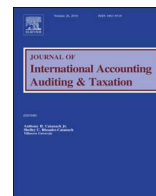


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## Accounting reforms and conservatism in earnings: Empirical evidence from listed Chinese companies

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### ABSTRACT

We examine the effects of the two major accounting reforms of 2001 and 2007 in China on conservatism in earnings using a variety of measures to ascertain the existence of conservatism and to gauge its degree. Our results provide evidence of different levels of conservatism in financial reporting in China during the period under investigation. We suggest that conservatism has generally existed in financial reporting in China since the 1998 accounting reform. However, the effects of the two accounting reforms on conservatism in earnings vary. Specifically, the 2001 accounting reforms significantly improved conservatism in earnings whereas the 2007 reforms reduced the extent of conservatism in earnings. We also note that conservatism in earnings rebounded following the 2007–09 global financial crisis. Furthermore, the 2001 accounting reforms have a greater positive impact on conservatism in earnings in regions with a lower level of legal protection for investors whereas the negative impact of the 2007 accounting reforms on conservatism in earnings is not affected by the level of legal protection for investors. These results suggest that accounting reforms that restrict managers' abilities to conduct earnings management and improve conservatism in earnings serve as an important substitute mechanism for institutions of investor protection. Our findings provide useful insights into accounting conservatism and have important theoretical and practical implications for accounting regulators, investors, and researchers.

### 1. Introduction

The international accounting literature has seen an increasing amount of research effort devoted to examining the impact of accounting convergence on the quality of financial reporting across the world in the last decade. Some studies attempt to ascertain whether financial statement information derived under international accounting standards and information derived under local generally accepted accounting principles (GAAP) during the same time period differ. For example, [Prather-Kinsey and Shelton \(2005\)](#) utilized US-based companies complying with US GAAP as a benchmark to examine the financial reporting quality of South African and UK companies that adopted international accounting standards. Their results indicated that South African (UK) firms reported significantly greater (lower) absolute values of discretionary accruals than US firms. In contrast, [Grossman, Smith, and Tervo \(2013\)](#)

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showed that differences in financial statement results between International Financial Reporting Standards (IFRS) and US GAAP were not significant in a sample of firms headquartered in the European Union (EU) and listed on the New York Stock Exchange. [Hellman \(2011\)](#) studied Sweden's voluntary adoption of IFRS, which allowed deviations from the official IFRS. The results demonstrated that such a soft approach gave managers discretion to conduct earnings management. Other studies have examined whether the adoption of international accounting standards affects accounting quality by comparing earnings between the pre- and post-adoption periods. For example, [Zéghal, Chtourou, and Sellami \(2011\)](#) reported a reduction in earnings management following the mandatory adoption of international accounting standards in France. [Zeghal, Chtourou, and Fourati \(2012\)](#) investigated the adoption of IFRS in 15EU countries and reported some improvement in accounting quality associated with convergence with international accounting standards. [Paananen and Lin \(2009\)](#) examined the characteristics of accounting information of German companies reporting under International Accounting Standards (2000–2002), voluntary adoption of IFRS (2003–2004), and mandatory adoption of IFRS (2005–2006). They found a decrease in accounting quality after the mandatory EU adoption in 2005.

Empirical research conducted on the impact of accounting convergence in China is limited. [Ball, Robin, and Wu \(2000\)](#) examined quality of accounting income of Chinese companies reporting under both domestic accounting standards and international accounting standards for the period 1992–1998 and documented a lack of timely reporting of economic losses in accounting earnings under both financial reporting frameworks. The current study extends this line of international accounting literature by examining how China's recent convergences with international accounting standards have affected the accounting quality of Chinese firms. This study focuses on the two major accounting reforms of 2001 and 2007, which have played an important role in driving China's convergence with international accounting standards. Specifically, this study attempts to address two research questions. First, we examine whether conservatism in earnings of Chinese companies was affected by the 2001 and 2007 accounting reforms. Second, considering the various levels of legal protection for investors across regions in China, we also examine whether the effects of the accounting reforms were influenced by legal protection.

The principle of conservatism is an important accounting construct and is described as the most pervasive concept of accounting valuation ([Sterling, 1967](#)). Conservatism is traditionally defined by the adage “anticipate no profit, but anticipate all losses” ([Bliss, 1924](#)). [Chanchani and Willett \(2004\)](#) further pointed out that conservatism relates to the preference for a cautious approach to the recognition of gains and assets, and not to recognition of losses or liabilities. In this study, we consider conservatism in earnings an important indicator of accounting quality in China, although there is an ongoing debate on whether the reference to prudence (conservatism) should be restated as part of the IFRS conceptual framework. Prior studies have documented extensive use of earnings management by Chinese listed companies to overstate their financial performance (e.g., [Chen & Yuan, 2004](#); [Haw, Qi, Wu, & Wu, 2005](#); [Liu & Lu, 2007](#); [Yu, Du, & Sun, 2006](#)).

An examination of the effects of China's accounting convergence efforts is important for three reasons. First, accounting in China operates in an institutional context that is different from those of Anglo-American countries from which international accounting standards originate. [Othman and Zeghal \(2006\)](#) argued that earnings-management practices in different countries are affected by the specific socio-economic features of the countries in which firms operate. [Kanagaretnam, Lim, and Lobo \(2014\)](#) reported that national culture impacts accounting conservatism and risk-taking in the banking industry. [Prather-Kinsey and Shelton \(2005\)](#) demonstrated that the quality of financial information prepared under international accounting standards is shaped by the institutional factors and market forces of a country. Collectively, this stream of research suggests that the effects of international accounting convergence on accounting quality likely differ across countries. Second, accounting conservatism has been widely adopted across many countries for several decades but was introduced to accounting and financial reporting in China more recently, following its initial recognition in the Accounting Standards for Business Enterprises—Basic Standard issued in 1992 ([Wu & Patel, 2015](#)). Given the short history of conservatism and its expanded adoption in accounting practices, an understanding of the effects of accounting reforms on conservatism in earnings has implications for Chinese regulators, who strive to limit opportunistic behavior among managers and to improve the quality of financial information. Managerial behavior is influenced considerably by the effects of accounting. This study sheds light on managers' ability to make use of regulatory requirements concerning conservatism to manipulate accounting numbers. Our evidence of changes in the degree and attributes of conservatism in earnings would be useful for regulators to evaluate existing accounting regulation and to develop new accounting policies. Third, an understanding of the association between accounting reforms and conservatism in earnings is also important for investors and international investors in particular. A number of prior studies have indicated the importance of taking into account international differences in the degree of conservatism to enable comparative analysis of corporate performance ([Gray, 1980](#); [Harris, Lang, & Möller, 1994](#); [Kanagaretnam et al., 2014](#); [Pope & Walker, 1999](#); [Weetman & Gray, 1990](#)). China is the largest emerging economy in the world, and over the past three decades, international investors have substantially increased their exposure to Chinese markets. If Chinese companies' earnings display conservatism and the degree of conservatism changes over time, international investors must recognize this so that they can accurately compare financial statements over time and across countries.

Earnings conservatism has been the subject of extensive research (e.g., [Ball, Robin, & Wu, 2003](#); [Basu, 1997](#); [Chandra, 2011](#); [Givoly & Hayn, 2000](#); [Kothari, Leone, & Wasley, 2005](#); [Lobo & Zhou, 2006](#); [Raonic, Mcleay, & Asimakopoulos, 2004](#); [Roychowdhury & Watts, 2007](#)). However, it remains contentious how to measure conservatism. [Givoly, Hayn, and Natarajan \(2007\)](#) indicated that the exclusive reliance on any single measure to assess the overall conservatism of a country is likely to lead to incorrect inferences. In their study, which examined changes in the patterns of earnings, cash flow and accruals over the last four decades, [Givoly and Hayn \(2000\)](#) used a number of measures of reporting conservatism that rely on the accumulation of nonoperating accruals, the timeliness of earnings with respect to bad and good news, the characteristics of earnings distribution and the market-to-book ratio. [Roychowdhury and Watts \(2007\)](#) examined the relation between two extensively used measures of conservatism: asymmetric timeliness of earnings and the market-to-book ratio and concluded that asymmetric timeliness appears to measure conservatism more efficiently when it is

estimated cumulatively over multiple periods.

Following the lead of previous literature (Givoly et al., 2007; Givoly & Hayn, 2000; Roychowdhury & Watts, 2007), we have used a variety of measures to ascertain the existence of conservatism and to gauge the degree of conservatism, with these measures being based on the interpretation that conservatism results in earnings that reflect bad news more quickly than good news (Basu, 1997). While conservatism induces asymmetric timeliness of earnings, stock returns tend to reflect both bad news and good news in a timely manner. Predicting that accounting losses are more contemporaneous with stock returns than accounting gains, Basu (1997) regressed annual earnings on stock returns of the same year to capture the asymmetry in the timeliness of earnings reporting. Using US data, Basu (1997) found that the contemporaneous sensitivity of earnings to negative returns was higher than earnings to positive returns, and this finding supported predictions. Basu's measure of conservatism and its variations have been widely applied in many studies (e.g., Givoly & Hayn, 2000; Lobo & Zhou, 2006; Raonic et al., 2004; Roychowdhury & Watts, 2007). In this study, we used Basu's (1997) model as the basis of conservatism measures with several extensions that incorporate elements including accounting reforms, discretionary accruals, and legal protection for investors.

Conservatism was implemented in China through regulation when China initiated the process of convergence to international accounting standards. We adopt a regulatory perspective to determine whether conservatism exists in financial reporting in China and how the behavior of conservatism in earnings changed following China's two major accounting reforms of 2001 and 2007. Using Chinese firms listed on either the Shenzhen or Shanghai stock exchange between 1998 and 2013, we find that while conservative financial reporting has generally existed in Chinese companies since the accounting reforms, the effects of accounting reforms on conservatism have varied. The 2001 accounting reform significantly improved conservatism in earnings, whereas the 2007 accounting reform reduced conservatism relative to the 2001 reform. We also note that conservatism in earnings rebounded following the 2007–09 global financial crisis. Furthermore, the strengthening effect of the 2001 accounting reforms on earning conservatism is greater in regions with a lower level of legal protection for investors whereas the negative impact of the 2007 accounting reforms on conservatism in earnings is not affected by the level of legal protection for investors. These results suggest that accounting standards may serve as a substitute mechanism for institutions of investor protection when they improve conservatism in earnings.

The remainder of this paper is organized as follows. Section 2 describes the background of this study and develops our hypotheses. The research design is presented in Section 3. The results are discussed in Section 4. Section 5 concludes the paper.

## 2. Background and development of hypotheses

### 2.1. Accounting reforms and conservatism in China

From the 1950s to the early 1980s, the Chinese government had a centrally planned economy dominated by state-owned enterprises. A system of fund accounting was imported from the then-Soviet Union to report on the management of state funds. The concept of conservatism was not practiced in China because it was regarded as a tool of capitalist exploitation (Xin & Huang, 1951; Yan, 1951). Further, as indicated by Zhou (1988) there was no need to practice this principle in China's planned economy. Under the planned system, the central government strictly controlled the price of commodities and this, coupled with the scarcity of resources and goods, meant that it was impossible for stock to become obsolete. Historical cost was the sole basis on which to determine the value of assets according to the accounting regulations of the time. In these specific circumstances, conservatism was not only prohibited but also unnecessary.

The 1992 accounting reform was an important milestone in China's history of accounting convergence. The Ministry of Finance (MOF) issued the first accounting standard, ASBE Basic Standard, in that year. The ASBE Basic Standard was equivalent to the conceptual framework in Anglo-American countries and served as the framework for developing specific accounting standards and other accounting regulations in China. It set out the objective, qualitative characteristics and elements of financial reporting, as well as the assumptions underlying it. In particular, it expanded the traditional accounting function of the provision of information for government decision-making in the planned economy to incorporate the needs of external users into an understanding of an enterprise's financial position and financial performance, and the needs of managers of enterprises to strengthen their financial management and administration. The standard was applicable to all enterprises established in China and superseded in principle all previously issued accounting regulations. As a result the fund-oriented accounting system that had been practiced for decades was abolished. However, the ASBE Basic Standard did not provide sufficient guidance on the application of permitted accounting methods. Further, the development of accounting standards was still in a transitional stage, and it was recognized that it might take several years to develop a full set of operational accounting standards. To facilitate the implementation of the ASBE Basic Standard, the MOF subsequently issued 13 industry-based accounting rules to provide technical guidelines. Both the ASBE Basic Standard and the 13 industry-based accounting rules came into force in July 1993.

In recent years, a series of accounting reforms were launched by the government to harmonize Chinese accounting practices with international standards. In particular, three defining events had a significant effect on the development of accounting standards in China and on the application of conservatism. First, the Accounting System for Limited Liability Companies, issued by the MOF in 1998, represented a comprehensive effort to harmonize accounting methods and emphasized the application of the principle of conservatism (Chen, Sun, & Wang, 2002). For example, companies were required to disclose accounts receivable, inventory, short-term investments and long-term investments according to their individual situation, and inventory was measured at cost or at net realizable value, whichever was lower (Ministry of Finance, 1998).

Second, in 2001, the Accounting System for Business Enterprises came into effect, with the purpose of generating uniformity and comparability in accounting, regardless of ownership structure and industry type (Xiao, Weetman, & Sun, 2004). The new accounting

system expanded the application of conservatism to achieve further alignment with international accounting standards. In addition to the items added to the 1998 standards, fixed assets, construction in progress, intangible assets, and entrusted loans were also allowed to set up loss provisions, and impairment testing of those assets was required on a regular basis.

The 2001 version of accounting standards also restricted the recognition of revenue. For example, while losses from debt restructuring, nonmonetary transactions, and certain investment activities were required to be recognized in a timely manner, gains were recorded in an equity account, rather than as revenue. Moreover, with respect to contingencies, the 2001 accounting standards stated that a provision would be recognized only when an entity had a present obligation that would probably result in an outflow of economic benefits and could be measured reliably. A reimbursement was to be recognized as a separate asset only when it was virtually certain that the reimbursement would be received from another party for the obligation settled by a company (Ministry of Finance, 2001).

Lastly, the new Accounting Standards for Business Enterprises (ASBE), issued in 2007, signaled a significant step towards IFRS for China. The ASBE continue to emphasize conservatism. For example, the Basic Standard states that enterprises shall exercise prudence in recognition, measurement, and reporting of transactions or events and shall not overstate assets or income nor understate liabilities or expenses. ASBE No. 8 Impairment of Assets requires that enterprises perform asset impairment tests on balance dates and recognize losses attributable to asset impairment during the current period. A recognized loss of asset impairment may not be reversed in future accounting periods: to some extent this prevents companies from “taking a bath” to manipulate accounting numbers.

The new ASBE introduced fair value to a number of accounting standards, including Recognition and Measurement of Financial Instruments, Investment Property, Business Combination, Share-Based Payment, and Exchange of Nonmonetary Assets (Ministry of Finance, 2007). While the introduction of fair value may increase the relevance of accounting information, we argue that it has a negative impact on conservatism, as it leads to companies to respond to both bad and good news in a timely manner.

## 2.2. Development of hypotheses

The history of accounting in China presented in the previous section indicates that the application of conservatism had been strictly controlled by government regulation under China’s centrally planned economy. A series of accounting reforms, including the 1998, 2001, and 2007 accounting reforms, has led to wide application of the principle of conservatism in accounting practices. While accounting information generally presents the attribute of conservatism as a result of accounting reforms, the extent of that conservatism is likely to vary at different times because of the varying effects of the implementation of accounting standards. The 2001 accounting regulations expanded the application of conservatism and considerably restricted the recognition of revenue. As such, we predict that the 2001 accounting reform may have significantly improved conservatism in earnings. The 2007 reform introduced the use of fair value, which allows management more latitude in judgment. China’s listed firms are likely to have stronger incentives than firms in other countries to conduct earnings management because of regulatory requirements associated with initial public offering, stock rights offering, or delisting (Haw et al., 2005; Yu et al., 2006). Further, managers’ incentives for earnings management are enhanced by the weak legal system, which provides little protection for investors (Zou, Wong, Shum, Xiong, & Yan, 2008). As a result, the introduction of fair value may result in a decrease in earning quality in China’s institutional context. The discussion leads to our first hypothesis, as follows.

**Hypothesis 1.** The 2001 accounting reforms in China improved conservatism in earnings, whereas the 2007 accounting reforms weakened conservatism in earnings.

The accrual basis plays an important role in modern accounting. When the accrual basis is used, accounting earnings consist of cash flow from operations and accruals (Healy, 1985). Accruals refers to those revenues and expenses that do not form current cash inflow or outflow but should be included in current profit and loss statements according to accrual and matching principles, such as depreciation charges, prepaid expenses, provisions for asset impairment, and increases in accounts receivable. When a company is facing uncertainties, conservatism requires that accountants recognize unrealized losses promptly but do not report unrealized income without sufficient evidence. This practice results in asymmetry in the timeliness of the recognition of good news and bad news. For instance, a provision should be recognized when an entity has a present obligation that will probably result in an outflow of economic benefits and can be measured reliably. The recognition of an increase in the carried amount of fixed assets is prohibited, but a decrease must be promptly recognized as a loss. These conservative practices affect accruals but do not change a firm’s cash flow, which is determined by its operations.

Healy and Wahlen (1999, p. 368) indicate that:

...earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

Healy (1985) classified accruals into discretionary or nondiscretionary. Nondiscretionary accruals are accounting adjustments to the firm’s cash flow that are mandated by accounting regulations. For example, companies are required to value inventories using the lower of cost or market value and to depreciate fixed assets in a systematic way. Discretionary accruals are adjustments to cash flow that are selected by managers. For example, managers can choose a method of depreciating fixed assets. Thus, in a steady state of the economic environment and company growth, nondiscretionary accruals remain stable, but discretionary accruals enable managers to manipulate earnings. Discretionary accruals capture conservatism more effectively than nondiscretionary accruals. Therefore, accounting reforms influence conservatism in earnings primarily through discretionary accruals. Specifically, we conjecture that the

2001 accounting reforms in China improved conservatism in earnings mainly through restricting discretionary accruals, whereas the 2007 accounting reforms weakened conservatism in earnings mainly through relaxing discretionary accruals.

Furthermore, prior studies suggest that earnings management is influenced by legal protection for investors (e.g., Chih, Shen, & Kang, 2008; Leuz, Nanda, & Wysocki, 2003). Strong legal protection for investors limits the ability of insiders to acquire private control benefits and thus reduces their incentive to engage in earnings management. Leuz et al. (2003) documented evidence that earnings management increases when investor protection decreases in an international study. In China, legal protection for investors varies across regions. We argue that in regions with relatively weak legal protection of investor interest, earnings management is likely to be more pervasive because managers face relatively low legal risks associated with potential misleading accounting information. Accounting standards introduced by the 2001 accounting reforms, as mandatory accounting regulation, play a more important role in protecting investor interest by restricting the ability of managers to use discretionary accruals to manage earnings. As such, we predict that the strengthening effects of 2001 accounting reforms on conservatism in earnings are greater in regions with a lower level of legal protection for investors. In contrast, the 2007 accounting reforms provide opportunities for managers to conduct earnings management through application of fair value accounting in China's underdeveloped markets. Given that earnings-management behaviors are legitimized, to some extent, by the new accounting standards introduced under the 2007 accounting reforms, the level of legal protection of investors is unlikely to affect managers' incentive to engage in earnings management. Therefore, legal protection would not influence the relationship between 2007 accounting reforms and conservatism. The discussion leads to the following hypothesis.

**Hypothesis 2.** The 2001 accounting reforms have a greater positive impact on conservatism in earnings in regions with a lower level of legal protection for investors whereas the negative impact of the 2007 accounting reforms on conservatism in earnings is not affected by the level of legal protection for investors.

### 3. Research design

#### 3.1. Sample

Data used in this study were derived from the China Stock Market and Accounting Research (CSMAR) Database. The sample consisted of all firm-year observations of A-share listed companies in the Shenzhen Stock Exchange and the Shanghai Stock Exchange from 1998 to 2013. We deleted companies with missing data and obtained 24,186 firm-year observations in total. The sample distribution is presented in Table 1. As shown in the table, the number of observations steadily increased over time during the period investigated. The biggest sample group is the manufacturing industry, followed by the transportation, warehousing, and postal industry and the accommodation and catering industry.

Notes: Industries are classified according to the Guideline for Industry Classification for Listed Companies issued by the Chinese Securities Regulatory Commission in 2012. A: agriculture, forestry, farming, and fishing; B: mining; C: manufacturing; D: electricity, heat, gas, and water; E: construction; F: wholesale and retail; G: transportation, warehousing, and postal; H: accommodation and catering; I: information transmission, software, and information technology; J: finance; K: real estate; L: leasing and commercial services; and M: research and technological services.

#### 3.2. Models

We used the Basu model, which can test the presence of conservatism in earnings, as a basic model in this study. For Hypothesis 1,

**Table 1**  
Sample distribution.

Industry Code	A	B	C	D	E	F	G	H	I	J	K	L	M	Total
1998	12	6	446	33	9	24	48	72	4	30	24	6	111	825
1999	14	9	512	35	11	30	53	73	5	32	26	7	117	924
2000	23	11	595	41	13	37	60	81	6	34	33	7	119	1060
2001	24	14	646	42	15	43	63	80	6	38	34	8	123	1136
2002	25	16	680	47	17	46	73	77	7	41	35	9	120	1193
2003	26	19	712	51	25	52	80	79	9	53	36	10	106	1258
2004	32	22	775	57	27	57	84	80	9	55	37	11	103	1349
2005	32	21	772	58	26	57	83	87	9	60	38	9	82	1334
2006	33	24	787	61	30	60	87	87	11	60	37	9	77	1363
2007	30	31	825	61	34	65	88	85	27	66	43	11	72	1438
2008	32	37	897	62	36	65	94	92	27	80	48	12	77	1559
2009	36	39	938	65	39	67	112	93	30	94	54	12	77	1656
2010	43	45	1173	67	41	72	155	106	35	104	62	17	69	1989
2011	44	55	1371	71	48	74	173	122	41	124	68	30	43	2264
2012	45	62	1467	74	51	78	197	123	41	127	81	35	51	2432
2013	38	66	1454	79	62	80	176	151	41	132	72	33	22	2406
Total	489	477	14050	904	484	907	1626	1488	308	1130	728	226	1369	24,186

we added a dummy variable for accounting reforms within the Basu model to examine their impact on conservatism in earnings. To test Hypothesis 2, we need to examine the effects of discretionary accruals on earnings management. To this end, we added discretionary accruals to the Basu model. Then, we added a dummy variable for accounting reforms and a dummy variable for legal protection for investors into the Basu model to examine how varying levels of legal protection across regions influence the effects of accounting reforms on earnings conservatism.

### 3.2.1. Basu model

In an efficient market, economic events are reflected in share prices on a timely basis. Thus, stock return can be used as a proxy for good or bad news. Basu (1997, p.7) interpreted conservatism as the “accountant’s tendency to require a higher degree of verification to recognize good news as gains than to recognize bad news as losses.” After a dummy variable for news is included in the model, conservatism can be measured by the interactions between terms. The Basu model has been extensively used in the literature to examine conservatism in developed, developing, and emerging economies. For example, Ball et al. (2003) used the model to study the properties of accounting income in four East Asian countries including Hong Kong, Malaysia, Singapore, and Thailand. Zeghal et al. (2012) examined whether the mandatory adoption of IFRS was associated with higher accounting quality in 15EU countries using models based on Basu (1997). Following Basu (1997), Ball et al. (2003), and Zeghal et al. (2012), we formulated our basic model for this study as follows:

$$EPS_{jt}/P_{jt-1} = \alpha_0 + \alpha_1 DUM_{jt} + \beta_1 R_{jt} + \beta_2 DUM_{jt} * R_{jt} + \varepsilon_{jt} \quad (1)$$

where  $EPS_{jt}$  is the earnings per share for firm  $j$  in year  $t$ ,  $P_{jt-1}$  is the price per share at the end of year  $t-1$ ,  $R_{jt}$  is the abnormal return rate in year  $t$ ,<sup>1</sup>  $DUM_{jt}$  is a dummy variable (it is equal to 1 when  $R_{jt} < 0$  and 0 otherwise), and  $\varepsilon_{jt}$  is the error term in year  $t$  for firm  $j$ . In the model,  $\beta_1$  measures the association between earnings and the positive abnormal return rate, suggesting timeliness of the recognition of good news in earnings.  $\beta_1 + \beta_2$  reflect the relationship between earnings and the negative abnormal return rate, namely, the timeliness of confirming bad news.  $\beta_2$ , the coefficient of conservatism, indicates the gap in the timeliness of the recognition of bad news and good news. In conservative accounting, bad news is reported more quickly than good news, such that a positive  $\beta_2$  implies the presence of conservatism, and the higher the  $\beta_2$ , the greater the extent of the conservatism. We used this model to test Hypothesis 1.

### 3.2.2. Basu model with added dummy variable for accounting reforms

Then, following Zeghal et al. (2012), we added a dummy variable  $D$ , representing accounting reforms, to the Basu model to perform further tests on Hypothesis 1. Consistent with Zeghal et al. (2012),  $D$  was set to 1 for observations in the post-reform period, and 0 otherwise.  $\beta_3$  will give the change in the degree of conservatism following the reforms. Specifically, to examine whether the 2001 accounting reform increased conservatism in earnings, a yearly dummy variable,  $D_{2001}$ , was added, which is equal to 1 when  $t \geq 2001$  and 0 otherwise. We used 1998–2006 data to run regression tests. The yearly dummy variable for the 2007 reform is  $D_{2007}$ , which is equal to 1 when  $t \geq 2007$  and 0 otherwise. Data from 2001 to 2013 were used to assess the effects of the 2007 reform. We performed our tests on 1998–2006 data and 2001–2013 data, instead of on 1998–2013 data, to avoid confounding effects that may be introduced if both  $D_{2001}$  and  $D_{2007}$  are included in the model.

$$EPS_{jt}/P_{jt-1} = \alpha_0 + \alpha_1 DUM_{jt} + \beta_1 R_{jt} + \beta_2 DUM_{jt} * R_{jt} + \alpha_2 D + \beta_3 DUM_{jt} * R_{jt} * D + \varepsilon_{jt} \quad (2)$$

### 3.2.3. Basu model with discretionary accruals to test the effects of discretionary accruals on earnings management

To investigate the effects of earnings management on conservatism, we added a variable for discretionary accruals to the Basu model to form the following model:

$$EPS_{jt}/P_{jt-1} = \alpha_0 + \alpha_1 DUM_{jt} + \beta_1 R_{jt} + \beta_2 DUM_{jt} * R_{jt} + \alpha_2 DACC_{jt} + \beta_3 DUM_{jt} * R_{jt} * DACC_{jt} + \varepsilon_{jt} \quad (3)$$

The definitions of the variables are the same as in previous models.  $\beta_3$  measures the relationship between earnings management and earnings conservatism.

We used Jones model and modified Jones model to measure the discretionary accruals (DACC) used in model (3).

Jones model  $DACC_t$  Jones (1991) used an estimate of the discretionary component of total accruals as the measure of earnings management to test whether firms that would benefit from import relief (e.g., tariff increases and quota reductions) attempt to decrease earnings through earnings management. In this study we used the Jones model to separate accruals items to examine relation between earnings management and earning conservatism. To determine discretionary accruals, we first used the Jones model to determine nondiscretionary accruals in the event year as follows.

$$NDA_{jt} = \alpha_0 (1/TA_{jt-1}) + \alpha_1 (\Delta REV_{jt}/TA_{jt-1}) + \alpha_2 (PPE_{jt}/TA_{jt-1})$$

where  $TA_{jt-1}$  is the total assets of firm  $j$  at the end of year  $t-1$ ,  $\Delta REV_{jt}$  is the change in sales of firm  $j$  in year  $t$  over year  $t-1$ ,  $PPE_{jt}$  is the

<sup>1</sup>  $R_{jt} = \frac{1}{\prod_{i=-8}^4 (1+r_{ji})} - \frac{1}{\prod_{i=-8}^4 (1+mr_i)}$ ; Here,  $r_{ji}$  is the stock return in month  $i$  in which a cash dividend is reinvested and  $mr_i$  is the market return in month  $i$ .

total fixed assets of firm  $j$  at the end of year  $t$ ,  $a_0$ ,  $a_1$ , and  $a_2$  are firm-specific parameters.

Estimates of the firm-specific parameters,  $a_0$ ,  $a_1$  and  $a_2$  are generated using the following model in the estimation period:

$$TAC_{jt}/TA_{jt-1} = \beta_0(1/TA_{jt-1}) + \beta_1(\Delta REV_{jt}/TA_{jt-1}) + \beta_2(PPE_{jt}/TA_{jt-1}) + \varepsilon_{jt}$$

*Modified Jones model\_DACC<sub>2</sub>* We also used the modified Jones model in the empirical analysis, because it provides a more powerful test of earnings management than the Jones model. The modification is designed to eliminate the conjectured tendency of the Jones model to measure discretionary accruals with error when discretion is exercised over revenues (Dechow, Sloan, & Sweeney, 1995). In the modified model, nondiscretionary accruals are estimated during the event period as:

$$NDA_{jt} = \alpha_0(1/TA_{jt-1}) + \alpha_1(\Delta REV_{jt} - \Delta REC_{jt})/TA_{jt-1} + \alpha_2(PPE_{jt}/TA_{jt-1})$$

where  $\Delta REC$  is the change in net receivables of firm  $j$  in year  $t$  over year  $t - 1$ . The estimates of  $a_0$ ,  $a_1$ ,  $a_2$  and nondiscretionary accruals during the estimation period are those obtained from the original Jones Model.

#### 3.2.4. Basu model with added variables for accounting reforms and legal protection for investors

We estimate the following model to test Hypothesis 2.

$$EPS_{jt}/P_{jt-1} = \alpha_0 + \alpha_1 DUM_{jt} + \beta_1 R_{jt} + \beta_2 DUM_{jt} * R_{jt} + \alpha_2 D + \beta_3 DUM_{jt} * R_{jt} * D + \alpha_3 LAW + \beta_4 DUM_{jt} * R_{jt} * D * LAW + \varepsilon_{jt} \quad (4)$$

where  $LAW$  captures legal protection for investors in a region. We constructed two measures. Our first measure, the legal-protection index  $LAW_1$ , was taken directly from Fan, Wang, and Zhu (2011); it is widely used in the literature. Our second measure,  $LAW_2$ , was a dummy variable equal to 1 if the index of legal protection in a region is above the median, and 0 otherwise.  $\beta_4$  measures the effect of accounting reforms on earnings conservatism across regions. All other variables are defined as in the previous models.

## 4. Results

### 4.1. Tests of Hypothesis 1

We performed several tests on Hypothesis 1. First, we used the Basu model to test the existence of conservatism in earnings in the period 1998–2013. As shown in Table 2, the coefficient of  $DUM * R$  is positively significant for that period ( $p < .01$ ), suggesting that conservatism has generally existed in financial reporting in China since the 1998 accounting reform.

Our yearly regression for 1998–2013 captures the overall movement of conservatism in earnings in Chinese listed companies. As noted in Table 2, the conservatism coefficient  $\beta_2$  of  $DUM * R$  for the period 2001–2005 ranges from 0.167 to 0.653 whereas  $\beta_2$  for the period 1998–2000 ranges from 0.017 to 0.034, suggesting a significant increase in earnings conservatism following the 2001 accounting reform. Meanwhile,  $\beta_2$  drops significantly following the 2007 accounting reform (fluctuating between  $-0.004$  to  $0.127$  for the period 2007–2013), indicating that the 2007 accounting reform significantly weakened accounting conservatism, which is likely to be the result of the introduction of the fair value concept in the new accounting standards. Fair value accounting tends to result in neutral accounting, because it requires both good news and bad news to be reported in a timely manner, and reduces the asymmetry of news recognition. As a result, the introduction of fair value is likely to reduce conservatism in earnings. In addition, Wang (2010) showed that fair value accounting reduces conservatism during an economic upturn, while it increases accounting conservatism during an economic downturn. China's economy generally experienced growth during 2007–2013, which, to some extent, explains the aggressive financial reporting during the period 2007–2013. These results provide evidence that support our prediction that the 2001 accounting reforms significantly improved conservatism in earnings whereas the 2007 accounting reforms reduced it. In addition, our results show a significant decrease of conservatism in earnings in 2006 (coefficient of  $-0.014$ ) and a significant increase in 2007 (coefficient of  $0.038$ , significant at  $p < .01$ ). We suspect that the fluctuation of earnings conservatism in these 2 years may have been related to earnings management by managers in 2006 because of the expected accounting reforms in 2007.

Furthermore, we note that earnings conservatism improved starting in 2011 ( $\beta_2$  is positive and significant at  $p < .01$  for 2011, 2012, and 2013). The improvement in earnings conservatism is likely attributable to a restriction in managers' use of fair value in accounting after the 2007–09 global financial crisis. Fair-value accounting is alleged to have significantly contributed to the financial crisis (Laux & Leuz, 2010). The Group of Twenty (G20), an international forum made up of financial ministers and central bank governors from 20 major economies, called on "the accounting standard setters to work urgently with supervisors and regulators to improve standards on valuation and provisioning and achieve a single set of high-quality global accounting standards" following the London summit in April 2009. To respond to this call, the International Accounting Standards Board and the US Financial Accounting Standards Board have worked closely since then, and in May 2011, jointly issued new guidance on fair value measurement and disclosure requirements for IFRS and US GAAP.

In China, listed companies are increasingly investing in property and financial products that require application of fair value and thus fair value measurement has a significant impact on the financial performance of such firms. Echoing global efforts to improve fair value implementation, the Chinese government initiated a project of revamping accounting standards involving fair value. It released the Draft Fair Value Measurement for public comments in June 2012, which aims to further regulate fair value accounting

**Table 2**  
Yearly regression based on the Basu model to test Hypothesis 1.

Items	EPS/P 1998-2003	EPS/P 1998	EPS/P 1999	EPS/P 2000	EPS/P 2001	EPS/P 2002	EPS/P 2003	EPS/P 2004	EPS/P 2005	EPS/P 2006	EPS/P 2007	EPS/P 2008	EPS/P 2009	EPS/P 2010	EPS/P 2011	EPS/P 2012	EPS/P 2013
DUM	0.011 <sup>***</sup> (-9.99)	-0.001 (-0.15)	0.001 (0.31)	0.001 (0.37)	0.006 <sup>*</sup> (1.90)	0.010 <sup>***</sup> (2.66)	0.012 <sup>**</sup> (2.23)	0.036 <sup>***</sup> (5.55)	0.037 <sup>***</sup> (3.67)	0.015 (1.60)	0.004 <sup>*</sup> (1.92)	-0.004 (-0.51)	-0.001 (-0.36)	0.001 (0.71)	0.004 (1.43)	-0.007 <sup>**</sup> (-1.99)	0.005 (1.44)
R	-0.006 <sup>***</sup> (-3.55)	-0.001 (-0.11)	-0.002 (-0.49)	-0.002 (-0.40)	0.005 (0.56)	0.016 (1.62)	0.015 (1.20)	0.020 (1.58)	0.005 (0.47)	0.007 (1.17)	-0.001 (-0.55)	0.023 <sup>*</sup> (1.81)	-0.001 (-0.31)	-0.004 (-1.32)	0.011 (1.56)	-0.006 (-1.31)	-0.010 <sup>**</sup> (-2.09)
DUM*R	0.026 <sup>***</sup> (10.27)	0.034 <sup>*</sup> (1.77)	0.031 <sup>***</sup> (4.14)	0.017 <sup>**</sup> (2.39)	0.167 <sup>***</sup> (8.71)	0.257 <sup>***</sup> (11.97)	0.292 <sup>***</sup> (12.27)	0.653 <sup>***</sup> (21.02)	0.315 <sup>***</sup> (13.48)	-0.014 (-1.63)	0.038 <sup>***</sup> (7.32)	0.002 (0.08)	-0.004 (-0.65)	0.007 (0.98)	0.127 <sup>***</sup> (8.28)	0.060 <sup>***</sup> (5.14)	0.036 <sup>***</sup> (4.11)
_cons	0.027 <sup>***</sup> (31.89)	0.020 <sup>***</sup> (6.11)	0.023 <sup>***</sup> (7.14)	0.012 <sup>**</sup> (7.67)	0.014 <sup>**</sup> (6.11)	0.020 <sup>***</sup> (7.68)	0.026 <sup>***</sup> (6.58)	0.037 <sup>***</sup> (8.35)	0.028 <sup>***</sup> (3.98)	-0.006 (-0.86)	0.019 <sup>***</sup> (12.10)	0.019 <sup>***</sup> (3.97)	0.014 <sup>**</sup> (7.21)	0.022 <sup>***</sup> (15.70)	0.040 <sup>***</sup> (20.54)	0.038 <sup>***</sup> (16.60)	0.028 <sup>***</sup> (10.98)
F-statistic	143.870	2.559	11.161	2.855	45.696	106.143	118.728	257.892	112.753	3.959	29.415	4.877	0.540	1.544	57.607	27.347	5.796
Adj.R <sup>2</sup>	0.018	0.009	0.035	0.008	0.108	0.211	0.221	0.365	0.203	0.009	0.058	0.009	0.001	0.002	0.071	0.033	0.007
Observations	24186	825	924	1060	1136	1193	1258	1349	1334	1363	1438	1559	1656	1989	2264	2432	2406

\* Significance at the p < .10 level (two-tailed tests).

\*\* Significance at the p < .05 level (two-tailed tests).

\*\*\* Significance at the p < .01 level (two-tailed tests).



**Table 3**  
Regression of 2-year accumulated data based on the Basu model to test Hypothesis 1.

Items	EPS/P 1998–99	EPS/P 2000–01	EPS/P 2002–03	EPS/P 2004–05	EPS/P 2006–07	EPS/P 2008–09	EPS/P 2010–11	EPS/P 2012–13
DUM	–0.001 (–0.41)	–0.002 (–1.14)	0.012*** (3.42)	0.011* (1.89)	0.000 (0.11)	–0.006* (–1.66)	–0.002 (–0.87)	–0.004 (–1.46)
R	–0.001 (–0.27)	–0.001 (–0.24)	0.017** (2.06)	0.004 (0.52)	–0.003 (–0.83)	0.004 (0.65)	–0.008** (–2.30)	–0.010*** (–2.89)
DUM*R	0.025*** (3.77)	0.037*** (4.62)	0.276*** (17.14)	0.318*** (19.16)	–0.000 (–0.05)	–0.005 (–0.56)	0.056*** (7.61)	0.039*** (5.69)
_cons	0.021*** (9.51)	0.013*** (9.35)	0.023*** (9.58)	0.035*** (8.50)	0.011*** (3.64)	0.018*** (6.95)	0.034*** (27.40)	0.034*** (19.55)
F-statistic	11.097	18.645	225.177	247.751	1.553	2.814	33.885	17.564
Adj.R <sup>2</sup>	0.019	0.025	0.216	0.217	0.002	0.003	0.023	0.011
Observations	1749	2196	2451	2683	2801	3215	4253	4838

\* significance at the  $p < .10$  level (two-tailed tests).

\*\* significance at the  $p < .05$  level (two-tailed tests).

\*\*\* significance at the  $p < .01$  level (two-tailed tests).

and maintain consistency with international development in fair value measurement.

The national and international attention to fair value accounting in the aftermath of the financial crisis considerably restrains the earnings management of firms through the use of fair value accounting. The rebound in earnings conservatism after the financial crisis provides additional evidence that supports our theory that the introduction of fair value may result in a decrease in earnings quality in China's institutional context. We did not find an improvement in earnings conservatism in 2010, the first year after the financial crisis, which is likely due to the lagged responses of firms to public scrutiny of fair value accounting.

Second, to address issues associated with fluctuation of earnings conservatism around accounting reforms, we performed regression analyses on 2-year accumulated data. As shown in Table 3, the coefficient of conservatism for 2002–03 (0.276) and 2004–05 (0.318) is significantly higher than that for 1998–99 (0.025), suggesting that conservatism of earnings improved after the 2001 accounting reforms. Meanwhile, the coefficient dropped to –0.005 for 2008–09, suggesting that conservatism of earnings declined after the 2007 accounting reforms. Furthermore, the coefficient of conservatism became positively significant in 2010–11 and 2012–13 (both at  $p < .01$ ), consistently suggesting that the level of earnings conservatism rebounded after the financial crisis.

Third, we performed a regression analysis on the subperiods 1998–1999, 2001–2005, and 2007–2013 to determine whether conservatism in earnings was significantly affected by the 2001 and 2007 accounting reforms. The results are shown in Table 4. We deleted data in 2000 and 2006 from the subperiods because managers are likely to conduct earnings management prior to accounting reforms due to their expectation of new accounting regulation, which is supported by the fluctuation of conservatism levels in 2006 and 2007 shown in Table 2. Results from the subperiods 1998–1999 and 2001–2005 indicate a significant increase in conservatism in earnings following the implementation of accounting reforms in 2001 (coefficient of DUM\*R increases from 0.025 to 0.284). Meanwhile, a comparison of the results for subperiods 2001–2005 and 2007–2013 shows that the coefficient of DUM\*R decreases from 0.284 to 0.035, indicating that the 2007 accounting reform significantly weakened accounting conservatism.

Fourth, we used the Basu model with a dummy variable for accounting reforms to compare conservatism in earnings before and after the accounting reforms of 2001 and 2007. The results are reported in Table 5. First we added the dummy variable  $D_{2001}$  in an attempt to measure the change in conservatism following the 2001 accounting reform. The results show that  $\beta_3$  is 0.026 ( $t = 3.63$ ,  $p < .01$ ), indicating a significant increase in conservatism in earnings following the implementation of accounting reforms in 2001.

**Table 4**  
Regression based on the Basu model for the subperiods 1998–1999, 2001–2005, and 2007–2013 to test Hypothesis 1.

Items	EPS/P 1998–1999	EPS/P 2001–2005	EPS/P 2007–2013
DUM	–0.001 (–0.41)	0.012*** (4.28)	–0.003** (–2.19)
R	–0.001 (–0.27)	0.013*** (2.61)	–0.007*** (–3.30)
DUM*R	0.025*** (3.77)	0.284*** (28.28)	0.035*** (9.22)
_cons	0.021*** (9.51)	0.025*** (12.88)	0.029*** (31.01)
F-statistic	11.097	547.406	53.576
Adj.R <sup>2</sup>	0.019	0.208	0.012
Observations	1749	6270	13,744

\*\*Significance at the  $p < .05$  level (two-tailed tests).

\*\*\*Significance at the  $p < .01$  level (two-tailed tests).

**Table 5**

Regression based on the Basu model with a dummy variable for accounting reforms to test Hypothesis 1.

Items	EPS/P 1998–2006	EPS/P 2001–2013
DUM	−0.024 <sup>***</sup> (−12.50)	−0.015 <sup>***</sup> (−11.87)
R	−0.005 <sup>*</sup> (−1.80)	−0.006 <sup>***</sup> (−3.12)
DUM*R	−0.009 (−1.23)	0.024 <sup>***</sup> (8.32)
D <sub>2001</sub>	−0.004 <sup>**</sup> (−2.02)	
DUM*R * D <sub>2001</sub>	0.026 <sup>***</sup> (3.63)	
D <sub>2007</sub>		0.015 <sup>***</sup> (13.43)
DUM*R * D <sub>2007</sub>		−0.013 <sup>***</sup> (−3.14)
_cons	0.027 <sup>***</sup> (12.79)	0.019 <sup>***</sup> (16.07)
F-statistic	67.212	151.952
Adj.R <sup>2</sup>	0.031	0.034
Observations	10,442	21,377

\* Significance at the  $p < .10$  level (two-tailed tests).\*\* Significance at the  $p < .05$  level (two-tailed tests).\*\*\* Significance at the  $p < .01$  level (two-tailed tests).

Then we added the dummy variable  $D_{2007}$  to test the change in conservatism in earnings after the implementation of the 2007 accounting standards. The results show a significantly negative value  $-0.013$  for  $\beta_3$  ( $t = -3.14$ ,  $p < .01$ ), indicating that the 2007 accounting reform significantly weakened accounting conservatism. Overall, the results are consistent with our prediction and provide support to Hypothesis 1.

#### 4.2. Tests of Hypothesis 2

We first tested the impact of discretionary accruals on earnings conservatism. Table 6 shows regression results based on the Jones model and the modified Jones model, respectively. As noted in Table 6, the conservatism coefficient of  $DUM^*R^*DACC_1$  is  $-0.109$ ,

**Table 6**

Regression based on the Basu model with discretionary accruals to test the impact of discretionary accruals on conservatism in earnings.

Items	EPS/P	EPS/P
DUM	−0.013 <sup>***</sup> (−9.20)	−0.013 <sup>***</sup> (−9.22)
R	−0.004 <sup>**</sup> (−1.99)	−0.004 <sup>**</sup> (−2.03)
DUM*R	0.028 <sup>***</sup> (8.33)	0.028 <sup>***</sup> (8.39)
DACC <sub>1</sub>	0.011 <sup>***</sup> (5.93)	
DUM*R* DACC <sub>1</sub>	−0.109 <sup>***</sup> (−13.46)	
DACC <sub>2</sub>		0.012 <sup>***</sup> (6.65)
DUM*R* DACC <sub>2</sub>		−0.112 <sup>***</sup> (−13.90)
_cons	0.027 <sup>***</sup> (24.52)	0.027 <sup>***</sup> (24.52)
F-statistic	145.321	153.567
Adj.R <sup>2</sup>	0.047	0.049
Observations	14,822	14,820

\* Significance at the  $p < .10$  level (two-tailed tests).\*\* Significance at the  $p < .05$  level (two-tailed tests).\*\*\* Significance at the  $p < .01$  level (two-tailed tests).

**Table 7**

A comparison of discretionary accruals before and after accounting reforms.

Items	T (1998–2000)	T (2001–2006)	T (2001–2006)	T (2007–2013)
DACC <sub>1</sub>	0.135	0.134	0.134	0.186
T value	0.021		–11.157***	
DACC <sub>2</sub>	0.144	0.136	0.136	0.188
T value	1.648*		–10.78***	

\*Significance at the  $p < .10$  level (two-tailed tests).\*\*\*Significance at the  $p < .01$  level (two-tailed tests).

significant at the 1% level; and the conservatism coefficient of  $DUM^*R^*DACC_2$  is  $-0.112$ , also significant at the 1% level. These results indicate that discretionary accruals have a significant and negative impact on earnings conservatism, which is consistent with our prediction.

Following Zéghal et al. (2011), we compared discretionary accruals before and after accounting reforms (Table 7). The results show that discretionary accruals increased following the 2001 accounting reforms ( $T = 1.648$ ,  $p < .1$  based on the modified Jones model) and that discretionary accruals decreased following the 2007 accounting reforms ( $T = -11.157$ ,  $p < .01$  based on the Jones model;  $T = -10.78$ ,  $p < .01$  based on the modified Jones model). Taken together, the results in Tables 6 and 7 indicate that the 2001 accounting reforms increased earnings conservatism by restricting discretionary accruals whereas the relaxation of discretionary accruals by the 2007 accounting reforms led to a decline in earnings conservatism.

Hypothesis 2 predicts that the strengthening effects of the 2001 accounting reforms on earning conservatism are greater in regions with a lower level of legal protection for investors.

Table 8 shows the results of regression analyses based on the Basu model with added variables for accounting reforms and legal protection for investors. As noted in the table, the coefficient of the interaction term of the 2001 accounting reform and legal protection is negative and significant (at  $p < .01$  for both  $DUM^*R^*D_{2001}^*LAW_1$  and  $DUM^*R^*D_{2001}^*LAW_2$ ), suggesting that the positive impact of the 2001 accounting reforms increases with the decrease in legal protection for investors. This is consistent with our theory that the accounting standards introduced by the 2001 accounting reforms may act as a substitute mechanism for legal

**Table 8**

Regression analysis of Hypothesis 2.

Items	EPS/P	EPS/P	EPS/P	EPS/P
DUM	–0.020*** (–10.37)	–0.022*** (–11.37)	–0.014*** (–10.42)	–0.014*** (–10.38)
R	–0.005** (–2.09)	–0.005* (–1.86)	–0.006*** (–3.03)	–0.004** (–2.34)
DUM*R	–0.009 (–1.10)	–0.012 (–1.56)	0.028*** (8.91)	0.023*** (7.49)
D <sub>2001</sub>	–0.005** (–2.06)	–0.004** (–2.08)		
DUM*R*D <sub>2001</sub>	0.128*** (10.63)	0.048*** (6.14)		
D <sub>2007</sub>			0.009*** (6.50)	0.014*** (11.66)
DUM*R*D <sub>2007</sub>			–0.023 (–1.60)	–0.012** (–2.16)
LAW <sub>1</sub>	0.001 (1.45)		0.003*** (9.41)	
DUM*R*D <sub>2001</sub> *LAW <sub>1</sub>	–0.012*** (–10.01)			
DUM*R*D <sub>2007</sub> *LAW <sub>1</sub>			0.001 (0.79)	
LAW <sub>2</sub>		0.005*** (2.88)		0.010*** (9.12)
DUM*R*D <sub>2001</sub> *LAW <sub>2</sub>		–0.032*** (–6.71)		
DUM*R*D <sub>2007</sub> *LAW <sub>2</sub>				0.005 (0.76)
_cons	0.023*** (7.83)	0.024*** (10.54)	0.002 (0.72)	0.013*** (9.51)
F-statistic	64.58	55.718	103.57	102.626
Adj.R <sup>2</sup>	0.043	0.038	0.036	0.036
Observations	9824	9824	19,020	19,020

\* Significance at the  $p < .10$  level (two-tailed tests).\*\* Significance at the  $p < .05$  level (two-tailed tests).\*\*\* Significance at the  $p < .01$  level (two-tailed tests).

protection for investors in that they restrained earnings-management behaviors to a greater extent in regions with weaker legal protection for investors.

Hypothesis 2 also predicts that the weakening effect of the 2007 accounting reforms on conservatism in earnings is not affected by the level of legal protection for investors in a region. As noted in the table, the coefficients of the interaction term of both  $DUM^*R^*D_{2001}^*LAW_1$  and  $DUM^*R^*D_{2001}^*LAW_2$  are nonsignificant, suggesting that legal protection does not have a significant impact on the conservatism effect of the 2007 accounting reforms. Together, these results lend support to Hypothesis 2.

## 5. Discussion and conclusions

We provide empirical evidence on the impact of accounting convergence with IFRS in a major emerging economy. In particular, we examined the effects of two major accounting reforms in China on conservatism in earnings using a sample of Chinese A-share listed companies from 1998 to 2013.

Our results indicate that the earnings of Chinese companies generally displayed conservatism for the period between 1998 and 2013. The accounting reforms of 2001 increased conservatism in earnings, while the 2007 accounting standards weakened conservatism in earnings. We also note that conservatism in earnings rebounded following the 2007–09 global financial crisis, which is likely attributable to managers refraining from using fair value in accounting given the public scrutiny after the global financial crisis. Furthermore, the results indicate that the effects of accounting reforms on conservatism vary across regions with varying levels of legal protection for investors. The 2001 accounting reforms have a greater positive impact on conservatism in earnings in regions with a lower level of legal protection for investors whereas the negative impact of the 2007 accounting reforms on conservatism in earnings is not affected by the level of legal protection for investors. These results suggest that accounting reforms that restrict the ability of managers to conduct earnings management and improve conservatism in earnings serve as an important substitute mechanism for institutions of investor protection.

One major purpose of accounting reforms in China was to achieve convergence with IFRS and produce more reliable and relevant accounting information. Our results demonstrate that, while accounting reforms have generally led to conservative financial reporting in Chinese companies, their impact on earnings conservatism has varied. Compared to the 2001 accounting reform, the 2007 reform reduced the level of conservatism, suggesting that the adoption of fair value had a negative impact on accounting quality in China. Fair value accounting may be superior to historical accounting when it is implemented in advanced economies with mature capital markets and financial reporting environments (e.g., Ball, 2006; Barlev & Haddad, 2007; Penman, 2007). Our results, nevertheless, suggest that those who establish accounting standards, as well as regulators, should use caution when fair value accounting is practiced in developing and emerging economies.

Our findings that effects of accounting reforms vary across regions have implication for policy makers. Given uneven development across regions, it is important for the Chinese government to take this factor into account when designing and implementing new accounting standards and regulations. Furthermore, our results imply that reforms alone may not achieve the desired goal of accounting convergence. China needs to build up a supportive infrastructure by reforming its domestic institutions, such as its legal system, its economic system, and corporate governance, to constrain managers' incentive to manipulate accounting figures.

Our results also indicate that conservatism in earnings is mainly reflected in discretionary accruals, and earnings management has an impact on accounting conservatism. Investors and researchers may find our results useful when assessing the performance of Chinese companies and in comparing these companies with those in other jurisdictions.

It is important to note that we have focused on the impacts of accounting convergence in China, but that other important policies have been implemented, such as the Code of Corporate Governance for Listed Companies in China. Our findings in China call for future studies to examine the relationship between earnings management and conservatism in the light of other reforms. Future studies can also shed light on the quality of earnings reporting following recent accounting reforms in China. We have used some common models to measure accounting conservatism and earnings management. Future studies should use other established models from the existing literature to examine changes in accounting conservatism and strengthen our arguments on which factors contribute to conservatism.

## References

- Ball, R., Robin, A., & Wu, J. S. (2000). Accounting standards, the institutional environment and issuer incentives: Effect on timely loss recognition in China. *Asia-Pacific Journal of Accounting and Economics*, 7(2), 71–96.
- Ball, R., Robin, A., & Wu, J. S. (2003). Incentives versus standards: Properties of accounting income in four East Asian countries. *Journal of Accounting and Economics*, 36(1–3), 235–270.
- Ball, R. (2006). International Financial Reporting Standards (IFRS): Pros and cons for investors. *Accounting and Business Research*, 36(Suppl. 1), 5–27.
- Barlev, B., & Haddad, J. R. (2007). Harmonization, comparability, and fair value accounting. *Journal of Accounting, Auditing and Finance*, 22(3), 493–509.
- Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, 24(1), 3–37.
- Bliss, J. H. (1924). *Management through accounts*. New York: The Ronald Press Company.
- Chanchani, S., & Willett, R. (2004). An empirical assessment of Gray's accounting value constructs. *International Journal of Accounting*, 39(2), 125–154.
- Chandra, U. (2011). Income conservatism in the US technology sector. *Accounting Horizons*, 25(2), 285–314.
- Chen, K. C., & Yuan, H. (2004). Earnings management and capital resource allocation: Evidence from China's accounting-based regulation of rights issues. *The Accounting Review*, 79(3), 645–665.
- Chen, S., Sun, Z., & Wang, Y. (2002). Evidence from China on whether harmonized accounting standards harmonize accounting practices. *Accounting Horizons*, 16(3), 183–197.
- Chih, H. L., Shen, C. H., & Kang, F. C. (2008). Corporate social responsibility, investor protection, and earnings management: Some international evidence. *Journal of Business Ethics*, 79(1–2), 179–198.

- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting earnings management. *Accounting Review*, 70(2), 193–225.
- Fan, G., Wang, X., & Zhu, H. (2011). *NERI index of marketization of China's provinces 2011 report* Beijing: Economic Science Press.
- Givoly, D., & Hayn, C. (2000). The changing time-series properties of earnings, cash flows and accruals: Has financial reporting become more conservative? *Journal of Accounting and Economics*, 29(3), 287–320.
- Givoly, D., Hayn, C. K., & Natarajan, A. (2007). Measuring reporting conservatism. *Accounting Review*, 82(1), 65–106.
- Gray, S. J. (1980). The impact of international accounting differences from a security-analysis perspective: Some European evidence. *Journal of Accounting Research*, 18(1), 64–76.
- Grossman, A. M., Smith, L. M., & Tervo, W. (2013). Measuring the impact of international reporting standards on market performance of publicly traded companies. *Advances in Accounting*, 29(2), 343–349.
- Harris, T. S., Lang, M., & Möller, H. P. (1994). The value relevance of German accounting measures: An empirical analysis. *Journal of Accounting Research*, 32(2), 187–209.
- Haw, I. M., Qi, D., Wu, D., & Wu, W. (2005). Market consequences of earnings management in response to security regulations in China. *Contemporary Accounting Research*, 22(1), 95–140.
- Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, 13(4), 365–383.
- Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, 7(1–3), 85–107.
- Hellman, N. (2011). Soft adoption and reporting incentives: A study of the impact of IFRS on financial statements in Sweden. *Journal of International Accounting Research*, 10(1), 61–83.
- Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193–228.
- Kanagaretnam, K., Lim, C. Y., & Lobo, G. J. (2014). Influence of national culture on accounting conservatism and risk-taking in the Banking industry. *Accounting Review*, 89(3), 1115–1149.
- Kothari, S., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163–197.
- Laux, C., & Leuz, C. (2010). Did fair-value accounting contribute to the financial crisis? *Journal of Economic Perspectives*, 24(1), 93–118.
- Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, 69(3), 505–527.
- Liu, Q., & Lu, Z. J. (2007). Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance*, 13(5), 881–906.
- Lobo, G. J., & Zhou, J. (2006). Did conservatism in financial reporting increase after the Sarbanes-Oxley Act? Initial evidence. *Accounting Horizons*, 20(1), 57–73.
- Ministry of Finance (1998). *Accounting system for limited liability companies*. Beijing: Ministry Of Finance.
- Ministry of Finance (2001). *Accounting system for business enterprises*. Beijing: Ministry Of Finance.
- Ministry of Finance (2007). *Accounting standards for business enterprises*. Beijing: Ministry Of Finance.
- Othman, H. B., & Zeghal, D. (2006). A study of earnings-management motives in the Anglo-American and Euro-Continental accounting models: The Canadian and French cases. *The International Journal of Accounting*, 41(4), 406–435.
- Paananen, M., & Lin, H. (2009). The development of accounting quality of IAS and IFRS over time: The case of Germany. *Journal of International Accounting Research*, 8(1), 31–55.
- Penman, S. H. (2007). Financial reporting quality: Is fair value a plus or a minus? *Accounting and Business Research*, 37(Suppl. 1), 33–44.
- Pope, P., & Walker, M. (1999). International differences in timeliness, conservatism and classification of earnings. *Journal of Accounting Research*, 37, 53–87.
- Prather-Kinsey, J., & Shelton, S. W. (2005). IAS versus US GAAP: Assessing the quality of financial reporting in South Africa, the United Kingdom, and the United States. *Advances in International Accounting*, 18, 153–168.
- Raonic, I., Mcleay, S., & Asimakopoulos, I. (2004). The timeliness of income recognition by European companies: An analysis of institutional and market complexity. *Journal of Business Finance and Accounting*, 31(1–2), 151–165.
- Roychowdhury, S., & Watts, R. L. (2007). Asymmetric timeliness of earnings, market-to-book and conservatism in financial reporting. *Journal of Accounting and Economics*, 44(1–2), 2–31.
- Sterling, R. R. (1967). Conservatism: The fundamental principle of valuation in traditional accounting. *Abacus*, 3(2), 109–132.
- Wang, Y. (2010). *Fair value and accounting conservatism, unpublished Master thesis*. Shanghai: Fudan University.
- Weetman, P., & Gray, S. J. (1990). International financial analysis and comparative corporate performance: The impact of UK versus US accounting principles on earnings. *Journal of International Financial Management and Accounting*, 2(2–3), 111–130.
- Wu, H., & Patel, C. (2015). *Studies in managerial and financial accounting. Adoption of Anglo-American Models of Corporate Governance and Financial Reporting in China, vol. 29*. Bingley: Emerald Group Publishing Limited.
- Xiao, J. Z., Weetman, P., & Sun, M. (2004). Political influence and coexistence of a uniform accounting system and accounting standards: Recent developments in China. *Abacus*, 40(2), 193–218.
- Xin, Z., & Huang, S. (1951). How to construct new China's theoretical accounting basis. *New Accounting*, 1, 12–16.
- Yan, J. (1951). A critique of Tao De's 'My reading of how to construct China's theoretical basis of accounting'. *New Accounting*, 7, 19–20.
- Yu, Q., Du, B., & Sun, Q. (2006). Earnings management at rights issues thresholds—Evidence from China. *Journal of Banking & Finance*, 30(12), 3453–3468.
- Zéghal, D., Chtourou, S., & Sellami, Y. M. (2011). An analysis of the effect of mandatory adoption of IAS/IFRS on earnings management. *Journal of International Accounting, Auditing and Taxation*, 20(2), 61–72.
- Zéghal, D., Chtourou, S. M., & Fourati, Y. M. (2012). The effect of mandatory adoption of IFRS on earnings quality: Evidence from the European Union. *Journal of International Accounting Research*, 11(2), 1–25.
- Zhou, Z. H. (1988). Chinese accounting systems and practices. *Accounting, Organizations and Society*, 13(2), 207–224.
- Zou, H., Wong, S., Shum, C., Xiong, J., & Yan, J. (2008). Controlling-minority shareholder incentive conflicts and directors' and officers' liability insurance: Evidence from China. *Journal of Banking & Finance*, 32(12), 2636–2645.