SPLIT SHARE STRUCTURE REFORM AND EARNINGS INFORMATIVENESS IN CHINA

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Abstract

This paper investigates the impact of split share structure reform on earnings informativeness in China. A unique institutional feature of China was the co-existence of two types of share that endowed all shareholders with equal voting and cash flow rights but different tradability. This split share structure significantly constrained the tradability of shares held by the state and 'legal persons' and has been the alleged cause of severe agency problems between controlling shareholders and minority shareholders. In order to overcome these agency problems, the Chinese Securities Regulatory Commission (CSRC) mandated the conversion of non-tradable shares (NTS) into tradable shares (TS) from 2006 onwards. Although the regulation did not directly address the issue of the effect of this reform on the informativeness of earnings, we believe that the emphasis given by the CSRC to the concept of 'price discovery' during reform has relevance for testing earnings informativeness. NTS holders can sell their shares gradually in the market with a 12 month lock-up period. This provides an opportunity for TS holders with more time to better evaluate corporate governance and firm performance of reforming companies which is expected to encourage NTS holders to provide better quality accounting information into the market place. We find support for increased earnings informativeness hypothesis in the post reform period.***

Keywords: Earnings Informativeness, Split Share Structure, Agency Problems

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1. Introduction

This paper investigates the impact of split share structure reform on informativeness of earnings in China. A substantial volume of academic research has examined earnings informativenss proxied primarily by earnings–returns relation in developed capital markets (for reviews see Lev 1989; Kothari, 2001). Over the last decade, emphasis on the role of accounting information in the non-US market has increased significantly, especially in China. The ownership structure of Chinese listed firms is significantly different from that of the USA or other European countries. A typical Chinese company comprises three predominant groups of shareholders: the state, 'legal persons/institutions', and individuals. A distinct feature that separated the Chinese stock market from those of other countries was the creation of a split share structure consisting of non-tradable share (NTS) holders and tradable share (TS) holders. This split share structure established in the early 1990s upon the formation of the Shanghai and Shenzhen Stock Exchanges, was intended to help state-owned enterprises (SOEs) raise finance, without the state losing control over the operation of the SOEs (Green, Morris, and Tang, 2010). This split share structure significantly constrained the tradability of NTS held by the state and 'legal persons' and effectively gave the government absolute control over joint stock companies.

The split share structure arrangement has been the alleged cause of severe agency problems between controlling shareholders (NTS holders) and minority shareholders (TS holders) because of weak managerial incentives to act in the best interest of the public shareholders, among other reasons (China Securities Regulatory Commission, CSRC, 2005b). Considering this split share structure as an obstacle to the efficient functioning of the Chinese capital market, the Chinese government launched a split-share structure reform to convert publicly listed firms' NTS to TS, by releasing the "Circular on Issues relating to the Pilot Reform of Listed Companies Split Share Structure" on April 29, 2005 (CSRC. 2005a), and relevant guidelines and circulars (China Congress, 2004; CSRC, 2005b; CSRC, 2005c). By the

end of 2007 more than 95% listed companies have completed this reform.

Prior value-relevance and earnings informativeness research in China has used data before the reform period and exploits the setting where Chinese companies could issue different segments of shares, e.g., A, B and H shares. Haw, Qi, and Wu (1999) first address the issue on the information content of earnings in China. Based on the entire population of the A-share from 1994 to 1997, Haw et al. (1999) reveal a positive and significant association between the annual market-adjusted returns and Chinese Generally Accepted Accounting Principles (hereafter GAAP)-based earnings changes. They further document that the incremental information content of earnings is greater than that of the operating cash flows, due probably to the greater persistence and predictability of earnings. Bao and Chow (1999) find that the International Accounting Standards (IAS) model has additional explanatory power over that contributed by the Chinese GAAP model. Chen, Chen, and Su (2001) find that accounting information is more value-relevant for firms issuing only A shares than firms issuing both A and B shares[1], using a sample of listed A shares over 1990-1997. They interpret this finding as evidence of shareholders' of AB dual-listed firms using alternative sources of information along with financial statement information for investment decisions making. Sami and Zhou (2004) use data of AB dual-listed firms from 1994-2000, and find the accounting information in the B share market to be more value-relevant than that in the A market. Chalmers, Navissi, and Qu (2010) study the impact of the Accounting System for Business Enterprises (ASBE) regulation introduced in 2001 on the value-relevance of accounting information. The authors find that there is a stronger association between stock returns and accounting information in the post-ASBE period. We examine the impact of a new regulatory reform on the informativeness of earnings in China.

Shortly after the share reform announcements in China, financial economic research and publications proliferate, demonstrating great international interest and attention to China's share market reforms (e.g., Lu, Balatbat and Czernkowski, 2011; Beltratti & Bortolotti, 2006). However, there is a dearth of accounting research on the outcome of this 2005-2006 reform. An exception is Green, Morris, and Tang (2010), which examines the effect of the spilt share structure reform on disclosures transparency of the pilot reform companies initially selected for reform on April 29, 2005. The authors find that both mandatory and voluntary disclosures improved in the post-reform period for firms completing this reform when compared to a matched control group of companies that had not commenced the reform by December 31, 2005. Although this study provides important insight into the changes in disclosure transparency caused by the reform, this study does not shed light on the effect of the reform on the market perception of accounting earnings, which is important since the reform is meant to resolve corporate agency problems, and ensure the efficient functioning of Chinese capital markets. Our paper therefore provides evidence on whether the accounting information prepared post the reform is perceived more value relevant by market participants compared to pre-reform regime, and thus allows us to draw inference about the effectiveness of the reform.

Using data from Chinese listed companies from 2002-2009 we investigate the effect of the split-share reform initiatives on the earnings response coefficients (ERC), a common proxy to evaluate earnings informativeness. The evidence shows that accounting earnings are more strongly associated with contemporaneous stock returns in the post- than the pre-reform period. We also investigate whether this improved ERC is attributed to the increased tradability of shares resulting from this reform. We find that the ERC is stronger for firms with more TS in the post-reform period than in the pre-reform period. Finally, we provide direct evidence of the beneficial effect of this reform on the ERC by focusing on the post-reform period only, and running separate ERC regressions on firm-observations that have increased their TS, compared to observations that have not changed TS. We find that the ERC is much stronger for firms that have made positive changes in TS. Our results are robust to the inclusion of some of the known determinants of ERC.

The paper proceeds as follows. The next section provides a background review of the split share market reform in China and develops testable hypotheses. Section 3 provides research design and sample selection issues. Section 4 describes the test results. Section 5 provides the implications of the findings and concludes the paper.

2. Background Information and Literature Survey

2.1 Chinese listed companies' split share structure

A unique feature of the Chinese listed companies was the co-existence of two types of shares, NTS and TS (split share structure), having similar cash flow and voting rights but differing tradability. During the Chinese privatization process, when a company listed on the stock market for the first time, about 64% of its shares were retained by the founders, typically, the state owned enterprises (SOEs). The other 36% of the

[1] A-shares are denominated in local currency and only available to domestic investors and traded on Shanghai and Shenzhen Stock Exchanges. B-shares are foreign currency-denominated and are initially tailored for foreign investors. H shares and N shares refer to the shares of companies incorporated in mainland China that are traded on the Hong Kong Stock Exchange and NASDAQ. Firms that issue B-shares, H-shares and/or N-shares can also issue A-shares (cross-listing).

shares were offered to the public as TS. The NTS were not tradable on either the Shanghai or the Shenzhen Stock Exchanges, but could be transferred off-market to other government agencies, legal entities, and foreign investing firms[2] on a State Asset Management Bureaus (SAMB) approved price, normally higher than the book value per share.[3] TS held by minority shareholders and institutional investors, like mutual funds, could be traded on stock exchanges and included A, B and H shares. Originally, this two-tier share structure was designed to constrain significantly the tradability of NTS held by the state and 'legal persons' and, effectively, gave the government absolute control over the partially privatized companies in stock markets, while at the same time improving the SOEs' performance using market mechanisms. However, such non-tradability of shares is argued to have caused severe agency problems between the NTS and TS, and was thought to be an important obstacle to Chinese privatization success (CSRC, 2005b).

A two-tier share structure creates a major agency problem between NTS holders and TS holders that is due to the lack of a common interest in market discipline and in maximizing shareholder wealth. Because NTS holders could not sell their shares in the public markets to realize gains through stock price appreciation, as TS holders could, NTS holders might have been more interested in expropriating firm resources for their private benefit, than in increasing the stock price and maximizing firm value. For example, controlling NTS holders might vote for a decision to lend money to a parent or affiliated company in order to accept negative net present value (NPV) projects which destroy shareholder value. Furthermore, government intervention often diverts managerial objectives away from profit maximizing, and toward objectives such as infrastructure development and employee and social welfare maximization (Liu, 2006; Xu & Wang, 1999). It can be hypothesized that the incentives for providing high quality accounting information for high NTS firms are rather weak. The standard agency argument suggests that for economies characterized by a dispersed ownership structure and managerial professionalism, published financial statements serve a very important contracting function (Kothari, 2001). However, the reporting environment of China is characterized by ownership concentration, pyramidal and cross-holding structures and a divergence of control and cash flow rights. Such an environment creates a high degree of information asymmetry between the controlling managers and the minority shareholders, and encourages managers to manipulate accounting information for their private benefits (Fan & Wong, 2002; Haw, Hu, Hwang, & Wu, 2004).

Ball, Robin, & Wu (2000) argue that the internal and selective private disclosures in Chinese listed companies are a norm which reduces the transparency of a firm's operation. (Abdel-khalik, Wong, & Wu, 1999; Xiao, Yang, & Chow, 2004) provide evidence consistent with this proposition. Xiao et al. (2004) examine the association between shareholder types and internet corporate disclosures (ICD) and reveal that GA and state-owned corporation (SOC) ownership are negatively associated with ICD while 'legal' share ownership is positively associated with ICD. Cheung, Jiang & Tan (2010) find a positive market valuation associated with increased voluntary disclosures by 100 major Chinese listed firms except for firms with significant state shareholdings. The authors also fail to find any significant impact of state share variables on the disclosure index. From an accounting information perspective, Firth et al. (2007) find that firms with increased level of individual shareholding (INDIV) document a significantly positive association between returns and earnings using data from 1998 to 2003 and therefore conclude: "…firms publish higher quality accounting information when they have a lot of tradable shares" (p. 492). It should, however, be mentioned that tradable shares include both A and B tradable shares. The financial statements of B-share companies are prepared following International Accounting Standards (IASs) and are all audited by Big 5 auditors in order to improve the credibility of financial statements. Firth et al. (2007) do not specify whether their sample also includes B shares. On a methodological issue, Firth et al. (2007) did not include change in earnings (ΔEARNINGS) as an additional explanatory variable. Easton and Harris (1991) show that both earnings levels and changes have explanatory power for returns when they are included in the same regression specification.

Liu and Liu (2007), on the other hand, do not find any positive effect of increased TS on the value-relevance of accounting information as proxied by the levels-regression of price on earnings and book values. Actually, the coefficient on the interactive term of earnings and TS dummy is negative, but insignificant. Liu and Liu (2007, 78) argue that one plausible reason for this unexpected finding

"…may be attributed to the fact that the Chinese stock market is still under strong governmental intervention and regulation…Investors may perceive firms with a higher percentage of total tradable shares…as being less regulated by the government and, thus, lose their trust in the accounting data of these firms".

Taken together, these studies provide interesting and important insights regarding the effect of this

[2] Foreign entities are allowed to buy NTS from November 2002, and qualified foreign institutional investors are allowed to invest in A-shares.

[3] NTS include state-owned and 'legal person' shares. State-owned shares are controlled by either government agencies (GA) or state owned enterprises (SOE). GA can be central government ministries and commissions, national industrial companies, local branches of the SAMB and state asset operating companies. 'Legal person' shares are held by non-individual entities with mixed ownership structures

unique share ownership structure on the properties of accounting information in the Chinese capital market using data from the pre split-share market reform period. Our study extends this stream of empirical research in China by examining the effect of this reform on one aspect of earnings informativeness, i.e. ERC to draw inference about the effectiveness of the reform.

2.2 Development of hypotheses

The share structure reform mandated by the CSRC aims to resolve the fundamental agency problem created by the two-tier share ownership structure by making NTS into TS. This conversion allows NTS holders to sell and realize gains from stock price appreciation. There are two arguments for relating the passage of this split share reform to increased value-relevance of accounting information. First, as stressed by the CSRC, the split share structure arrangement was the cause of severe agency problems between NTS holders (controlling shareholders) and TS holders (minority shareholders), due to the lack of common interest for market discipline. The reform is expected to resolve agency conflicts between NTS and TS holders by aligning their risk sharing and share price interest of the two types of shareholders. The reform stipulates that upon approval of the reform, all NTS become TS, subject to a lock-up period of 12 months. After unlocking, a former NTS holders who holds more than five per cent of the total shares of a listed company, may sell their shares, with a maximum of five per cent of the total shares of that listed company within 12 months via the stock exchanges, and not more than 10 per cent within 24 months (CSRC, 2005c). The shares that have been unlocked and can be traded on the stock exchange without restriction are named as *listed A-TS*, while the shares held by former NTS holders that cannot be traded temporarily due to this regulation are called *restricted A-TS*. Even if NTS holders who hold more than five percent of shares cannot trade their shares in the capital market immediately after the reform due to the lockup period of these shares, the legitimate expectation of selling the shares at the market price in the capital market will make the previously NTS holders to cater market demand for increased information (Huang, Xu, and Yuan, 2010). Appreciating the importance of information to share price, firms still controlled by NTS may be motivated to supply public information in more efficient ways.

By allowing NTS holders to sell and realize gains from stock price appreciation like TS holders, the reform motivates firms to improve share performance by strengthening corporate governance and transparency, because transparent financial reporting reduces information asymmetry and positively affects stock price (Bushman and Smith, 2001). We argue that the improvement in accounting information quality during and post reform period will be positively priced by the market participants.

Liao, Liu, & Wang (2010) provide empirical evidence that the lock-up period provides TS holders with more time to better evaluate corporate governance and firm performance of reforming companies. They find that TS holders are more likely to sell their shares before the lock-up expiration dates if they realize that their holding companies are less transparent or there is no evidence of firm improving their corporate governance and future performance during the lock-up periods. So, they conclude that there is information-based share trading and information discovery during the lock-up expiration implying rationality of TS holders' share trading during this period. Moreover, since NTS holders can sell their shares in the post lock-up period, it will be in their interest to improve the quality of accounting information because if TS holders start selling their shares then it will send out a negative signal into the market place causing further drop in the stock price. This could provide strong incentive for NTS holders to improve corporate performance and provide high quality accounting information to keep the existing TS holders interested in the company. The improved accounting information quality could be perceived useful for equity pricing by shareholders leading to an improved ERC.

However, an alternative argument that, NTS managers may engage in opportunistic earnings management to increase short-term firm performance cannot be ruled out. A unique feature of the split share reform has been the requirement for NTS holders to compensate the TS holders. Under the split share structure, tradable A-shares are priced with the expectation that non-tradable A-shares can't be traded in the open market. Hence, the former trades at a premium which represents the value of liquidity. After the reform, when non-tradable A-shares become tradable, there is an expectation that the pricing will improve this type of shares at the expense of shareholders of tradable A-shares. To avoid the inequitable transfer of wealth, shareholders of tradable A-shares must be compensated (Lu, Balatbat and Czernkowski, 2011). Assuming that the rational response from the NTS holders would be to pay a lower consideration to TS holders, it can be argued that the former group could engage in upward earnings management to achieve that goal. Such manipulated accounting information may result in no improvement in the ERC. Therefore we develop the following testable hypothesis in null form.

H_1: There is no significant improvement in the ERC after the share market reform.

We then test the effect of *enhanced share tradability* in the post-reform period on the incremental information content of earnings. Empirical evidence on the effect of TS holdings on earnings informativness prior to the split reform is, inconclusive. Liu and Liu (2007) find that firms with

more TS holding in the A-share market do not provide more value relevant information compared to their low TS holding counterparts. Thus, their findings cast doubt on the beneficial function on TS holding pre-reform. Firth et al. (2007), on the other hand, document a positive association between TS holding and earnings informativness. This study, however, suffers from a number of limitations as discussed above. We believe that the effect of TS on earnings informativeness in the post-reform period will be stronger based on the (i) legitimate expectation of selling, and (ii) performance evaluation during lock-up period, arguments presented above. Because split share reform applies only to A-shares which were divided into A-TS and A-NTS, it would be meaningful to only investigate the change in the effect of A-TS on the informativeness of earnings in drawing the inferences on reform effect.

Moreover, on the date that 12-month lockup period expires, NTS can trade with restrictions of selling no more than 5% and 10% of the total shares of the listed companies upon expiry of the lock-up period of 12 and 24 month respectively. Therefore, the increase in S is a gradual process, and our investigation of the effect of TS takes this into account by measuring increase in actually *listed (floated) A-TS*. The following hypothesis is, therefore, developed:

H_2: The percentage of listed A-TS has stronger incremental effect on the ERC in the post-reform than in the pre-reform period.

We further test reform effect on ERC by concentrating on post-reform observations including firms that increased and have not increased their listed A-TS. When a firm has not increased their listed TS by complying with the reform trading restrictions, its NTS holders still hold majority of the shares. For these firms, we expect little change in corporate governance landscape resulting in minimal impact on the ERC of the no-change firms. Thus, we argue that those firms with an increased listed A-TS percentage will show a greater ERC relation than firms experiencing no change in listed A-TS percentage in the post-reform period. The following testable hypothesis is developed:

H_3: Firms that have increased listed A-TS percentages in the post-reform period are likely to experience a stronger ERC than those who have not.

3. Research Methodology

3.1 Research design

To test H_1 we estimate the following regression equations. Equation 1(a) is the conventional ERC model without the incorporation of regulatory reform and other control variables. Equation 1(b) extends equation 1(a) by including the reform dummy (DF) and interactions with earnings variables. Finally equation 1(c) represents the complete regression model which extends 1(b) by including other known determinants of the ERC.

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \varepsilon_{j,t} \quad 1\text{ (a)}$$

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * DF_{j,t} + \alpha_4 \Delta EARN_{j,t} * DF_{j,t} + \varepsilon_{j,t} \quad 1\text{ (b)}$$

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * DF_{j,t} + \alpha_4 \Delta EARN_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X_{j,t}^{k} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X_{j,t}^{k} + \varepsilon_{j,t} \quad 1\text{ (c)}$$

Where $R_{,j,t}$ is the annual A-share return measured from month -12 to month +4 (where month 0 is the fiscal year end). The measurement period for stock returns allows the impact of the earnings announcement to be incorporated into stock prices, since Chinese regulation requires companies to submit their financial statements within four months from their fiscal year end. *EARN* and $\Delta EARN$ are earnings level and changes respectively. Both these variables are deflated by the beginning market value of equity of tradable A shares. *DF* is a dummy variable taking the value of 1 if the firm-year observations belong to the post-reform period (2006-2009), and zero otherwise. If the reform brings out the intended positive effect on earnings informativeness, then we should expect a positive and significant coefficient on α_3 and α_4 respectively in equation 1(c).

Following prior ERC research, we include five control variables which have been shown to be determinants of ERC, and denote them as X in equations. The control variables selected are, *LOSS* (a dummy variable coded 1 for negative earnings observations, and zero otherwise), *SIZE* (the natural log of firm j's total assets), *MB* (the market-to-book ratio, a proxy for firm growth opportunities), *LEVG* is firm leverage (long-term debt to total assets). We also include a dummy variable *IFRSDUM* coded 1 if the firm-year observations belong to post IFRS adoption regime (2007 and onwards) and zero otherwise.

Hayn (1995) shows that firms reporting negative earnings have smaller ERCs. She argues that this is because shareholders have the option to liquidate a firm and, as a result, negative earnings are transitory in nature. Firm size has been extensively researched in explaining the value relevance of accounting information (Atiase, 1985). Larger firms are characterized by a richer information environment and a higher analyst following compared to their small

firm counterparts. Because of the availability of more information for large firms prior to earnings announcements, earnings announcements of larger firms tend to generate fewer surprises in the marketplace, and have a lower association with stock returns. However, previous evidence on the association between firm size and stock returns is inconclusive. For example, Warfield, Wild and Wild (1995) show that *SIZE* is positively associated with the ERC, but Easton and Zmijewski (1989) find no relation between *SIZE* and the ERC. Therefore, we make no prediction on the sign of the coefficient of earnings-size variable. 'Expectations of Growth' increase permanent earnings relative to transitory earnings so that the earnings-returns relation appears to become stronger with high growth potential (Charitou, Clubb, and Andreou, 2001). Thus, the ERC is expected to be positively associated with firm growth opportunities. Earnings of highly leveraged firms may have a lower ERC compared to the earnings of the low leveraged firms, due to their high systematic risk, which lowers the present value of future cash flow expectations (Martikainen, 1997). Additionally, for firms with a high degree of financial leverage managers have incentives to manipulate earnings in order to avoid debt covenant violations (DeFond and Jiambalvo, 1994, Dichev and Skinner, 2002). This could make their earnings numbers less reliable and produce a lower ERC. However, leverage also acts as a monitoring mechanism and generates earnings of high quality. Finally we control for the adoption of IFRS in China. Whether IFRS adoption in 2007 has produced measurable positive benefits is an empirical question in itself, because of the significant impediments in IFRSs implementations (Chinese accounting regulations historically have moved from tight regulation encouraging practices that distort financial statements, to a flexible standard framework allowing a certain degree of subjective judgment. However, the mode has moved back to tighter regulation soon after discovering excessive earnings manipulation. The convergence toward IFRS has no doubt increased the application of managerial judgment, renewing concerns about financial reporting quality, compounded by an accounting profession that had very little training in making professional judgments in a verifiable and ethical way (Ding and Su, 2008)). We do not make any prediction about the sign on the coefficient on IFRS, and use it as a control variable only.

To test H_2 we estimate the following regression model:

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * TSPC_{j,t} + \alpha_4 \Delta EARN_{j,t} * TSPC_{j,t} + \alpha_5 EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \alpha_6 \Delta EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X^k_{j,t} + \varepsilon_{j,t} \quad (2)$$

Where, TSPC is the percentage of *listed tradable shares* and other variables are defined as before. A positive and significant coefficient on the three-way interaction terms denoted by α_5 and α_6 will be consistent with H_2.

Finally, to test H_3 which argues that the incremental ERC will be higher for firms that have increased TS in the post-reform period compared to their no-change counterparts, we split the sample into positive versus no change TS sub-groups and run the following regression (equation 3) to investigate the ERCs for these two sub-groups respectively using data from the post-reform period. We expect the coefficients α_1 and α_2 to be significantly higher for the positive group compared to the no change TS sub-groups:

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X^k_{j,t} + \varepsilon_{j,t} \quad (3)$$

All variables are defined as before.

3.2 Sample selection procedure

We start with an initial sample of 12,808 firm-year observations of Chinese companies listed on the Shanghai and Shenzhen stock exchanges which issued primarily A-shares from 2002 to 2009. The data is retrieved from the RESSET database. Beijing Gildata RESSET data tech co. ltd (referred to as RESSET) is a high-tech company specializing in the development of financial research databases and related investment research software. RESSET was co-established by several domestically and globally renowned finance and database experts.[1] The sample size was reduced to 9,622 firm-year observations because of missing returns data. Missing observations on earnings, change in earnings, number of listed TS, size, and leverage reduced the final sample to 7,745 firm-year observations. Panel A in Table 1 explains the sample selection procedure.

[1] Other research using RESSET includes Calomiris, Fisman, and Wang (2010), Wang, Qiu, & Kong, (2011), and Guo, & Fung, (2011).

4. Test results

4.1 Descriptive statistics and correlation analysis

Table 1, Panel B provides the industry distribution of the sample observations used in this study. Industry codes 7-C4 Petroleum, Chemical, Rubber, Plastic, and 10-C7 Machinery, Equipment, Instruments constitute about 25% of the sample observations with observations from the other 20 industries being relatively fairly distributed. Table 1, Panels C and D report the descriptive statistics and correlation analysis among the variables. To reduce the effect of outlier observations we winsorized the top and bottom 1% of the dependent and all the independent variables. The mean (median) RETURN is 0.72 (0.13) respectively implying a high degree of skewness. Both EARN and ΔEARN (earnings level and change in earnings) exhibit positive values. The average percentage of firms reporting negative earnings is 13%, which is substantially lower than some of the US evidence, where about 35% of firm observations report negative earnings in the late 1990s (Givoly and Hayn, 2000; Klein and Marquardt, 2006). In Chinese stock market, firms reporting two consecutive annual losses are subject to special treatment (ST), with further losses causing the firms' stocks to be suspended from trading or to be delisted encouraging firms to report profits (Jiang and Wang, 2008). The sample for this study, on average, are high growth firms (a mean of 3.07) and large, although there is wide variation in company size. Finally the leverage ratios of the sample observations are quite low (a mean of 0.11 and a median of 0.05).

Correlation analysis reveals that both EARN and ΔEARN are positively correlated with RETURN (significant at better than the 1% level) and are also positively cross-correlated (correlation coefficient of 0.60). The independent variables are moderately correlated with each other, thus alleviating multicollinearity concerns.

Table 1. Sample selection procedures and descriptive analysis of variables

Panel A: Sample selection procedure

Sample filtering	Observations
Initial sample retrieved RESSET research database for the period 2002 to 2009	12,808
Less: observations without 16 months cumulative returns	(3,186)
Less: observations without EARN and changes in EARN	(875)
Less: observations without number of listed TS	(19)
Less: firm observations with missing Size and , leverage data	(983)
Final usable sample	7,745

Panel B: Industry distribution of the sample observations

CSRC Industry Classification	Firm-year Obs.	No. of firms	% distribution
1-A Farming, Forestry, Animal Husbandry &Fishery	185	35	2.39
2-B Mining and Quarrying	136	30	1.76
3-C0 Food and Beverage	302	57	3.90
4-C1 Textile, Clothing, Fur	332	65	4.29
5-C2 Timber, Furniture Industry	18	4	0.23
6-C3 Papermaking, Printing	139	28	1.79
7-C4 Petroleum, Chemical, Rubber, Plastic	878	159	11.34
8-C5 Electronic	273	62	3.52
9-C6 Metal, Nonmetal	701	130	9.05
10-C7 Machinery, Equipment, Instrument	1,153	224	14.89
11-C8 Medicine, Biologic Products	545	92	7.04
12-C99 Other manufacturing	89	19	1.15
13-D Production & Supply of Power, Gas & Water	374	62	4.83
14-E Construction	170	35	2.19
15-F Transportation, Storage	311	62	4.02
16-G Information Technology Industry	466	90	6.02
17-H Wholesale and Retail Trades	493	87	6.37
19-J Real Estate	431	80	5.56
20-K Social Services	242	41	3.12
21-L Transmitting, Culture Industry	51	11	0.66
22-M Integrated	456	71	5.88
Total	7,745	845	100.00

Panel C: Descriptive analysis

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
RET	0.72	0.13	6.27	-0.64	1.39
EARN	0.04	0.04	1.73	-1.9	0.16
Δ*EARN*	0.0073	0.0041	0.37	-0.31	0.15
TSPC	0.52	0.48	1.00	0.02	0.22
LOSS	0.13	0	1.00	0	0.34
SIZE	20.71	20.67	28	11.45	1.39
MB	3.07	2.27	15.83	0.37	2.69
LEVERAGE	0.11	0.05	48.38	0	0.68

Panel D: Correlation Matrix

	RET	*EARN*	Δ*EARN*	*TSPC*	*SIZE*	*MB*	*LEVERAGE*	*LOSS*
RET	1.00							
EARN	0.27*	1.00						
Δ*EARN*	0.25*	0.60*	1.00					
TSPC	0.18*	0.03	0.04	1.00				
SIZE	0.06	0.27*	-0.01	0.06	1.00			
MB	-0.30*	-0.08	-0.10	-0.06	-0.17*	1.00		
LEVERAGE	-0.0048	-0.05	-0.01	0.019	-0.10**	-0.07	1.00	
LOSS	-0.11**	-0.68*	-0.42*	-0.07	-0.18*	0.04	0.04	1.00

Note: The sample consists of 7,745 firm-year observations listed on the Shanghai and Shenzhen stock exchanges from 2002 to 2009. RET is the annual A-share return measured from month -8 to month +4 (where month 0 is the fiscal year end). EARN and ΔEARN are earnings and change in earnings deflated by the beginning market values of tradable A shares respectively. TSPC is the percentage of listed tradable shares. SIZE is the natural log of firm's total assets, MB is market-to-book ratio calculated as the market value equity divided by total shareholders' equity at the end of year t-1 and proxies for growth opportunities. LEVG is firm leverage measured as the ratio of long-term debt to lagged market value of equity. LOSS is a dummy variable taking the value of 1 for negative earnings observations and zero otherwise. Correlation coefficients significant at the 1%, 5%, and 10% levels are marked with *, ** and ***.

4.2 Regression results

In our unbalanced panel data regression analysis we have employed the variants of the Panel Corrected Standard Error (PCSE) methodology to estimate efficient estimators that are robust to potential heteroskedasticity and autocorrelation in the disturbances (Beck & Katz, 1995). Table 2 presents the regression results for equation (1). Equation 1(a) is the baseline ERC regression model and demonstrates that the coefficients on EAR and ΔEARN are positive and statistically significant at better than the 1% level, consistent with prior ERC literature. The model explains about 6% of the variation in stock returns. Equation 1(b) column includes two additional independent variables EARN*DF and ΔEARN*DF to examine the incremental ERC due to the passage of share market reform regulations. We find the coefficients on EARN*DF and ΔEARN*DF are both positive and statistically significant at better than the 1% level. This result suggests a positive impact of the reform on the ERC in China. However, failure to control for correlated omitted variables could lead to erroneous conclusion regarding the effect of this reform on the informativeness of earnings, Equation 1(c) controls for the effect of some of known determinants of ERC. The coefficients on EARN*DF and ΔEARN*DF continue to be positive and statistically significant at better than the 1% level (coefficient values 1.95 and 1.41respectively). This incremental effect is significantly different from zero (f statistics 23.61 and 10.43 respectively).This strengthens the findings that the recent share market reform has improved earnings informativeness in China.

Of the control variables, firms reporting losses have negative and significant ERCs consistent with Hayn (1995). Interestingly, the coefficients on EARN*IFRS and the ΔEARN*IFRS are both negative and statistically significant. The negative effect of IFRS adoption on ERC relationship can be explained by the fact that the convergence toward IFRS has increased the application of managerial judgment, renewing concerns about financial reporting quality, compounded by an accounting profession that had very little training in making professional judgments in a verifiable and ethical way (Ding and Su, 2008). With respect to the explanatory power of the regression models, there is a monotonic increase in the adjusted R^2 from 0.06 in equation 1(a) to 0.31 and 0.40 in equation 1(b) and 1(c) respectively.

Table 2. The effect of split share reform on earnings informativeness

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \varepsilon_{j,t} \quad 1\text{ (a)}$$

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * DF_{j,t} + \alpha_4 \Delta EARN_{j,t} * DF_{j,t} + \varepsilon_{j,t} \quad 1\text{ (b)}$$

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * DF_{j,t} + \alpha_4 \Delta EARN_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X^k_{j,t} + \varepsilon_{j,t} \quad 1\text{ (c)}$$

	Equation 1(a)		**Equation 1(b)**		**Equation 1(c)**	
Variables	Coefficient	t-stat	Coefficient	t-stat	Coefficient	t-stat
Constant	0.80*	6.60	-0.02	-0.18	-0.34*	-3.76
EARN (α_1)	0.86*	4.81	0.82*	13.82	4.12*	19.07
Δ*EARN*(α_2)	1.49*	7.11	0.03	0.65	1.06*	5.03
*EARN*DF*(α_3)	-	-	1.20*	3.08	1.95*	4.86
Δ*EARN*DF*(α_4)	-	-	1.75*	4.79	1.41*	3.23
*EARN*LOSS*(α_5)	-	-	-	-	-8.04*	-17.87
*EARN*SIZE*(α_6)	-	-	-	-	-2.95*	-9.61
*EARN*MB*(α_7)	-	-	-	-	0.01	0.27
*EARN*LEVG*(α_8)	-	-	-	-	0.53	1.32
*EARN*IFRS*(α_9)	-	-	-	-	-3.09*	-5.11
Δ*EARN *LOSS*(α_{10})	-	-	-	-	-0.85**	-2.48
Δ*EARN*SIZE*(α_{11})	-	-	-	-	0.64**	2.03
Δ*EARN *MB*(α_{12})	-	-	-	-	0.01	0.18
Δ*EARN *LEVG*(α_{13})	-	-	-	-	-0.18	-0.30
Δ*EARN *IFRS*(α_{14})	-	-	-	-	0.26	0.39
Adjusted R^2	0.06		0.31		0.40	

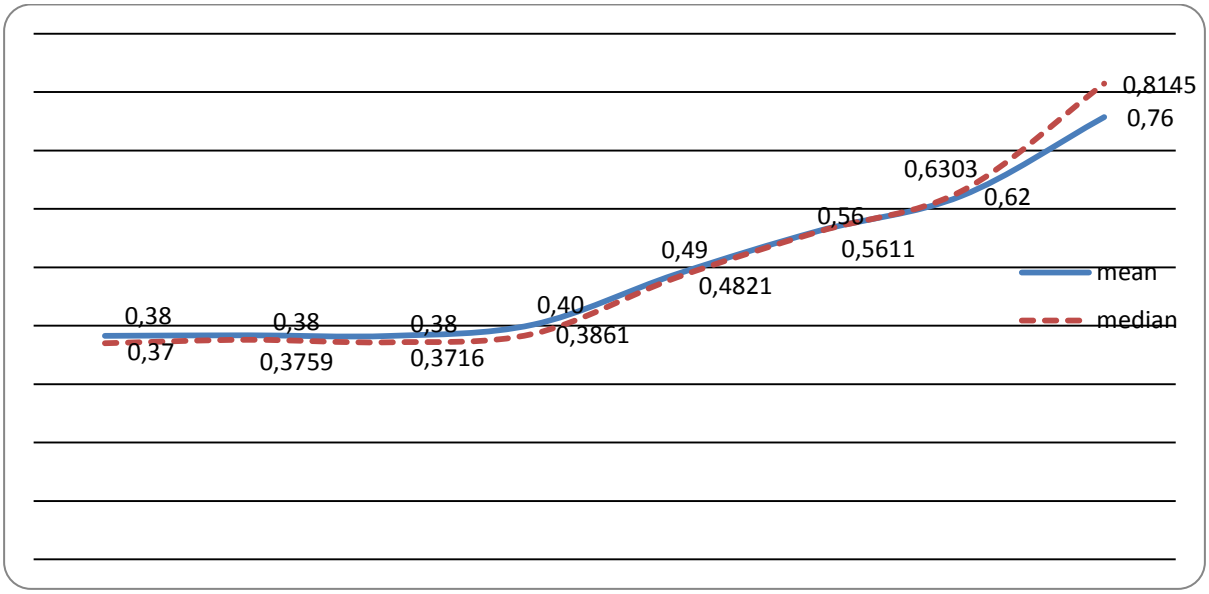
Note: The sample consists of 7,745 firm-year observations listed on the Shanghai and Shenzhen stock exchanges from 2002 to 2009. RET is the annual A-share return measured from month -8 to month +4 (where month 0 is the fiscal year end). EARN and ΔEARN are earnings and change in earnings deflated by the beginning market values of tradable A shares respectively. DF is a dummy variable taking the value of 1 if the firm-year observations belong to the post-reform period (2006-2009), and zero otherwise. LOSS is a dummy variable taking the value of 1 for negative earnings observations and zero otherwise. SIZE is the natural log of firm's total assets, MB is market-to-book ratio calculated as the market value equity divided by total shareholders' equity at the end of year t-1 and proxies for growth opportunities. LEVG is firm leverage measured as the ratio of long-term debt to lagged market value of equity. We also include a dummy variable IFRS coded 1 if the firm-year observations belong to post IFRS adoption regime (2007 and onwards) and zero otherwise.
*, ** and *** represent statistical significance at the 1%, and 5% levels respectively (two-tailed test).

Table 3 reports the regression results of incorporating listed tradable shareholdings into the regression equation. A distinct characteristic of the Chinese stock market was the co-existence of the two-tier share structure where shares differed with respect to tradability but shareholders had similar cash flow and voting rights. This two-tier share structure was designed to constrain significantly the tradability of NTS held by state and 'legal persons', effectively giving the government absolute control over the partially privatized companies. TS, on the other hand, were held by minority shareholders and institutional investors like mutual funds and argued to be the primary stakeholders of corporate financial statements. Empirical evidence, however, is inconclusive. Liu and Liu (2007, 65) argue that:

...a higher percentage of tradable shares may strengthen the managers' incentives to perform in the best interests of shareholders, indicating a more active market with a large number of rational buy-and-sell decisions, whereby stock prices may properly reflect all public information, including accounting information".

However, their empirical evidence fails to support this hypothesis. Firth, Fung, and Rui (2007), on the other hand, find TS to be associated with an increased ERC. Both these studies, however, use data from the pre-reform period. We extend this research question by estimating regression equation (2) which includes a number of interactive variables. Figure 1 documents a monotonic increase in the percentage of listed TS from a low of 38% in 2002 to 76% in 2009 on average. Median analysis has shown the same trend.

Figure 1. Time series behaviour of changes in the percentage of listed TS for the sample companies



There is a monotonic increase in the percentage of listed TS from 2005, reflecting the split-share reform regulations. The regulation required 100% conversion of NTS into tradable TS, but this had not been attained by 2009 because of the gradual conversion of NT shares into tradable shares.

If the ERC in the post-reform period is higher for firms with higher TSPC, then we should observe positive and significant coefficients on EARN*TSPC*DF and ΔEARN*TSPC*DF. Reported results in Table 3 reveal that when these interactive variables are included in the same regression model, the coefficient on EARN*TSPC*DF is positive and significant at better than the 1% level (coefficient value 5.24, statistically significant at better than the 1% level). However, this result does not inform us about the effect of reform on the incremental ERC for firms with higher listed A-TS. To infer that we look at the coefficient EARN*TSPC*DF and compare this with EARN*TSPC (pre-reform effect of TSPC on ERC) to determine the incremental effect of TSPC post reform. The post reform effect of TSPC is 1.72 [(-3.52+5.24) (α_3 + α_5)] which is significantly different from zero (f statistic 7.52) suggesting that increased tradability of shares in the post reform period has increased informativeness of earnings. We fail to find similar evidence for ΔEARN variable. For this variable, the effect of TSPC seems to have positive and significant effect in the pre rather than the post reform period. Of the control variables, negative earnings and IFRS adoption variables continue to exert a negative and statistically significant effect on the ERC model.

Table 3. Split-share reform, tradable shareholdings and the informativeness of earnings

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * TSPC_{j,t} + \alpha_4 \Delta EARN_{j,t} * TSPC_{j,t} + \alpha_5 EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \alpha_6 \Delta EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X_{j,t}^{k} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X_{j,t}^{k} + \varepsilon_{j,t} \quad (2)$$

Variables	**Equation 2**		**Equation 2**	
Constant	0.67*	38.70	-1.04*	-10.30
EARN (α_1)	3.46*	6.52	4.68*	8.71
ΔEARN(α_2)	0.39	0.32	0.89	1.20
*EARN*TSPC* (α_3)	-9.39*	-6.04	-3.52*	-3.79
*ΔEARN *TSPC* (α_4)	3.99*	2.85	2.41***	1.67
*EARN*TSPC*DF*(α_5)	7.61*	6.56	5.24*	7.81
*ΔEARN *TSPC*DF*(α_6)	-1.30	-1.10	-0.59	-0.59
*EARN*LOSS*(α_7)	-	-	-5.65*	-12.25
*EARN*SIZE*(α_8)	-	-	0.83	1.56
*EARN*MB*(α_9)	-	-	0.08	1.45

Variables	**Equation 2**		**Equation 2**	
*EARN*LEVG(α_{10})*	-	-	0.49	1.03
*EARN*IFRS(α_{11})*	-	-	-2.91*	-4.56
*ΔEARN *LOSS(α_{12})*	-	-	-0.99**	-2.23
*ΔEARN *SIZE(α_{13})*	-	-	0.30	0.52
*ΔEARN *MB(α_{14})*	-	-	-0.06	-1.21
*ΔEARN *LEVG(α_{15})*	-	-	-0.21	-0.31
*ΔEARN *IFRS(α_{16})*	-	-	0.03	0.04
Adjusted R^2	0.06		0.36	

Note: The sample consists of 7,745 firm-year observations listed on the Shanghai and Shenzhen stock exchanges from 2002 to 2009. RET is the annual A-share return measured from month -8 to month +4 (where month 0 is the fiscal year end). EARN and ΔEARN are earnings and change in earnings deflated by the beginning market values of tradable A shares respectively. DF is a dummy variable taking the value of 1 if the firm-year observations belong to the post-reform period (2006-2009), and zero otherwise. TSPC is the percentage of listed tradable shares. LOSS is a dummy variable taking the value of 1 for negative earnings observations and zero otherwise. SIZE is the natural log of firm's total assets, MB is market-to-book ratio calculated as the market value equity divided by total shareholders' equity at the end of year t-1 and proxies for growth opportunities. LEVG is firm leverage measured as the ratio of long-term debt to lagged market value of equity. *, ** and *** represent statistical significance at the 1%, and 5% levels respectively (two-tailed test).

Finally, Table 4 reports ERC regression results for firms with a positive versus no change in listed A-TS after the reform period. The rationale for conducting such a study is to directly infer the impact of reform on the ERC. The entire sample period from 2002 to 2009 includes the pre-reform period, which may have a confounding effect on the direct evidence on the effect of reform on the ERC. Firms could end up with no change in their NTS structure because of the complexities associated with the conversion of NTS into TS. From the date of implementing the reform plan, NTS could not be traded or transferred within 12 months (a lockup period). A former NTS holder who held more than 5 per cent of the total shares of a listed company, could sell their shares, with a maximum of 5% of the total shares of the listed companies, upon expiry of the lock-up period of 12 months via the stock exchanges, and not more than 10 per cent within 24 months. So, we are interested in examining whether the actual change in TS causes the earnings information to be value-relevant or it is just the reform initiative that affects the ERC. Conventional ERC regression reveals that the coefficients on EARN and ΔEARN are positive and statistically significant for the positive listed A-TS change group (coefficient values of 11.59 and 3.82 respectively, statistically significant at the 1% level) but insignificant for the no change group. This result provides evidence that the increase in actual TS holders in the post-reform exerts a positive effect on the ERC.

Table 4. Earnings informativeness conditional on changes in tradable shareholding after the regulatory reform

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j.t} * X^k_{j,t} + \varepsilon_{j,t} \quad (3)$$

	Positive changes in TS %		**No change in TS%**	
Variables	Coefficient	t-stat	Coefficient	t-stat
Constant	0.98*	24.60	0.95*	13.72
EARN (α_1)	11.59*	4.11	-0.80	-0.12
ΔEARN(α_2)	3.82*	3.07	2.95	0.47
*EARN*LOSS(α_3)*	-13.85*	-12.12	-6.59*	-3.69
*EARN*SIZE(α_4)*	-0.19	-0.90	0.26	0.87
*EARN*MB(α_5)*	0.22***	1.81	-0.97*	-5.25
*EARN*LEVG(α_6)*	-3.88**	-2.29	0.90	1.57
*EARN*IFRS(α_7)*	-9.11***	-9.32	-0.45	-0.41
*ΔEARN *LOSS(α_8)*	-1.10***	-1.70	-1.67	-1.20
*ΔEARN *SIZE(α_9)*	0.80*	4.54	0.06	0.19
*ΔEARN *MB(α_{10})*	0.01	0.17	1.23*	6.59
*ΔEARN *LEVG(α_{11})*	1.43**	2.07	0.42	0.91
*ΔEARN *IFRS(α_{12})*	-1.96**	-2.32	-2.26***	-1.87
Adjusted R-squared	0.23		0.19	

Note: The sample consists of 3,236 positive versus 733 no change in TS observations respectively.

The sample consists of 7,745 firm-year observations listed on the Shanghai and Shenzhen stock exchanges from 2002 to 2009. RET is the annual A-share return measured from month -8 to month +4 (where month 0 is the fiscal year end). EARN and ΔEARN are earnings and change in earnings deflated by the beginning market values of tradable A shares respectively. DF is a dummy variable taking the value of 1 if the firm-year observations belong to the post-reform period (2006-2009), and zero otherwise. TSPC is the percentage of listed tradable shares. SIZE is the natural log of firm's total assets, MB is market-to-book ratio calculated as the market value equity divided by total shareholders' equity at the end of year t-1 and proxies for growth opportunities. LEVG is firm leverage measured as the ratio of long-term debt to lagged market value of equity. LOSS is a dummy variable taking the value of 1 for negative earnings observations and zero otherwise. *, ** and *** represent statistical significance at the 1%, and 5% levels respectively (two-tailed test).

5. Sensitivity tests

Two sets of sensitivity tests have been conducted. First, we investigate whether the price leading financial reports effect change our conclusion about the effect of the reform on ERC (We thank a reviewer for suggesting this test). Price leading financial effect refers to the extent to which information in financial reports is reflected in leading-period returns as compared to contemporaneous returns (Kothari and Sloan (1992). To test this effect, we follow the procedure similar to Kothari and Sloan (1992) and estimate our equations by replacing the dependent variable 16-month returns with 24-month returns. We illustrate this procedure using equation (2) as example:

$$R24_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * TSPC_{j,t} + \alpha_4 \Delta EARN_{j,t} * TSPC_{j,t} + \alpha_5 EARN_{j,t} *$$
$$TSPC_{j,t} * DF_{j,t} + \alpha_6 \Delta EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j,t} * X^k_{j,t} + \varepsilon_{j,t}$$

Where, R24 represents returns for 24 months ending 4 months after the end of year t. We compare the coefficients of interest, EARN*TSPC*DF and ΔEARN*TSPC*DF using R24 with those reported in Table 3 using R16. We find that the sum of the two coefficients using R24 is 8.90 which is greater than 4.65 using R16 as the dependent variable and conclude the presence of price leading earnings effect (Ali and Hwang, 2000). We repeat this test for other equations and find evidence of this effect.

Second, the possible effect of cross-listing (explained in footnote 1) on earnings informativeness is examined. We include interactive variables, EARN*TYPEDUM and ΔEARN*TYPEDUM into equation 2, to control for the possible effect of cross-listing listing on ERC. TYPEDUM takes value 1 when firm is cross-listed, and 0 when firm issues A-shares only. Regression results are reported in Table 5. The sign and significance of the coefficients EARN*TSPC*DF and ΔEARN*TSPC*DF are similar to our original analysis reported in Table 3. The coefficient on EARN*TYPEDUM is negative and significant at better than the 1 per cent level (coefficient -3.91, t statistic -5.97), suggesting that cross-listing has a negative effect on earnings informativeness. This finding is in accordance with Chen et al (2001) which reports accounting information is more value relevant for firms issuing A-shares only than firms issuing both A and B shares possibly because investors of firms issuing AB shares are more likely to use alternative information sources for investment decision marking instead of relying on earnings reported in financial statements alone.

Table 5. Sensitivity analysis

$$R_{j,t} = \alpha_0 + \alpha_1 EARN_{j,t} + \alpha_2 \Delta EARN_{j,t} + \alpha_3 EARN_{j,t} * TSPC_{j,t} + \alpha_4 \Delta EARN_{j,t} * TSPC_{j,t} + \alpha_5 EARN_{j,t} *$$
$$TSPC_{j,t} * DF_{j,t} + \alpha_6 \Delta EARN_{j,t} * TSPC_{j,t} * DF_{j,t} + \sum_{k=1}^{5} \beta_k EARN_{j,t} * X^k_{j,t} + \sum_{k=1}^{5} \gamma_k \Delta EARN_{j,t} * X^k_{j,t} + \varepsilon_{j,t} \quad (2)$$

	24-months return		**Cross-listing**	
Variables	Coefficient	t-stat	Coefficient	t-stat
Constant	0.01	0.53	0.29*	14.28
EARN (α_1)	32.12*	8.01	14.05*	5.05
Δ*EARN*(α_2)	0.39	0.11	-8.89*	-3.70
*EARN*TSPC* (α_3)	2.57	1.10	-4.12**	-2.43
Δ*EARN *TSPC* (α_4)	4.40***	1.85	2.58	1.48
*EARN*TSPC*DF*(α_5)	11.44*	6.65	8.23*	5.78
Δ*EARN *TSPC*DF*(α_6)	-2.54	-1.32	1.91	1.20
*EARN*LOSS*(α_7)	-20.37*	-23.56	-13.53*	-21.55
*EARN*SIZE*(α_8)	-0.91*	-5.15	-0.12	-0.92

*EARN*MB(α_9)*	0.02	0.23	-0.07	-1.10
*EARN*LEVG(α_{10})*	1.02*	2.65	0.74*	2.71
*EARN*IFRS(α_{11})*	-0.98	-1.17	-4.87*	-8.22
*EARN*TYPEDUM(α_{12})*	-	-	-3.91*	-5.97
Δ*EARN *LOSS (α_{13})*	-0.95	-1.40	-0.16	-0.31
Δ*EARN *SIZE (α_{14})*	0.17	1.08	0.56*	4.92
Δ*EARN *MB (α_{15})*	-0.01	-0.09	0.19*	3.28
Δ*EARN *LEVG (α_{16})*	-0.99*	-2.74	-0.02	-0.08
Δ*EARN *IFRS (α_{17})*	-4.22*	-5.16	-4.44*	-7.35
Δ*EARN *TYPEDUM (α_{18})*	-	-	0.82	1.31
Adjusted R^2	0.24		0.19	

Note: *, ** and *** represent statistical significance at the 1%, 5% and 10% levels respectively (two-tailed test). TYPEDUM is the share type dummy variable, taking a value of 1 if the shares are cross-listed and 0 otherwise. Other variables are defined in Table 1.

6. Implications and concluding remarks

The effect of regulation on the properties of accounting information has received significant research attention in different countries. The rationale for such studies hinges on the fact that compliance with regulation is costly and, therefore, this cost must be measured against the benefits derived in order to justify regulation. The bulk of the regulation and accounting information literature comes from the USA. However, more interesting insights are likely to be derived from studies of this kind in countries where enforcement mechanisms are rather weak. China is one such example (Wang, Chen, Lin and Wu, 2008). This study takes advantage of the recent share market reform in China that is aimed at making its stock markets more vibrant and attractive to outside investors. The reform makes it mandatory for all listed firms to convert their NTS into TS and, therefore, abolishes the earlier restriction on tradability of government owned shares. With any regulation, the policy-relevant question examined is whether such regulation(s) brought about the intended benefits or not. Using a sample of listed Chinese companies this study documents that such a share structure reform has strengthened informativeness of earnings.

There has been a concern from different quarters that such a reform might have brought about more speculative trading in the marketplace and created an irrational bubble. For example, the Chinese equity markets have seen an unprecedented rise in the composite index accompanied by record-smashing trading volume increases. We are cautious in concluding that such a rise in the equity market was based on fundamental investment analyses and a proper matching of risk and return, because we did not include a proxy for speculation in our regression analysis. Having said that, the findings do support the views of Arouri and Liu (2008) who suggest that the reform actually increases share supplies in the market with an associated increase in liquidity, and reduced speculation. A substantial increase in the TSs will require managers to focus on maximizing value for these dispersed shareholders, and will also force managers to be more transparent by providing relevant financial information following the argument that TS holders will use the lock up period to evaluate corporate performance. From the supply side argument, the fundamental change in the agency relationship between prior NTS and current TS holders will provide strong incentives to corporate managers to be more responsive to the demands of TS holders, because of the alignment of their value-maximization objectives.

As with any empirical accounting research, our study suffers from certain limitations. A primary concern with the results reported in this study may stem from the argument that the improvement in earnings informativeness is caused by positive changes in other enforcement mechanisms and corporate governance brought about by the split share reform. One such mechanism could be audit quality. The audit market in China is different from that of developed countries that competition among auditors is more pronounced in China due to active participation of small- and mid-sized CPA firms and low concentration of Big 4 auditors (Wang, and Iqbal, 2009). We find that Big 4 audit concentration has remained relatively stable during the 2002-2009 sample period which rejects the conjecture that an improvement in audit marker (a substantial increase of audit market share by Big 4 audit firms) rather than the split reform *per se*, is associated with increased earnings informativeness. We do, however, acknowledge that concurrent improvement in other governance mechanisms like audit committees may exert an impact on the improved ERC documented in this study. We leave this topic for future research.

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