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The Quality of Financial Reporting in China

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The Quality of Financial Reporting in China¹

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ABSTRACT

This study uses restatements to reveal the low quality of past accounting information reported within China's capital market. We show that up to a quarter of listed firms in Mainland China explicitly admitted the low quality of financial information by restating their previous financial reports between 1999 and 2005. Many of these firms manage their earnings mainly via below-the-line items to avoid losses and promote survival, rather than to support refinancing goals. Such low quality of financial reporting is more likely among firms that have weaker profitability and a shareholder base that is state-controlled, with diffused ownership and a relatively low proportion of shares held by institutional investors. Furthermore, we find the market to be relatively insensitive to such admission. Investors' reaction captures only the earnings information of the current reported year, rather than also reflecting the concurrently revealed correction of past financial reporting. However, the equity market does not totally ignore the earnings information, as perceived by many. Investors' reliance on earnings is just low relative to the mature U.S. market. These findings demonstrate that accounting credibility in China has low value; providing low-quality financial information bears little cost, since various market mechanisms fail to deter such behavior. Nevertheless, the continuous effort by regulators to enhance listed firms' quality of financial information and disclosure is still fruitful. The frequency of restatements over our sample period is decreasing, which reinforces the current regulatory prospects and strategies for further improving China's capital markets.

Keywords: Earnings quality, earnings management, restatements, China capital markets, regulation, disclosure.

JEL Classification: M41

I. INTRODUCTION

High-quality financial reporting is a cornerstone of efficient capital markets. It facilitates the efficient raising and allocation of corporate capital, thereby generating a benefit enjoyed by investors.

Over the past few years, China's capital markets have become red-hot. The total market value of equity invested in the China stock market blossomed by an order of magnitude during 1999–2007³. In years 2006 and 2007 alone, both the Shanghai and Shenzhen Stock Exchange Composite Indices have quadrupled. These gains have generated euphoria among investors—until the stock market soured beginning at the end of 2007, which recalled the general concerns over the quality of financial reporting in China.

The negatively perceived turn of events in the China market appears to parallel that of the U.S. market during the same period. It is noted that more and more U.S. firms in recent years have had to restate their previous-years' financial reports, either voluntarily or when forced by regulators (Scholz 2008, Wu 2002). The number of firms restating their previous financial reports reached nearly 300 in the year of 2005, amounting to roughly two percent of all public companies in the United States. This number is high enough to draw appreciable attention from the media, regulators and academics. On the other side of the planet in Mainland China, a similar phenomenon emerged recently with even greater magnitude. We find that a significant proportion of listed companies in Shanghai and Shenzhen Stock Exchanges restated their annual reports for the years 1999–2005. Interestingly, in a stark contrast with the enormous publicity received by U.S. earnings restatements, those in China have received scant coverage in the Chinese media, even though the reality of such is more pronounced.

Restatements are instances of clear-cut violations of accounting rules and hence an explicit admission of the low quality of companies' past financial reporting. Research shows that, in the United States, the announcement of a firm's earnings restatement usually triggers a severe decline in the stock price, harshly penalizing the restatement

³ From 821 billions of Chinese Yuan (approximately US\$99.2 billions at \$1=¥8.2768) by the end of 1999 to 8,555 billions Yuan (approximately US\$1171.9 billions at the \$1=¥7.30) by the end of 2007.

firm (Palmrose, Richardson, and Scholz, 2004; Wu, 2002; and Turner et al., 2001). The U.S. research also finds that, after a restatement, the market relies less on earnings information to determine a firm's stock price, reflecting investors' loss of confidence in the company's financial reports (Wu 2002, Andersen and Yohn 2003), and the company is forced to pay a higher cost for equity capital (Hribar and Jenkins 2004). These effects reflect the damage done to the credibility of a firm's future financial reports in the wake of the exposure of previously released low-quality financial information. In an emerging market such as China's, however, it is highly uncertain if the same market reaction exists, since investors' confidence in firms' financial reports might be thin at the outset. The question also arises whether earnings restatements, which explicitly reveal the low-quality of past financial information, will reduce investors' reliance on accounting earnings in setting stock prices or increase the firm's cost of equity capital, as found in the U.S. research. Furthermore, it is possible that many of the restatements in China could be the result of opportunistic behavior, although with different motivations than in the United States, given the different institutional setting. Thus, China's restatements provide a landscape in which to examine the value ascribed by an emerging market to the quality and credibility of financial reports, relative to the value assigned by a mature market.

Our objectives in this paper are to explore the characteristics of low-quality firms, represented by restatement firms, relative to control firms; to investigate the incentives to report low-quality financial information previously released by such firms; to examine the consequences, in terms of stock market reaction, of admitting the publication of such information; and to rationalize why Chinese companies so frequently provide low-quality financial reporting only to correct it thereafter. We expect this study will offer insights to regulators on how to detect low-quality companies and suggest aspects that might improve the quality of listed firms. This study is not a simple replication of U.S. studies because the regulatory and financial reporting environment is vastly different in China, as are the motivations and consequences to the firms and to the market as a whole.

This study offers academic researchers, regulators and investors—both domestic and international—insights into the overall quality of China's accounting information along

with a further understanding of China's increasingly important capital markets. This is the first empirical study that directly penetrates the issue of accounting quality in China—a nation with capital markets that are becoming increasingly important and hence cannot be ignored in the global capital market. This study complements the broad literature of China research, research in earnings quality, as well as restatement research.

The previous literature (Wu, 2002; Andersen and Yohn, 2002) on the U.S. market argues that earnings restatements are indicators of poor-quality of earlier financial reporting. Poor accounting quality would be penalized by the capital market. The penalties will serve as a deterrent to companies' delivery of poor accounting quality via accounting manipulation, etc. Our study implies that such penalties do NOT yet exist in China. Along with the Ministry of Finance, the accounting standard-setter, China's regulatory body, the Chinese Securities and Regulatory Commission, has been restlessly making genuine efforts since 1996 to enhance the regulatory environment for the nation's capital market. Accounting regulation is an important component of such a process. Significant and gradual economic improvements ever since 1978 has been acknowledged. Meanwhile, we also realize that such efforts must be persistently carried into the future. For example, our study shows that, in the absence of an effective penalty system in the market, investors generally do not bother to distinguish between poor and good accounting quality. Our study hopes to convey a very specific suggestion to the Chinese government and regulator: The emerging market of China needs a complete capital market, including the establishment of an effective penalty system with government regulation.

Following this introduction, the paper has six sections. Section II offers detailed, topic-relevant background of China's accounting and regulatory environment. Section III conducts a literature review in restatements and other related areas. Section IV develops our hypotheses. Section V describes details of restatements in China. Section VI elaborates empirical tests and offers explanations from their results. Section VII concludes.

II. ACCOUNTING STANDARDS AND REGULATORY BACKGROUND IN

CHINA

The securities regulator in the People's Republic of China (PRC) is China's Securities and Regulatory Commission (CSRC), which is equivalent to the U.S. Securities and Exchange Commission (SEC). Established in October 1992, CSRC is an institution of PRC State Council and is authorized to regulate China's securities and futures markets, but did not issue its first version of *Procedure of Inspecting Listed Companies* until December 21, 1996 (*the 1996 Procedure*); it became effective immediately. *The Procedure* covered the scope, procedure and CSRC's responsibilities during inspection. The scope emphasized the truthfulness, completeness, accuracy and timeliness of disclosure by listed companies.

In the 1990s, companies followed the old PRC accounting standards, which failed to specify how to deal with accounting errors and irregularities. Accounting treatments of such varied widely among companies and across industries. China's accounting reform of the late 1990s brought the first such accounting standard: The Standard of Changes in Accounting Policies and Estimates, and Corrections of Material Accounting Errors⁴ (*the Old Standard*). It was issued in June 1998 by Ministry of Finance (MOF), PRC's accounting standard setter, and became effective in effect on January 1, 1999. Section 3 of *the Old Standard* described the restatement methods and required disclosure of the reason(s) for and total amount of restatement. *The Old Standard* was modified slightly in January 2001, with one item added: Any abuse of changes in accounting policies or accounting estimates will be treated as material accounting mistakes and therefore restated. According to *the Old Standard*, a restatement was only required to be disclosed in the company's forthcoming annual report. Adopted for several years in parallel with Accounting Standards of Business Enterprises (ASBE) was the Companies Accounting System, which mentioned corrections of errors in its tenth chapter and provided technical treatments that were consistent with those of *the Old Standard*.

An October 1999 CSRC's *Notice on Improving Financial Information Disclosure of Listed Companies (the 1999 Notice)* states that 1) listed companies should make proper

⁴ This Standard was a chapter of Accounting Standards of Business Enterprises (ASBE), which was completed in 2002, so as also called China's 2002 ASBE.

loss estimations on account receivables, inventories, investments, etc., and should not change the method of provision and percentage of provision within the same reporting period at the companies' will; and 2) listed companies should disclose any change in accounting policies or estimates.

By 2001, no rule explicitly demanded the listed companies to disclose accounting irregularities or mistakes publicly in a timely fashion. Unlike the common U.S. practice of public disclosure of restatement upon first discovery by the media, China's press remained largely mute. Hence, investors were first informed of a restatement upon the public release of a company's annual report in major Chinese business newspapers and the web site⁵ designated by CSRC.

Unlike the practices among U.S. listed firms, where a restatement will revise any affected line items in all relevant quarter(s) and year(s) income statements and balance sheets, restatements in China under *the old Standard* are not required to tabulate the corrected financial statements of all the affected years. In most cases, where only the financial statements of the previous year ($t - 1$) are corrected, the corrected financial statements will be found in current year's (t) annual report for comparison purposes. If the corrected year(s) reaches into the past beyond the previous year ($t - 1$), the correction will not be made on the earlier released reports, but instead bypass the profit and loss statement of year $t - 1$ and directly hit the corrected balance sheet. The overall cumulative effect would, of course, be adjusted into the beginning balance of retained earnings and other affected items on the balance sheet in the annual report of year t . Because of the subtle difference in accounting treatments from those required by U.S. Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS), we cautiously call our event "restatements" rather than "earnings restatements" as, literally, not all the affected earnings would be restated during the sample period, but rather only the previous year's earnings. Note also that *the Old Standard* required disclosure in the footnotes of the detailed reasons for and amount of restatement, but in practice the corporate disclosure, especially on reasons of restatement, was generally quite brief and opaque.

⁵ CSRC designates the following four newspapers for listed companies to disclose their financial information: *China Securities Journal*, *Shanghai Securities Journal*, *Securities Times* and *Securities Daily*. CSRC designated web site is www.cninfo.com.cn

On March 19, 2001, CSRC issued the revised the *Procedure for Inspecting the Listed Companies (the 2001 Procedure)*, which supersedes the original *1996 Procedure*. With the new release came a CSRC announcement that it would strengthen the inspection to the listed companies' financial reports, corporate governance structures and their independence from related parties. *The 2001 Procedure* required companies to correct the irregularities found in the inspection and disclose publicly within 30 days of official notice.

The two years following the release of *the 2001 Procedure* witnessed a tremendous effort by CSRC, resulting in the issue of a total of 19 chapters of Rules on Information Disclosure for Listed Companies. Chapter 19: *The Correction of Financial Information and Its Disclosure (Rule 19)*, was issued by the end of 2003. *Rule 19* demands that listed companies immediately file an official report with CSRC regarding any material events, including the correction of financial statements, and submit the revised and audited annual report within 45 days if the most recent annual report is incorrect. However, due to a loophole, *Rule 19* had imposed little true impact on the disclosure pattern. That is, *Rule 19* did not include a scenario for change-of-accounting estimates. Since a change-of-accounting estimate was not defined as a material event, it was not required in the form of timely disclosure. Many companies intentionally misclassified the correction of mistakes as a change-of-accounting estimate and routinely disclosed them in the forthcoming annual report rather than providing an immediate disclosure in the form of a change-of-accounting estimate⁶.

On January 6, 2004, just one day after a press conference offering explanations for both the substantial number of companies that received qualified auditor's opinion and the increased number of restatements in 2002, CSRC issued *Notice on Further Improving Financial Information Disclosure of Listed Companies (the 2004 Notice)*. By emphasizing *the 1999 Notice*, *the 2004 Notice* clearly states that listed companies should not abuse assets impairment, change-of-accounting estimates, or correction of material mistakes in order to manipulate financial results. Any company doing so

⁶ Note that a change-of-accounting estimate does not change past accounting numbers, but only future ones. The true accounting practice to ameliorate a false claim is, however, restatement.

would be held responsible. However, *the 2004 Notice* did not specify the scope of responsibility that a company would bear for committing a violation.

On February 15, 2006, the Ministry of Finance announced that, starting from 2007's annual report, all publicly traded companies would adopt the new Accounting Standards of Business Enterprises (*2006 ASBE*), representing a major convergence towards IFRS. Under the *2006 ASBE*, Changes in Accounting Policies and Estimates and Corrections of Accounting Errors fully adopted the practices under IFRS, which are consistent with those under the U.S. GAAP. That is, from 2007 annual report and forward, a restatement will revise any affected line items in income statements and balance sheets for all relevant quarter(s) and year(s).

Table1 summarizes the development of accounting regulations related to this specific issue.

Insert Table 1 here

III. LITERATURE REVIEW

3.1. Earnings restatements in the United States

Using a sample of 73 firms that corrected previously reported quarterly earnings, Kinney and McDaniel (1989) find that the sample firms were smaller and less profitable, had higher debt and lower growth, and faced more serious uncertainties by receiving more qualified audit opinions. By analyzing 224 SEC accounting and auditing enforcement releases between 1982 and 1989, Feroz, Park, and Pastena (1991) find that the SEC most often pursued overstatements of accounts receivable and inventories due to premature revenue recognition and delayed write-off. They also find that the disclosure of these reporting violations changed expectations of the target firm's future earnings, as reflected in financial analysts' reduced earnings estimates after the disclosures. DeFond and Jiambalvo (1991) examine 44 earnings restatements and find that 41 of them involved overstatement, consistent with an income-increasing

motivation. They find that earnings overstatements are negatively correlated with the growth in earnings and are more likely when firms have diffuse ownership, lower growth in earnings, and few income-increasing GAAP alternatives available. They also find that restating firms are less likely to have audit committees. Dechow, Sloan, and Sweeney (1995) find that an important motivation for earnings manipulation is the desire to attract external financing at low cost. Firms that manipulate earnings are more likely to have (1) boards of directors dominated by management, (2) a CEO who simultaneously serves as the chairman of the board, and (3) a CEO who is also the firm's founder. In addition, these firms are less likely to have an audit committee and an outside blockholder. Firms that manipulate earnings experience a significant increase in their cost of capital after the manipulation is made public.

Enron's accounting scandal in 2001 and Worldcom's in 2002 spawned an even larger volume of research on earnings restatements. The research can be broadly classified into three categories: (1) descriptive and market reaction studies around restatement announcements, (2) investigation of the motivations that lead to restatements, and (3) examination of the consequences of restatements. In the first category, Wu (2003) documents the characteristics of more than 1200 U.S. restatements announced between 1977 and 2001. She shows that there is a significant increase in the number of restatements since the late 1990s and finds a significant market reaction of more than -11% over a three-day window—a reaction that can be explained by both qualitative and quantitative information carried in the restatement announcements. Concurrent research by Palmrose, Richardson, and Scholz (2004) and Turner et al. (2001) also find similar market reactions upon the announcements. Furthermore, Lev, Ryan, and Wu (2008) find that restatements that eliminate or shorten histories of earnings growth or positive earnings have significantly more adverse effects for investor valuations and the likelihood of lawsuits than do other restatements. In the second category of studies, Richardson, Tuna, and Wu (2003) suggest that capital market pressures motivate restatement companies to adopt aggressive accounting policies. That is, the typical restatement firm has been attempting to maintain a string of consecutive quarters of positive earnings growth and consecutive positive quarterly earnings surprises. In addition, top executives at these firms receive a larger portion of their compensation from equity relative to leaders of non-restating firms. Richardson, Tuna, and Wu (2003)

also document information in accruals to be a key indicator of the earnings manipulation that leads to the restatements. Griffin (2003) investigates the patterns of insider trading of restating firms and implies that profiting from insider trading is one of the incentives for managers to overstate earnings. Agrawal and Chadha (2005) find that the incidence of independent directors with a background in accounting or finance on the board or audit committee is negatively related to the probability of restatement; however, they do not find significant incompetence in other aspects of corporate governance as Burns and Kedia (2006) do. In the third category, several studies explore the consequences of restatements. Wu (2003) finds that the earnings response coefficient (ERC) dropped dramatically following restatement, which could be interpreted as the loss of confidence among investors. Hribar and Jenkins (2004) find that accounting restatements lead to both decreases in expected future earnings and increases in the firm's cost of equity capital. Srinivasan (2006) shows that outside directors, especially audit committee members, bear reputational costs for failures in financial reporting.

3.2 Earnings Management and Restatements in China

China research often focuses on earnings management, which offers a rich background for the restatement issue. Typical incentives that are found in the United States to manipulate earnings are almost nonexistent in China. For example, demand for financing, especially equity financing, is huge in China, while incentives to meet or beat analysts' expectations are minimal. The compensation plans of China's listed companies are rarely incentive-based, thus managers cannot manipulate earnings to inflate stock prices with intent to benefit their own compensation. Chinese companies also do not face pressure from debt covenant constraints. Earnings management, nevertheless, usually occurs when companies are issuing their IPOs. Aharony, Lee, and Wong (2000) suggests that state-owned enterprises in unprotected industries may manage accounting accruals to boost earnings and/or list those business units with temporarily high profits resulting from high accounting accruals during the process of financial packaging. Earnings management also takes place when listed companies conduct secondary issuances or rights issuances. Given the fact that listed companies are required to achieve a minimum average of return on equity (ROE) of 10% for the three years prior to secondary issuance or rights issuance, and given the reality that

CSRC has limited resources to monitor closely all the applicants, Chen and Yuan (2004) show that many firms were able to gain rights issues approval through earnings management and subsequently performed worse than those that did not employ such practices. Thus, capital resources might have been better allocated had the regulators more closely examined the management of earnings. Listed companies also massage earnings to avoid consecutive losses, which lead to being tagged with “special treatment”⁷ (ST) (Lu, 1999) or, worse, “particular transfer”⁸ (PT). In addition, earnings management is commonly conducted through “below-the-line” non-operating items (Chen and Yuan 2004). Finally, work by Wang and Zhang (2004) shows that an increasing number of firms restated during 1999–2002.

IV. HYPOTHESES AND EMPIRICAL MODELS

Having elaborated on China’s unique institutional background on incentives for companies to manipulate earnings in Section III, we first offer the following two hypotheses on the two major incentives a Chinese company would confront. The first addresses financing needs, while the concerns of the second surround survival.

Hypothesis 1: Restatement firms tend to be those with strong financing incentives during or before the restated year. Specifically, restatement firms tend to be those that offered secondary or rights issues during or before the restated year.

Hypothesis 2: Restatement firms tend to be those under delisting pressure during or before the restated year.

⁷ Special Treatment (ST) has been adopted since April 22, 1998 as a signal for those listed companies experiencing any of the following abnormal financial or other abnormal situations: 1) two consecutive years of losses, 2) stockholders’ equity falling below the nominal value in the most recent year (in China, the nominal value per share is stipulated as 1 Yuan for all listed companies), 3) independent auditor issuance of qualified opinion or refusal of issuing opinion, 4) stockholders’ equity, net of auditor fee and unrecognized portion by concerned parties, falling below the nominal value by the end of the most recent year, 5) two consecutive years of losses following the restatement of a previous year’s result in the most recent year’s annual report, or 6) any financial situation CSRC deems abnormal. Other abnormal situations include discontinuation of operations due to natural disaster or other significant event, possible punitive and compensatory damages from lawsuits exceeding the net assets, etc. A cap of 5% of stock price movement (increase or decrease) applies to ST stocks.

⁸ Particular Transfer (PT), effective since July 9, 1999, is designed for those listed companies that experience three consecutive years of losses. The daily trading will be suspended and substituted with once-a-week special transfer among investors. A cap of 5% of stock price increase will be subjected, but with no stop limit for price declining.

Note that these two hypotheses struggle to co-exist, because the previously mentioned 10% profitability requirement for refinancing is far above the break-even point, and companies meeting this criterion are in low danger of delisting.

Next, we examine which factors collectively influence companies to restate in China's A-share market. Our testing variables consist of three categories: corporate governance, motivations and firm performance. Chinese state-owned enterprise (SOE) reform has been relatively successful in solving short-term but not long-term managerial incentive problems, while also failing to adequately address the issue of management selection. The latter conundrum arises from the fact that managers of SOEs are selected by bureaucrats rather than capitalists: As bureaucrats have the authority to select managers, but do not need to bear the consequence of the selection, they have no proper incentives to find and appoint high-caliber managers and hence negatively impact the quality of financial reporting (Zhang, 1999). Highly concentrated ownership, which is common in East Asia, will lead to an entrenchment effect and deprive the rights of minority shareholders. Decisions made by controlling owners are often contestable in the weak legal systems in this region and by ineffective corporate governance mechanisms, such as boards of directors and the market for corporate control (Shliefer and Vishny, 1997; La Porta, Lopez-De-Silanes, and Shleifer, 1999) Consequently, controlling owners are perceived to report accounting information for self-interested purposes, causing the reported earnings to lose credibility to outside investors in East Asia (Fan and Wong, 2002). Additionally, involvement by institutional investors will enhance corporate governance. Among China research, return on assets (ROA) is widely adopted as the prime performance indicator, rather than return on equity (ROE), as ROE is often manipulated due to CSRC's setting various thresholds based on it. Hence, we have the following hypothesis.

Hypothesis 3: Restatement companies tend to occur more frequently among firms with poor governance, more concentrated ownership and poorer financial performance.

We propose the following models to test our initial hypotheses:

Theoretical model:

$$\text{Restatement}_i = f(\text{Governance}_i, \text{Motivation}_i, \text{Performance}_i)$$

Empirical model:

$$\begin{aligned} \text{Restatement}_i = & \alpha + \beta_1 \text{SOE}_i + \beta_2 \text{L_Share}_i + \beta_3 \text{IIH} + \beta_4 \text{LOSS} + \beta_5 \text{LOSS_ST} + \beta_6 \text{RSI} \\ & + \beta_7 \text{DA} + \beta_8 \text{ROA} + \beta_9 \text{LEV} + \beta_{10} \text{Size}_i + \varepsilon_i \end{aligned} \quad (1)$$

Here, Restatement_i is a dummy variable for firm i , which takes on the value 1 for restatement firms and 0 for other listed companies. For the sake of parsimony, we use three variables as proxies for corporate governance. The first variable, SOE, is a dummy variable, which shows whether a company is an SOE or not. The second variable we choose is the largest shareholder's ownership proportion, L_Share. Given that the Chinese government is usually the largest shareholder of a China-listed firm, we adopt a third variable: the proportion of top-10 institutional investors' share-holding, IIH. Motivating factors for firm i are represented by the delisting pressure (LOSS and LOSS_ST) and the need for equity financing (RSI). Corporate performance and financial characteristics are represented by discretionary accruals (DA), return on assets (ROA) and leverage (LEV). Firm size (Size) is our control variable.

It is surprising to observe that the considerable number of restatements that occurred in China attracted so little attention. We conjecture that it may be because that the market is suspect of the credibility of financial reports and attaches a nearly independent value to listed companies. Stock prices in China do not often reflect the value of the companies, and the stock price changes do not often effectively reflect the change of information setting. Market irregularities were not uncommon among fledgling companies during our sample period, and include such practices as insider trading and institutional manipulation of stock prices (CSRC, 2008). Accounting reporting does not serve as central a role in China's capital market as it does in a mature market, and financial reports that overstate or poorly state a Chinese firm's true status may have limited impact on that firm's stock valuation. Hence, we arrive at hypotheses 4 and 5, along with their offshoots:

Hypothesis 4: The stock market fails to punish the poor quality of financial reports.

Within this general hypothesis, we construct three sub-hypotheses:

Hypothesis 4a: The stock market fails to punish the poor quality of financial reports upon restatement announcements.

We conjecture that the stock market does not react significantly to the announcement of earnings restatements, which means there is a lack of penalty for restatements. For this hypothesis, we focus on the short-term stock price reaction to the restatement announcements. In our analysis, we examine various windows up to two weeks before and after the announcements for any information leakage or delay to the stock market: (-10, -6), (-5, -2), (-1, +1), (+2, +5) and (+6, +10) days around the restatement dates (disclosure dates for enforced restatements and annual report announcement dates for voluntary restatements). Buy-and hold market-adjusted cumulative abnormal returns (CARs) are used as the return metric.

Hypothesis 4b: The stock market does not anticipate the poor quality of financial reports before the restatement announcements.

We conduct a long-term event study, which is designed to go back to one year before the restatement announcements. The purpose of this hypothesis is to detect whether any information has been leaked to the stock market, either through insider trading or analysts' warnings, during the period of the financial report being restated. Again, Buy-and hold market-adjusted cumulative abnormal returns (CARs) are used as the return metric.

Failure to reject the first two null hypotheses will indicate that the stock market in China does not punish poor financial reporting.

Hypothesis 4c: The stock market does not penalize the poor quality of accounting that is uncovered by regulatory inspection.

As mentioned earlier, the restatements disclosed according to the regulatory inspection outcomes represent required restatements. We test whether the market penalizes enforced restatements by examining the market reaction around the disclosure date of the enforced restatements. We examine a window of (-6, +6) months around the disclosure date to allow for a reasonable period for routine regulatory procedures before and after the formal announcement.

Hypothesis 5: The stock market attaches minimal value to financial information.

We extend this general hypothesis into two detailed sub-hypotheses:

Hypothesis 5a: Stock price changes poorly reflect revelations of low-quality of earnings.

We conduct two sets of returns/earnings tests on both the level and the change of earnings information.

$$CAR_i = a_0 + a_1EPS_t + a_2AdjEPS_{t-1} + \varepsilon_i \quad (2)$$

$$CAR_i = a_0 + a_1UnEPS_t + a_2Mag_{t-1} + a_3Control\ variables + \varepsilon_i \quad (3)$$

In equation (2), CAR_i is (-11, +1) months of cumulative abnormal returns of a restating company. EPS_t is the reported year t 's earnings per share. $AdjEPS_{t-1}$ is the previous year $t-1$'s adjusted, i. e. true earnings per share according to the restatement. We use equation (2) to test whether the market comprehensively reflects the value of the company by reacting to both current annual earnings and past earnings, which can be naïvely adjusted by the given corrected amount. We conjecture that the market does not react significantly to at least the adjusted past earnings.

In equation (3), CAR_i is (-11, +1) months of cumulative abnormal returns of a restating company. $UnEPS_t$ is the surprise of reported year t 's earnings per share, which is measured by the difference of current year's earnings and the expected earnings, represented by the originally reported earnings of $t-1$, given barely any systematic analyst's forecasts exist in China so far. Mag_{t-1} is the surprise of past year, $t-1$'s, earnings, which is the per-share scaled restated magnitude. We use equation (3) to test whether the market reacts fully to the change of the accounting information setting,

which includes two surprises: the surprise of current earnings and the surprise of past earnings. We calculate the surprise—or the unexpected part—of current earnings as the scaled difference of current earnings and one-year-prior earnings, taking into account the limited scope of analysts’ forecasting in China. We represent the surprise of past earnings by the scaled magnitude of the restatement. We conjecture that, at minimum, the market does not react significantly to the surprise of past earnings.

Hypothesis 5b: The equity market’s reliance on earnings information is minimal.

To test this hypothesis, we conduct the following tests on our sample, using the earnings response coefficient as a measure of reliance.

$$CAR_i = \alpha + \beta UE_i + \varepsilon_i \quad (4)$$

$$CAR_i = \alpha + \beta_1 UE_i + \beta_2 UE_i T_i + \varepsilon_i \quad (5)$$

Equation (4) is tested separately on sample firms before and after the revealing of the low quality. Equation (5) is the pooled test with a dummy variable T_i representing the cases after restatement. We expect all β s in both (4) and (5) to be insignificant.

V. DESCRIPTION OF RESTATEMENTS IN CHINA

5.1. Data Selection

Due to the absence of a restatement database, we manually collected our sample among those domestic companies that issued A-shares⁹ listed in the Shanghai Stock Exchange and the Shenzhen Stock Exchange. We searched annual reports of all these listed companies and collected information from the Correction of Material Accounting Mistakes section in the footnotes. Our sample period runs from January 1, 1999, when *the Old Standard* on restatements became effective, to December 31, 2005, just weeks before the announcement of the *2006 ASBE*. As such, all listed companies’ 2005 annual

⁹ Two types of shares of domestic companies are traded in Shanghai and Shenzhen stock exchanges: A-shares and B-shares. A-shares are traded in Chinese Yuan. B-shares are traded in U.S. dollars. The stock market is dominated by A-share trading. Only 106 B-shares were traded in January 1999; beginning in December 2005 the number has been steady at 109.

reports would be the last annual reports filed under *2002 ASBE*.

Excluding the restatements due to mergers & acquisitions, dividend distributions, change of accounting policies and accounting estimation, the total number of restatement announcements identified due to accounting misrepresentation, irregularities, fraud, or errors is 1092 for the study period.

Market and accounting data are from CSMAR database; institutional investors' information is from Genius database.

5.2. Data Description

Insert Table2 here

Table 2 shows that in the early part of our study period, 1999–2000, there were 21 companies in each year restating their financial reports, representing approximately 2% of listed companies. However, the number of restating firms soared in 2001 and 2002 to 282 and 250, respectively, amounting to 24.96% and 20.85% of the public companies. Such a dramatic increase is perceived to be the natural delay from adoption of *the Old Standard*. The number of restating firms dropped in the subsequent years, but still comprised more than 10% of the listed companies. Such retreat might be a direct reflection of, not only the restatements of previous years, but also the result of *the 2001 Rules* and the CSRC's intensive and extensive inspection through all provinces after observing an increasing pattern of qualified auditors' reports. What is striking and puzzling is the large proportion of firms to restate in China. In the United States, even though the number of restatements grew during the timeframe of our study of Chinese firms, the proportion remained low and steady at roughly the 2% level by the end of 2005 (Wu, 2003).

On April 4, 2001, CSRC issued *the Index of Listed Companies' Industry Classification*, which serves as the industry classification standard thereafter. The information in Table 3 adopts this standard for restatement companies' industry distribution.

Insert Table3 here

More than half of the restatements were for firms in the manufacturing sector, with Machinery, Equipment & Meter, on the one hand, and Petroleum, Chemical Product, and Rubber & Plastics, on the other hand, making double-digit contributions to the percentage of all restatement firms.

Ever since its issuance of *the 2001 Rules*, CSRC started to inspect listed companies' financial reports, corporate governance structures and their independence from related parties. The *Rules* require companies to correct the irregularities found in the inspection and to disclose publicly within 30 days of official notice. Since an accounting restatement is one possible result of the tightened regulatory inspection, such disclosure makes it possible for us to identify the restatements initiated by the inspection versus those disclosed by firms voluntarily. Table 4, Panel A, shows the year-by-year number of enforced restatements disclosed by the firms due to the inspection findings, along with those resulting from voluntary disclosure, during the period 1999–2005.

Insert Table 4 here

The enforced restatements compose only 6% of the sample and are largely concentrated in 2001–2003. This is a much lower proportion than for U.S. restatements, where roughly one-quarter of restatements were instigated by SEC or other regulators. However, the voluntary restatements also increased in China during those years, which could be interpreted as a perception by firms of the serious intent of the *2001 Rules*, leading them to clean up voluntarily rather than be caught by the CSRC. Nevertheless, we do not exclude the possible failure to identify a complete set of enforced restatements due to the simple, maybe incomplete, disclosure by listed companies in general. From what we read of companies' statements, there is no single firm ever mentioning that the restatement was suggested by its auditor.

Table 4, Panel B, reports that 637 companies produced a total of 1092 restatements during 1999–2005. More than half of the sample companies restated just once during the sample period, while some restated several times. One firm, however, restated six

times out of seven years! In all, 494 (46.17%) of the restatements were to correct the prior-year's filing¹⁰; 451 (42.15%) of the restatements were to revise the filings of both the prior-year's filing and that of earlier year(s) (Panel C). However, we cannot discern the number of years these firms restated, as such information was not described in their annual reports. The balance of the 1092 restatements (147) were to correct mistakes made before the most recent year. In our sample, 22 observations did not disclose which year(s) they restated.

We notice that the pattern of reasons for restatements is quite different from that in the United States. We classify reasons for restatement into eight categories in Table 4, Panel D. Most restatements involved more than one reason; therefore, the sum of each column would exceed the annual sample size.

Corrections of mistakes in subsidiaries upon preparing consolidated financial reports top our list. This type of restatement seems to us more technical, because parent companies could not fully control the subsidiaries' financial reports to the extent to which they could control their own. The more subsidiaries a parent company has, possibly the more difficult the process of management and the greater the likelihood of error and therefore subsequent restatement. Unfortunately, no database contains such information, forbidding us the opportunity to test this hypothesis. Without detailed disclosure, we are unable to measure its impact on the magnitude of overall restatements.

Mismeasurement of tax, which is a rarity among U.S. firms, is frequently observed in China. Approximately three-quarters of companies, though, in this category underestimated the tax paid, which led us to suspect that such underestimation is more intentional than unintentional.

Misstating, mostly under-misstating, of cost of goods sold or operating expenses is quite common in China, while manipulation of recognized revenue is not a major vehicle: only 7% of restatements involve inflating revenue or earlier recognizing

¹⁰ Chinese companies' fiscal year is stipulated to be same as the calendar year.

revenue (in the United States, nearly 40% of the restatements are due to the revenue recognition problem).

During our sample years, as many as 17% of restatements were to correct depreciation or various provision estimates. That is not quite surprising considering the existence of many types of provisions in China. In 1999, four types of provisions required estimation: bad-debt reserve, provision for inventory impairment, provision for short-term investment impairment and provision for long-term investment impairment. Later in 2001, four more types of provisions were added: provision for fixed-assets impairment, provision for intangibles-assets impairment, provision for construction-in-progress impairment and provision for entrusted-loans impairment. Estimation of such provisions demands significant professional judgment and becomes quite a challenge to the accounting professionals with limited years of experience¹¹ in a fledging capital market; meanwhile, various kinds of provisions also offer room for manipulation, which is mirrored in CSRC's *2004 Notice*, emphasizing that listed companies should not abuse assets impairment, change-of-accounting estimate, or correction-of-material mistake for the purpose of manipulation.

Practiced for many years, a tax refund policy is one major type of incentive to encourage export in mainland China. In July 2000, the Minister of Finance issued *Rules of Accounting Treatments for Tax Refunds, etc.*, clearly demanding the adoption of cash accounting, rather than accrual accounting, for income from subsidies and tax refunds to prevent companies from manipulating earnings via such vehicles. However, there remain a few listed companies that openly violate the Tax Refunds Rules and adopt homemade recognition practice at their will.

Because the simple and general disclosures in one-third of the observations make these restating companies difficult to categorize, we collect this large fraction into a single category that includes unspecified mistakes, oversights and reclassifications.

Table 4, Panels E and F, show that more than three-quarters of the events related to an

¹¹ China embarked on development of the CPA profession only in early 1980s. The Chinese Institute of Certified Public Accountants (CICPA) was established in November 1988, and the first CPA exam was conducted in 1991.

earlier overstatement of retained earnings; the remaining quarter either underreported or had no impact on retained earnings. The amount of restatements swings widely, from reducing RMB815 millions (USD98.43 millions) of retained earnings to increasing RMB863 millions (USD104.23 millions) of retained earnings, with average decrease of 2.3% of total assets, which is comparable to U.S. percentages.

Table 4, Panel G, tells that nearly 20% of the firm-observations changed auditors during the annual report year and 11% during the event year when restatements were disclosed. However, with limited disclosure in annual reports, we are unable to distinguish whether such change was due to auditing firm leaving the employ of the client company voluntarily or under duress.

VI. EMPIRICAL ANALYSES

6.1. Firm Characteristics and Potential Motivations

We now analyze the characteristics of our sample and seek the potential motivations for these companies to report the mistaken financial reports.

Insert Table 5 here

Table 5, Panel A, reveals that restatement firms have slightly lower mean total assets, compared to the rest of the listed companies, but most firm-observations fall within the comparable size range.

Table 5, Panel B, compares various company characteristics in the restated year (year $t - 1$) of the restatement sample and control sample. As a control, we used the full set of listed companies that did not file restatements, and relied on their test year's information to calculate results. The reason for such a "naïve" matching method is the limiting nature of the relatively small number of companies listed on either the Shanghai or Shenzhen stock exchanges by the end of 2005 (just over 1300 in all). If we adopt the conventional method to match by industry and firm size among the un-

restatement companies, there will be very few qualified companies left and that will prevent us constructing an effective matching sample.

Table 5, Panel B, shows that the restatement companies generally have poorer valuation, poorer performance, higher leverage and more losses compared to the matching sample. These firms tend to manage earnings during the restated year. The largest stakeholders of sample firms hold a lower proportion of shares than those within the control sample. There is no significant difference of the SOE nature between the two samples through an univariate test.

Notably, we observe that restatement firms have been listed significantly longer on stock exchange—mean age of nearly six years, compared with 5.29 years for nonrestating firms. Their ROA, core ROA and ROE are all significantly lower than those of the matching sample. Meanwhile, the benchmark to determine whether a firm can offer rights or secondary issue, ROE, is far from the 10% threshold; indeed, mean ROE is slightly below 0. This result contradicts our expectation in hypothesis 1. Restatement companies possess higher frequencies of single-year losses and consecutive losses, consistent with our expectation in hypothesis 2. Even though Table 5, Panel B, tells us that approximately 29.6% of the sample had rights or secondary issuances in the two years prior to and the most recent restated year, combining all the results, we would not claim that companies' manipulation during the restated year is aimed principally at achieving equity financing needs, but is more likely associated with struggles against poor performance and delisting pressures.

Consistent with China research literature, we find that both total accruals and discretionary accruals are negative in general during the most recent restated year. But, perplexingly, we also observe that both accruals of the test sample are significantly lower than in the control sample. No explanation comes to mind.

6.2. Determinants of Restatements

Here, we examine the company characteristics during the corrected year ($t - 1$) can collectively justify the restatement phenomenon in China. These characteristics may

offer some guidance to regulators on which aspects to explore when rooting out low-quality firms.

Insert Table 6 here

Table 6 provides the Pearson correlation of all the potential test variables. Performance variables are highly correlative with each other. We leave ROE in the table, as this is an important threshold in China's capital market. However, ROE is widely manipulated in the China market due to its role of threshold. We omit it from our official empirical model (equation 2) and adopt only ROA in the final test; we similarly omit earnings growth from official empirical tests. Naturally, ROA is highly correlated with LOSS, LOSS_ST and LEV, which we will control for in the regressions.

Insert Table 7 here

Table 7 examines the company characteristics and incentives collectively leading to a restatement. The last regression is on the complete sample with all variables. It shows that those companies with lower profitability, higher leverage, lower holdings by institutional investors, less ownership concentration and those that are SOEs tend to be restatement targets. Since incentive variables on delisting pressure, LOSS and LOSS_ST, are highly positively correlated with performance variables, ROA and leverage, we test the model alternatively with and without ROA or LEV; results imply that the delisting pressure is an incentive to manipulate earlier year's earnings and contributes to later restatement. All tests fail to demonstrate that the financing needs serve as incentive of manipulation among the sample.

We are surprised to find our test producing the opposite sign from expected on ownership concentration, i.e., the lower proportion of the largest shareholder's stake, or the lower the ownership concentration, the higher probability a listed company will restate. We interpret this result as follows: in China, the "shell" of a listed company is a very valuable and limited resource due to the slow CSRC approval process. When a company faces profitability stress or potential losses, the largest shareholder will pump profits into the company by arranging, for example, related-party transactions, a very

common practice in China. However, companies with less ownership concentration will not benefit from their largest shareholders when experiencing the same ordeal, as the largest shareholders have insufficient incentive to rescue the ailing company. Such companies, therefore, will either face being delisted, or resort to accounting manipulation, which would be reversed later via restatement. Such conjecture is supported by the significant negative correlation between ownership concentration and delisting pressure variables LOSS and LOSS_ST.

Our control variable of firm size negatively contributes to the possible restatements, but not in a significant way.

We also conduct extra tests within subsamples, limiting the observations to downward restatements and core earnings related to restatements. Results, which we do not include in the tables, are consistent with our primary tests.

Combining all factors, one can understand why a big SOE with its largest shareholder being the government, for example, PetroChina, will remain above the financial fray and avoid the need to restate: It is simply because the government will not let that happen.

6.3. Consequences of Revealing Low Quality of Earnings

Even though financial restatement in China has become a prevailing phenomenon, it remains largely below the radar. That indeed is quite confusing at first thought. We now test our hypothesis 4 and offer explanations.

Insert Table 8 here

Following most research on U.S. restatement, we routinely conduct event tests and let their results tell the story. Table 8, Panel A, exhibits the short-term cumulative abnormal returns (CARs) of our restatement sample. Contrary to the strikingly negative results (approximately -11% of CARs) from U.S. data, China's stock market reacts very weakly and in fact barely registers a reaction to restatement announcements. The mean CAR values around the day of announcement ($-1, +1$) are not significant, although the

median CARs are significant, with only -0.48% market reaction. During the week ahead of the annual report release, the market reacts negatively in a significant way, however, with only roughly half of one percent. Investors in China's stock market fail to punish the poor quality of financial reports upon restatement announcements as severely as investors in the U.S. stock market do.

Insert Table 9 here

Nevertheless, investors may have perceived such poor quality of accounting ahead of the restatements due to possible information leakage. Hence, we look backward for a longer period leading to the release of the annual report and find that the results are quite mixed. We divide the timeframe into several periods for examination. There is a slight decline going back in time to one year prior. The CARs of some timeframes are significantly negative; some are not. Some are significant in median, but not in mean. Overall, the magnitude is limited, and the mixed results do not permit us to reject hypothesis 5, which states that investors do not anticipate the poor quality of financial reports.

Long-term tests up to one-half year lagging the restatement announcements are presented in Table 9, Panel C; these fail to reveal post-announcement drift, which implies that the poor quality of financial reports negates the potential for the market to digest the information and eventually react in a rational, albeit delayed, fashion.

Insert Table 10 here

The stock market slightly penalizes the poor quality of accounting that is uncovered by CSRC's inspection upon restatement announcements. In Table 10, Panel A, only at $(-1, +1)$ around the event date are the CARs of -1% significant both in mean and in median. Usually the regulatory inspection will take few months to conclude, leading us to look back into a longer horizon before the revealing of CSRC's decision. During the half year leading to the restatement in Table 10, Panel B, CAR values are only significant between the fourth month and the second month ahead of -1.4% in mean (-1.5% in median). CARs from the rest of the time frames are mostly insignificantly negative.

Overall, the stock market reaction offers an ambiguous and different picture towards restatements from that of the U.S. stock market. We can claim that the stock market in China fails to punish poor financial reporting.

6.4. Usefulness of Accounting Information

Puzzled by the market's failure to react to the restatement phenomenon, we suspect that investors may attach a different value to the accounting information. They may ignore financial information, partially or completely. Restatement is disclosed in the annual report, which also offers much other information, mainly the information of the currently reported year. Buried within, the revealing of restatement might simply be missed by investors. Hence, we test the return/earnings relationship in two dimensions: the level and the change of the information setting.

Insert Table 11 here

Table 11, Panel A, shows how the stock market reacts to the current year's earnings and the corrected past year's earnings. We obtain the later by adding back the restated amount to the originally reported earnings for those sample firms that restate at least the previous year's results. The results show that the market does respond to accounting information; its reaction is clearly and significantly related to the current year's earnings. However, it ignores the corrected past year's earnings, which is also new information released to the market. These results imply that accounting information is partially useful to the equity market. Investors seem only to naively pay attention to the current year's accounting information while ignoring information about the past.

Table 11, Panel B, offers test results on the market reaction to the change of information setting. Such change has two components in our tests: the change of the current year's earning, proxied by the unexpected earnings, and the change of past earnings, represented by the magnitude of the restatement. After we use a dummy Loss to control for the major characteristics of the current year's earning, along with variables describing restatement characteristics, the marginal significance of the Magnitude is gone. The change of the current year's earning and loss character of its earnings are

captured significantly by investors, while the change of the earlier year's earnings information via outright admission of low-quality earnings of the past period is vastly ignored. These results are consistent to those in Table 11, Panel A.

Insert Table 12 here

Next we test the credibility of accounting information to the investors using the annual data. The dependent variable is unexpected annual earnings, which we compute by subtracting the prior year's earnings per share from the current year's earnings per share. The independent variable is the corresponding cumulative abnormal return of (-11, +1) months around the annual report date. As demonstrated in Table 12, before the restatement, the ERC of β_1 is significantly positive (0.356). After the restatement, it drops to 0.231. The drop is significantly negative at 10% level, as shown by $\beta_2 = -0.127$ for dummy \times UE in the pooled sample, which can be interpreted as the market's acknowledgement of the revealing of poor accounting quality as bad news; however, the ERCs in China are low. Our tests show that they are within 0.4, which are much lower than those in the United States, which are above 1. Such a contrast implies that investors in China attach much lower value in general to accounting information.

VII. CONCLUSION

China's capital market has been rapidly improving since the end of 1970s; nevertheless, it is yet to mature and become as efficient as developed markets. Our accounting-based research yields a variety of test results that collectively indicate that low-quality accounting reporting persists in China. Moreover, accounting reporting has yet to play the significant role in investment behavior and philosophy as it does in mature markets.

Various aspects of capital markets can offer insights on our test results on market reaction. We now examine these in turn.

Short-selling, an important stock market mechanism, was not directly or indirectly

available to investors during our sample period.¹² The inability for investors to sell short deters the stock's ability to approach an efficient price in a timely manner.

Investor structure is disproportionate relative to that in mature markets. The scale of institutional investors is small. Individual investors, especially medium and small investors, account for a significant proportion of trading accounts and trading turnover. Short-term speculation dominates long-term investment (CSRC, 2008). Our test results imply that role of accounting information has yet to play a significant role in investment behavior and philosophy. Developing institutional investment and improving investors' education are suggested to be crucial tasks of the government and regulators.

We call for effective regulation on the disclosure of financial reporting. Poor disclosure causes market inefficiency in China. Through our research, we have been constantly frustrated with the limited information disclosed. For example, when more than one year is involved, no information indicates the number of prior years that a restatement affects, and, when more than one reason dictates restatement, there is no guidance on the relative magnitude of the reasons. Although *the 2004 Notice* defined the need for timely and separate disclosure of significant events, including restatement, the specification is not reliably followed.

We also call for more vigorous regulatory and administrative enforcement. CSRC is not granted the power to decide monetary penalty on regulation violating corporate behavior; it is the executor of justice system, i.e., the court that is legally equipped with such power to decide the size of monetary penalty based on the Law of the People's Republic of China on Administrative Penalty¹³ and the Securities Law of People's Republic of China.¹⁴ Nevertheless, the penalty's cap is so low—600,000 Yuan¹⁵—that it

¹² Investors still cannot short-sell stocks directly, but can do so via put options on limited number of companies. The first (call) option in China was of Baosteel Co., Ltd., listed and traded on Shanghai Stock Exchange on August 22, 2005, while the first put option was not issued until May 30, 2006, on China Kweichow Maotai Distillery Co., Ltd. By the end of 2007, there were only 27 options issued in total, 21 of which had already expired with six still outstanding; 10 of the 27 were put options. (Shanghai Stock Exchange: <http://www.sse.com.cn>)

¹³ The Law was passed at the fourth Session of the Eighth National People's Congress and promulgated by Order No. 63 of the President of the People's Republic of China on March 17, 1996. It became effective on October 1, 1996.

¹⁴ Securities Law was passed at the sixth Meeting of the Standing Committee of the Ninth National People's Congress on December 29, 1998, revised at the 18th Meeting of the Standing Committee of the Tenth National People's Congress of the People's Republic of China on October 27, 2005, according to the Decision on Revising the Securities Law of the People's Republic of China as made at the 11th meeting of the Standing Committee of the Tenth People's Congress on August 28, 2004.

cannot become a real financial deterrent to the violating companies. Alternative punishments come from the regulatory body of CSRC, which could either exert pressure on a listed company's future application for rights or secondary issuance, or publicly criticize violating companies on the Stock Exchange. Disapproval of refinancing would be a substantial discouragement to a company with financing needs. However, as our tests show, companies that issue restatements generally suffer from a level of financial status that forbids them from effectively applying for equity financing. Financing needs may not even appear in their timetable. Survival has a higher priority than financing. As to the option of public criticism, it does not invite much real immediate damage. Regulatory and administrative penalties are not sufficient in China and need to be enforced and substantiated.

Class action lawsuit, a commonly practiced U.S. legal vehicle to seek damage is a rarity in China. First of all, from our tests on stock market reaction, a company that reveals mistakes in previously released financial reports incurs little if any damage. In fact, there is hardly any damage to seek. Secondly, even though there is damage from the individual stock price's decline, China's courts will simply not accept damage cases as, to the courts, such cases will not be as important as numerous other civil lawsuits. Implicitly, such reality encourages companies to report poor-quality financial statements, since later discovery and restatement will be nearly costless. The introduction of a legal procedure for processing cases, along with a legal punitive system to deal with violations of accounting rules, should provide a valuable complement to the current structure of China's capital market.

China's credit market falls far behind the mature markets worldwide. The scale of the credit market, especially the corporate bond market, is quite minimal¹⁵ (CBRC, 2006). Bank loans are the major form of corporate debt. The process of introducing a free lending rate into the market from the People's Bank of China (PBOC) offers a few crucial implications to the debt capital market. As with reforms in many other aspects of the economy, the introduction of a free lending rate is also a gradual process. The floating range of financial institutions' lending interest rate is completely regulated by

¹⁵ ¥600,000 ≈ US\$72,464 during our sample period.

¹⁶ By the end of 2006, the total value of credit market was 28.7% of GDP, compared to 188% in the United States. The value of corporate bonds was 1.44% of GDP vs. 125.72% in the United States.

PBOC. Before January 1, 2004, the ceiling had been capped at 10% above the base rate.¹⁷ It was relaxed to 70% for the next nine months before being totally freed. Under the regulated lending system, the rate a company received did not necessarily reflect the proper rate it should have received according to the company's overall risk—risk that includes accounting quality as a crucial component. Specifically, the poorest accounting quality would not get fairly penalized with an appropriately tightened lending rate. Low additional cost from loan borrowings cannot effectively prevent companies from providing low-quality financial reports. Unfortunately, we are unable to directly test this hypothesis, because the interest expense is mixed with other operating expenses in all existing databases. During most of our sample period, the commercial banks did not have sufficient incentive to clearly distinguish among companies with different credit levels until the Big Four State banks and top-tier banks became listed on the Hong Kong Stock Exchange. This began only in mid-2005 after shaking off significant amount of non-performing loans and following international banking rules, accounting standards and offering executive stock option plans.

From examining accounting restatements in our sample of China's A-share listings, we conclude that our study demonstrates that companies of weak profitability, state controlled shareholder and diffused ownership tend to report poor financial statements and later restate. In an emerging market such as China's, however, we find that the stock market does not react significantly to restatements forced by low-quality accounting. The stock market is only able to digest partial accounting information, and accounting credibility is low. These findings, together with above discussed inefficient debt market, weak regulatory and legal punitive system, underscore why restatement was such a prevailing phenomenon during our sample period. We show that, in China, accounting credibility has lower value and the accounting misstatement is much less costly than in a mature market such as that of the United States, since the market mechanism fails to deter firms' misstatement behavior. We are calling for the reinforcement of market regulation and supervision, strengthening of the legal system,

¹⁷In 1998, the ceiling was increased to 20% above the base rate for small enterprises, and to 30% for medium and small enterprises in 1999. The floor lending rate has remained steady at 10% below the base rate. For example, on January 1, 2004, PBOC's one-year base lending rate was 5.31%; the range of lending rates therefore would be 4.78–9.03%.

further improvement of free market mechanisms and continuous investor education in China's capital markets.

We believe that our study to be very timely, given that it echoes the recent spirit and reforms of the Chinese government and regulators. The release of Opinions of the State Council on Promoting the Reform, Opening and Steady Growth of Capital Markets (*the Opinions*) on January 31, 2004, sets the role of capital markets as sovereign and strategic among national economic development. Concurrently, CSRC implemented a series of reforms to refine market infrastructure and functionality—reforms that include improving the quality of listed companies and facilitating institutional investors' entrance into the capital market.¹⁸ We interestingly find that our sample size starts to decrease during the final two to three years of our 1999–2005 sample period. That coincides with 1) the adoption of CSRC's decentralized supervision system in 2004, one measure to improve the quality of listed companies and whose regulatory efficiency presented promptly (CSRC, 2008); 2) CSRC's *Rule 19* at the end of 2003 and the 2004 Notice on Further Improving Financial Information Disclosure of Listed companies; 3) CBRC's introduction of a free lending rate system in 2004; and 4) listings of big banks in Hong Kong since 2005 following various international industry standards. Accounting quality is becoming enhanced, in terms of decreasing number of firm restatements, with the regulatory effort together with a more extensive free-market mechanism. We also expect that, when China's capital market achieves maturity in the near future, investors' behavior will change commensurately towards that of investors in mature markets. Specifically for our studied cases, investors will effectively differentiate bad accounting quality from good practices.

¹⁸ Other measures include the initiation of non-tradable share reform, restructuring of securities companies, reforming the share issuance system and the introduction the free market for the investment funds.

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Table 1. Regulatory Timeline

Date of Issuance	Effective Date	Issuer	Name of Document	Abbreviation
Dec. 21, 1996	Dec. 21, 1996	CSRC	<i>Procedure of Inspecting the Listed Companies</i>	<i>1996 Procedure</i>
Jun. 25, 1998	Jan. 1, 1999	MOF	<i>ASBE: Changes in Accounting Policies, Estimates and Corrections of Material Accounting Errors</i>	<i>Old Standard</i>
Oct. 10, 1999	Oct. 10, 1999	CSRC	<i>Notice on Improving Financial Information Disclosure of Listed Companies</i>	<i>1999 Notice</i>
Dec. 29, 2000	Jan. 1, 2001	MOF	<i>Companies' Accounting System 2001, Chapter 10: Accounting Adjustment. Section 3: Corrections of Accounting Errors</i>	<i>Accounting System</i>
Jan. 18, 2001	Jan. 1, 2001	MOF	<i>ASBE: Changes in Accounting Policies and Estimates and Corrections of Material Accounting Errors(Revised)</i>	<i>Old Standard(revised)</i>
Mar. 19, 2001	Mar. 19, 2001	CSRC	<i>Procedure for Inspecting the Listed Companies(Revised)</i>	<i>2001 Procedure</i>
Dec. 1, 2003	Dec. 1, 2003	CSRC	<i>Rules on Information Disclosure for Listed Companies #19: The Correction of Financial Information and Its Disclosure</i>	<i>Rule 19</i>
Jan. 8, 2004	Jan. 8, 2004	CSRC	<i>Notice on Further Improving Financial Information Disclosure of Listed Companies</i>	<i>2004 Notice</i>
Feb. 15, 2006	Jan. 1, 2007	MOF	<i>New ASBE #28: Changes in Accounting Policies, Estimates and Corrections of Material Accounting Errors</i>	<i>New Standard</i>

Notes: CSRC: China's Securities Regulatory Commission. MOF: Ministry of Finance, People's Republic of China

Table 2: Yearly Restatement Characteristics by Stock Exchange: 1999–2005

Annual Report Year (<i>t</i>)	No. restatement firms listed on Shenzhen Stock Exchange	No. A-shares listed on Shenzhen Stock Exchange	Percentage	No. restatement firms listed on Shanghai Stock Exchange	No. A-shares listed on Shanghai Stock Exchange	Percentage	Total no. restatements	Total no. A-Shares	Percentage
1999	14	450	3.11%	7	471	1.49%	21	921	2.28%
2000	13	451	2.88%	8	559	1.43%	21	1010	2.08%
2001	139	494	28.14%	143	636	22.48%	282	1130	24.96%
2002	112	494	22.67%	138	705	19.57%	250	1199	20.85%
2003	92	491	18.74%	106	770	13.77%	198	1261	15.70%
2004	84	526	15.97%	71	827	8.59%	155	1353	11.46%
2005	76	534	14.23%	89	824	10.80%	165	1358	12.15%
Total	530			562			1092		

Note: $t + 1$ is the year when year t 's annual report is released, where the restatement of earlier year(s) is disclosed.

Table 3. Industry Distribution

		No. firm Observations	Percentage of total firms
Agriculture, Forestry, Fishing and Hunting	A	36	3.30%
Mining	B	11	1.00%
Manufacturing	C	610	55.84%
Food, Beverage	C ₀	50	4.56%
Textile, Apparel, Leather	C ₁	36	3.28%
Wood Product	C ₂	3	0.27%
Paper, Printing	C ₃	23	2.10%
Petroleum, Chemical Product, Rubber,	C ₄	123	11.22%
Plastics			
Electronic Equipment	C ₅	31	2.83%
Metal, Nonmetallic Mineral Product	C ₆	93	8.49%
Machinery, Equipment, Meter	C ₇	163	14.93%
Medicine, Biologic Products	C ₈	77	7.05%
Other manufacturing	C ₉	11	1.00%
Electricity, Gas, Water Supply	D	64	5.84%
Construction	E	22	2.01%
Transport, Storage	F	28	2.55%
Information, Technology	G	61	5.57%
Wholesale and Retail Trade	H	80	7.30%
Real Estate	J	38	3.47%
Social Services	K	29	2.66%
Transmission, Culture	L	8	0.73%
Conglomerate	M	105	9.58%
Total		1092	100%

Note: The classification is based on *Index of Industrial Distribution of Listed Companies*, issued by CSRC on April 3, 2001.

Table 4. Description of Restatements, by Year of Annual Report (*t*)

Panel A. Enforcement by Year

	1999	2000	2001	2002	2003	2004	2005	Total
No. Voluntary Restatements	19	20	265	231	185	146	159	1025
Percentage	90.48%	95.24%	93.97%	92.40%	93.43%	94.19%	96.36%	93.86%
No. CSRC enforced Restatements	2	1	17	19	13	9	6	67
Percentage	9.52%	4.76%	6.03%	7.60%	6.57%	5.81%	3.64%	6.14%
Total	21	21	282	250	198	155	165	1092

Panel B: Frequency of Restatements, by No. Years Restatements Occurred

	1	2	3	4	5	6	Total No. Firms
No. Firms	354	170	67	34	11	1	637
Percentage	55.57%	26.69%	10.52%	5.34%	1.73%	0.16%	100.00%

Panel C: Distribution of Restated Years

	Year $t - 1$ Only	Years Before $t - 1$ Only	Both year $t - 1$ and previous Years	No disclosure	Total
No. Observations	494	125	451	22	1092
Percentage	46.17%	11.68%	42.15%	2.01%	100.00%

Panel D: Reasons for Restatements by Year

	Reason Classification	No. Restatements in Annual Report Year (<i>t</i>)							
		1999	2000	2001	2002	2003	2004	2005	Total
1	Mistakes from Subsidiaries	2	7	86	83	85	62	78	403
		10%	33%	30%	33%	42%	39%	47%	38%
2	Tax Miscalculation	3	5	87	93	72	57	52	369
		14%	24%	31%	37%	36%	36%	32%	34%
3	Cost and Expenses	11	5	80	51	30	26	21	224
		52%	24%	28%	20%	15%	17%	13%	20%
4	Depreciation and Provisions	2	3	61	37	36	23	27	189
		10%	14%	22%	15%	18%	15%	16%	17%
5	Revenue Recognition	2	1	21	12	11	13	13	73
		10%	5%	7%	5%	5%	8%	8%	7%
6	Subsidies Revenue and Tax Refunds	0	1	17	10	7	3	5	43
		0	5%	6%	4%	3%	2%	3%	4%
7	Other Mistakes and Misclassification	10	12	113	74	56	45	49	359
		48%	57%	40%	29%	28%	29%	30%	33%

Note: The sum of the percentage numbers could exceed 100% in each year as most restatements involve more than one reason.

Panel E: Restatement Impact on Retained Earnings

	Downward Restatements	Upward Restatements	No Impact	No disclosure	Total
No. Observations	838	181	51	22	1092
Percentage	76.74%	16.58%	4.67%	2.01%	100%

Panel F: Restated Amount (in millions of Chinese Yuan, US\$1= ¥8.2768)

	Obs	Mean	Min	25%	Median	75%	Max	StdDev
Restated amount	1068	-13.811	-815.467	-11.147	-2.383	-0.172	863.188	62.267
Scaled Restated Amount	1063	-0.023	-7.768	-0.008	-0.002	-0.000	0.158	0.250

Notes: *Restated amount*: the amount of change on retained earning. If restatement decreased retained earnings, the amount would be negative; if increased, positive.

Scaled restated amount: scaled by total assets at beginning of year *t*.

Panel G: Change of External Auditors, by Year (*t*) of Annual Report

	1999	2000	2001	2002	2003	2004	2005	Total
No. Firms with Auditor Change in year <i>t</i>	6	5	84	20	33	29	33	210
Percentage	29%	24%	30%	8%	16%	18%	20%	19%
No. Firms with Auditor Change in year <i>t</i> + 1	6	4	29	21	14	24	19	117
Percentage	29%	19%	10%	9%	7%	16%	12%	11%

Note: we lost 14 observations in year T+1. They are not included in percentage calculation. In annual report, there is not disclosure on whether the audit firm quitted or is fired.

Table 5. Restatement Firm Characteristics

Panel A. Firm Size (in millions of Chinese Yuan)

	Obs	Mean	Min	25%	Median	75%	Max	StdDev
Restatement Firm Size	1086	1,994.15	42.01	725.51	1,217.12	2,315.29	31,426.19	2,471.01
Firm size of all A-share Companies	8242	2,611.84	21.51	748.89	1,270.47	2,413.29	520,572	11,635

Notes:

Firm size: the total assets at the end of the year *t*.

Firm size of all A-share companies: size of A-share listed companies across the board from 1999–2005.

Panel B. Comparison between Restatement Sample and Control Sample

	Mean			Median		
	Restatement sample <i>N</i> = 911	Control sample <i>N</i> = 3058	<i>t</i> -stat	Restatement sample <i>N</i> = 911	Control sample <i>N</i> = 3058	Wilcoxon Z-stat
E/P	0.000	0.022	-7.39***	0.012	0.022	-13.60***
B/P	0.502	0.558	-7.46***	0.498	0.562	-7.43***
Income	0.010	0.046	-9.61***	0.027	0.050	-13.08***
Opinc	0.009	0.043	-10.33***	0.022	0.045	-13.60***
EPS	0.055	0.198	-7.58***	0.119	0.210	-13.92***
EG	-0.013	0.002	-2.12**	-0.003	0.002	-7.84***
LEV	0.552	0.440	7.35***	0.506	0.429	10.87***
UI	-0.005	0.006	-3.32***	0.002	0.003	-3.03***
Age	5.850	5.290	5.48***	6.000	5.000	6.31***
L_Share	40.450	45.970	-8.60***	37.920	46.230	-8.73***
SOE	0.670	0.650	0.87	1.000	1.000	0.87
II	0.368	0.436	-3.70***	0.000	0.000	-3.70***
IIH	0.005	0.008	-5.07***	0.000	0.000	-4.55***
TA	-0.035	-0.019	-3.43***	-0.022	-0.014	-3.70***
DA	-0.016	-0.002	-3.04***	-0.002	0.004	-3.34***
ROA	-0.001	0.027	-5.07***	0.022	0.037	-11.27***
CROA	0.007	0.033	-5.92***	0.022	0.039	-9.94***
ROE	-0.019	0.021	-2.02**	0.048	0.066	-9.14***
LOSS_ST	0.068	0.022	5.62***	0.000	0.000	7.27***
LOSS	0.162	0.081	6.15***	0.000	0.000	7.17***
RSI	0.290	0.303	-0.76	0.000	0.000	-0.76

Notes: (all are measured at the end of year $t - 1$, the restated year)

E/P:	Fiscal Operating Earnings / Market Capitalization
B/P:	Book Value / Market Capitalization
Income:	Net income before Extraordinary Items / mean Total Assets.
OpInc:	Operating Income / mean Total Assets.
EPS:	Earnings per share.
EG:	Earnings Growth, $(\text{Net Income}_{t-1} - \text{Net Income}_{t-2}) / \text{Total Assets}$.
LEV:	Leverage, Total Debt / Stockholders' Equity.
UI:	Below-the-line items, $(\text{income from investment} + \text{non-operating income} + \text{subsidiaries}) / \text{Total Assets}$.
Age:	Years of being listed on stock exchange.
L_Share:	The percentage stock holding by the largest stakeholder.
SOE:	Dummy variable. State = 1 if a state-owned enterprise; and is 0 otherwise.
II:	Institutional investor among top 10 shareholders. If there is institutional investor, II = 1, and is 0 otherwise.
IIH:	Institutional investor's holding proportion among top 10 shareholders.
TA:	Total accruals = $(\text{Operating Income} - \text{Cash Flow from Operation}) / \text{Total Assets}$.
DA:	Discretionary accruals, calculated with modified Jones Model.
ROA:	Return on Assets, $(\text{EBIT} - \text{Tax}) / \text{Total Assets}$.
CROA:	Return of Operating Income on Assets.
ROE:	Return on Equity, $\text{Net Income} / \text{Shareholders' Equity}$.
LOSS:	Dummy variable. LOSS = 1 when there was a loss in year $t - 1$, and is 0 otherwise.
LOSS_ST:	Dummy variable. LOSS_ST = 1 when there was a loss in both years $t - 1$ and $t - 2$, and is 0 otherwise.
RSI:	Dummy variable. RSI = 1 if rights or secondary issuance happened in $t - 1$, $t - 2$, or $t - 3$, and is 0 otherwise.

***, **, * indicate statistic significant at 1%, 5%, and 10% level for two-tailed tests.

Table 6. Pearson Correlation Table

	R	DA	ROA	ROE	EG	LOSS-ST	LOSS	LEV	L_Share	SOE	RSI	Size
R	1											
DA	0.048***	1										
ROA	0.086***	0.679***	1									
ROE	-0.027*	0.356***	0.569***	1								
EG	-0.017	0.322***	0.453***	0.377***	1							
LOSS_ST	0.080***	0.382***	0.472***	-0.291***	-0.092***	1						
LOSS	0.114***	0.354***	0.498***	-0.332***	-0.257***	0.533***	1					
LEV	0.138***	0.150***	0.348***	-0.195***	-0.023	0.172***	0.219***	1				
L_Share	0.135***	0.058***	0.121***	0.085***	0.003	-0.079***	-0.128***	-0.134	1			
SOE	0.014	0.000	0.030*	0.024	-0.007	-0.009	-0.032**	0.013	0.268***	1		
RSI	-0.012	0.093***	0.072***	0.045***	-0.029*	-0.084***	-0.115***	-0.108***	-0.001	0.038**	1	
Size	0.059***	0.046***	0.146***	0.077***	-0.002	-0.140	-0.173***	0.171***	0.213***	0.142***	0.143***	1
IIH	0.069***	0.062***	0.108***	0.048***	0.026	-0.062***	-0.115***	-0.043***	0.011	-0.025	0.030*	0.171***

Notes:

See Table 5 notes for variable definitions.

R: a dummy variable. R=1 if restatement, 0, otherwise for all the rest of the listed companies.

***, **, * indicate statistic significant at 1%, 5%, and 10% level.

Table 7. Determinants of Restatements

Dependent Variables (predicted sign)	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coeff	Pr>Chi	Coeff	Pr>Chi	Coeff	Pr>Chi	Coeff	Pr>Chi	Coeff	Pr>Chi	Coeff	Pr>Chi
Intercept	0.208	0.829	-0.442	0.635	-0.196	0.833	0.151	0.876	0.178	0.854	0.098	0.919
SOE (+)	0.320	0.000	0.296	0.001	0.293	0.000	0.321	0.000	0.322	0.000	0.322	0.000
L_Share (+)	-0.017	<.000	-0.019	<.000	-0.019	<.000	-0.017	<.000	-0.016	<.000	-0.017	<.000
IIH (-)	-8.440	0.003	-9.252	0.001	-9.873	0.000	-7.968	0.005	-7.926	0.004	-7.916	0.005
LOSS (+)	0.365	0.013	0.534	<.000							0.165	0.354
LOSS_ST(+)	-0.053	0.839			0.469	0.039			-0.107	0.686	-0.161	0.549
RSI (+)	0.055	0.534	-0.038	0.665	-0.057	0.509	0.044	0.624	0.043	0.629	0.047	0.600
DA (+)	-0.142	0.747	0.218	0.602	0.270	0.523	0.221	0.641	0.205	0.667	0.203	0.183
ROA (-)			-0.501	0.201	-0.843	0.045	-2.031	0.002	-2.142	0.002	-1.714	0.039
LEV (+)	1.579	<.000					1.447	<.000	1.449	<.000	1.452	<.000
Size (?)	-0.078	0.105	-0.006	0.896	-0.014	0.762	-0.069	0.154	-0.069	0.147	-0.068	0.163
Chi-Square	162.63		130.91		120.07		165.98		166.15		166.99	
No. observations	3928											

Notes:

All variables are for year $t - 1$.

Highlighted numbers indicate statistic significant at 5% level

See Table 5 for variable definitions.

Table 8. Cumulative Abnormal Returns (CAR) around Restatement Announcements

Full Sample 1999–2005

Panel A: Short-Term CAR with Available Return Data

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−10, −6)	1088	−0.0034	−0.0058	0.0572	0.1361	<.0001
Day (−5, −2)	1087	−0.0039	−0.0051	0.0468	0.0124	0.0009
Day (−1, +1)	1087	−0.0001	−0.0048	0.0573	0.7802	0.0003
Day (+2, +5)	1087	0.0008	−0.0031	0.0537	0.4227	0.3721
Day (+6, +10)	1085	0.0037	−0.0002	0.0558	0.0361	0.1314

Panel B: Long Window—Periods Leading to the Announcement

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−251,−211)	1007	−0.0104	−0.0126	0.1053	0.0024	0.0011
Day (−210,−170)	1012	−0.0107	−0.0147	0.1049	0.0013	<.0001
Day (−169,−128)	1020	−0.0057	−0.0113	0.1183	0.1275	0.0041
Day (−127, −86)	1023	−0.0114	−0.0176	0.1189	0.0022	<.0001
Day (−85, −44)	1030	−0.0162	−0.0164	0.1188	<.0001	<.0001
Day (−43, −22)	1089	−0.0048	−0.0017	0.0821	0.0714	0.4887
Day (−21, −11)	1089	−0.0018	−0.0059	0.0713	0.3442	0.0001

Notes:

Significance levels are for two-tailed tests. Market-adjusted returns model is adopted. We obtain our data from CSMAR database. Individual stock's daily abnormal return is calculated as $AR_{it} = R_{it} - R_{mt}$. R_{mt} is the market return, represented by the A-share composite index daily return. Sample daily abnormal returns are calculated as

$$\overline{AR}_t = \frac{1}{N} \sum_i^N AR_{it} \quad \text{Portfolio CARs are calculated as } CAR_{BE} = \sum_{t=B}^E \overline{AR}_t . B \text{ and } E, \text{ respectively, represent}$$

the beginning and ending days around event day 0.

**Table 9. Cumulative Abnormal Returns (CAR) around Restatement
Announcements**

CSRC enforced subsample 1999–2005

Panel A: Short-Term CAR with Available Return Data

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−10, −6)	67	0.006	0.000	0.047	0.289	0.666
Day (−5, −2)	67	−0.001	−0.004	0.039	0.776	0.384
Day (−1, +1)	67	−0.011	−0.010	0.042	0.028	0.014
Day (+2, +5)	67	0.007	−0.004	0.055	0.273	0.482
Day (+6, +10)	67	−0.008	0.000	0.058	0.237	0.955
Day (+11,+21)	67	0.013	0.012	0.074	0.134	0.085

Panel B: Long Window—Periods Leading to the Announcement

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−251,−211)	63	−0.008	−0.012	0.067	0.231	0.024
Day (−210,−170)	64	−0.009	−0.017	0.062	0.189	0.018
Day (−169,−128)	65	−0.005	−0.010	0.110	0.127	0.026
Day (−127, −86)	67	−0.002	−0.013	0.098	0.767	0.000
Day (−85, −44)	67	−0.014	−0.015	0.109	0.000	0.000
Day (−43, −22)	67	0.003	−0.001	0.076	0.712	0.879
Day (−21, −11)	67	−0.009	−0.018	0.059	0.177	0.017

Notes refer to those of Table 8.

**Table 10. Cumulative Abnormal Returns (CAR) around Restatement
Announcements**

Subsample of Core Earnings Reasons 1999–2005

Panel A: Short-Term CAR with Available Return Data

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−10, −6)	376	−0.004	−0.005	0.054	0.169	0.029
Day (−5, −2)	375	−0.003	−0.005	0.053	0.214	0.089
Day (−1, +1)	375	−0.004	−0.006	0.057	0.164	0.004
Day (+2, +5)	374	0.003	−0.001	0.063	0.367	0.765
Day (+6, +10)	372	0.005	0.000	0.061	0.131	0.104
Day (+11,+21)	369	0.007	0.004	0.075	0.083	0.156

Panel B: Long Window—Periods Leading to the Announcement

Period	<i>N</i>	Mean	Median	Std Dev	<i>t</i> -stats <i>P</i> -Value	Signed Rank <i>P</i> -Value
Day (−251,−211)	362	0.000	−0.002	0.046	0.432	0.284
Day (−210,−170)	362	−0.011	−0.015	0.107	0.061	0.019
Day (−169,−128)	365	−0.014	−0.019	0.125	0.032	0.011
Day (−127, −86)	365	−0.020	−0.036	0.187	0.038	0.000
Day (−85, −44)	364	−0.026	−0.025	0.117	<0.000	<0.000
Day (−43, −22)	376	0.006	−0.002	0.088	0.216	0.592
Day (−21, −11)	376	0.001	−0.005	0.087	0.898	0.205

Notes refer to those of Table 8.

Table 11. Usefulness of Earnings Information

Panel A: Returns on Earnings

$$CAR_i = a_0 + a_1EPS_t + a_2AdjEPS_{t-1} + \varepsilon$$

	Coefficient	t-stat
<i>Intercept</i>	-0.007	-0.98
<i>EPS_t</i>	0.142	9.23
<i>AdjEPS</i>	-0.010	-0.93
<i>R²</i>	9.18%	
<i>F value</i>	43.33	
<i>No. Observations</i>	838	

Panel B: Returns on Earnings Surprises

CAR _i	Model 1		Model 2		Model 3		Model 4	
	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
Intercept	-0.006	-0.86	-0.066	-0.70	-0.061	-0.65	-0.079	-0.83
Un_EPS	0.051	4.94	0.030	2.82	0.031	2.87	0.030	2.83
Magnitude	0.051	1.87	0.027	0.98	0.031	1.12	0.027	0.95
Loss			-0.105	-5.82	-0.107	-5.92	-0.103	-5.70
CSRC			-0.017	-0.61	-0.017	-0.62	-0.015	-0.54
Tax							0.013	0.86
Subsidiary							-0.011	-0.75
Revenue					0.035	-1.23		
Core			0.006	0.41			0.006	0.41
Firm Size			0.007	0.89	0.007	0.84	0.008	1.01
<i>R²</i>	2.57%		5.73%		5.86%		5.70%	
<i>F value</i>	14.38		11.02		11.26		8.48	
<i>No. Observations</i>	1015		989		989		989	

Notes:

CAR_i: Cumulative abnormal returns of (-5, +1) months around restatement event date

EPS_t: EPS for year *t*.

AdjEPS_{t-1}: True EPS for year *t* - 1, naively adjusted by restated amount.

Un_EPS: unexpected earnings per share (EPS). It is the reported EPS subtracts expected EPS, which is last year's EPS.

Magnitude: restated amount per share.

Loss: dummy variable. Loss = 1 if company experienced loss in year *t*, and is 0 otherwise.

CSRC: dummy variable. CSRC = 1 if restatement is CSRC enforced, and is 0 otherwise.

Tax: dummy variable. Tax = 1 if restatement is tax related, and is 0 otherwise.

Subsidiary: dummy variable. Subsidiary = 1 if restatement is mistakes from subsidiaries, and is 0 otherwise.

Revenue: dummy variable. Revenue = 1 if restatement is revenue recognition related, and is 0 otherwise.

Core: dummy variable. Core = 1 if restatement reason(s) is/are related to revenue, cost & operating expenses, or/or depreciation and provision, and is 0 otherwise.

Firm size: log form of total firm assets.

Table 12. Earnings Credibility - Earnings Response Coefficients

$$CAR_i = \alpha + \beta UE_i + \varepsilon_i \quad (4)$$

$$CAR_i = \alpha + \beta_1 UE_i + \beta_2 UE_i T_i + \varepsilon_i \quad (5)$$

	<i>t</i> - 1		<i>t</i>		Pooled	
	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat	Coef.	<i>t</i> -stat
intercept	-0.001	-0.14	0.058	5.25	0.028	4.14
UE	0.376	8.21	0.244	5.71	0.392	7.11
UE× <i>T</i>					-0.136	-2.04
<i>F</i> value	67.44		32.61		48.63	
Adj <i>R</i> ²	0.072		0.036		0.053	
No. Obs.	857		857		1715	

Notes:

CAR_i: Cumulative returns of (-11, +1) months around annual report date.

UE_i: Unexpected earnings of year *i*: the difference between the reported earnings and the expected earnings, i.e., the prior-year's earnings, scaled by the stock price of the day before announcement date.

T_i: Dummy variable. *T* = 1 if *UE_i* is for year *t*, and *T* = 0 if *UE_i* is for year *t* - 1.