 1992 and became the first accounting regulations to apply international accounting principles to domestic enterprises. The second, *the Revised Regulations,* promulgated by the Ministry of Finance in 1998, introduced important changes to existing practices, including the relaxation of previously rigid limits on provisions for bad debts, on inventory and on temporary investment valuations. In general, the revised accounting standards have significantly narrowed the gap between Chinese GAAP and IAS (Chen et al., 1999).

4.2.3 Reform of the Chinese Banking System

State-owned commercial banks at the national level play an essential role in the financial system of China. Four major state-owned commercial banks — the Industrial and Commercial Bank of China (ICBC), the Bank of China (BoC), the Agricultural Bank of China (ABC) and the Construction Bank of China (CBC) — form the backbone of the nation's commercial banking system. At the end of 1998, the total assets of these four

banks amounted to RMB 9.5 trillion, accounting for over 60 percent of the total assets of all financial institutions in China (not including securities and insurance firms).

Since the late 1980s, the Chinese banking system has undergone a series of fundamental reforms, aimed at transforming these state-owned specialized banks into true commercial banks, by freeing them from the function of policy loans and allowing them to focus on commercial lending and risk management. Such sweeping changes were implemented in the 1990s. First, the adoption of a new Commercial Bank Law has improved managerial incentives and prudential financial operation. These state-owned banks are required to convert into shareholding companies with their own property rights, to operate independently and be liable for the potential risks they may encounter, as well as for the profits and losses they make or incur (Tang et al., 2000). Second, the establishment of policy banks has reduced the incentive conflicts associated with mixing policy and commercial objectives and enabled the state-owned banks to become more commercially oriented. Third, the huge unrecognized bad assets (i.e., RMB 1.4 trillion) have already transferred to the four asset management companies. As a result, the average proportion of nonperforming loans (NPLs) in state-owned banks dropped sharply. Finally, the introduction of bank director responsibility systems have improved the responsiveness of lending to economic fundamentals by constraining banks from making unprofitable policy-driven loans (Park and Sehrt, 2001). In summary, Chinese state-owned banks now have a self-regulating mechanism for the management of profitability and liquidity and, being the primary suppliers of capital, are expected to play an increasingly effective role in monitoring enterprises.

4.3 Research Questions and Hypotheses Development

4.3.1 The Time-Series Variation in Accounting Conservatism

Prior studies have shown that accounting conservatism has increased in recent years. One possible explanation is that the litigation risks of auditors have increased significantly over the last three decades (Kothari et al., 1988). Recent evidence indicates that the increasing accounting conservatism coincides with the greater exposure of auditors to legal liability (Basu, 1997; Givoly and Hayn, 2000). In other words, litigation encourages the use of conservatism in reporting because litigation is much more likely when earnings are overstated rather than understated (Watts, 2003).

In this study, I investigate the time-series pattern of accounting conservatism in the emerging Chinese market. Accounting reform in China has recently brought about structural changes to the accounting system. In particular, a significant event, disaffiliation program, is expected to influence the reporting conservatism in the reform process. The disaffiliation program has severed the ties between auditors and government bodies and required CPA firms to be financially and operationally independent before the end of 1998. In China, most firms affiliated themselves with government bodies or government-controlled institutions due to lack of capital. Auditors in an affiliated firm earn salaries from the sponsoring government body. They are not exposed to personal risks when performing audits, as the government's influence over auditors protects them from the threat of litigation. After disaffiliation, CPA firms were no longer owned by the government and bore all business risks. As they are no longer under the government's protection, auditors in disaffiliated firms are more exposed to the risk of litigation. As a

result, I hypothesize that accounting conservatism has increased as a consequence of auditors' greater litigation risks after the disaffiliation program.

In addition, another important event, *the Revised Regulations,* may also encourage conservatism in reporting during the reform process. The *Revised Regulations* was promulgated by the Ministry of Finance in 1998. As discussed earlier, Chinese accounting standards now conform more closely to IAS as a consequence of the implementation of the *Revised Regulations*. A typical example is accounting for inventory and temporary investment. Prior to 1998, under Chinese GAAP, inventory had to be valued at historical costs. Now, consistent with IAS, the *Revised Regulations* require listed firms to adopt the lower-of-cost-or-market (LCM) rule. In general, new IAS-compliant regulations provide more asymmetric rules, which appear to increase the conservatism in reporting. Lee and Cao (2002) also argue that the regulatory authorities began to emphasize conservatism in 1998 by adopting more stringent and conservative criteria for revenue recognition.

Watts (2003) note that litigation and regulation provide incentives for the reported financial statements of firms to be conservative. Based on the partition of the accounting reform period when great changes took place in both litigation and regulation in China (i.e., the year 1998), I argue that accounting conservatism increases coincided with increasing litigation risk and stringent regulation. Therefore, I develop the first hypothesis as follows.

> *H1: Accounting conservatism has increased after 1998, when great changes took place in litigation and regulation with the introduction of the disaffiliation program and the Revised Regulation.*

4.3.2 Institutional Factors

Several recent studies show that underlying institutional factors may explain the international differences in the conservative property of accounting income. In an economy in transition, such as China's, some institutional factors would provide external monitoring to force managers to adopt conservative methods. Past research shows that managers in Chinese listed firms usually have two incentives to hide losses. First, management turnover at the top levels of state-controlled firms is negatively related to performance based on accounting data (Groves et al., 1995). It was observed that average SOE managers' tenure was only 5.5 years, compared with 7.1 - 7.7 years in the US and Japan (Groves et al., 1995). Therefore, managers whose tenures are subject to their firm's current performance have an incentive to hide any losses to reduce the likelihood of dismissal. Second, stock exchange listing rules require companies to be profitable, providing a further incentive to hide losses.

In the emerging Chinese market, two important institutional features may strongly affect accounting conservatism. First, the most salient institutional feature is the dominance of state ownership. State ownership is assumed to be inefficient and ineffective in monitoring managers. For example, related-party transactions are widespread among organizations with close relationships under state ownership which provides opportunities for income manipulation to hide losses. Second, the state-owned banks take on an essential role in providing capital. Watts (2003) shows that lenders obtain verifiable (lower bound) measures of the current value of net assets and use them to monitor the borrower's ability to pay and to restrict managerial actions. Consequently,

issuing large amounts of debt results in a strong monitoring mechanism and thereby creates incentives to adopt conservative accounting practices.

State Ownership

I expect state ownership to affect management incentives and accounting practices. While the literature on the relationship between state ownership and accounting conservatism is relatively sparse, studies on institutional ownership suggest that such a link exists. Because of the prevalence of *Guanxi* networks, the large proportion of shares held by the state means that information asymmetry might be more easily resolved through informal communications rather than public disclosures which creates a lower demand for the use of conservatism in financial reporting.

State ownership is generally assumed to provide inefficient monitoring of management (Megginson and Netter, 2001), thereby leading to a reduced demand for accounting conservatism. One characteristic of state ownership is its lack of an efficient incentive scheme. Shleifer and Vishny (1994) argue that pervasive political control over assets fatally undermines efficient allocation. In China, most share-holding companies were converted from SOEs without undergoing a restructuring of management. After listing, the majority of shares are still owned by the state and the problem of managerial incentives remains unsolved. For example, the nonexistence of a real principal (i.e., the state) provides inefficient control and supervision of agents (i.e., managers). Furthermore, most managers are appointed by the government, especially where the state remains the controlling shareholder. As a result, the inefficient state ownership gives managers a free hand and provides them with more opportunities to hide losses. The incentive for accounting conservatism is therefore weak. I thus predict that state shareholdings may be

inversely related to accounting conservatism. To test the above argument, I develop the following hypothesis:

H2: State ownership is negatively related to accounting conservatism.

External Monitoring by Banks

Bank debt serves as an effective monitoring tool which creates a high demand for accounting conservatism. Agency theory suggests that fixed and residual claimants in a firm have conflicting interests and that asymmetric loss functions induce creditors to require managers to adopt relatively conservative accounting practices. Recent studies have shown that informed lenders provide effective monitoring and create incentives for cooperative action. Debt reduces the agency costs of free cash flow by effectively bonding a firm to pay out future cash flows and by eliminating the cash flow available for spending at the discretion of managers (Gul and Tsui, 1998). Basu (1997) argues that creditors demand timely information about 'bad news' because the option value of their claims is more sensitive to a decline in a firm's value than an increase in firm value.

In China, financial institutions are expected to play an increasingly important role in monitoring listed firms and encouraging conservative accounting choices. The bank reform has transformed state-commanded banks to commercial lending institutions. It has improved internal management systems and implemented accounting, auditing and risk assessment systems. Consequently, well-informed creditors have an increased incentive to actively monitor their clients. Banks pay more attention to the performance of enterprises since the banks are now supposedly held accountable for their lending decisions. Moreover, competition among banks has recently become more intense. As a result, highly leveraged firms should be subject to better supervision than those firms

with low leverage. Therefore, I hypothesize that accounting conservatism increases with leverage ratio, which proxies for a heavy reliance on bank debt financing. I thus test the following hypothesis:

H3: Bank financing is positively related to accounting conservatism.

4.3.3 Accounting Standards

Recent literature shows that accounting standards, like institutional factors, may affect accounting conservatism. The application of DAS and IAS to firms issuing both A and B shares (hereafter, AB-share firms) provide a unique opportunity to examine how accounting standards affect the accounting conservatism.[2] One empirical question is whether earnings under IAS are more conservative than earnings under DAS. Based on AB-share firms, I analyze whether there are any differences in the conservative property of earnings under DAS and IAS. Furthermore, I investigate whether the conservatism of earnings differs between AB-share firms and firms issuing only A shares (hereafter, A-share only firms).

If accounting standards are the primary determinant of the properties of accounting income, I expect that financial statements prepared under IAS will demonstrate higher conservatism than those reported under DAS for the following two reasons. First, IAS standards resemble common law standards and are widely believed to emphasize financial statement transparency (Eccher and Healy, 2000). In contrast, Chinese accounting standards originated exclusively as code law written by the State and are promulgated by the government, whose objectives of generating stable tax revenues

[2] In China, tradable shares can be issued in two market segments based on ownership restrictions. Domestic investors are allowed to subscribe and trade A shares, while foreign investors are limited to B shares, listed on domestic exchanges.

and safeguarding state assets have contributed to rigidity in many areas of accounting. In particular, DAS rules lack asymmetry in incorporating gains and losses, while IAS standards provide more asymmetric rules, most notably in the form of a LCM rule for inventories and investments (Ball et al., 2000b). Second, financial statements reported under DAS are audited by domestic auditors while those reported under IAS are audited by international auditors. Relative to international auditors, Chinese auditors may face more problems in retaining qualified personnel and maintaining independence. Meanwhile, international auditors may have higher potential costs in terms of litigation and maintaining their good reputation, which would lead to a higher demand for accounting conservatism.

However, other studies provide evidence suggesting that the opposite may be true. Eccher and Healy (2000) show that Chinese local rules are deeply rooted in the tradition of bright-line rules and provide managers with little flexibility for reporting judgment. In contrast, IAS standards permit managers to exercise more of their own judgment, which appear to be more relevant for investors. However, given the rudimentary legal framework and weak legal enforcement in China, a very likely scenario is that there will be significant problems in monitoring managers' exercise of reporting judgment and enforcing accounting standards. Therefore, while domestic accounting standards create less opportunity for managerial manipulation and produce more reliable information, IAS is more likely to induce managers' engaging in aggressive earnings management and reduce the demand for conservatism (Xiang, 1998). Thus, whether DAS or IAS would promote greater conservatism remains in question.

Due to the dual-GAAP reporting and strengthened monitoring by both international and domestic auditors, I expect AB-share firms to provide more conservative financial reporting than A-share only firms (Chen et al., 2001). However, the literature contains contrary arguments that the earnings of A-share only firms may reflect 'bad news' more rapidly than 'good news' as compared to AB-share firms (Chui and Kwok, 1998). As a result, the conservatism of earnings reports prepared under IAS versus DAS and, similarly, the conservative property of accounting income for A-share only firms versus AB-share firms remains uncertain.

4.4 Research Design

4.4.1 Empirical Measures of Accounting Conservatism

In this section, I use the earnings/returns relation measure to test above hypotheses. Following Basu (1997) and Ball et al. (2000a), I adopt a reverse regression in which the response of reported earnings to changes in market value varies according to whether the change is good or bad news.

As shown before, this metric of conservatism is the estimated coefficient γ_3, which measures the incremental sensitivity of accounting income to negative economic income. In other words, this metric is an indicator of the existence of income-statement conservatism, or the degree of asymmetric timeliness. There might be some concern about the validity of stock returns as a proxy for economic income, particularly in the emerging Chinese capital market. I concur with Ball et al. (2000a) that the problem would be minimal even for countries that have endogenously lower liquidity and public

disclosure standards. [3] The alternative metric of conservatism is the incremental explanatory power (R^2) of the regression on a bad news sample relative to a good news sample.

In addition, I include the book-to-market measure in the sensitivity test[4]. In order to calculate the book-to-market measure (CONBM), following Beaver and Ryan (2000), I examine the firm-specific variation in the book-to-market ratio by performing the fixed-effects estimation on panel data over sample period from 1998 to 2001 given the data availability. Specifically, this metric is measured as the coefficient α_i, derived from the Eq. (1). As discussed before, I multiply α_i by -1 and refer to this increasing measure as CONBM. I expect more conservative accounting to yield a higher measure of CONBM.

4.4.2 Research Methodology

In this section, I describe the research methodology used to test the time-series variation in accounting conservatism and the cross-sectional effect of institutional factors on accounting conservatism.

The Time-Series Variation in Accounting Conservatism

To formally document the time-series variation in conservatism over reform period, I introduce a dummy variable CHG in the following equation:

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[3] "First, poor public disclosure does not necessarily impede the flow of information into stock prices, since the information flow can occur instead via the trading of informed insiders.... Finally, we study stock returns over intervals of one and two years, not over short 'event windows', which is long enough for investigating differences in liquidity, market microstructure and disclosure timing effects to have minimal impact" (Ball et al., 2000a, p. 48).

[4] In this essay, I give more emphasis on earnings/returns relation measure in the analysis than book-to-market measure due to two reasons. First, given the short history of Chinese capital market, data availability constrains the use of CONBM in the analysis of time-series patterns of conservatism. Second, the calculation of book-to-market measure requires each firm to have market information for at least seven consecutive years (Beaver and Ryan, 2000). However, the short survival period of Chinese listed firms reduces the sample sharply and constrains the generation of inference.

(16)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} CHG_{it} + \gamma_5 RET_{it} CHG_{it} + \gamma_6 RET_{it} D_{it} CHG_{it} + \varepsilon$$

where:

CHG = the dummy variable representing the period of the Chinese accounting reform, coded one if the sample year is after 1998, and zero otherwise;

All other variables are as defined before.

The Cross-Sectional Effect of Institutional Factors

Firstly, to test the effect of state ownership on accounting conservatism, I introduce the variable STATE in the following equation:

(17)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} STATE_{it} + \gamma_5 RET_{it} STATE_{it} + \gamma_6 RET_{it} D_{it} STATE_{it} + \varepsilon$$

where:

STATE = the state ownership, measured as the proportion of shares held by the state.

All other variables are as defined before.

Secondly, to test the effect of bank financing on accounting conservatism, I introduce the variable LEV in the following equation:

(18)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} LEV_{it} + \gamma_5 RET_{it} LEV_{it} + \gamma_6 RET_{it} D_{it} LEV_{it} + \varepsilon$$

where:

LEV = the leverage ratio, measured as the ratio of total debts to total assets.

All other variables are as defined before.

The Influence of Accounting Standards on Accounting Conservatism

To investigate the impact of accounting standards on the accounting conservatism by comparing the properties of accounting information of A-share only firms and AB-share firms, I introduce a dummy variable COM in the model.

(19)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} COM_{it} + \gamma_5 RET_{it} COM_{it} + \gamma_6 RET_{it} D_{it} COM_{it} + \varepsilon$$

where:

COM = the dummy variable used to denote the membership of firms, coded one if firms issue both A- and B-shares, and zero if firms issue only A-shares.

All other variables are as defined before.

4.5 Empirical Results

4.5.1 Sample and Descriptive Statistics

The initial sample consists of all listed companies in both the Shanghai and Shenzhen Stock Exchanges during the period 1992 to 2001. Both accounting information and stock-price data have been obtained from the Taiwan Economic Journal (TEJ) database during this period. Given the availability of data in the TEJ, the final sample includes 2,742 firm-year observations. The possibility of sample selection bias needs to be kept in mind as I focus on publicly listed firms, which represent only a small subset of firms in China and which are a group of enterprises that have been chosen for their better

performance. Therefore, the results of my analysis need to be treated with caution as they apply only to large and medium-sized corporations in China.

To measure the change in a firm's economic income, I calculate annual stock return, which is the monthly stock returns compounded over the inter-announcement period, calculated to end four months after the fiscal year-end. For AB-share firms, the annual return is weighted average return of A shares and B shares, with the weight on Return of A (B)-share being the A (B)-share market value at the beginning of the year divided by the company's total market value. A dummy variable D equals one if return is negative, and zero otherwise.

Accounting income is derived from the consolidated financial statements. According to Chinese GAAP, extraordinary items are not presented separately, so earnings after extraordinary items (i.e., bottom-line earnings) are used for both DAS accounting earnings and IAS accounting earnings. Net Income is defined as $NI_t = (X_t / N_t) / P_{t-1}$, where X is Net Income after extraordinary items, and N_t is the total number of shares issued at the beginning of the year t by the company, P is the weighted average of A-share and B-share prices, with the weights determined by the number of A-shares or B-shares over the total number of outstanding shares of the company.

Table 4.1 presents descriptive statistics for the major variables used in this study. Most variables seem to contain extreme values. Therefore, observations falling in the top or bottom 1% of earnings or returns are excluded to reduce the effects of outliers on the regression results. The full sample of all firms listed on domestic exchanges consists of 2,742 firm-year observations for pooled sample. The mean (median) annual return is 60 per cent (37 per cent), with a relatively high volatility (standard deviation of 46 per cent)

characteristic of emerging markets. The average net income per share (scaled by the beginning price) is 0.82 and the median is 0.48. Panel B of Table 4.1 reports the summary statistics for the sample period from 1993 to 2001. The mean ratio of net income per share (scaled by the beginning price) ranges from a high of 4.22 in 1993 to a low of 0.50 in 2001.

[INSERT TABLE 4.1 ABOUT HERE!]

4.5.2 The Time-Series Variation in Accounting Conservatism

The main purpose of this section is to investigate the patterns of accounting conservatism coincided with the significant changes in the litigation and regulation environment over the period of Chinese accounting reform. Following Basu (1997), I estimate the reverse regression, Eq. (2), for the pooled sample as well as for each year.

Table 4.2 shows the coefficients and the adjusted R^2s from pooled and yearly regressions of earnings on contemporaneous annual returns. As expected, the metric of accounting conservatism (γ_3) becomes significant after the year 1998 (except the year 2001), indicating a possible trend for earnings to be more sensitive in reporting publicly available 'bad news' than 'good news' after the introduction of accounting reforms in 1998.

[INSERT TABLE 4.2 ABOUT HERE!]

I also estimate Eq. (16) to formally test the time-series variation in accounting conservatism over reform period. My first hypothesis would be supported if the coefficient γ_6 is significantly positive, implying an increased accounting conservatism after the Chinese accounting reform. Furthermore, I partition the sample into two

subgroups based on the reform period (i.e., year 1998) and test Eq. (2) for the pre-reform and post-reform samples, respectively. In the context of Eq. (2), my first hypothesis would be supported if γ_3 for the post-reform sample is significant and greater than γ_3 for the pre-reform sample.

Table 4.3 presents the results of Eq. (16) and Eq. (2) for the pre-reform and post-reform samples. Overall, the findings provide strong supporting evidence for my first hypothesis. As expected, the slope coefficient on the interaction dummy variable (γ_6) is significantly positive, implying an increased accounting conservatism after the accounting reforms. Furthermore, earnings seem more conservative, with a significant coefficient on negative return (γ_3) for observations in the post-reform group relative to observations in the pre-reform group.

In summary, the findings reported in Table 4.2 and Table 4.3 strongly support my first hypothesis that accounting conservatism increases after the accounting reform in 1998. Consistent with prior studies (e.g., Givoly and Hayn, 2000), I attribute the increased conservatism in reporting to an increased litigation risk after the disaffiliation program.

[INSERT TABLE 4.3 ABOUT HERE!]

4.5.3 Institutional Factors

Next, I examine the impact of institutional factors on accounting conservatism. As discussed earlier, I posit a negative effect of state ownership and a positive effect of leverage on accounting conservatism. To examine the relation between state ownership and accounting conservatism, I rank the sample according to their state ownership and estimate Eq. (2) for a median-based partition of high- and low-state firms. In the context

of Eq. (2), my second hypothesis would be supported if γ_3 is statistically significant, and γ_3 for the low-state firms is greater than γ_3 for the high-state firms. In addition, I estimate the equation Eq. (17) to formally test the effect of state ownership on accounting conservatism. In the context of Eq. (17), my second hypothesis would be supported if the coefficient γ_6 is significantly negative.

Table 4.4 displays the coefficients and explanatory power of Eq. (2) for the high- vs. low-state samples and those estimates of Eq. (17) for the pooled sample. As expected, the slope coefficient γ_3 and explanatory power are greater for the low-state sample than those estimates for the high-state sample. However,, the coefficient on the ownership interaction dummy variable (γ_6) is insignificantly negative, which indicates an inverse relation between accounting conservatism and state ownership. In general, findings from Table 4.4 are partly consistent with my second hypothesis.

[INSERT TABLE 4.4 ABOUT HERE!]

I apply a similar method to investigate the impact of the bank financing on accounting conservatism. I rank the sample according to their leverage ratio and estimate Eq. (2) for a median-based partition of high- and low-leverage firms. In the context of Eq. (2), my third hypothesis would be supported if γ_3 is statistically significant, and γ_3 for the high-leverage firms is greater than γ_3 for the low-leverage firms. Moreover, I estimate Eq. (18) to formally test the effect of bank financing (measured as leverage ratio) on accounting conservatism. In the context of Eq. (18), my third hypothesis would be supported if γ_6 is significantly positive.

Table 4.5 reports the coefficients and explanatory power of Eq. (2) for the high- and low-leverage samples and Eq. (18) for the pooled sample. As expected, the slope

coefficient γ_3 and explanatory power are greater for the high-leverage sample than those estimates for the low-leverage sample. The results of Eq. (18) for the pooled sample show that the coefficient on the leverage interaction dummy variable (γ_6) is positive and statistically significant at the five percent level, implying a positive impact of leverage on accounting conservatism. In general, findings from Table 4.5 provide strong supporting evidence for my third hypothesis.

[INSERT TABLE 4.5 ABOUT HERE!]

4.5.4 Accounting Standards

In this part, I test the effect of accounting standards on accounting conservatism. As discussed in previous sections, I argue that the relative conservatism of earnings prepared under DAS vs. IAS and similarly the relative conservatism of earnings for A-share only and AB-share firms, generally remains an empirical issue. To test this issue, I run the regression Eq. (2) for both AB-share firms and A-share only firms.

Panel A of Table 4.6 relates to AB-share firms and describes the conservatism of earnings under DAS and IAS. Results show that neither the coefficient γ_3 of DAS nor that of IAS is significant, indicating that earnings for AB-share firms lack conservatism, both under DAS and IAS, which indicates that there is little effect of accounting standards on accounting conservatism.

As discussed earlier, I also use Eq. (19) to investigate the differences in the conservatism of earnings between A-share only firms and AB-share firms. Panel B of Table 4.6 presents the results of Eq. (19) for the whole sample and a controlled sample. The whole sample is the combined sample, including not only A-share only firms but also AB-share firms. The controlled sample is a matched sample for A-share only firms

and AB-share firms based on market value at year *t-1*. I find that the coefficient γ_3 is significant for both the whole sample and controlled sample, providing some evidence of conservatism for A-share only firms. However, the coefficient for the interaction dummy (i.e., γ_6) is not significant for both samples, indicating a lack of conservatism for AB-share firms. These results hold for both fiscal year return and inter-announcement return. In summary, results of Table 4.6 show that there is no significant difference in the conservatism of earnings under DAS and IAS. In addition, I find that earnings for A-share only firms display a higher degree of accounting conservatism relative to earnings for AB-share firms, which suggests that accounting standards might not be a primary determinant of income-statement conservatism.

[INSERT TABLE 4.6 ABOUT HERE!]

4.5.5 Robustness Checks

I perform two types of sensitivity tests. One set of tests concerns whether the relations in the sample are robust to an alternative book-to-market measure of conservatism. The other set of tests involves evaluating the sensitivity of results to earnings before extraordinary items.

As discussed earlier, as one robust test, I use an alternative book-to-market measure (CONBM) to test the effect of institutional factors on accounting conservatism. Given the short history of Chinese capital market, data availability constrains the use of CONBM in the analysis of time-series patterns of accounting conservatism. Based on Beaver and Ryan (2000), I estimate the following equation to test the cross-sectional effect of institutional factors on accounting conservatism.

$$(20)\ CONBM_i = \beta_0 + \beta_1 LEV_i + \beta_2 STATE_i + \beta_3 ROA_i + \beta_4 SIZE_i + \beta_5 SALEGROW_i + \varepsilon$$

where:

CONBM = book-to-market measure of conservatism, - α_i, derived from the Eq. (1);

ROA = the firm's net income divided by total assets (a control for the profitability);

SIZE = the natural log of a firm's total assets (a control for the firm size);

SALEGROW = the annual percentage change in a firm's sales.

All other variables are as defined above.

Table 4.7 shows that the main results are consistent with prior findings. As expected, CONBM is positively related to leverage with a significant coefficient 2.80 (t=5.23), and negatively related to state ownership with an insignificant coefficient -0.44 (t=-1.32).

[INSERT TABLE 4.7 ABOUT HERE!]

As another sensitivity test, I examine whether the results are sensitive to the inclusion or exclusion of extraordinary items. Prior studies provide some evidence on the effect of extraordinary items. Basu (1997) shows that the exclusion of extraordinary items decreases conservatism in earnings. Pope and Walker (1999) find that apparent differences in accounting conservatism between the UK and US accounting regimes arise from the inclusion or exclusion of extraordinary items in accounting income. Although extraordinary items are not presented separately in Chinese accounting standards, I can use operating income to denote the earnings before extraordinary items and discontinued operations. Here operating income is defined as the balance of operating revenues after deducting operating costs, periodic expenses and all turnover taxes, surtaxes and fees.

Estimates of pooled and yearly regression models yield similar results, based on earnings before extraordinary items and discontinued operations. This suggests that my findings are robust to earnings before extraordinary items and discontinued operations.

4.6 Conclusions

This study provides evidence on time-series patterns of accounting conservatism and the effect of institutional factors on accounting conservatism in the emerging Chinese market. Using a sample of all firms listed on domestic exchanges, I find that accounting conservatism increased after the implementation of disaffiliation program in 1998. I attribute this change to significantly increased exposure of auditors to litigation.

Considering the unique characteristics of the Chinese stock market, I examine whether institutional factors such as state ownership and bank debt financing affect accounting conservatism. Overall results are consistent with my hypotheses. I find that state ownership has a negative effect on accounting conservatism, whereas bank financing has a positive effect on accounting conservatism. In addition, my findings indicate that there are no significant differences between earnings under IAS and DAS for AB-share firms. Furthermore, I obtain evidence of income-statement conservatism for A-share only firms. Results suggest that institutional factors rather than accounting standards appear to explain the variation in accounting conservatism. Sensitivity tests show that my results are robust to alternative book-to-market measure of accounting conservatism as well as earnings before extraordinary items and discontinued operations.

Chapter V
Conclusions, Implications and Limitations

5.1 Conclusions and Discussion on Research Findings

This study investigates various patterns of accounting conservatism in different institutional settings. The question it seeks to answer is how institutional factors explain the cross-country and cross-firm variation in accounting conservatism. The results show that three different kinds of institutional factors are related to accounting conservatism: country-specific institutional factors; firm-specific institutional factors in bank-oriented Japanese market; and time-series and cross-sectional institutional factors in the emerging Chinese market. My findings are consistent with the theoretical predictions made in recent work (Watts, 2003).

This study uses two empirical measures of accounting conservatism. The first book-to-market measure reflects the extent to which net assets are cumulatively understated and evaluates the degree of "balance-sheet-oriented conservatism". The second earnings/returns relation measure captures the extent to which earnings are asymmetrically deferred and evaluates the degree of "income-statement-oriented conservatism" (Givoly and Hayn, 2000, p. 293). However, as these two empirical measures focus on different attributes of accounting information, sometimes the results are not essentially the same, which leads to some difficulty in their interpretation.

For cross-country analysis, the regression results strongly support the three primary explanations for accounting conservatism: litigation, contracting and taxation (Holthausen and Watts, 2001; Watts, 2003). The book-to-market measure provides relatively stronger evidence than the earnings/returns relation measure. In particular,

auditor litigation risk can explain the variation in not only "balance-sheet-oriented conservatism", but also "income-statement-oriented conservatism". However, legal enforcement and tax-book conformity can explain the variation in "balance-sheet-oriented conservatism", but not in "income-statement-oriented conservatism". The reason for this might be due to the fitting of the cross-country model specification for the earnings/returns relation measure and the poor quality of the empirical proxies for contracting and taxation by using legal enforcement and tax-book conformity.

For within-country comparisons, the regression results show that the institutional characteristics unique to Japan and China can explain the patterns of accounting conservatism across firms. For example, in the bank-oriented Japanese market, consistent with the contracting perspective (e.g., debt contracts), accounting conservatism decreases in financial institutional shareholdings and increases in the extent of public bond financing. In other words, accounting conservatism plays an important role in efficient debt contracting. Therefore, I provide empirical evidence on the contracting explanations for accounting conservatism within the Japanese context.

In the emerging Chinese market, consistent with the litigation argument, the results suggest that accounting conservatism increases as auditors are exposed to greater litigation after the disaffiliation program. Furthermore, based on the contracting argument (e.g., management compensation contract), the results show that state ownership has a negative effect on accounting conservatism, whereas bank financing has a positive effect on accounting conservatism. Additional testing indicates that there are no significant differences between earnings under IAS and DAS for firms which issue both A- and B-

shares. In sum, institutional factors rather than accounting standards appear to explain the variation in reporting conservatism.

5.2 Implications of Findings on Policy Debate

The findings in this study have important implications for regulators and accounting researchers. The contracting explanation implies accounting conservatism benefits the firms by enhancing the efficiency of accounting information and constraining the opportunistic payments to insiders. As Watts (2003) pointed out, "Because conservatism's benefits are relevant even in a pure financial reporting scenario, the FASB should change direction in its standard setting". That implication suggests that regulators and standard-setters should redirect their opposition to conservatism in reporting. As the Enron case demonstrates, the FASB appears to favor market-to-market accounting without ensuring verifiability of the market estimates. The findings of this study suggest that it is important for FASB to pay more attention to verifying information to prevent managers from making biased estimates.

This study also provides information relevant to the concerns of the Securities and Exchanges Commission (SEC) about the comparability and transparency of accounting information in countries with different levels of legal enforcement. To better understand the properties of accounting information across different countries, it is important to look beyond accounting standards to the underlying economic and political determinants of accounting information.

5.3 Limitations and Future Research

This study is subject to several limitations. The cross-country analysis is limited by the sample size and data availability. Due to relatively few observations of some empirical measures such as tax-book conformity (TAX) and financial structure (FS), the overall sample used for multiple regressions analysis is relatively small, which limits the generation of inferences. In addition, the analysis of the effect of regulation on conservatism is limited by data availability. Prior studies have suggested that regulation might be another potential source of conservatism. As Watts (2003) pointed out, accounting standard setters and regulators have their own incentives to induce conservatism in reporting: an asymmetric political cost for overstatement versus understatement. However, the political cost is difficult to measure and the regulation argument is unanswered in this study. It would be interesting for follow-up studies to explore the effect of national accounting regulation on conservatism.

Another concern is the characterization of the relevant institutional features of different markets. In particular, for within-country comparison, based on the contracting argument and litigation argument, I select some related unique institutional factors in the bank-oriented Japanese market (financial institutional shareholdings and bond financing) and in the emerging Chinese market (change in auditor litigation risk, state ownership and debt financing) to test the effect of institutional characteristics on accounting conservatism. However, there might be some other correlated institutional variables omitted in the analysis. To some degree, this concern is alleviated by the consistent evidence from above findings. In the future, I would expect the relation between institutional factors and accounting conservatism to be more readily detected.

A final concern is that institutional determinants of accounting conservatism vary over time. For example, recent studies have shown that litigation risks of auditors have increased significantly over the last three decades (Kothari et al., 1988), which could signal a change in issuers' incentives. While I document the time-series effect of litigation risk in the emerging Chinese market, it would still be desirable in future research to better control for the time-series effect.

Table 2.1
Definition and Data Sources for Country-Level Variables

This table describes the country-level variables used for international comparison. The first column gives the name of the variable, and the second column describes the definition of the variables and provides the sources for the variables.

Variable	Description
CONBM	Book-to-market measure of conservatism based on Beaver and Ryan (2000), that is, $-\alpha_i$, derived from Eq. (1). *Source: Global Vantage Database.*
CONER	Earnings/Returns relation measure of conservatism developed by Basu (1997), that is, the estimated coefficients γ_3 and γ_{3j} derived from Eq. (4). *Source: Global Vantage Database.*
LIT	Index of auditor litigation risk. This index is a risk rating developed by an international insurance underwriter for one of the Big 5 audit firms. The rating may take on values from one to 15 and represents the risk of doing business as an auditor in a particular country. *Source: Wingate (1997).*
ENF	Index of legal enforcement, which is measured as the mean score across three legal variables: (1) the efficiency of the judicial system, (2) an assessment of rule of law, and (3) the corruption index. All three variables range from zero to ten. *Source: La Porta et al. (1998) and Leuz et al. (2003).*
TAX	Index of tax-book conformity, which represents the extent to which a country's financial accounting standards conform to tax rules. This index is constructed from data in Coopers and Lybrand (1993) and the 1995 *European Accounting Guide*, and assigned a value of one if there is substantial conformity between financial reporting and tax rules, and zero otherwise. *Source: Hung (2001).*
LAW	Index of legal origin, coded one if the origin of the Company Law or Commercial Code of the country is English Common Law and zero otherwise. *Source: La Porta et al. (1998).*
FS	Index of financial structure, which is used to measure the comparative activity and size of markets and banks. This measure equals the log of the ratio of Value Traded to Bank Credit. Value Traded equals the value of stock transactions as a share of national output. Bank Credit equals the claims of the banking sector on the private sector as a share of national output. A higher value of this index indicates more market-based financial systems. *Source: Beck and Levine (2002).*
LGDP	Index of economy size, measured as the natural log of GDP per capita in thousand U.S. dollars. *Source: World Bank.*

Table 2.2
Summary Information on Country-Specific Characteristics

This table provides summary description of country scores for the key variables used for international comparison.

Country	*CONBM*	*CONER*	*LIT*	*ENF*	*TAX*	*LAW*	*FS*	*LGDP*
Argentina	-6.108	0.768	3.61	5.80	NA	0	NA	3.827
Australia	-0.800	0.149	10	9.51	0	1	1.18	4.307
Austria	-1.394	0.157	3.61	9.36	NA	0	-1.35	4.393
Belgium	-0.694	0.082	4.82	9.44	1	0	0.63	4.372
Brazil	-6.043	-0.039	4.82	6.10	NA	0	1.03	3.532
Canada	-0.710	0.186	8.07	9.75	0	1	1.06	4.340
Chile	-1.450	0.055	2.42	NA	NA	1	-0.06	3.666
Denmark	-1.809	0.049	4.82	10	0	0	0.07	4.499
Finland	-0.870	-0.006	3.61	10	1	0	-0.30	4.386
France	-0.671	0.102	6.22	8.70	1	0	-0.45	4.371
Germany	-0.826	0.170	6.22	9.05	1	0	0.02	4.383
Greece	-0.491	-0.092	3.61	6.82	NA	0	-0.92	4.058
Hong Kong	-1.815	0.137	10	8.90	0	1	NA	4.389
India	-0.424	-0.028	2.42	5.58	NA	1	-0.07	2.659
Indonesia	-3.033	0.301	3.61	2.88	NA	0	NA	2.830
Ireland	-0.587	0.290	6.22	8.40	0	1	NA	4.420
Italy	-0.770	0.006	6.22	7.07	1	0	-0.34	4.297
Japan	-1.417	-0.117	4.82	9.17	1	0	1.07	4.527
Malaysia	-1.001	-0.262	3.61	7.70	NA	1	1.05	3.562
Mexico	-1.013	-0.049	4.82	5.40	NA	0	0.62	3.747
Netherlands	-0.708	0.158	6.22	10	0	0	0.54	4.390
New Zealand	-0.965	0.377	10	10	0	1	1.46	4.149
Norway	-0.933	0.196	6.22	10	0	0	-0.11	4.562
Philippines	-1.032	0.027	3.61	3.47	NA	0	0.00	2.979
Portugal	-1.003	-0.196	3.61	7.19	NA	0	-1.49	4.052
Singapore	-1.311	-0.015	4.82	8.90	0	1	1.42	4.325
South Africa	-1.041	-0.067	4.82	6.45	0	1	1.39	3.458
South Korea	-1.937	0.114	3.61	5.55	NA	0	0.57	3.949
Spain	-0.655	0.056	4.82	7.14	1	0	-0.30	4.167
Sweden	-0.689	0.168	4.82	10	1	0	0.83	4.414
Switzerland	-1.018	0.009	6.22	10	1	0	NA	4.551
Taiwan	-1.058	-0.086	3.61	7.40	NA	0	NA	NA
Thailand	-1.657	-0.150	3.61	4.89	NA	1	NA	3.296
Turkey	-0.214	-1.602	2.42	4.80	NA	0	-1.19	3.433
UK	-0.730	0.134	10	9.22	0	1	1.38	4.394
USA	0.177	0.172	15	9.54	0	1	1.10	4.534

Table 2.3
Descriptive Statistics and Correlations

Panel A: Descriptive Statistics

Variables	*N*	*Mean*	*Median*	*Std. Dev.*	*Min*	*Max*
CONBM	36	-1.716	-1.035	1.618	-6.108	0.177
CONER	41	0.070	0.049	0.177	-1.602	0.768
LIT	38	5.311	4.820	2.706	2.420	15.000
ENF	34	7.985	8.900	1.901	2.880	10.000
TAX	24	0.440	0	0.507	0	1.000
LAW	40	0.350	0	0.483	0	1.000
FS	33	0.259	0.320	0.854	-1.490	1.460
LGDP	41	8.859	9.330	1.433	5.736	10.692

Panel B: Correlation Matrix

	CONBM	CONER	LIT	ENF	TAX	LAW	FS	LGDP
CONBM	1.000							
CONER	0.078	1.000						
	(0.668)							
LIT	0.541***	0.320*	1.000					
	(0.001)	(0.057)						
ENF	0.234	0.223	0.522***	1.000				
	(0.191)	(0.213)	(0.002)					
TAX	0.133	0.205	-0.356*	0.097	1.000			
	(0.525)	(0.326)	(0.081)	(0.644)				
LAW	0.178	-0.057	0.429***	0.101	-0.724***	1.000		
	(0.278)	(0.737)	(0.007)	(0.569)	(0.000)			
FS	-0.142	0.220	0.531***	0.264	-0.512**	0.546***	1.000	
	(0.439)	(0.242)	(0.002)	(0.175)	(0.018)	(0.001)		
LGDP	0.356*	0.315*	0.516***	0.831***	0.303	-0.284	0.155	
	(0.050)	(0.084)	(0.003)	(0.000)	(0.171)	(0.122)	(0.459)	1.000

Notes:

All variables are as defined in Table 2.1.
P-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 2.4
Accounting Conservatism and Auditor Litigation Risk

Country	*LIT*	*CONBM*	*CONER*
High LIT Sample			
USA	15.00	0.177	0.172
Indonesia	13.86	-3.033	0.301
Australia	10.00	-0.800	0.149
Hong Kong	10.00	-1.815	0.137
New Zealand	10.00	-0.965	0.377
UK	10.00	-0.730	0.134
Canada	8.07	-0.710	0.186
Turkey	7.00	-0.214	-1.602
France	6.22	-0.671	0.102
Germany	6.22	-0.826	0.170
Ireland	6.22	-0.587	0.290
Italy	6.22	-0.770	0.006
Netherlands	6.22	-0.708	0.158
Norway	6.22	-0.933	0.196
Switzerland	6.22	-1.018	0.009
High LIT Sample Mean	8.498	-0.907	0.052
Low LIT Sample			
Belgium	4.82	-0.694	0.082
Denmark	4.82	-1.809	0.049
Japan	4.82	-1.417	-0.117
Mexico	4.82	-1.013	-0.049
Singapore	4.82	-1.311	-0.015
South Africa	4.82	-1.041	-0.067
Spain	4.82	-0.655	0.056
Sweden	4.82	-0.689	0.168
Argentina	3.61	-6.108	0.768
Austria	3.61	-1.394	0.157
Finland	3.61	-0.870	-0.006
Greece	3.61	-0.491	-0.092
Malaysia	3.61	-1.001	-0.262
Philippines	3.61	-1.032	0.027
Portugal	3.61	-1.003	-0.196
South Korea	3.61	-1.937	0.114
Thailand	3.61	-1.657	-0.150
India	2.42	-0.424	-0.028
Low LIT Sample Mean	4.08	-1.364	0.024
High vs. Low LIT Sample		Test of Means (*t*-stat.)	
CONBM		1.97**	
CONER		1.02	

Table 2.5
Accounting Conservatism and Legal Enforcement

Country	*ENF*	*CONBM*	*CONER*
High ENF Sample			
Denmark	10	-1.809	0.049
Finland	10	-0.870	-0.006
Netherlands	10	-0.708	0.158
New Zealand	10	-0.965	0.377
Norway	10	-0.933	0.196
Sweden	10	-0.689	0.168
Switzerland	10	-1.018	0.009
Canada	9.75	-0.710	0.186
USA	9.54	0.177	0.172
Australia	9.51	-0.800	0.149
Belgium	9.44	-0.694	0.082
Austria	9.36	-1.364	0.157
UK	9.22	-0.730	0.134
Japan	9.17	-1.417	-0.117
Germany	9.05	-0.826	0.170
High ENF Sample Mean	9.67	-0.892	0.126
Low ENF Sample			
Hong Kong	8.90	-1.815	0.137
Singapore	8.90	-1.311	-0.015
France	8.70	-0.671	0.102
Ireland	8.40	-0.587	0.290
Malaysia	7.70	-1.001	-0.262
Taiwan	7.37	-1.058	-0.086
Portugal	7.19	-1.003	-0.196
Spain	7.14	-0.655	0.056
Italy	7.07	-0.770	0.006
Greece	6.82	-0.491	-0.092
South Africa	6.45	-1.041	-0.067
Argentina	5.80	-6.108	0.768
India	5.58	-0.424	-0.028
South Korea	5.55	-1.937	0.114
Thailand	4.89	-1.657	-0.150
Philippines	3.47	-1.032	0.027
Indonesia	2.88	-3.033	0.301
Low ENF Sample Mean	6.58	-1.328	0.033
High vs. Low ENF Sample		Test of Means (*t*-stat.)	
CONBM		1.01	
CONER		1.61	

Table 2.6
Accounting Conservatism and Tax-Book Conformity

Country	*TAX*	*CONBM*	*CONER*
High TAX Sample			
Belgium	1	-0.694	0.082
Finland	1	-0.870	-0.006
France	1	-0.671	0.102
Germany	1	-0.826	0.170
Italy	1	-0.770	0.006
Japan	1	-1.417	-0.117
South Korea	1	-1.937	0.114
Spain	1	-0.655	0.056
Sweden	1	-0.689	0.168
Switzerland	1	-1.018	0.009
High TAX Sample Mean	1	-0.955	0.058
Low TAX Sample			
Argentina	0	-6.108	0.768
Australia	0	-0.800	0.149
Canada	0	-0.710	0.186
Denmark	0	-1.809	0.049
Hong Kong	0	-1.815	0.137
India	0	-0.424	-0.028
Ireland	0	-0.587	0.290
Netherlands	0	-0.708	0.158
New Zealand	0	-0.965	0.377
Norway	0	-0.933	0.196
Singapore	0	-1.311	-0.015
South Africa	0	-1.041	-0.067
UK	0	-0.730	0.134
US	0	0.177	0.172
Low TAX Sample Mean	0	-1.269	0.179
High vs. Low TAX Sample		Test of Means (*t*-stat.)	
CONBM		0.75	
CONER		1.94	

Table 2.7
Regression Results for Conservatism and Litigation, Enforcement & Taxation

Panel A: Regression Results Using CONBM as the Dependent Variable

(3) $CONBM_j = \beta_0 + \beta_1 LIT_j + \beta_2 ENF_j + \beta_3 TAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	-0.557	-0.791	-3.130**	-0.008
		(-0.58)	(-0.71)	(-2.39)	(-0.01)
		[0.00]	[0.00]	[0.00]	[0.00]
LIT	+	0.150***			0.135***
		(3.30)			(3.93)
		[2.21]			[2.67]
ENF	+		0.087		0.227***
			(0.83)		(3.26)
			[4.02]		[2.98]
TAX	+			0.639*	0.735***
				(1.91)	(3.37)
				[3.06]	[3.36]
LAW	+	-0.254	0.357	1.470***	0.510
		(-0.83)	(1.12)	(3.00)	(1.32)
		[2.90]	[2.71]	[6.16]	[9.82]
FS	-	-0.052	-0.147	-0.533**	-0.298*
		(-0.37)	(-0.95)	(-2.29)	(-1.93)
		[1.90]	[2.00]	[2.51]	[2.84]
LGDP	+	-0.118	-0.096	0.168	-0.420**
		(-1.08)	(-0.54)	(1.37)	(-2.94)
		[2.67]	[0.60]	[1.78]	[6.28]
Adj. R^2		0.279	0.003	0.238	0.704
N		24	23	18	18

Notes:
CONBM is the book-to-market measure of conservatism based on Beaver and Ryan (2000), that is, $-\alpha_4$, derived from the Eq. (1); *LIT* is the index of auditor litigation risk used in Wingate (1997); *ENF* is the index of legal enforcement, measured as the mean score across three legal variables as reported in La Porta et al. (1998); *TAX* is the index of tax-book conformity, which is derived from Hung (2001); *LAW* is the index of legal origin, coded one if a country has common law tradition and zero otherwise; *FS* is the index of financial structure, used to measure the comparative activity and size of markets and banks, a higher value of this index indicates more market-based financial systems; *LGDP* is the index of economy size, equals the natural log of GDP per capita in thousand U.S. dollars.
t-values (two-tailed) appear in parentheses.
VIFs (variance inflation factors) appear in brackets.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Panel B: Regression Results Using CONER as the Dependent Variable

$$(5)\ CONER_j = \beta_0 + \beta_1 LIT_j + \beta_2 ENF_j + \beta_3 TAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	-0.067	-0.237	-0.370	0.144
		(-0.28)	(-0.78)	(-1.22)	(0.41)
LIT	+	0.027**			0.025**
		(2.42)			(2.14)
ENF	+		0.023		0.023
			(0.80)		(1.00)
TAX	+			-0.023	-0.021
				(-0.29)	(-0.29)
LAW	+	-0.093	-0.041	0.054	-0.117
		(-1.22)	(-0.47)	(0.48)	(-0.91)
FS	-	0.009	0.024	-0.038	0.002
		(0.27)	(0.57)	(-0.70)	(0.04)
LGDP	+	-0.001	0.010	0.047	-0.037
		(-0.03)	(0.21)	(1.67)	(-0.78)
Adj. R^2		27.02	0.050	0.001	0.154
N		24	23	18	18

Notes:

$CONER_j$ is the earnings/returns relation measure of conservatism developed by Basu (1997), following Ball et al. (2000a), this measure is constructed as the coefficients γ_3 derived from Eq. (2) and denote the asymmetric timeliness (i.e., conservatism).
All other variables are as defined before.

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

where NI_{it} is firm i's earnings per share deflated by the price at the beginning of the year t; RET_{it} is firm i's compounded monthly return over the 12-month period; D is a dummy variable for bad news, coded one if RET is negative; and zero otherwise.

t-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 2.8
Robustness Check I: Rank Regression Results

Panel A: CONBM test

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	0.282	0.399	-1.816**	-1.803**
		(0.90)	(1.15)	(-2.25)	(-2.35)
LIT	+	0.548**			0.291*
		(2.14)			(1.85)
ENF	+		0.285		0.367
			(1.01)		(1.67)
TAX	+			1.006**	1.041**
				(2.74)	(2.97)
LAW	+	0.502	0.522	2.501***	2.244***
		(1.18)	(1.11)	(3.58)	(3.29)
FS	-	-0.452*	-0.327	-0.909***	0.871***
		(-1.94)	(-1.32)	(-3.36)	(-3.46)
LGDP	+	-0.191	-0.205	0.507*	-0.0001
		(-0.84)	(-0.60)	(2.08)	(-0.01)
Adj. R^2		0.132	0.003	0.379	0.467
N		24	23	18	18

Panel B: CONER test

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	-0.006	0.149	0.165	0.369
		(-0.02)	(0.39)	(0.15)	(0.40)
LIT	+	0.626**			0.653**
		(2.43)			(2.32)
ENF	+		0.307		0.400
			(0.98)		(1.51)
TAX	+			0.022	0.670
				(0.05)	(0.16)
LAW	+	0.114	0.082	0.436	-0.159
		(0.28)	(0.16)	(0.47)	(-0.19)
FS	-	-0.177	0.001	-0.259	-0.192
		(-0.75)	(0.00)	(-0.72)	(-0.63)
LGDP	+	0.213	0.213	0.397	-0.374
		(0.89)	(0.56)	(1.23)	(-0.93)
Adj. R^2		0.325	0.112	0.001	0.200
N		24	23	18	18

Notes:
All variables are as defined in Table 2.1.
t-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 2.9
Robustness Check II: Residual LIT, ENF & TAX

(6) $$LIT_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_1$$

(7) $$ENF_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_2$$

(8) $$TAX_j = \lambda_0 + \lambda_1 LAW_j + \lambda_2 FS_j + \lambda_3 LGDP_j + \varepsilon_3$$

Model	*INTERC.*	*LAW*	*FS*	*LGDP*	*N*	*Adj.R^2 (%)*
LIT	-7.084**	2.523**	0.690	1.236***	30	54.41
	(-2.60)	(2.70)	(1.34)	(4.31)		
ENF	-6.047***	1.375**	-0.067	1.457***	27	77.09
	(-3.98)	(2.75)	(-0.25)	(9.26)		
TAX	0.167	-0.656**	-0.077	0.062	20	50.10
	(0.21)	(-2.81)	(-0.48)	(0.76)		

Panel A: CONBM Test for Residual LIT, ENF & TAX

(9)
$$CONBM_j = \beta_0 + \beta_1 RESLIT_j + \beta_2 RESENF_j + \beta_3 RESTAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	-2.083**	-1.306	-2.088	-1.528*
		(-2.46)	(-1.42)	(-1.75)	(-1.96)
RESLIT	+	0.150***			0.135***
		(3.30)			(3.93)
RESENF	+		0.087		0.227***
			(0.83)		(3.26)
RESTAX	+			0.639*	0.735***
				(1.91)	(3.37)
LAW	+	0.234	0.469	0.792**	0.462*
		(0.88)	(1.62)	(2.34)	(2.00)
FS	-	-0.012	-0.156	-0.425*	-0.162
		(-0.08)	(-1.02)	(-1.88)	(-1.07)
LGDP	+	0.111	0.030	0.115	0.054
		(1.31)	(0.33)	(0.97)	(0.69)
Adj. R^2		0.279	0.002	0.238	0.704
N		24	23	18	18

Panel B: CONER Test for Residual LIT, ENF & TAX

(10)

$$CONER_j = \beta_0 + \beta_1 RESLIT_j + \beta_2 RESENF_j + \beta_3 RESTAX_j + \beta_4 LAW_j + \beta_5 FS_j + \beta_6 LGDP_j + \varepsilon$$

Variables	*Pred. Sign*	*Models*			
		(1)	*(2)*	*(3)*	*(4)*
Intercept	?	-0.348	-0.373	-0.407	-0.279
		(-1.64)	(-1.48)	(-1.48)	(-1.07)
RESLIT	+	0.027**			0.025*
		(2.42)			(2.14)
RESENF	+		0.023		0.023
			(0.80)		(1.00)
RESTAX	+			-0.023	-0.021
				(-0.29)	(-0.29)
LAW	+	-0.004	-0.012	0.078	0.015
		(-0.06)	(-0.15)	(1.00)	(0.20)
FS	-	0.017	0.022	-0.042	0.002
		(0.48)	(0.51)	(-0.80)	(0.05)
LGDP	+	0.041*	0.044	0.049*	0.035
		(1.94)	(1.72)	(1.78)	(1.36)
Adj. R^2		0.270	0.050	0.001	0.154
N		24	23	18	18

Notes:

RESLIT is the residual *LIT*, that is, the residual item ε_1, generated from the regression Eq. (6); *RESENF* is the residual *ENF*, that is, the residual item ε_2, generated from the regression Eq. (7); *RESTAX* is the residual *TAX*, that is, the residual item ε_3, generated from the regression Eq. (8); All other variables are as defined before.

t-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 3.1

Descriptive Statistics for Firm-Level Variables Unique to Japanese Market

Variables	*Mean*	*Median*	*Std Dev*	*Min*	*Max*
CONBM	-0.735	-0.728	0.207	-1.577	-0.263
NI	0.014	0.019	0.043	-0.651	0.496
RET	-0.022	-0.132	0.424	-0.902	5.322
FIH	0.318	0.315	0.158	0.000	0.818
BOND	0.447	0.438	0.266	0.000	0.999
LEV	0.618	0.634	0.186	0.065	0.97
ROA	0.016	0.014	0.023	-0.118	0.334
SIZE	17.948	17.815	1.347	14.891	23.291
SALEGROW	0.023	0.016	0.075	-0.228	1.520

Notes:

CONBM is the book-to-market measure of conservatism; that is, $-\alpha_1$, derived from the Eq. (1); *NI* is earnings per share deflated by the price at the beginning of the year *t*; *RET* is compounded monthly return over the 12-month period; *FIH* is the financial institutional shareholdings, measured as the percentage of common shares held by financial institutions in total shares outstanding at the beginning of the fiscal year; *BOND* is the ratio of bond to total debts (i.e., the sum of public bonds and bank loans); *LEV* is the leverage ratio, measured as the total debt divided by total assets; *ROA* is firm's net income before extraordinary items, divided by total assets (a control for profitability); *SIZE* is the natural log of firm's total assets (a control for firm size); *SALEGROW* is the annual percentage change in sales (a control for growth opportunity).

Table 3.2
Correlation Matrix

	CONBM	*FIH*	*BOND*	*LEV*	*ROA*	*SIZE*	*SALEGROW*
CONBM	1.000						
FIH	-0.007	1.000					
	(0.830)						
BOND	0.016***	0.167***	1.000				
	(0.000)	(0.000)					
LEV	0.431***	-0.084***	0.047	1.000			
	(0.000)	(0.008)	(0.102)				
ROA	-0.061*	0.178***	0.368***	-0.455***	1.000		
	(0.057)	(0.000)	(0.000)	(0.000)			
SIZE	0.038	0.584***	0.242***	-0.159***	0.338***	1.000	
	(0.238)	(0.000)	(0.000)	(0.000)	(0.000)		
SALEGROW	0.014	0.027	0.041	-0.024	0.246***	0.126***	1.000
	(0.666)	(0.389)	(0.270)	(0.449)	(0.000)	(0.000)	

Notes:

CONBM is the book-to-market measure of conservatism; that is, $-\alpha_i$, derived from the Eq. (1); *FIH* is the financial institutional shareholdings, measured as the percentage of common shares held by financial institutions in total shares outstanding at the beginning of the fiscal year; *BOND* is the ratio of bond to total debts (i.e., the sum of public bonds and bank loans); *LEV* is the leverage ratio, measured as the total debt divided by total assets; *ROA* is firm's net income before extraordinary items, divided by total assets (a control for profitability); *SIZE* is the natural log of firm's total assets (a control for firm size); *SALEGROW* is the annual percentage change in sales (a control for growth opportunity).

P-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 3.3

Book-to-Market Measure of Accounting Conservatism

(11)

$$CONBM_i = \beta_0 + \beta_1 FIH_i + \beta_2 BOND_i + \beta_3 LEV_i + \beta_4 ROA_i + \beta_5 SIZE_i + \beta_6 SALEGROW_i + \varepsilon$$

	Predicted Sign	*Coefficient*	*t-Statistics*	*VIF*
β_0	?	-1.642***	-13.10	0.00
β_1	-	-0.039**	-2.38	1.57
β_2	+	0.021***	2.63	1.53
β_3	+	0.642***	13.02	1.43
β_4	+	0.025***	4.17	1.69
β_5	+	1.944***	4.08	1.56
β_6	?	-0.045	-0.50	1.18
Sample size	573			
Adj.R^2 (%)	24.59			

Notes:

CONBM is the book-to-market measure of conservatism; that is, $-\alpha_i$, derived from the Eq. (1); *FIH* is the financial institutional shareholdings, measured as the percentage of common shares held by financial institutions in total shares outstanding at the beginning of the fiscal year; *BOND* is the ratio of bond to total debts (i.e., the sum of public bonds and bank loans); *LEV* is the leverage ratio, measured as the total debt divided by total assets; *ROA* is firm's net income before extraordinary items, divided by total assets (a control for profitability); *SIZE* is the natural log of firm's total assets (a control for firm size); *SALEGROW* is the annual percentage change in sales (a control for growth opportunity).

*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 3.4
Earnings/Returns Relation Measure of Accounting Conservatism

Panel A: Accounting Conservatism and Financial Institutional Holdings

(12)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} FIH_{it} + \gamma_5 RET_{it} FIH_{it} + \gamma_6 RET_{it} D_{it} FIH_{it} + \varepsilon$$

	Coefficient	*t-Statistics*
γ_0	0.016***	18.21
γ_1	0.005*	1.92
γ_2	-0.015***	-4.95
γ_3	0.053***	6.62
γ_4	0.009	1.52
γ_5	0.042***	5.46
γ_6	-0.058***	-2.84
Adj.R^2 (%)	2.65	

Notes:
NI_{it} is firm i's earnings per share deflated by the price at the beginning of the year t; RET_{it} is firm i's compounded monthly return over the 12-month period; D is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise; *FIH* is financial institutional shareholdings, measured as the percentage of common shares held by financial institutions.

t-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Panel B: Accounting Conservatism and Residual Bond

(I) Determinants of Public Bond Financing

(13) $$LOGBOND_i = \gamma_0 + \gamma_1 LEV_i + \gamma_2 SIZE_i + \gamma_3 FIH_i + \gamma_4 ROA_i + \gamma_5 SALEGROW_i + \varepsilon$$

Model No.	*LEV*	*SIZE*	*FIH*	ROA	*GROWTH*	Adj.R^2 (%)
1	-0.378***	0.017***				27.79
	(-48.61)	(21.19)				
2	-0.379***	0.014***	0.073***	-0.123***	-0.065***	28.22
	(-46.80)	(13.66)	(7.02)	(-4.96)	(-6.76)	

Notes:

LOGBOND is the logarithm of bond ratio; *LEV* is the leverage ratio, measured as the total debt divided by total assets; *SIZE* is the natural log of firm's total assets; *FIH* is the financial institutional shareholdings, measured as the percentage of common shares held by financial institutions in total shares outstanding at the beginning of the fiscal year; *ROA* is firm's net income before extraordinary items, divided by total assets (a control for profitability); (a control for firm size); *SALEGROW* is the annual percentage change in sales (a control for growth opportunity).

(II) Accounting Conservatism and Residual Bond

(14)

$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} RBOND_{it} + \gamma_5 RET_{it} RBOND_{it} + \gamma_6 RET_{it} D_{it} RBOND_{it} + \varepsilon$$

	Coefficient	*t-Statistics*
γ_0	0.012***	6.71
γ_1	0.010***	3.41
γ_2	0.001	0.37
γ_3	0.024***	3.00
γ_4	0.013	0.64
γ_5	-0.004	-0.26
γ_6	0.102*	1.89
Adj.R^2 (%)	0.86	

Notes:
NI_{it} is firm i's earnings per share deflated by the price at the beginning of the year t; RET_{it} is firm i's compounded monthly return over the 12-month period; D is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise; *RBOND* is the residual bond, derived from Eq. (13), used to control for the effect of potential determinants on the bond financing.
t-values (two-tailed) appear in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 3.5

Robustness Checks

Panel A: Industry-Adjusted Measure of Conservatism (Controlling for Industry Effects)

$$(11)\ CONBM_i = \beta_0 + \beta_1 FIH_i + \beta_2 BOND_i + \beta_3 LEV_i + \beta_4 ROA_i + \beta_5 SIZE_i + \beta_6 SALEGROW_i + \varepsilon$$

	Predicted Sign	*Coefficient*	*t-Statistics*
β_0	?	-1.350***	-6.04
β_1	-	-0.031**	-2.05
β_2	+	0.095***	3.39
β_3	+	0.789***	19.29
β_4	+	0.040***	6.51
β_5	+	-0.001	-0.05
β_6	?	0.005	0.07
Sample size	573		
Adj.R^2 (%)	37.00		

Panel B: Residual Bond

(15)

$$CONBM_i = \beta_0 + \beta_1 FIH_i + \beta_2 RBOND_i + \beta_3 LEV_i + \beta_4 ROA_i + \beta_5 SIZE_i + \beta_6 SALEGROW_i + \varepsilon$$

	Predicted Sign	*Coefficient*	*t-Statistics*
β_0	?	-1.793***	-10.76
β_1	-	-0.046**	-2.02
β_2	+	0.128**	1.99
β_3	+	0.560***	8.14
β_4	+	2.431***	3.06
β_5	+	0.034***	3.98
β_6	?	0.057	0.23
Sample size	573		
Adj.R^2 (%)	22.92		

Panel C: Results for the Earnings/Returns Relation Measure by Using Ordinal Variable

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

(I) Test for the Effect of FIH

	Equation (2)			*Equation (2)*	
	Q1	*Q3*	*Q5*	*Low-FIH Sample*	*High-FIH Sample*
γ_0	0.016***	0.019***	0.020***	0.018***	0.019***
	(8.35)	(11.90)	(16.96)	(16.59)	(21.79)
γ_1	-0.003	-0.001	-0.001	-0.002	-0.001
	(-1.14)	(-0.33)	(-0.71)	(-1.10)	(-0.71)
γ_2	-0.019**	-0.007	0.009*	-0.007	0.007*
	(-2.53)	(-1.00)	(1.74)	(-1.59)	(1.66)
γ_3	0.045***	0.047***	0.000	0.033***	0.009
	(3.75)	(4.13)	(0.00)	(4.75)	(1.32)

(II) Test for the Effect of RBOND

	Equation (2)			*Equation (2)*	
	Q1	*Q3*	*Q5*	*Low-RBOND Sample*	*High-RBOND Sample*
γ_0	0.016***	0.019***	0.020***	0.018***	0.019***
	(8.35)	(11.90)	(16.96)	(16.59)	(21.79)
γ_1	-0.003	-0.001	-0.001	-0.002	-0.001
	(-1.14)	(-0.33)	(-0.71)	(-1.10)	(-0.71)
γ_2	-0.019**	-0.007	0.009*	-0.007	0.007*
	(-2.53)	(-1.00)	(1.74)	(-1.59)	(1.66)
γ_3	0.045***	0.047***	0.000	0.033***	0.009
	(3.75)	(4.13)	(0.00)	(4.75)	(1.32)

Notes: CONBM is the book-to-market measure of conservatism; $-\alpha_4$, derived from the Eq. (1); *FIH* is the financial institutional shareholdings, measured as the percentage of common shares held by financial institutions in total shares outstanding at the beginning of the fiscal year; *BOND* is the ratio of bond to total debts (i.e., the sum of public bonds and bank loans); *LEV* is the leverage ratio, measured as the total debt divided by total assets; *ROA* is firm's net income before extraordinary items, divided by total assets (a control for profitability); *SIZE* is the natural log of firm's total assets (a control for firm size); *SALEGROW* is the annual percentage change in sales (a control for growth opportunity); *RBOND* is the residual bond, derived from Eq. (13), used to control for the effect of potential determinants of debt structure.

t-values (two-tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.1

Descriptive Statistics for Pooled Chinese Sample and Selected Years

Panel A: Pooled Sample

	N	*Mean*	*Median*	*Std Dev*	*Min*	*Max*
NI	2742	0.82	0.48	0.31	-1.77	42.47
RET	2742	0.60	0.37	0.46	-0.93	3.17

Panel B: Selected Years

	NI		*RET*	
Year	*Mean*	*Std Dev*	*Mean*	*Std Dev*
1993	4.22	17.4	-0.18	0.35
1994	1.55	6.82	0.12	0.39
1995	1.39	7.56	0.07	0.32
1996	0.73	6.36	0.89	1.18
1997	0.22	3.03	0.26	0.48
1998	0.52	3.23	-0.05	2.49
1999	0.62	6.46	0.57	2.22
2000	1.15	5.00	0.19	0.33
2001	0.50	3.76	-0.26	0.17

Notes:
NI is earnings per share deflated by price at the beginning of year *t*; *RET* is the inter-announcement period return, here it refers to the inter-announcement period return, measured from May of year *t* to April of year *t+1*.

Table 4. 2
Yearly Regression Estimates for Full Sample

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

	1993	*1994*	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*Pooled Sample*
γ_0	030*	0.22***	0.05	-0.05*	0.04***	0.05***	0.01	0.01***	0.02***	0.03
	(2.10)	(2.90)	(0.86)	(-1.95)	(5.35)	(6.81)	(1.59)	(4.06)	(2.62)	(1.51)
γ_1	-0.24	-0.07	0.04	0.05	-0.01	0.01	0.10***	0.01	0.02**	0.01
	(-1.25)	(-0.48)	(0.45)	(0.11)	(-0.49)	(1.34)	(2.69)	(1.09)	(2.02)	(0.28)
γ_2	0.91***	0.05	0.36***	0.10***	0.001	0.03**	0.03***	0.01	0.06*	0.08***
	(6.40)	(0.39)	(2.62)	(7.78)	(0.13)	(2.34)	(3.77)	(0.60)	(1.76)	(3.90)
γ_3	-1.14***	0.16	-0.18	0.41	0.07	0.16***	1.66***	0.07**	0.02	0.01
	(-3.49)	(0.38)	(-0.45)	(0.17)	(0.75)	(4.71)	(6.01)	(2.02)	(0.61)	(0.04)
N	15	55	148	190	225	379	491	574	649	2742
Adj.R^2 (%)	0.88	0.00	4.43	24.06	0.00	17.99	13.11	0.54	10.11	0.73

Notes:
NI_{it} is firm i's earnings per share deflated by the price at the beginning of the year t; RET_{it} is firm i's compounded monthly return over the 12-month period, here it refers to the inter-announcement period return, measured from May of year t to April of year $t+1$. D is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise.
t-values (two tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.3
Time-Series Variation in Accounting Conservatism

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

(16)
$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} CHG_{it} + \gamma_5 RET_{it} CHG_{it} + \gamma_6 RET_{it} D_{it} CHG_{it} + \varepsilon$

	Equation (2)				*Equation (16)*	
	Pre-Reform Sample		*Post-Reform Sample*		*Pooled Sample*	
	Coef.	*t-Stat.*	*Coef.*	*t-Stat.*	*Coef.*	*t-Stat.*
γ_0	0.56***	3.86	1.15***	10.14	1.08***	10.28
γ_1	-0.26	-0.86	0.43**	1.99	-0.73*	-1.84
γ_2	0.01	0.09	0.50***	3.01	0.51***	2.63
γ_3	-2.60**	-2.04	2.65***	4.16	-2.90*	-1.68
γ_4					1.27***	2.84
γ_5					1.07***	5.24
γ_6					5.04***	2.64
Adj. R^2 (%)	0.40		3.20		2.46	

Notes:
NI_{it} is firm *i*'s earnings per share deflated by the price at the beginning of the year *t*; RET_{it} is firm *i*'s compounded monthly return over the 12-month period, here it refers to the inter-announcement period return, measured from May of year *t* to April of year *t+1*. *D* is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise; *CHG* is a dummy variable to denote the Chinese accounting reform period, coded one if the sample year is after 1998 and zero otherwise.

*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.4
Accounting Conservatism and State Ownership

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

(17) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} STATE_{it} + \gamma_5 RET_{it} STATE_{it} + \gamma_6 RET_{it} D_{it} STATE_{it} + \varepsilon$

	Equation (2)		*Equation (17)*
	Low-STATE Sample	*High-STATE Sample*	*Pooled Sample*
γ_0	0.02***	0.05	1.12***
	(5.20)	(1.06)	(10.55)
γ_1	0.02**	0.01	-0.25
	(2.30)	(0.07)	(-0.74)
γ_2	0.03***	0.09	0.33*
	(6.18)	(1.33)	(1.83)
γ_3	0.05**	0.03	0.50
	(2.21)	(0.08)	(0.42)
γ_4			0.01*
			(1.77)
γ_5			0.004
			(1.04)
γ_6			-0.03
			(-0.91)
Adj. R^2 (%)	3.67	0.06	0.70

Notes: NI_{it} is firm *i*'s earnings per share deflated by price at the beginning of year *t*; RET_{it} is firm *i*'s compounded monthly return over the 12-month period, here it refers to the inter-announcement period return, measured from May of year *t* to April of year *t+1*. *D* is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise; *STATE* is the state ownership, measured as the proportion of shares held by the state.
t-values (two tailed) appear in parentheses.
*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.5
Accounting Conservatism and Bank Financing

(2) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$

(18) $NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} LEV_{it} + \gamma_5 RET_{it} LEV_{it} + \gamma_6 RET_{it} D_{it} LEV_{it} + \varepsilon$

	Equation (2)		*Equation (18)*
	Low-LEV Sample	*High-LEV Sample*	*Pooled Sample*
γ_0	0.04	0.02***	1.11***
	(1.59)	(3.38)	(10.57)
γ_1	0.01	0.02	0.38
	(0.15)	(1.48)	(0.64)
γ_2	0.07**	0.02***	0.60**
	(2.16)	(2.60)	(1.98)
γ_3	0.01	0.09**	-3.27
	(0.07)	(2.09)	(-1.56)
γ_4			-0.41
			(-0.36)
γ_5			-0.83
			(-1.45)
γ_6			9.44**
			(2.30)
Adj. R^2 (%)	0.47	1.46	1.88

Notes: NI_{it} is firm *i*'s earnings per share deflated by price at the beginning of year *t*; RET_{it} is firm *i*'s compounded monthly return over the 12-month period, here it refers to the inter-announcement period return, measured from May of year *t* to April of year *t+1*. *D* is a dummy variable for bad news, coded one if *RET* is negative; and zero otherwise; *LEV* is the firms' leverage ratio, measured as total debts divided by total assets.

t-values (two tailed) appear in parentheses. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.6
Accounting Conservatism and Accounting Standards

(2) $$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \varepsilon$$

(19)
$$NI_{it} = \gamma_0 + \gamma_1 D_{it} + \gamma_2 RET_{it} + \gamma_3 RET_{it} D_{it} + \gamma_4 D_{it} COM_{it} + \gamma_5 RET_{it} COM_{it} + \gamma_6 RET_{it} D_{it} COM_{it} + \varepsilon$$

Panel A: AB-Share firms: DAS vs. IAS by Using Eq. (2)

	NI^{DAS}		NI^{IAS}	
	Coefficient	*t-Statistics*	*Coefficient*	*t-Statistics*
γ_0	0.11	0.45	0.62	0.43
γ_1	-0.35	-0.87	-0.54	-0.24
γ_2	-2.41	-0.47	-0.58	-0.05
γ_3	-0.27	-0.20	-0.09	0.83
Adj.R^2 (%)	0.03		0.08	

Panel B: A-Share Only Firms vs. AB-Share Firms by Using Eq. (19)

	Whole Sample		*Controlled Sample*	
	Coefficient	*t-Statistics*	*Coefficient*	*t-Statistics*
γ_0	0.54***	8.55	0.45***	6.74
γ_1	0.06	0.52	0.21**	2.37
γ_2	-0.01	-0.25	-0.01	-0.33
γ_3	0.50*	1.79	1.04***	3.92
γ_4	-0.38***	-3.17	-0.31***	-4.50
γ_5	-0.13	-0.39	-0.12	-0.74
γ_6	0.09	0.17	0.10	0.45
Adj.R^2 (%)	0.79		6.61	

Notes:

NI_{it} is firm i's earnings per share deflated by price at the beginning of year t; RET_{it} is firm i's compounded monthly return over the 12-month period, here it refers to the inter-announcement period return, measured from May of year t to April of year $t+1$; D is a dummy variable for bad news, coded one if RET is negative; and zero otherwise; COM is a dummy variable, with a value of one for AB-share firms, and zero for A-share only firms.
Whole Sample is the combined sample, including both A-share only firms and AB-share firms.
Controlled sample is the matched sample for A-share only and AB-share firms, based on market value at year *t-1*.

*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Table 4.7
Robustness Check: Book-to-Market Measure of Accounting Conservatism

(1) $$BTM_{it} = \alpha + \alpha_i + \alpha_t + \sum_{k=0}^{6} \beta_k RET_{it-k} + \varepsilon_{it}$$

(20)

$$CONBM_i = \beta_0 + \beta_1 LEV_i + \beta_2 STATE_i + \beta_3 ROA_i + \beta_4 SIZE_i + \beta_5 SALEGROW_i + \varepsilon$$

	Predicted Sign	*Coefficient*	*t-Statistics*
β_0		-0.053	-0.46
β_1	+	2.80***	5.23
β_2	-	-0.44	-1.32
β_3	+	3.06	1.60
β_4	+	0.47**	2.04
β_5	?	0.17**	2.39
N		145	
Adj.R^2 (%)		22.34	

Notes:

CONBM is the book-to-market measure of conservatism, that is, $-\alpha_i$, derived from the Eq. (1); *LEV* is a firm's leverage ratio, defined as total debts divided by total assets; *STATE* is the state ownership, measured as the proportion of shares held by the state; *ROA* is defined as a firm's net income divided by total assets (a control for the profitability); SIZE is the natural log of a firm's total assets (a control for the firm size); *SALEGROW* is the annual percentage change in a firm's sales.

*, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

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