

THE INFORMATION ENVIRONMENT IN CHINA: EVIDENCE FROM THE SPLIT SHARE STRUCTURE REFORM

by

Jing Chen,

Elisabeth Dedman,*

Muhammad Ghazali

and

Ja Ryong Kim

University of Nottingham, UK

ABSTRACT

The information environment in China has been found to be so opaque as to prevent investors from being able to formulate valuations of companies based upon firm-specific information, a situation which promotes inefficiency in the allocation of resources in an economy and stunts its growth. The Chinese government has recently enacted reforms which change the status of previously non-tradable shares and which we predict will lead to improvements in the information environment. We test our prediction using measures of the behaviour and performance of information intermediaries in the Chinese stock markets – financial analysts. Examining a set of 4479 firm years from 2003-2014 allows us to document radical changes to the ownership structure of Chinese listed companies, with drastic reductions in State ownership and the tentative entry of foreign investors into the markets. Such changes are found to encourage more analysts to follow Chinese firms, and to enhance their ability to predict company performance. Our results enable us to conclude that a new era of transparency is emerging.

Keywords: ownership structure; financial analysts; information environment

JEL classification: G32

*Corresponding author: elisabeth.dedman@nottingham.ac.uk

THE INFORMATION ENVIRONMENT IN CHINA: EVIDENCE FROM THE SPLIT SHARE STRUCTURE REFORM

1. INTRODUCTION

Both surveys of the business environment and capital market research provide persuasive evidence that the information environment in China has been historically opaque. This has been in part due to deficiencies in the financial reporting and audit practices around the country's listed firms but, we would argue, has also been caused by a lack of demand for information about firms which are mostly owned by the State. If the State has control over a company, there is limited scope for shareholder activism and a reduced demand for the information required for active investment. However, if the State decides to reduce its holdings in listed firms and wishes to attract investors, both domestic and overseas, to invest in the country's equity markets, then we may expect to observe an increase in the demand for, and supply of, high quality firm-specific information. In China, the programme of split share structure reform which commenced in 2005 changed the status of previously non-tradable shares (owned by the State) to make them tradable. Other regulatory measures adopted around the same time suggest a commitment to increased transparency in Chinese capital markets, particularly with respect to previously State Owned Enterprises (SOEs). We track the effect of this reform programme on the ownership structure of Chinese listed companies and on the demand and supply of information from analysts. Analysing a sample of 4,479 firm years (1,592 firms) from 2003 to 2014 enables us to report several changes to State ownership of

companies in China. In 2003, 60.3% of shares in sample firms were non-tradable; this reduces to 24.4% in 2014, demonstrating the reform programme has been effective but is not yet complete. Over the same period, there was a substantial reduction in equity held by the State, from an average of 44% to an average of only 3.3%. Whereas the State was the largest shareholder in 77% of listed firms in 2003, this had dropped to 11% by 2014.

Investigating how these changes to ownership structure affect the demand for analyst information reveals, as expected, a significant inverse relationship between firm-level State ownership and the number of analysts following the firm, consistent with an increase in demand for information as State ownership decreases. With respect to the type of shareholder replacing the State, we find that the proportion of equity held by Qualified Foreign Institutional Investors (QFII), although relatively small, is significantly positively associated with the number of analysts following a firm, suggesting the demand for analyst information is driven by non-domestic investors. We also find evidence that convergence with IFRS is positively associated with analyst coverage of Chinese firms, consistent with the change in reporting regime increasing net benefits to analysts and enticing more of them into the Chinese market.

Having established that coverage of listed firms by analysts is increasing at the same time as ownership structure changes are being effected, we move on to examine whether there is an improvement in the quality of information being made available to analysts, for which we employ measures of analysts' performance – both errors in

forecasting one-year ahead earnings and the dispersion in analysts' forecasts. Our results are consistent with the State increasing the quality of information released to capital market participants, with both analyst errors and analyst forecast dispersion being significantly lower when the State has more control over the firm. Both of these measures are also reducing over time, suggesting improvements to the information environment are ongoing and effective. In line with our prediction that the more tradable a firm's stock, the more analysts are likely to invest in making predictions about the firm, we find that analyst errors decrease as the proportion of tradable shares in a firm goes up, with all classes of shareholders contributing to this effect. Although tiny in proportion, ownership by foreign investors (*QFII*) has a significant association with reduced earnings forecast errors, providing tentative evidence of the emergence of a more amenable environment for non-domestic investors.

Perhaps surprisingly, our evidence regarding the effect of the convergence of Chinese Accounting Standards with International Accounting Standards (*IFRS*) suggests that analysts find it more difficult to make accurate predictions using the new type of accounting information, though we are cautious about our interpretation of these results because the Chinese investment environment was fairly tumultuous around the time of *IFRS* convergence.

Our study contributes to our understanding of the information environment in this important economy by providing early evidence that the State's attempts to improve the quality of disclosure by firms listed on its stock markets are having the desired

effect. As the State relinquishes its hold on companies it previously owned and controlled, more analysts are entering the market and the information they provide is increasing in accuracy. We also provide evidence that the government's recent imposition of extra financial monitoring for former SOEs¹ has been successful, in that analysts are better able to forecast future earnings for these firms. Lower analyst forecast dispersion for former SOEs is consistent with lower information asymmetry in these companies, and is a further indication of a reduction in inefficiencies and other poor practices (e.g. release of private information to a limited set of market participants) with respect to information dissemination to capital market participants.

The rest of the paper is organised as follows. Section 2 reviews relevant literature and develops our hypotheses. In Section 3 we provide details of our sample, data and tests. Section 4 contains our main results and interpretation while Section 5 reports the results of additional tests of the data. Finally, Section 6 offers a summary and some conclusions.

2. LITERATURE REVIEW AND HYPOTHESES

A strong information environment, characterised by transparency and timeliness of disclosure, provides social benefits in that capital is allocated more efficiently, enabling growth in an economy. However, in highly political settings, for example where the state owns many assets in the economy, there are reduced incentives for transparency, which may reveal expropriation, inefficiency, or rent-seeking

¹ Whereby former SOEs are subject to government audits and the reports made public.

behaviour by politicians (Bushman, Piotroski and Smith, 2004). Alternatively, where a government is closely and benevolently involved in the management of enterprises in which it holds large stakes, there is no need for information to be made publicly available (Shleifer and Vishny, 1994). Both arguments lead to the expectation of a less transparent information environment where state ownership of companies is pervasive, as has been the case in China until relatively recently. In line with this prediction, there is ample evidence that Chinese companies have been operating in a weak information environment, one characterised by opacity and suppression of information, particularly bad news (Piotroski and Wong, 2012; Jiang and Kim, 2015).

Surveys which provide country-level rankings of transparency frequently list China as amongst the weakest nations in this respect. For example, in the Opacity Index 2009 (Kurtzman and Yago, 2009), China ranks joint 38th out of 48 countries on the transparency measures applied, allocating it to the same place as Argentina, Ecuador and Pakistan. The Global Competitiveness Index (2015-2016) prepared by the World Economic Forum ranks China 97th (between Pakistan at 96 and Lebanon at 98) out of 140 economies on the Accountability aspect of its overall Index. This sub-index measures: (i) the strength of auditing and reporting standards; (ii) the efficacy of corporate boards; (iii) protection of minority shareholders' interests; and (iv) the strength of investor protection.

Further evidence of a weak information environment is provided by academic studies of Chinese capital markets. In a capital market where firm level information is relatively scarce, it may be expected that there will be lower firm specific variation

in stock returns, rather than firm returns will be highly correlated with general market movements (Roll, 1988). In a cross-country study of stock return synchronicity, Morck, Yeung and Yu (2000) analyse returns from 40 countries for the first half of 1995, when China's stock markets were still in their infancy. In this sample, China ranks 39th in terms of stock price synchronicity. In an average week, 80% of Chinese stocks move together and 45.3% of the variation in individual stock prices is explained by general market movement. Comparing this with the US result that only 57.9% of stocks co-move and 2.1% of stock price variation is explained by market movement illustrates one effect of investors being provided with inadequate firm-level information. More close to home, co-movement (R^2) of 67.8% (15%) in Hong Kong stocks suggests a much stronger information environment in this special territory. Jin and Myers (2006) provide evidence to support that of Morck *et al.* (2000) using a longer sample, which extends from 1991-2000 and which reveals China to have the highest stock price synchronicity of their 40 sample countries over this time period. Gul, Kim and Qiu (2010), investigating the determinants of stock price synchronicity in China over the period 1996-2003 find that synchronicity is higher when the largest shareholder is government related.

When investors do not have firm-specific information upon which to base their trading decisions, they are more likely to adopt momentum trading strategies.

Researchers have found that momentum profits could be made in the Chinese A-share markets from 1993-2000 and from 1995-2005 (Kang, Liu and Ni, 2002;

Naughton, Truong and Veeraghavan, 2008, respectively). These authors provide evidence that momentum returns occur because of the failure to immediately disclose

information in full leads to delays in news being impounded into stock prices. The large number of unsophisticated retail investors in China, who tend to trade on sentiment, may also explain the strong momentum effects observed in these markets (Choi, Jin and Yan, 2013).

The evidence discussed so far indicates that investors in Chinese stocks were, for some time, being provided with much less firm-specific information than those trading in the US or in Hong Kong. This appears to be due in part to the widespread nature of state ownership in Chinese companies which had been State Owned Enterprises (SOEs) prior to their listing on the newly opened Shanghai and Shenzhen stock exchanges in 1990 and 1991, respectively. Even following the listing of SOEs, large proportions of their equity were retained by the State in the form of non-tradable shares (NTS). Liu and Tian (2012) report that, prior to 2005, around 70% of the equity of Chinese listed firms was comprised of NTS, most of which were ultimately owned by the State.

However, there have been radical changes in China since the time when many of these studies were conducted, and these changes may have heralded a new era in the information environment. In 2005, the Government initiated the reform of this split share structure, with the objective of converting all NTS into tradable shares in an orderly fashion, controlled by the State (Cummings and Hou, 2012; Jiang and Kim, 2015). The reform has enabled the State to divest itself of corporate assets and opened up equity ownership in Chinese firms to a wider pool of investors. The expansion of both tradable shares and investors is likely to have prompted increases

in both the demand for, and supply of, firm-specific information, and a consequent strengthening of the information environment. At the same time, given the State wishes to increase capital market transparency, it may be expected that the companies in which it owns large stakes will be encouraged to improve their corporate disclosures. An indication of this is provided by changes to the financial reporting environment of former SOEs brought about by The Audit Law of PRC (People's Republic of China) of 2006, which authorised the Chinese National Audit Office (CNAO) to conduct government audits of these firms². This study looks for market-based evidence of changes to the disclosure environment in China.

Prior literature has used the number of analysts following the firm as a proxy for its information environment (Hope, 2003; Lang and Lundholm, 1996; Lys and Soo, 1995). We use analyst coverage, analyst forecast accuracy and the dispersion of analysts' forecasts to investigate changes to the information environment in China around the split share reforms. We first predict that the increased ownership dispersion and tradability of equity associated with the reduction in State-owned shares and accompanying increases in tradable shares will increase the demand for financial intermediaries and the supply of analysts in China:

Hypothesis One: An increase (decrease) in the proportion of tradable (State-owned) shares in Chinese listed companies will be associated with increased analyst coverage.

² This Act was a response to the spate of financial scandals in former SOEs early in the 21st century. Between 2007 and 2015, 61 financial former SOEs and 148 former SOE groups have been audited by the CNAO.

If the State is committed to increasing the efficiency of Chinese capital markets then it is likely to demand increased disclosure by firms over which it maintains more control. At the same time, non-State owners of tradable shares will have a strong demand for such information in order to make their trading decisions. We therefore expect both State ownership and the proportion of tradable shares to have a positive effect on the information environment with one consequence of this being observable improvements in the ability of analysts to make earnings predictions:

Hypothesis 2a: A higher proportion of tradable (or State-owned) shares in Chinese listed companies will be associated with lower analyst forecast errors.

As an additional test of the disclosure environment we look at the dispersion of analysts' forecasts. If all analysts are being provided with the same information at the same time, and if they interpret this information in the same way, then forecast dispersion will be smaller (Lang and Lundholm, 1996) and this would provide further evidence of enhanced transparency in the Chinese market:

Hypothesis 2b: A higher proportion of tradable (or State-owned) shares in Chinese listed companies will be associated with lower analyst forecast dispersion.

During our sample period, another important change took place in China's information environment – the convergence of Chinese Accounting Standards (CAS) with International Accounting Standards (IFRS). This change took place in 2007. The standardisation of financial reporting standards around a well-developed framework may reduce the costs of information acquisition and processing for financial intermediaries, attracting more analysts into the market and making them better able to predict future firm performance. If, however, the new standards are

not enforced with sufficient rigour, then we may expect IFRS earnings to add to the complexity of the environment and *reduce* the ability of analysts to predict future earnings from current financial reports. Our second set of hypotheses employ the same measures of information environment but are presented in non-directional alternative form:

Hypothesis 3: The convergence of Chinese Accounting Standards with IFRS will be associated with some change in analyst coverage of listed firms.

Hypothesis 4a: The convergence of Chinese Accounting Standards with IFRS will be associated with some change in analyst forecast errors.

Hypothesis 4b: The convergence of Chinese Accounting Standards with IFRS will be associated with some change in analyst forecast dispersion.

The next section details the sample and methodology employed to test our hypotheses.

3. SAMPLE AND METHODOLOGY

3.1 Sample Selection

The data for this study come from the China Stock Market and Accounting Research Database (CSMAR). We use 2003 as the start of our study because only since then have all Chinese listed firms been required to list the identities of their ultimate owners. We limit our sample to non-financial firms and we exclude observations with missing data, which provides us with a final sample of 1,592 Chinese listed firms and 4,479 firm-year observations from 2003 to 2014.

3.2 Methodology

Our study uses measures of analyst coverage, forecast error and forecast dispersion to examine changes in the information environment of Chinese listed firms. Our analyst coverage variable, *COVERAGE*, is the number of analysts per firm issuing one-year ahead forecasts, made one month after the release of the previous years' financial statement. The financial year-end of all Chinese listed firms is 31st December and the Chinese regulations require firms to publish their financial statements by the end of April for 'A' and 'B' share firms and by the end of May for 'H' share firms (Huang and Wright, 2015; Barniv, 2009). If no analyst is associated with the firm, the variable is assigned a value of zero. CSMAR only includes data on domestic analysts, so our information is limited in that we do not know whether and how many non-domestic analysts are covering sample firms.

We employ the following measure for analysts' forecast errors:

$$ABSEERROR = \frac{|Mean\ analyst\ forecast_{i,t} - actual\ earnings\ per\ share_{i,t}|}{Stock\ price\ (ending)_{i,t+1}}$$

ABSEERROR is the absolute value of the difference between the mean analyst forecast and the actual earnings per share, deflated by the stock price at the end of the annual report release month. For our study, we include one-year ahead forecasts for firm *i* earnings made one month after the deadline for the release of the previous year's financial statement. This is to allow analysts to incorporate the annual report information into updates of their one-year ahead forecast. In a strong information environment, we expect to see lower variance in predicted future earnings. We

therefore use this as an alternative measure of forecasting accuracy. We calculate forecast dispersion, as the standard deviation of one-year ahead analyst forecasts for firm i earnings per share at time t , deflated by mean forecast (Bryan and Tiras, 2007; Fang and Peress, 2009; Hou, 2007):

$$DISPERSION = \sigma(\text{Analyst forecast}_{i,t}) / \text{mean}(\text{Analyst forecast}_{i,t})$$

As our primary research focus is on the information environment effects of the changes in ownership in Chinese listed firms, we employ a linear regression model of the following form:

$$\begin{aligned} INFO.ENVIRONMENT_{i,t} \\ = \alpha + STATE_{i,t} + TRADESHARES_{i,t} + DPOSTIFRS_t + CONTROLS_{i,t} + \varepsilon \end{aligned}$$

where *INFO.ENVIRONMENT* includes *COVERAGE*, *ABSERROR* and *DISPERSION*.

We employ two measures of state ownership: *STATE* is the ratio of government-owned shares to total outstanding shares in the firm; *DSTATELARGEST* is equal to 1 if the firm's largest shareholder is reported to be government-related and 0 otherwise. *TRADESHARES* is the ratio of tradable shares to total outstanding shares. We then disaggregate the tradable shares into their components: 'A' shares are those traded in local currency on both the Shanghai and Shenzhen stock exchange and which were initially only available to domestic Chinese investors; 'B' shares are denominated in the US dollars and are available to foreign investors³; and 'H' shares are issued by Chinese companies which are cross-listed on Hong Kong Stock Exchange (Green, Morris and Tang, 2010). Since 2003, qualified foreign

³ From 2001, domestic Chinese investors have also been allowed to trade in the B-share market.

institutional investors have also been allowed to trade in 'A' shares (Jiang and Kim, 2015). We therefore further split 'A' shares into those held by domestic investors (*ASHARESDOMESTIC*) while *QFII* represents the proportion of qualified foreign institutional investor ownership of 'A' shares listed within the top ten shareholdings⁴. Huang and Zhu (2015) provide evidence of a positive monitoring effect of *QFII* investment for firms undertaking the split-share reform process. We further expect non-domestic investors in Chinese firms to have a stronger demand for firm-specific information and that financial intermediaries will respond to this demand; we therefore predict a positive association between *QFII* and *COVERAGE*.

We also include a time index (*TIME*) and a post-IFRS dummy (*DPOSTIFRS*) in order to capture any general time trend as well as changes occurring around the time of China's convergence with International Accounting Standards.

3.3 Control Variables

We control for a set of relevant factors identified by previous literature as affecting analysts' decision to follow firms and the quality of their forecasts.

Previous non-Chinese studies suggest that larger firms have more public disclosures, more press releases and therefore have greater analysts' coverage and smaller forecast errors (Bhushan, 1989; Lang and Lundholm, 1996; Choi *et al.*, 2013). We take the natural log of total assets (*LNTOTASSET*) to control for firm size and expect to observe a positive association between firm size and our measures of information

⁴ We are only able to identify such investors if they are within the ten largest shareholders. Our measure is therefore failing to capture smaller non-domestic stakes in Chinese companies.

environment. We also control for profitability. In China, three consecutive years of reported losses lead to performance-related delisting. We predict this has two effects on our measures of the information environment. First, analysts are less likely to invest resources in following firms at risk of delisting. Second, earnings management is more likely when firms are classed as Special Treatment (in financial trouble) in order to avoid reporting another year of losses and be delisted (Liu and Lu, 2007). Thus, firm performance is more difficult to predict using public information for these firms, imposing further costs on analysts. We therefore expect to observe a positive association between accounting performance and both analyst following and firm performance. This is in line with previous studies which have found that profitable firms are more likely to be followed by analysts (Jiraporn, Chintrakarn and Kim, 2012) and have more accurate analysts' forecasts (Hass, Vergauwe and Zhang, 2014). We measure firm performance as net profit attributable to owners divided by total assets (*ROA*). We also control for *LEVERAGE*, which we measure as (short term debt + long term debt)/total assets. In mature capital markets, highly levered firms are likely subject to greater scrutiny and monitoring by debt holders and credit rating agencies, which creates demand for firm-level information (Hutton, Lee and Shu, 2012; Li and Yang, 2016). China is quite different to the US and EU environment of these studies, however, as it is the State who owns the banks, as well as large stakes in the firms, and so borrowing creates little demand for public information (Piotroski and Wong, 2012). In contrast to the findings from Western studies, we therefore predict a negative association between firm leverage and the information environment of that firm. To mitigate the effect of extreme

outliers, we winsorize our continuous variables at 1% and 99% in each year. We also include industry dummies in our regression models.

Table One describes our sample firms. The mean (median) number of analysts covering them is 5 (4). Around two thirds (65.7%) of shares are tradable, with the great majority of these being domestically-owned 'A' shares. The State holds an average of 11.2% (but median zero) of equity in sample firms, and holds the largest stake in 26.7% of our firm year observations. Qualified Foreign Institutional Investors hold a tiny average proportion (0.2%) of equity in Chinese companies, with even the largest stake held by QFII only being 5.6%. Average profitability in the sample is 6.5% (median 5.7%). On average 14.7% of reported assets are financed by debt.

[TABLE 1 HERE]

While Table One reports averages from the pool of observations, Table 2 provides some illustration of how the sample changes over time. While the State was the largest shareholder in 77.4% of firms in 2003, this proportion decreased almost monotonically until 2014, when the State was the largest shareholder in only 11.1% of companies. Over the same time period, the percentage of shares owned by the State in listed firms decreased from 44% to just 3.3%, while the proportion of shares able to be traded on the stock markets increased from 39.7% to 75.6%. The changing picture of ownership across time is also represented in Figure One.

[TABLE 2 HERE]

[FIGURE 1 HERE]

The following section reports the results of further analyses of the data.

4. ANALYSIS

In Section 2 we hypothesise that the split share reform and the consequential decrease in State ownership and increase in tradable shares would lead to increased demand for, and supply of, firm-level information about Chinese-listed firms. We predict this would generate observable improvements to the information environment, measured as analysts' coverage of listed firms (H1), analysts' ability to accurately predict next year's earnings (H2a), and analyst forecast dispersion (H2b). We further conjecture that the convergence of CAS with IFRS will be associated with significant changes to the information environment (H3, H4a and H4b). In this section, we report the results of our main tests of these hypotheses.

Prior to our multivariate analyses, we present Pearson correlation statistics in Table 3. With respect to analyst coverage, the correlations are generally in the expected direction, with a positive association reported between coverage and tradable shares, firm size and performance, and the post-IFRS period. A negative relationship between analyst coverage and high levels of State ownership is also expected as many State shares are non-tradable, muting demand for information about these companies. A positive association between forecast dispersion (*DISPERSION*) and analyst coverage is not what we would expect *if* all analysts are privy to the same

information and all analysts are employing the same forecasting models (Lang and Lundholm, 1996). This result therefore implies one of those conditions is not met. There is a coefficient of 0.95 between *TRADESHARES* and *ASHARES*, which is unsurprising. As we do not use these measures together in our regressions, this is not a problem.

[TABLE 3 HERE]

Table 4 contains the results of tests of H1, which predicts that analyst coverage in China will increase (decrease) as the proportion of tradable shares (State ownership) increases. In line with these predictions, the number of analysts covering a firm is negatively associated with the State's ownership of that firm, whether we measure this as a percentage stake or a dummy variable indicating the State is the largest shareholder. As the State-owned shares are largely not tradable, there is lower demand for information intermediaries to follow companies with high State ownership. Unexpectedly, at first glance, it appears that the proportion of tradable shares has no effect on the likelihood an analyst will cover a firm but a clearer picture emerges in column (4) where we report the results after disaggregating tradable shares into their components. Here we see evidence that the demand for firm-specific information varies depending upon the type of shareholder. Although there is a marginal negative relation between the demand for information and the proportion of shares classed as domestically-owned 'A' shares, there is a strong positive association between the demand for information and the extent of non-domestic investment in 'A' shares by QFII. This may be due to non-domestic

investors having an *a priori* higher demand for information (perhaps because they are accustomed to much more transparent business environments), or local investors having some information advantage over those located outside of the country which obviates their need for financial intermediaries. Another alternative is that holders of domestic 'A' shares simply do not trade based upon fundamentals but based on sentiment. Jiang and Kim (2015) discuss the prevalence of speculative trading in China during our sample period but our analysis does not extend to a full investigation of this issue. The findings in Table 4 provide overall support for H1.

Table 4 also includes a test of H3, which posits the introduction of IFRS-convergent accounting standards will educe some change in the propensity of analysts to follow the firm. As shown by the strongly significant positive coefficient on our post-IFRS indicator variable (*DPOSTIFRS*) there is an increase in analyst coverage concomitant with convergence with International Accounting Standards. This may be due to analysts finding the IFRS environment more amenable (e.g. because it reduces their costs in some way) or it may be that the introduction of the new regime increased the demand for information intermediaries while investors adapted to the new type of information. There is also a general trend towards higher analyst coverage over our time period, as shown by the positive and significant coefficient on our time index (*TIME*).

As predicted, analysts are more likely to follow larger, more profitable firms and those financed less by debt. Our models explain approaching 17% of the variation in analyst coverage in our sample firms.

[TABLE 4 HERE]

Table 5 reports the results of tests of the determinants of analysts' errors in forecasting one-year ahead earnings. The first two rows report a significant negative association between State ownership and errors, consistent with the Government's assertion that it is committed to opening up Chinese capital markets and making them more efficient. The ability of analysts to more accurately predict earnings in former SOEs suggests that the extra monitoring imposed upon these entities, e.g. by the CNAO inspection regime, is inducing the production and dissemination of more reliable financial information. This finding supports Hypothesis 2a and is important as it indicates a material change in the behaviour of the State with respect to transparency in former SOEs. Analyst errors are also decreasing in the proportion of tradable shares in the firm, whether viewed in aggregate or broken down into various share categories, again in line with H2a and indicative of an average increase in analyst performance as a company's investor base widens. Interestingly, analysts became less accurate following China's convergence with IFRS (*DPOSTIFRS*), though errors were generally reducing over the sample time period (*TIME*). This suggests a period of adjustment to the new reporting regime but may also be in some part due to the instability in Chinese stock markets, which suffered a crash in 2007/08; we therefore attach a caveat to our interpretation of the 'IFRS effect'. In contrast with findings from more developed economies (Bushan, 1989; Lang and Lundholm, 1996), errors are also higher for larger and more profitable firms in China. Consistent with more indebted companies supplying less information to markets, errors are larger for more highly levered companies.

[TABLE 5 HERE]

Table 6 contains the results of our dispersion tests. This second measure of analyst performance supports the findings presented in Table 5 with respect to the influence of the State on the information environment. Analyst forecast dispersion is negatively associated with State ownership. The negative coefficients on *TRADESHARES* are consistent with H2b but are not significant in the 2-tailed sense. However, disaggregation of *TRADESHARES* reveals that analysts following firms with higher levels of *QFII* are significantly more similar in their earnings forecasts, which is further evidence of a positive role being played by foreign investors in the information environment. Interestingly, although forecast dispersion is decreasing over time, there is an increase in dispersion following the 2007 change to accounting standards, consistent with the results reported in Table 5 for analyst errors. This suggests analysts differ in their interpretation of information released under the new standards. Wider dispersion for larger, more highly levered firms suggests either that these companies are not releasing information to all financial intermediaries equally, or that analysts are applying different forecasting models to the information. Analysts are more likely to be in agreement about the future performance of more profitable firms (*ROA*) than those with lower earnings, which includes firms with greater incentives to manipulate reporting income to avoid sanctions. However, recall that Table 5 reports errors are larger for more profitable firms so we have the interesting situation of analysts being in agreement, but the consensus being wrong, for more profitable firms. This suggests that analysts are interpreting the same information set in the same way but the information being of

low quality. As in Table 5, the participation of non-domestic investors is related to the decrease in forecast dispersion, indicating the positive contribution of non-domestic investors to the information environment in the Chinese capital market.

[TABLE 6 HERE]

In summary, our examination of the behaviour and performance of China's financial analysts between 2003 and 2014 provides strong evidence of important changes to the information environment in which Chinese companies operate. Historically opaque, characterised by scant firm-specific information disclosures, particularly in former SOEs, we find evidence that the split share structure reform initiated in 2005 was a harbinger of a new era of increasing transparency in China. Changes to ownership brought about by the reforms, as well as a change in the attitude of the State to disclosure, have encouraged more analysts to follow Chinese companies and enhanced their ability to predict the performance of these firms.

5. SUPPLEMENTARY ANALYSIS

5.1 Alternative Size Measure

We repeat the regression tests in Tables 4 - 6 using the natural log of market capitalisation as our size measure. No qualitative difference is made to the results except that (1) *TRADESHARES* becomes a significant positive predictor of *COVERAGE* in Table 4, and (2) *ROA* is no longer a significant predictor of analyst forecast errors in Table 5.

5.2 Alternative Measures of Analyst Dispersion

We repeat the tests reported in Table 6 using two other measures of analyst dispersion: (i) unscaled standard deviation of analyst forecasts (Cheong and Thomas, 2011), and (ii) standard deviation of analyst eps forecast deflated by stock price (Lang and Lundholm, 1996; Lehav, Li and Merkley, 2011). These extra tests induce important changes to our results with respect to the association between the proportion of tradable shares and analyst forecast dispersion. Using unscaled dispersion, we find a significant negative relationship between *TRADESHARES* and *DISPERSION*, which supports H2b and is consistent with the sign of the coefficient reported in Table 6. Using dispersion scaled by stock price yields the result that there is a *positive* association between the proportion of tradable shares and forecast dispersion. We would argue that the results using deflation by stock price are less reliable due to the instability of stock prices in the Chinese markets during our time period (see Jiang and Kim, 2015) but we remain reluctant to proffer any strong conclusions about this relationship. No other associations reported in Table 6 are affected by the substitution of these alternative measures of dispersion.

5.3 Extra Tests for IFRS Effect

Around the time of IFRS convergence, Table 2 reveals there is a steep increase in the number of annual observations in our sample. It is therefore a concern that the significant effect of our post-IFRS dummy variable is capturing some change in the sample rather than a time effect. To check this, we conduct all of our analyses and tests on a restricted sample of companies that existed in the sample prior to 2007,

with the tests being carried out on these firms for the whole sample period. This results in a sample of 758 firm years. The results from this subset of firms are consistent with those obtained when using our full sample of 4,479 companies. In brief, for these companies, State ownership decreases from an average of 44% in 2003 to 4.5% in 2014. In 2003, the State owned the largest stake in 77.4% of firms; by 2014 the State owned the largest percentage of shares in only 20.9% of these companies. In replications of the tests reported in Table 4, the post-IFRS dummy remains significantly positive, indicating that for these firms, analyst coverage increased from 2007. For Table 5 tests, a significant positive coefficient on the post-IFRS dummy supports the results from the main sample tests, indicating that analyst forecast errors are increasing following the 2007 convergence of Chinese Accounting Standards with IFRS. Also, consistent with the results in Table 6, the post-IFRS variable is positive while the time index is significantly negative, providing evidence of analysts' differences in interpreting the information released under the new accounting standards. We are therefore reassured that the results observed for our post-IFRS dummy are not an artefact of a change in sample composition. We remain concerned about the potentially confounding effect of the stock market crash of 2007/08.

6. SUMMARY AND CONCLUSIONS

As part of a carefully orchestrated move away from full national ownership and control of its major firms, the People's Republic of China (PRC) opened up two stock exchanges in 1990 and 1991, listing upon them previously State-owned enterprises

and allowing a limited portion of equity in these companies to be traded. Initial research consistently reports serious issues with the information environment in the PRC, with the opacity inherited from the earlier regime prevailing and preventing the efficient operation of the capital markets, a situation which is detrimental to the optimal allocation of resources in any economy. Inadequate, unreliable information, coupled with the restricted quantity of tradable shares in companies where the State maintained control, deters financial intermediaries from operating in markets, hindering the process of information dissemination to a wide set of interested parties, such as overseas investors. However, the PRC has recently taken further steps to improve the operation of its capital markets, converting the status of many non-tradable shares so they can be freely traded, further reducing the equity stake of the State in most listed companies, and improving the monitoring of the financial disclosures of former SOEs. Further, from 2007 companies in China have been constructing their financial statements in accordance with accounting standards which are convergent with IFRS. We investigate the effects of these actions on an important aspect of the information environment, examining how the behaviour and performance of financial analysts change with these adjustments to ownership structure and information quality. We find that more analysts are drawn to follow firms as the proportion of equity owned by the State decreases, with the presence of non-domestic institutional investment having a significant positive effect on analyst coverage of a firm. The year of IFRS convergence, and the years subsequent to it, have also witnessed a significant increase in analyst coverage of firms listed on the Shanghai and Shenzhen stock exchanges. Consistent with improved information

disclosures by former SOEs, Chinese analysts are better able to predict next year's earnings for firms with larger State shareholdings. Consistent with increased demand for information from more dispersed investors, analyst forecast errors are significantly lower for companies with higher proportions of tradable shares. Although forecast errors are decreasing over our sample period in general, our tests suggest that convergence with IFRS has had a negative impact on analysts' ability to predict earnings. This may be due to weak enforcement, analysts employing different valuation models to assess post-IFRS information, or the confounding effects of stock market instability at the time of changes to accounting standards. Further evidence of an improvement in disclosure by former SOEs is provided by our finding that analyst forecast dispersion is significantly lower when the State has a higher shareholding in the firm. This suggests that information is being disseminated to all analysts equally, and that it is relatively simple to interpret. Finally, we find evidence of a positive response to the information requirements of non-domestic investors. Even though they still represent a tiny proportion of equity investment in Chinese firms, foreign investors are associated with more analysts following the firm, and better analyst performance in predicting the earnings of those firms. Overall, we view our results as providing encouraging evidence of emerging transparency in the information environment in this important economy.

REFERENCES:

- BARNIV, R. 2009. Does foreign investor demand for information affect forecast accuracy? Evidence from the Chinese stock markets. *Journal of International Accounting, Auditing and Taxation*, 18, 101-118.
- BHUSHAN, R. 1989. Firm characteristics and analyst following. *Journal of Accounting and Economics*, 11, 255-274.
- BRYAN, D. M. & TIRAS, S. L. 2007. The influence of forecast dispersion on the incremental explanatory power of earnings, book value, and analyst forecasts on market prices. *The Accounting Review*, 82, 651-677.
- BUSHMAN, R. M., PIOTROSKI, J. D. & SMITH, A. J. 2004. What determines corporate transparency? *Journal of accounting research*, 42, 207-252.
- CHEONG, F. S. & THOMAS, J. 2011. Why do EPS forecast error and dispersion not vary with scale? Implications for analyst and managerial behavior. *Journal of Accounting Research*, 49, 359-401.
- CHOI, J. J., JIN, L. & YAN, H. 2013a. What Does Stock Ownership Breadth Measure? *Review of Finance*, 17, 1239-1278.
- CHOI, Y. S., PEASNELL, K. & TONIATO, J. 2013b. Has the IASB been successful in making accounting earnings more useful for prediction and valuation? UK evidence. *Journal of Business Finance & Accounting*, 40, 741-768.
- CUMMING, D. & HOU, W. 2014. Valuation of restricted shares by conflicting shareholders in the Split Share Structure Reform. *The European Journal of Finance*, 20, 778-802.

- FANG, L. & PERESS, J. 2009. Media coverage and the cross-section of stock returns. *The Journal of Finance*, 64, 2023-2052.
- GREEN, W., MORRIS, R. D. & TANG, H. 2010. The split equity reform and corporate financial transparency in China. *Accounting Research Journal*, 23, 20-48.
- GUL, F. A., KIM, J.-B. & QIU, A. A. 2010. Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China. *Journal of Financial Economics*, 95, 425-442.
- HAß, L. H., VERGAUWE, S. & ZHANG, Q. 2014. Corporate governance and the information environment: Evidence from Chinese stock markets. *International Review of Financial Analysis*, 36, 106-119.
- HOPE, O.-K. 2003. Analyst following and the influence of disclosure components, IPOs and ownership concentration. *Asia-Pacific Journal of Accounting & Economics*, 10, 117-141.
- HOU, K. 2007. Industry information diffusion and the lead-lag effect in stock returns. *Review of Financial Studies*, 20, 1113-1138.
- HUANG, W. & WRIGHT, B. 2015. Analyst earnings forecast under complex corporate ownership in China. *Journal of International Financial Markets, Institutions and Money*, 35, 69-84.
- HUTTON, A. P., LEE, L. F. & SHU, S. Z. 2012. Do managers always know better? The relative accuracy of management and analyst forecasts. *Journal of Accounting Research*, 50, 1217-1244.

- JIN, L. & MYERS, S. C. 2006. R 2 around the world: New theory and new tests. *Journal of financial Economics*, 79, 257-292.
- JIRAPORN, P., CHINTRAKARN, P. & KIM, Y. S. 2012. Analyst following, staggered boards, and managerial entrenchment. *Journal of Banking & Finance*, 36, 3091-3100.
- KANG, J., LIU, M.-H. & NI, S. X. 2002. Contrarian and momentum strategies in the China stock market: 1993–2000. *Pacific-Basin Finance Journal*, 10, 243-265.
- KURTZMAN, J. & YAGO, G. 2009. Opacity index: Measuring global risks. *Milken Institute*, April.
- LANG, M. H. & LUNDHOLM, R. J. 1996. Corporate disclosure policy and analyst behavior. *Accounting review*, 467-492.
- LEHAVY, R., LI, F. & MERKLEY, K. 2011. The effect of annual report readability on analyst following and the properties of their earnings forecasts. *The Accounting Review*, 86, 1087-1115.
- LI, X. & YANG, H. I. 2016. Mandatory Financial Reporting and Voluntary Disclosure: The Effect of Mandatory IFRS Adoption on Management Forecasts. *The Accounting Review*, 91, 933-953.
- LIU, Q. & LU, Z. J. 2007. Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective. *Journal of Corporate Finance*, 13, 881-906.

- LIU, Q. & TIAN, G. 2012. Controlling shareholder, expropriations and firm's leverage decision: Evidence from Chinese Non-tradable share reform. *Journal of Corporate Finance*, 18, 782-803.
- LYS, T. & SOO, L. G. 1995. Analysts' forecast precision as a response to competition. *Journal of Accounting, Auditing & Finance*, 10, 751-765.
- MORCK, R., YEUNG, B. & YU, W. 2000. The information content of stock markets: why do emerging markets have synchronous stock price movements? *Journal of financial economics*, 58, 215-260.
- NAUGHTON, T., TRUONG, C. & VEERARAGHAVAN, M. 2008. Momentum strategies and stock returns: Chinese evidence. *Pacific-Basin Finance Journal*, 16, 476-492.
- PIOTROSKI, J. D. & WONG, T. 2012. Institutions and information environment of Chinese listed firms. *Capitalizing China*. University of Chicago Press.
- ROLL, R. 1988. R2. *The Journal of Finance*, 43, 541-566.
- SHLEIFER, A. & VISHNY, R. W. 1994. Politicians and firms. *The Quarterly Journal of Economics*, 995-102

Table 1
Descriptive Statistics

	N	Mean	Median	SD	Min	Max
<i>COVERAGE</i>	4479	5.097	4.000	3.856	2.000	22.000
<i>DISPERSION</i>	4479	0.088	0.048	0.122	0.000	0.876
<i>ABSERROR</i>	4479	0.022	0.012	0.030	0.000	0.243
<i>TOTALSHARES</i>	4479	1500	457	3890	56	86702
<i>TRADESHARES</i>	4479	0.657	0.652	0.287	0.100	1.000
<i>ASHARES</i>	4479	0.627	0.617	0.289	0.030	1.000
<i>BSHARES</i>	4479	0.011	0.000	0.057	0.000	0.537
<i>HSHARES</i>	4479	0.017	0.000	0.067	0.000	0.501
<i>DSTATELARGEST</i>	4479	0.267	0.000	0.442	0.000	1.000
<i>STATE</i>	4479	0.112	0.000	0.204	0.000	0.850
<i>ASHARESDOMESTIC</i>	4479	0.625	0.614	0.288	-0.005	1.000
<i>QFII</i>	4479	0.002	0.000	0.006	0.000	0.056
<i>TOTASSET</i>	4479	18418	3983	50961	276	594550
<i>LNTOTASSET</i>	4479	8.521	8.290	1.423	5.620	13.296
<i>NETPROFIT</i>	4479	775	206	2054	-1687	50664
<i>ROA</i>	4479	0.065	0.057	0.048	-0.071	0.302
<i>LEVERAGE</i>	4479	0.147	0.118	0.140	0.000	0.592
<i>DPOSTIFRS</i>	4479	0.965	1.000	0.184	0.000	1.000

COVERAGE is the number of analysts, *DISPERSION* is standard deviation of analyst forecasts divided by mean forecast, *ABSERROR* is the absolute value of the difference between one-year ahead eps forecasts minus next year actual eps, divided by next year stock price. *TOTALSHARES* is the total number of shares in million and is the sum of non-tradable shares and tradable shares. *TRADESHARES* is the proportion of tradable shares out of total shares. *A (B, H) SHARES* is the proportion of tradable A (B, H) shares out of total shares. *DSTATELARGEST* is a dummy variable that equals one if the largest shareholder is a state, and zero otherwise. *STATE* is the proportion of state ownership out of total shares. *ASHAREDOMESTIC* is the proportion of total shares held by domestic investors; *QFII* is the proportion of QFII (Qualified Foreign Institutional Investor) ownership out of total shares; (*ASHAREDOMESTIC* + *QFII* = *ASHARES*). *TOTASSET* (*LNTOTASSET*) is the (natural log of) total assets in RMBmillion. *NETPROFIT* is net profit attributable to shareholders in RMBmillion and *ROA* is *NETPROFIT/TOTASSET*. *LEVERAGE* is (short term debt + long term debt)/total assets. *DPOSTIFRS* is a dummy variable coded one if the observation is from 2007 or later.

Table 2
Sample Size and Share Structure

YEAR	N	STATE LARGEST	STATE PERCENT	TRADABLE SHARES	NON-TRADABLE SHARES
2003	31	77.4%	44.0%	39.7%	60.3%
2004	42	61.9%	34.9%	38.8%	61.2%
2005	54	68.5%	35.9%	43.1%	56.9%
2006	30	73.3%	39.7%	45.7%	54.3%
2007	314	61.5%	28.2%	51.1%	48.9%
2008	352	59.4%	25.2%	56.1%	43.9%
2009	465	31.8%	13.4%	66.0%	34.0%
2010	599	22.2%	9.7%	64.8%	35.2%
2011	618	20.9%	8.4%	64.9%	35.1%
2012	674	17.5%	6.4%	66.5%	33.5%
2013	581	13.3%	4.1%	74.5%	25.5%
2014	719	11.1%	3.3%	75.6%	24.4%
Total	4479	26.7%	11.2%	65.7%	34.3%

Figure One: Share Ownership Structure Over Time

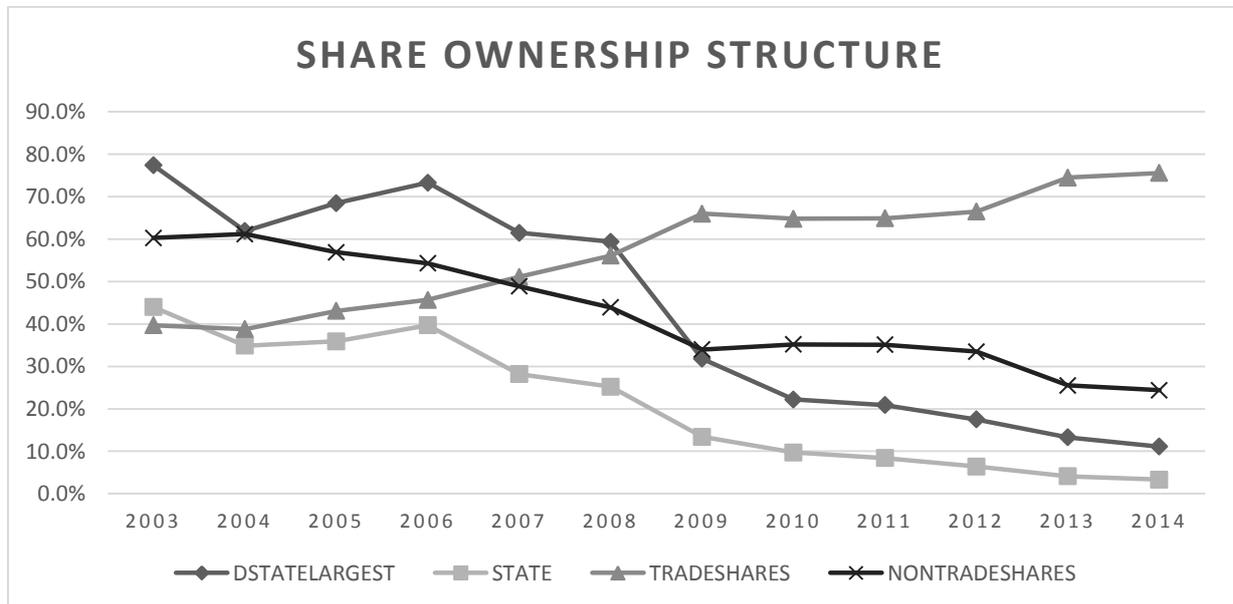


Table 3
Pearson Correlation Coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.COVERAGE														
2.DISPERSION	0.084													
3.ABSERROR	-0.016	0.131												
4.TRADESHARES	0.108	0.034	0.006											
5.ASHARES	0.079	0.013	-0.006	0.950										
6.BSHARES	0.027	-0.021	-0.005	0.103	-0.096									
7.HSHARES	0.091	0.105	0.059	0.086	-0.147	-0.043								
8.DSTATELARGEST	-0.052	0.010	-0.003	-0.228	-0.258	0.041	0.106							
9.STATE	-0.075	-0.004	-0.004	-0.380	-0.406	0.009	0.117	0.834						
10.ASHARESDOMESTIC	0.077	0.014	-0.006	0.950	1.000	-0.097	-0.146	-0.259	-0.407					
11.QFII	0.059	-0.026	-0.025	0.092	0.089	0.029	-0.010	0.034	0.014	0.067				
12.LNTOTASSET	0.240	0.068	0.163	0.308	0.186	0.085	0.430	0.216	0.211	0.185	0.054			
13.ROA	0.168	-0.174	-0.040	-0.158	-0.140	0.014	-0.088	-0.071	-0.023	-0.141	0.032	-0.257		
14.LEVERAGE	-0.133	0.152	0.166	0.165	0.139	0.026	0.082	0.132	0.094	0.140	-0.013	0.294	-0.451	
15.DPOSTIFRS	0.126	0.026	0.014	0.160	0.181	-0.101	-0.016	-0.184	-0.251	0.182	-0.023	0.013	0.017	-0.084

COVERAGE is the number of analysts, *DISPERSION* is standard deviation of analyst forecasts divided by stock price, *ABSERROR* is the absolute value of the difference between one-year ahead eps forecasts minus next year actual eps, divided by next year stock price. *TOTALSHARES* is the total number of shares in million and is the sum of non-tradable shares and tradable shares. *TRADESHARES* is the proportion of tradable shares out of total shares. *A (B, H) SHARES* is the proportion of tradable A (B, H) shares out of total shares. *DSTATELARGEST* is a dummy variable that equals one if the largest shareholder is a state, and zero otherwise. *STATE* is the proportion of state ownership out of total shares. *ASHAREDOMESTIC* is the proportion of total shares held by domestic investors; *QFII* is the proportion of QFII (Qualified Foreign Institutional Investor) ownership out of total shares; (*ASHAREDOMESTIC* + *QFII* = *ASHARES*). *TOTASSET* (*LNTOTASSET*) is the (natural log of) total assets in RMBmillion. *NETPROFIT* is net profit attributable to shareholders in RMBmillion and *ROA* is *NETPROFIT/TOTASSET*. *LEVERAGE* is (short term debt + long term debt)/total assets. *DPOSTIFRS* is a dummy variable coded one if the observation is from 2007 or later.

Figures in bold represent correlations which are significant at 5% level or better.

Table 4: Determinants of Analyst Coverage in ChinaDependent variable = *COVERAGE*; *t*-statistics in italics

	(1)	(2)	(3)	(4)
<i>STATE</i>	-2.090***		-2.116***	-2.119***
	-6.855		-6.927	-6.945
<i>DSTATELARGEST</i>		-0.547***		
		-3.996		
<i>TRADESHARES</i>	-0.317	0.070		
	-1.433	0.338		
<i>ASHARES</i>			-0.364	
			-1.637	
<i>BSHARES</i>			0.109	0.040
			0.109	0.039
<i>HSHARES</i>			-1.787*	-1.736*
			-1.762	-1.715
<i>ASHARESDOMESTIC</i>				-0.433*
				-1.936
<i>QFII</i>				26.076***
				2.599
<i>DPOSTIFRS</i>	1.223***	1.328***	1.239***	1.222***
	6.210	6.700	6.247	6.082
<i>TIME</i>	0.088***	0.111***	0.087***	0.096***
	3.488	4.320	3.404	3.703
<i>LNTOTASSET</i>	1.000***	0.943***	1.033***	1.025***
	18.786	18.338	17.472	17.472
<i>ROA</i>	17.072***	16.984***	16.999***	16.930***
	12.073	12.031	12.011	11.978
<i>LEVERAGE</i>	-2.897***	-2.864***	-2.925***	-2.860***
	-6.765	-6.677	-6.798	-6.676
Intercept	-5.501***	-5.699***	-5.707***	-5.708***
	-12.251	-12.569	-12.007	-12.026
Industry dummies	Yes	Yes	Yes	Yes
N	4479	4479	4479	4479
adj. R-sq	0.166	0.162	0.167	0.168

COVERAGE is the number of analysts. *STATE* is the proportion of state ownership out of total shares. *DSTATELARGEST* is a dummy variable that equals one if the largest shareholder is a state, and zero otherwise. *TRADESHARES* is the proportion of tradable shares out of total shares. *A (B, H) SHARES* is the proportion of tradable A (B, H) shares out of total shares. *ASHAREDOMESTIC* is the proportion of total shares held by domestic investors; *QFII* is the proportion of QFII (Qualified Foreign Institutional Investor) ownership out of total shares; (*ASHAREDOMESTIC* + *QFII* = *ASHARES*). *LNTOTASSET* is the natural log of total assets. *ROA* is net profit divided by total assets. *LEVERAGE* is (short term debt + long term debt)/total assets. *DPOSTIFRS* is a dummy variable coded one if the observation is from 2007 or later. *TIME* is a time index with values from 1-12 representing years 2003-2014.

*, **, *** denote coefficient is significantly different from zero at 10%, 5%, 1% level, respectively.

Table 5: Analysis of Analyst Forecast ErrorsDependent variable = *ABSERROR*; *t*-statistics in italics

	(1)	(2)	(3)	(4)
<i>STATE</i>	-0.016***		-0.016***	-0.016***
	-5.980		-5.978	-5.970
<i>DSTATELARGEST</i>		-0.006***		
		-4.794		
<i>TRADESHARES</i>	-0.010***	-0.008***		
	-5.751	-4.627		
<i>ASHARES</i>			-0.010***	
			-5.544	
<i>BSHARES</i>			-0.019**	-0.018**
			-2.372	-2.316
<i>HSHARES</i>			-0.017*	-0.017*
			-1.771	-1.804
<i>ASHARESDOMESTIC</i>				-0.009***
				-5.280
<i>QFII</i>				-0.179**
				-2.272
<i>DPOSTIFRS</i>	0.008***	0.009***	0.008***	0.008***
	3.182	3.520	3.071	3.121
<i>TIME</i>	-0.001***	-0.001***	-0.001***	-0.001***
	-3.526	-3.264	-3.695	-3.901
<i>LNTOTASSET</i>	0.004***	0.004***	0.004***	0.004***
	9.630	9.027	9.859	9.934
<i>ROA</i>	0.028***	0.027**	0.029***	0.029***
	2.577	2.449	2.582	2.621
<i>LEVERAGE</i>	0.031***	0.031***	0.031***	0.030***
	7.168	7.237	7.163	7.071
Intercept	-0.014***	-0.015***	-0.015***	-0.015***
	-3.436	-3.710	-3.587	-3.587
Industry dummies	Yes	Yes	Yes	Yes
N	4479	4479	4479	4479
adj. R-sq	0.062	0.060	0.061	0.062

ABSERROR is the absolute value of analyst errors for one year ahead earnings forecasts deflated by next year stock price. *STATE* is the proportion of state ownership out of total shares. *DSTATELARGEST* is a dummy variable that equals one if the largest shareholder is a state, and zero otherwise. *TRADESHARES* is the proportion of tradable shares out of total shares. *A (B, H) SHARES* is the proportion of tradable A (B, H) shares out of total shares. *ASHAREDOMESTIC* is the proportion of total shares held by domestic investors; *QFII* is the proportion of QFII (Qualified Foreign Institutional Investor) ownership out of total shares; (*ASHAREDOMESTIC* + *QFII* = *ASHARES*). *LNTOTASSET* is the natural log of total assets. *ROA* is net profit divided by total assets. *LEVERAGE* is (short term debt + long term debt)/total assets. *DPOSTIFRS* is a dummy variable coded one if the observation is from 2007 or later. *TIME* is a time index with values from 1-12 representing years 2003-2014.

*, **, *** denote coefficient is significantly different from zero at 10%, 5%, 1% level, respectively.

Table 6: Analysis of Analyst Forecast Dispersion
 Dependent variable = *DISPERSION*; *t*-statistics in italics

	(1)	(2)	(3)	(4)
<i>STATE</i>	-0.033***		-0.032***	-0.032***
	-3.169		-3.023	-3.018
<i>DSTATELARGEST</i>		-0.012**		
		-2.501		
<i>TRADESHARES</i>	-0.008	-0.003		
	-1.051	-0.409		
<i>ASHARES</i>			-0.005	
			-0.727	
<i>BSHARES</i>			-0.033	-0.032
			-1.190	-1.139
<i>HSHARES</i>			0.147***	0.146***
			3.854	3.829
<i>ASHARESDOMESTIC</i>				-0.004
				-0.535
<i>QFII</i>				-0.560**
				-2.356
<i>DPOSTIFRS</i>	0.046***	0.048***	0.045***	0.046***
	4.502	4.670	4.380	4.419
<i>TIME</i>	-0.005***	-0.004***	-0.004***	-0.005***
	-4.783	-4.597	-4.503	-4.652
<i>LNTOTASSET</i>	0.004**	0.004**	0.001	0.001
	2.428	2.173	0.442	0.534
<i>ROA</i>	-0.372***	-0.375***	-0.365***	-0.364***
	-7.888	-7.940	-7.822	-7.811
<i>LEVERAGE</i>	0.070***	0.071***	0.074***	0.073***
	4.005	4.049	4.211	4.125
Intercept	0.085***	0.083***	0.107***	0.107***
	5.193	5.039	6.340	6.345
Industry dummies	Yes	Yes	Yes	Yes
N	4479	4479	4479	4479
adj. R-sq	0.049	0.049	0.055	0.055

DISPERSION is the standard deviation of analyst one-year ahead forecasts deflated by mean forecast. *STATE* is the proportion of state ownership out of total shares. *DSTATELARGEST* is a dummy variable that equals one if the largest shareholder is a state, and zero otherwise. *TRADESHARES* is the proportion of tradable shares out of total shares. *A (B, H) SHARES* is the proportion of tradable A (B, H) shares out of total shares. *ASHAREDOMESTIC* is the proportion of total shares held by domestic investors; *QFII* is the proportion of QFII (Qualified Foreign Institutional Investor) ownership out of total shares; (*ASHAREDOMESTIC* + *QFII* = *ASHARES*). *LNTOTASSET* is the natural log of total assets. *ROA* is net profit divided by total assets. *LEVERAGE* is (short term debt + long term debt)/total assets. *DPOSTIFRS* is a dummy variable coded one if the observation is from 2007 or later. *TIME* is a time index with values from 1-12 representing years 2003-2014.

*, **, *** denote coefficient is significantly different from zero at 10%, 5%, 1% level, respectively.