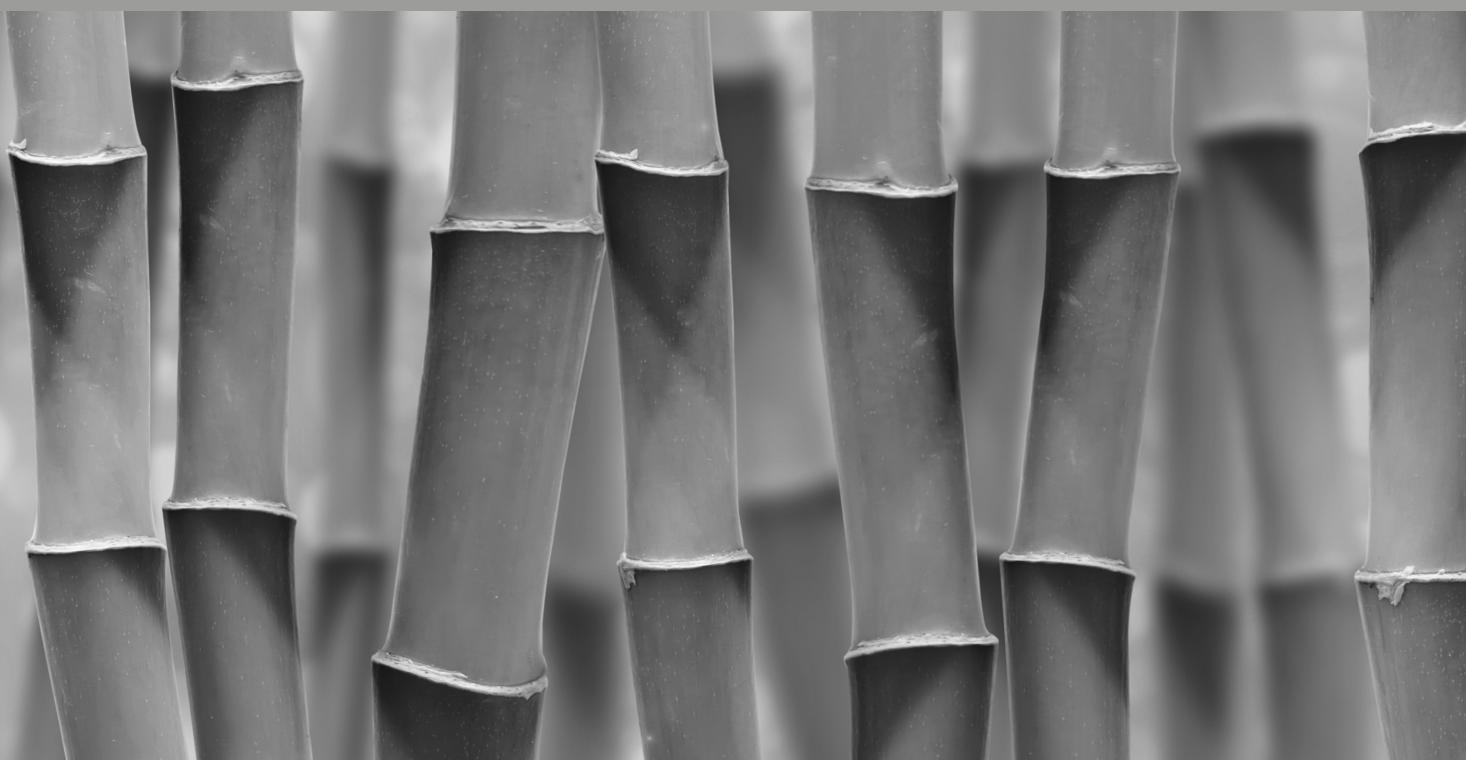


Does IFRS Convergence Affect Financial Reporting Quality in China?



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Executive summary

This report seeks to answer the following overall research question: Does the convergence of Chinese Accounting Standards (CAS) with International Financial Reporting Standards (IFRS) affect the financial reporting quality of listed firms in China? It also examines whether the impact of the IFRS-converged CAS has been conditioned by Chinese political and economic institutional factors.

Since 2007, all listed firms in China have been required to report under a new set of Chinese Accounting Standards. This new set of standards is recognised by the International Accounting Standards Board (IASB) as having achieved 'substantial convergence' with IFRS (IASB 2006).¹ China is the world's largest and most influential emerging economy and as such is attracting the attention of academics, regulators and practitioners. Since its reforms began in the late 1970s, China's economy has grown from one-tenth to two-thirds of the size of the US economy (Allen et al. 2010). Thus, the convergence of China's standards with IFRS is another significant milestone in the process of international accounting harmonisation, following the European Union's adoption of IFRS in 2005. Before IFRS, China operated a largely rules-based accounting regime (ICAS 2010). As a set of principles-based accounting standards, IFRS provides Chinese firms with the opportunity to produce more informative financial statements with the potential to give better information to external investors.

This report evaluates the effects of IFRS-converged CAS by comparing the value-relevance of financial statements issued before and after 2007. Value-relevance analysis examines the association between the share price of firms and the accounting information they issue, such as book value and earnings. It is inferred here that the higher the association, the more useful the accounting numbers issued by firms are to the valuation decisions of investors, who are an important group of end-users of financial statement information. Barth et al. (2001) argue that value-relevance evidence is important to accounting standard setters because one of the primary purposes of financial reporting is to provide information that is useful for valuing firms. Although there are other measures of financial reporting quality in the accounting research literature, such as discretionary accruals, earnings persistence and timely loss recognition, they do not provide direct evidence of the usefulness of accounting information to its end-users in the capital market. Therefore, this report focuses on value-relevance analyses to evaluate the effect of IFRS convergence in China.

A growing number of studies have examined the relation between the benefits of IFRS adoption and country-specific characteristics, such as the quality of local investor protection and legal enforcement (eg Daske et al. 2008; Lee et al. 2008; Li 2010; Byard et al. 2011; Defond et al. 2011; Tan et al. 2011). These

studies consistently indicate that the benefits of mandating or converging with IFRS are concentrated in countries with strong legal enforcement and investor protection. Both institutional factors tend to be less developed in transitional economies than developed ones, and China is no exception (eg Allen et al. 2010). Therefore, the influence of IFRS convergence in China is an interesting but open question. Existing studies of the overall impact of IFRS convergence in China have revealed mixed results (He et al. 2011; Liu et al. 2011). The methodological innovation of the present study is to focus on a number of economic and institutional factors that potentially influence firms' demand for external capital and thus determine the effects of IFRS-converged CAS. These factors include industry classification, regional development, state control, foreign ownership, delisting regulations, and state subsidy.

ECONOMIC AND INSTITUTIONAL FACTORS

Numerous studies indicate that accounting quality is not determined by accounting standards alone. Accounting quality is also partly determined by the incentives firms have to provide high-quality financial statements. There is evidence that firms' dependence on external capital increases their incentives to report higher-quality accounting information and to provide more useful financial disclosures (eg Francis et al. 2005). Empirical evidence from studies of individual countries also suggests that improvements in financial reporting quality under IFRS occur mainly among firms with greater financial reporting incentives (eg Christensen et al. 2008; Ng 2009). In the case of China, several institutional factors can influence firms' reporting incentives in relation to the demand for external capital.

First, the Chinese economy is predominantly driven by the manufacturing sector. Firms in this industry are associated with higher growth opportunities and greater competition for external capital than their counterparts in other industries. Thus, if IFRS-converged CAS enables firms to improve financial reporting to entice external investors, this effect would be expected to be greater in the manufacturing sector.

Second, the Chinese economy is more developed in coastal regions and large cities than in inland and rural regions. Although the competition for external capital among firms in developed regions may be greater, firms in less-developed regions may also attempt to reduce their geographic disadvantage by attracting outside investors. Thus, whether IFRS-converged CAS yields greater benefit to Chinese firms in more-developed or less-developed regions is an open question that this report will consider.

Third, the Chinese government maintains ownership and control of a large number of listed firms. These firms receive government support such as subsidies and favourable loans from state banks. Since such firms are less concerned about the informational needs of external investors, they are also less likely to change their financial reporting quality after the enactment of IFRS-converged CAS.

Fourth, foreign investment plays an important role in China's economic development by supplying both capital and expertise. Foreign investors have an information disadvantage relative to local investors and therefore have a higher demand for transparency. Because international accounting harmonisation is

1. Substantial convergence means that the IFRS-converged CAS are largely consistent with the full IFRS with the exception of some modifications. Some examples of the residual differences between full IFRS and the IFRS-converged CAS are as follows. First, reverse impairment of losses on fixed assets as well as regular revaluation of fixed assets are allowed under the full IFRS but not the IFRS-converged CAS. Second, to consolidate joint-venture companies, the equity method or proportionate consolidation is allowed by the full IFRS but not under the IFRS-converged CAS. According to Qu and Zhang (2010) the overall convergence level of the new CAS with IFRS based on matching coefficients is 0.7497 and they interpret this as an evidence of high degree of convergence.

assumed to improve cross-border financial statement comparability, Chinese listed firms with greater foreign ownership would be expected to improve their financial reporting quality more under the IFRS-converged CAS.

Fifth, the Chinese stock exchanges impose rules that require consistently loss-making firms to be delisted. To avoid delisting, loss-making firms have greater incentives to manipulate earnings. Thus, assuming that earnings management incentives of loss-making firms are broadly consistent through time, then IFRS-converged CAS are less likely to improve the financial reporting quality of these firms owing to their earnings management incentives.

Finally, the Chinese government provides financial subsidies to firms in lines of business or in regions that are prioritised by economic development policies. Firms that receive more government subsidies are less reliant on external capital and have less need to communicate with outside investors than other firms. Thus, IFRS-converged CAS are expected to bring greater benefits to firms that receive lower government subsidies or none.

KEY FINDINGS

The report covers all Chinese industrial companies listed on the Shanghai and Shenzhen stock exchanges over the period of 2003 to 2009. It identifies the periods before and after the IFRS-converged CAS as the years before and since 2007, respectively. The full sample comprises 10,017 firm-year observations.

The full sample was separated into a treatment group and a control group. The treatment group is made up of A-share listed firms that were only allowed to report under IFRS-converged CAS from 2007 onward. The control group was made up of A and B share-issuing dual-listed firms that were required to provide accounting information compliant with IFRS even before 2007. If the mandatory switch to IFRS-converged CAS in 2007 has exerted any impact on the value relevance of the accounting information reported by Chinese listed firms, then the effect should be observable mainly among those in the treatment group and not those in the control group. If similar changes are observed in both groups after 2007, then the observed effect is less likely to be caused by the IFRS-converged CAS and more likely to be due to other unidentified confounding effects such as the business cycle or a time trend.

The main findings are as follows.

First, there has been a significant increase in the value relevance of reported earnings for the firms in the treatment group following mandatory adoption of IFRS-converged CAS. In contrast, there has been no significant change in the value relevance of reported earnings for the firms in the control group over the same period. The difference in findings between the two groups strengthens the likelihood that the observed effect can be attributed to the IFRS-converged CAS.

Second, the effect of IFRS-converged CAS for the treatment group is stronger for firms in the manufacturing sector, where the competition for external capital is greater and where firms are expected to have greater incentives to provide more informative disclosures under IFRS-converged CAS.

Third, the impact of IFRS-converged CAS on the value relevance of reported earnings is greater among firms in less-developed regions. This is consistent with the hypothesis that such firms have greater incentives to improve their financial reporting quality since they have greater disadvantages in acquiring external capital than firms in more developed regions.

Fourth, the increase in the value relevance of reported earnings under the IFRS-converged CAS is significantly less pronounced among listed firms under the control of the Chinese central government. This is consistent with the hypothesis that such firms are less motivated to improve financial reporting quality under IFRS-converged CAS as a result of less reliance on external capital because of the financial support they enjoy from government.

Fifth, the effect of IFRS-converged CAS is greater among Chinese listed firms with foreign ownership, which is consistent with the hypothesis that such firms cater for the information demands of foreign investors.

Sixth, the benefits of IFRS-converged CAS on financial reporting quality diminishes among Chinese listed firms that are underperforming or in distress, which is consistent with the hypothesis that the new accounting standards are masked by earnings management that is designed to avoid delisting.

Finally, the impact of IFRS-converged CAS is significantly more pronounced among firms that receive less government subsidy. This is consistent with the hypothesis that such firms have more incentives to improve accounting disclosure, given the opportunity provided by the new accounting standards to attract external capital.

IMPLICATIONS

The results confirm that mandatory adoption of IFRS-converged CAS from 2007 onwards has increased the informativeness of reported earnings in the Chinese equity market. This benefit is most pronounced in the manufacturing sector, which contributes most to China's growth and has the greatest influence in the world economy. The benefit is also greater among firms where investors have a greater information demand or among firms with greater reliance on external capital. The observed benefits are lower among firms that are more influenced by political objectives or delisting avoidance.

These findings have important implications that apply not only to China but also to other emerging and transitional economies.

First, even among countries with weak legal enforcement and investor protection, IFRS or converged accounting standards can lead to improved financial reporting outcomes as long as they have incentives to communicate with outside investors. In other words, this contradicts the common inference drawn from cross-country studies of mandatory IFRS adoption: that IFRS can improve financial reporting only in countries with well-developed legal enforcement and investor protection. Second, in countries where state capitalism (Economist 2012) dominates, IFRS adoption or convergence can benefit the wider economy by reducing the capital acquisition disadvantage of firms that receive less state support.

1. Introduction

This study examines the impact of the convergence of Chinese Accounting Standards (CAS) with International Financial Reporting Standards (IFRS) adoption on the value relevance of accounting information disclosed by listed firms in China. It is the first study to examine how the effect of IFRS-converged CAS is influenced by a comprehensive set of institutional factors relevant to China's capital market development.

The convergence of IFRS and CAS in China is significant in the process of international accounting harmonisation for two reasons. First, China is playing an increasingly important role in the global economy, especially as a leading exporter. According to the analyses of Hawksworth & Tiwari (2011), China is expected to surpass the US as the World's largest economy (measured by GDP at purchasing power parity (PPP)) sometime before 2020. Second, as a large transitional economy with a mixture of state-sponsored and market-oriented capitalism, China's experience with IFRS convergence allows useful inferences for other members of the E7 emerging economies such as India, Brazil, Russia, Indonesia, Mexico and Turkey. These considerations explain why the impact of IFRS convergence in China is an interesting topic for academics, practitioners and regulators worldwide.

1.1 RESEARCH BACKGROUND

There is mounting empirical evidence in the accounting research literature on the economic consequences of mandatory IFRS adoption, acquired through cross-country analyses. These studies have examined the effect of IFRS adoption through a wide array of indicators such as:

- market liquidity (Daske et al. 2008)
- implied cost of equity capital (Lee et al. 2008; Li 2010)
- stock price synchronicity (Beuselinck et al. 2010)
- stock return volatility (Landsman et al. 2012)
- cost of debt (Florou and Kosi 2009)
- credit ratings (Wu and Zhang 2009)
- analyst forecast accuracy (Byard et al. 2011)
- foreign analyst following (Tan et al. 2011)
- institutional investor ownership (Florou and Pope 2009; DeFond et al. 2011).

The best-known inference that is common across these studies is that positive economic consequences of mandatory IFRS adoption arise mainly, and perhaps even exclusively, among firms domiciled in countries with strong legal enforcement and investor protection.² For example, in an earlier research report commissioned by ACCA, Lee et al. (2008) documented that cost of equity capital reduction following IFRS is more pronounced in

the UK than in Continental European countries.³ A widely suggested explanation for these findings is that the effect of introducing new accounting standards depends on both the institutional features of the countries into which they are introduced and the incentives that the individual firms within those countries have for compliance (eg Ball et al. 2003; Daske et al. 2008). Therefore, the costs and benefits of IFRS are not expected to be uniform either across countries or across firms within a country.

When compared with Western developed economies, China had less developed legal enforcement and investor protection. For instance, Allen et al. (2005) suggest that creditor and shareholder protection in China was less developed than most French legal-origin countries and that the number of lawyers in the whole of China was only roughly the same as that in the state of California in the US. Morck et al. (2000) suggest that less developed investor protection could be a major underlying cause for weaknesses in China's corporate information environment. Given the lack of institutional features that are deemed necessary, by previous cross-country studies, for IFRS convergence to have a favourable impact, to what extent China's adoption would improve corporate transparency is an open question. Indeed, existing studies of IFRS impact in China have produced a mixed picture. On the one hand, Liu et al. (2011) show marginal evidence of earnings quality improvement among Chinese firms after 2007. On the other hand, He et al. (2011) show that the implementation of fair value accounting under IFRS induces earnings management, especially among firms with greater incentives to avoid reporting losses. These findings raise doubts as to whether the introduction of IFRS-converged CAS in China has achieved the objective of improving corporate transparency.

1.2 AIMS OF THE RESEARCH

In contrast to previous research on the effect of IFRS convergence in China, this report provides more detailed analyses that consider the influence of a set of institutional features known to be important in the Chinese economy. In particular, there is no assumption that the impact of IFRS convergence in China is uniform across all firms. Rather, the effect is expected to be heterogeneous, depending on institutional factors and specific firm characteristics.

IFRS is a set of principles-based accounting standards that provide greater reporting discretion than rules-based accounting standards (eg Schipper, 2003). The switch from the previous rules-based accounting standards to IFRS-converged CAS in China is expected to facilitate the financial reporting of those firms with greater incentives to communicate with outside investors. The demand for external capital is an important determinant of firms' financial reporting incentives (Francis et al. 2005). Thus, the adoption of IFRS-converged CAS should make a greater difference to the financial reporting of Chinese firms with a greater

2. Comprehensive reviews of this vast literature are available in Leuz and Wysocki (2008) and Bruggemann et al. (2010). Some studies found reduced managerial pay-to-earnings performance sensitivity following mandatory IFRS adoption in well-developed capital markets in Europe (eg Ozkan et al. 2012; Voulgaris et al. 2012) and IFRS convergence in a transitional economy such as China (eg Ke et al. 2012). The possible reason behind this is that earnings became more volatile as a result of fair value accounting introduced by IFRS. These studies evaluate the effect of IFRS on the efficiency of executive contracting. Their findings have no direct implications for whether or not reported earnings are more or less useful to investors.

3. A study by Gao (2010) suggests that cost of capital may not reduce when disclosure improves if new investment opportunities are sufficiently elastic, which implies that it may not be a sufficient measure to determine the impact of disclosure on the welfare of investors under certain circumstance. As mentioned earlier, however, the empirical evidence that the IFRS effect is conditional on the country-level institutional environment is not specific to the cost-of-capital measure but applies to a wide range of economic consequence indicators.

demand for external capital. This demand is likely to vary across firms owing to capital market competition, the institutional environment and ownership structure. In the case of China, the impact of IFRS convergence is expected to be influenced by industrial classification, regional development, state control, foreign ownership, delisting likelihood and government subsidy.

This study seeks to provide useful policy implications for the international accounting harmonisation process and China's economic development by answering the following specific research questions.

- First, can IFRS convergence improve the financial reporting quality of firms in transitional economies such as China that have relatively less developed legal enforcement and investor protection than Western economies?
- Second, is this effect of IFRS convergence conditional on firms' financial reporting incentives, which are themselves influenced by institutional factors that affect firms' demand for external capital?

Affirmative answers to these questions would imply that IFRS convergence in China may potentially benefit firms that are disadvantaged in capital acquisition, such as those receiving less financial support from the government. Hence, introduction of IFRS-converged CAS may also potentially contribute to the efficiency of financial resource allocation in the Chinese capital market, which should in turn benefit China's economic development and growth.

1.3 OVERVIEW OF METHODOLOGY

This study evaluates the impact of IFRS convergence on the financial reporting of Chinese listed firms through value relevance tests. Specifically, it reports changes in the value relevance of book value per share and earnings per share. If reported earnings become more informative after the introduction of IFRS-converged CAS, then a stronger relationship between stock price and accounting numbers should be seen after 2007.

The main analysis is based on a sample of 10,017 firm-year observations of Chinese firms listed in either the Shanghai or Shenzhen stock exchanges over the period of 2003 to 2009. The years before and after 2007 are classified as the pre- and post-IFRS convergence periods, respectively. The sample excludes financial firms.

To mitigate the influence of confounding effects unrelated to the introduction of IFRS-converged CAS from 2007 onwards, stock market segmentation in China (explained in greater details in Chapter 2, section 2.2) was used and the test sample was divided into a treatment group and a control group. The treatment group consisted of Chinese firms that issue only A shares, which report under previous rules-based CAS before 2007 and under IFRS-converged CAS from 2007 onward. The control group consisted of Chinese firms that issue both A and B shares, which report under previous rules-based CAS and were required to provide additional accounting information in accordance with IFRS even before 2007. In other words, the firms in the treatment group were affected by IFRS only after 2007 while the firms in the control group were affected by IFRS even before 2007. Thus,

if the introduction of IFRS-converged CAS influences Chinese listed firms, then the effect from 2007 onwards should be observed mainly among the firms in the treatment group and not those in the control group. If in both groups a similar effect is seen around 2007, then the findings are more likely to be due to other unidentified confounding effects such as the business cycle or a time trend.

2. Institutional setting

2.1 DEVELOPMENT OF ACCOUNTING STANDARDS IN CHINA

Accounting standards in China have developed through time in accordance with the country's transformation from a centrally planned to a mixed market-oriented economy. Before 1978, China applied an accounting system adopted from the former Soviet Union, which was primarily designed to provide accounting information to the central government (Tang 2000). Subsequently, accounting standards in China evolved gradually to facilitate private ownership and foreign investment. In 1985, China introduced concepts such as accruals, matching and conservatism into the accounting regime (Ding and Su 2008). Before convergence to IFRS, China applied a largely rules-based accounting regime. This previous set of Chinese domestic accounting standards was industry specific, however, making it difficult for diversified companies to produce meaningful consolidated accounts (ICAS 2010).

On 15 February 2006 the Chinese Ministry of Finance officially announced the issuance of a new set of financial reporting standards (Accounting Standards for Business Enterprises). This new set of standards is recognised by the International Accounting Standards Board (IASB) as having achieved 'substantial convergence' with IFRS (IASB 2006). The IFRS-converged CAS are largely consistent with the full-IFRS except for some modifications. For instance, reverse impairment of losses on fixed assets, regular revaluation of fixed assets, the use of equity method or proportionate consolidation in the case of joint-venture companies are allowed by the full IFRS but not under the IFRS-converged CAS. All listed firms are required to report under the new standards from 2007 onwards. To facilitate the transition from the previous Chinese domestic accounting standards, firms are required to issue equity reconciliation statements prepared in the financial statements for 2006.

2.2 STOCK MARKET SEGMENTATION

The Shanghai and Shenzhen stock exchanges were established in the early 1990s to facilitate equity capital acquisition by Chinese firms. Firms listed in these exchanges can issue A shares traded in Chinese currency (RMB) and/or B shares traded in US dollars in Shanghai or Hong Kong dollars in Shenzhen. The A shares are issued by the vast majority of Chinese listed firms and are mainly intended for domestic investors. A smaller group of firms also issue B-shares that are mainly intended for foreign investors. Before 2007, firms that issued A shares were required to report under the previous rules-based Chinese domestic accounting standards while firms that issued both A and B shares were additionally required to provide IFRS reconciliations. This difference in financial reporting requirements provides a suitable research setting in which to examine the impact of IFRS-converged CAS. Since firms that issue both A and B shares already provided accounting information in line with IFRS before 2007, they serve as a natural control group in the empirical analyses of the impact of IFRS convergence from 2007 onwards on the majority of the Chinese listed firms that issue only A shares. This is because the financial reporting of the firms that issue both A and B shares should be less affected by the introduction of the IFRS-converged CAS around 2007, despite being exposed to the same systematic effects such as the business cycles and time trends that influence all Chinese listed firms.

2.3 INSTITUTIONAL FACTORS THAT AFFECT IFRS CONVERGENCE IMPACT IN CHINA

Industry classification

China's impressive economic growth has not only lifted hundreds of millions of people out of poverty, but also increased the importance of China's role in the global economy. One of the main contributions of China to the global economy stems from its status as the manufacturing centre of the world.⁴ The manufacturing sector accounts for nearly one-third of China's GDP and around 50% of the market capitalisation of the Chinese stock market, which makes China more specialised in manufacturing than most other emerging economies (Hanson and Robertson 2008). As manufacturing is the dominant sector in China, the competition among manufacturing firms for equity capital is expected to be greater than in other sectors. Thus, it is also expected IFRS convergence will have more impact on Chinese manufacturing firms than on their counterparts in other sectors.

Regional development

Despite China's impressive growth, significant differences in the level of economic development exist across regions. The development of coastal regions has been prioritised by China's economic reform policies and stimulated by the demand for international trade. The gap between economic activities in coastal regions and those in inland provinces influences institutional developments such as financial markets and government decentralisation, as well as the legal environment. These factors are known to influence the financial reporting incentives of firms (eg Leuz et al. 2003). Indeed, empirical evidence suggests that these institutional development differences even influence the choice of auditors by Chinese firms (Wang et al. 2008). Thus, institutional differences across regions within China are also expected to affect the impact of IFRS convergence.

State control

In spite of the general trend towards a free market economy, the Chinese government still maintains substantial ownership of and control over a majority of Chinese listed firms. This approach differs from other ex-communist transitional economies (such as Russia) where the governments have largely relinquished their ownership of listed firms. At present, nearly two-thirds of firms listed on stock exchanges in mainland China still have either central or local government-affiliated controlling shareholders. The government also influences the executive appointments of firms under its control. In return, the government provides benefits such as business contracts and financial support of various kinds. Thus, state-controlled firms are generally expected to serve the government's political and social objectives (eg Bai et al. 2000; Szamosszegi and Kyle 2011) more than the demands of outside investors in the capital market. As a result, the impact of IFRS convergence on such state-controlled firms, especially on those under the central government, is expected to be smaller than on those outside of state control.

4. According to IHS Global Insight, which is the world's leading provider of economic research and intelligence, China overtook the US to become the largest manufacturing nation in 2010: <<http://www.londonstockexchange.com/news/specials/global-manufacturing/china-asia/china-manufacturing/china-manufacturing.htm>>.

Foreign ownership

Owing to their information disadvantage, foreign investors usually have a greater demand for corporate transparency than domestic investors (Leuz et al. 2010). The lack of local knowledge about the institutional background and business culture in China also increases foreign investors' reliance on hard information from financial statements. As a result of this, the increase of financial statement comparability or accounting disclosure quality after IFRS convergence is expected to benefit foreign investors more than their domestic counterparts. This view is supported by the study of Tan et al. (2011), which shows a greater increase in forecast accuracy after mandatory IFRS adoption, and a greater increase in following by foreign analysts than by domestic ones. To the extent that Chinese firms' financial reporting caters for the information demands of foreign investors, the benefit of IFRS convergence would be expected to be more pronounced in firms with foreign ownership.

Delisting regulation

To benefit economic development and ensure that equity capital is largely directed to firms with good performance, the regulator of the Chinese stock market mandates that listed firms that report two years of consecutive losses be classified as specially treated (ST) firms. Firms classified as ST are associated with various trading and financial restrictions. For example, unlike other firms, they will have the trading of their stock suspended if their daily price volatility exceeds 5%. Moreover, ST firms cannot raise additional capital from the stock market. If the firm reports one more year of loss, it will be suspended from trading on the stock exchanges. Finally, such firms will be fully delisted if they suffer a fourth consecutive year of loss. This delisting rule increases the incentives of firms with weak performance to engage in earnings management to avoid delisting (Jiang and Wang 2008). As a set of principles-based accounting standards, IFRS provides firms with more financial reporting discretion. Thus, it is possible that firms that are concerned about potential delisting may take advantage of the flexibility afforded by IFRS-converged CAS to avoid reporting multiple losses. For such firms, earnings quality may decline following IFRS convergence.

State subsidy

Although the Chinese form of capitalism is becoming increasingly more market-oriented and less centrally planned, the government continues to influence economic development through the provision of subsidies. Allen et al. (2005) show that government subsidy is one of the four most important sources of finance for all Chinese firms. Subsidies are often provided to facilitate the development of sectors prioritised by the government, such as energy, aerospace/defence, transportation and high-tech industries (Chen et al. 2008). Firms that receive subsidies from the government are expected to have fewer financial constraints and to be less likely to rely on outside capital markets to supply their financial needs. Thus, the benefit of IFRS convergence is expected to be greater for firms that receive lower government subsidies because such firms have greater reliance on equity investors.

3. Empirical analysis

3.1 METHODOLOGY

Barth et al. (2001) argue that value relevance studies can be used to assess whether particular accounting line items, such as earnings and book value, reflect the information used by investors in valuing firms' equity. They argue that since the primary focus of most standard setters is equity investment, the other roles of financial statements, such as contracting, need not diminish the importance of value-relevance research. As a result, Barth et al. (2011) suggest that value relevance research is of interest to accounting standard setters such as the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB), as well as regulators such as the Security and Exchange Commission (SEC) and the Federal Reserve Board.

This study evaluates the impact of IFRS convergence in China on financial reporting quality among listed firms through value relevance tests. In other words, the aim is to determine whether accounting information has become more useful to equity investors in valuing Chinese listed firms since the enactment of IFRS-converged CAS.

Specifically, the following regression model is used in this evaluation:

$$P_{i,t} = \alpha_0 + \alpha_1 BVPS_{i,t} + \alpha_2 EPS_{i,t} + \alpha_3 Post + \alpha_4 Post \times BVPS_{i,t} + \alpha_5 Post \times EPS_{i,t} + \epsilon_{i,t} \quad (1)$$

where for firm i in year t , $P_{i,t}$ is the stock price four months after fiscal year-end, $BVPS_{i,t}$ is book value per share, $EPS_{i,t}$ is earnings per share and $Post$ is a dummy variable set equal to 1 for the post-IFRS period and 0 otherwise.⁵

This model focuses on the extent to which share price can be explained by earnings per share and book value per share. The response coefficients α_1 and α_2 capture the sensitivity of share price to book value per share and earnings per share in the pre-IFRS period. For the post-IFRS-convergence period, the model controls for the interactions of both book value and earnings per share with the Post dummy variable. For example, the interaction term $Post \times EPS_{i,t}$ indicates the difference in value relevance of reported earnings before and after the IFRS convergence. If the coefficient α_5 is significantly positive, this indicates that the equity value of firms becomes more sensitive to reported earnings under IFRS-converged CAS than under the previous CAS. This implies that earnings reported by Chinese listed firms become more informative to equity investors in determining the value of firms following IFRS-converged CAS implementation.

Nonetheless, to conclude reliably that the increase in the strength of the relationship between equity value and reported earnings is indeed attributable to IFRS convergence, it is necessary to compare this effect between two groups of Chinese listed firms. The first is a treatment group that comprises firms that issue only A shares and that switched to IFRS-converged CAS for the first time during or since 2007. The second is a control group that comprises firms that issue both A and B shares and were thus required to provide additional accounting information based on IFRS, even for periods before 2007. If IFRS convergence from 2007 onwards improved the value relevance of reported earnings

of Chinese listed firms, then the effect captured through the coefficient α_5 should be significant only in the treatment group and not the control group. This is because the former is affected by IFRS convergence only from 2007 onwards while the latter was already under the influence of IFRS before 2007.⁶

Once it is confirmed that IFRS convergence indeed affects the value relevance of reported earnings in China, further analyses within the treatment group can determine whether this effect is conditional on a comprehensive set of institutional factors that could influence Chinese firms' financial reporting incentives. The official China Security Regulatory Commission (CSRC) industry classification is used to classify firms into industries. This study classifies Chinese listed firms into regions in two ways. The first uses the regional institutional development indices of Fan and Wang (2009), which measure the level of government decentralization, legal environment and credit market development in the different provinces of China. The second categorises China into three geographic regions: eastern, central and western. Firms are then divided into those that are controlled by central government, those controlled by local government, and those that are not state controlled, on the basis of their ultimate controlling shareholder. For foreign investor influence, Chinese listed firms are divided into those with and without foreign ownership. Firms with a higher than average delisting motive are identified as those under special treatment by CSRC rules. The influence of government subsidy is measured as the industry-adjusted subsidies scaled by market value. Table 3.1, overleaf, presents the detailed definition of all variables used in the analyses.

3.2 SAMPLE

Table 3.2, overleaf, presents the sample selection. It includes Chinese firms listed in either one or both of the Shanghai and Shenzhen stock exchanges over the period of 2003 to 2009. The years 2003 to 2006 are classified as the pre-IFRS-convergence period and the years 2007 to 2009 as the post-IFRS-convergence period. Following the practice of most market-based accounting research, the sample excludes financial firms owing to the differences between the accounting measurement used in these firms and the one used in other industries. Only firms for which valid data could be obtained are included in the sample, to enable calculation of the test variables required in the empirical analyses. Table 3.2 Panel A indicates that the final sample comprises 10,017 firm-year observations. Table 3.2 Panel B reports the yearly distribution of observations in the sample. The gradual increase in observations through time indicates growth in the number of firms listed in the Chinese stock exchanges. Table 3.2 Panel C shows the industry distribution of the observations. Notice that manufacturing industry accounts for nearly 60% of the number of observations and nearly 50% of the market capitalisation of the whole sample.

6. Firms in the control group are not foreign firms cross-listed in Chinese stock market. Instead, they are Chinese firms that issue two kinds of shares, ie A shares traded in local currency and B shares traded in US or Hong Kong dollars. There could be some differences in characteristics between these firms and those in the treatment group. Nonetheless, these firms do not seem to have any major characteristic that will reduce their likelihood of improving the value relevance of accounting information from 2007 onwards after the enactment of IFRS-converged CAS, apart from the fact that these firms must already provide additional accounting disclosure in line with IFRS even for periods before 2007. In fact, this is the reason why such firms were chosen to serve as the control group in the research design in the first place.

5. For firms in the control group that issue both A- and B-shares, the analyses were confined to A shares in order to be comparable and consistent with firms in the treatment group.

Table 3.1: Definitions of variables

Variables	Notations	Definitions
Stock price	P_t	Stock price four months after fiscal year-end.
Book value	$BVPS_t$	Book value per share at the end of fiscal year t.
Net income	EPS_t	Net income per share at the end of fiscal year t.
Post-IFRS	$POST$	1 for observations after IFRS adoption, and otherwise 0.
Manufacturing	$Manu$	1 for observations in the manufacturing sector, and otherwise 0.
Government decentralization index	Gov	This index, constructed by Fan and Wang (2009), measures the percentage of GDP, the tax rates in a region, and the amount of government administrative regulations for each region across 2001–7. Higher index suggests less government involvement.
Legal environment index	$Legal$	This index, constructed by Fan and Wang (2009), measures the number of lawyers as a percentage of the population, the efficiency of the local courts and protection of property rights, for each region across 2001–7. Higher index suggests better legal environment.
Credit market index	$Credit$	This index, constructed by Fan and Wang (2009), measures the percentage of deposits taken by non-state financial institutions and the percentage of short-term loans to the non-state sector for each region across 2001–7. Higher index suggests more developed credit market.
Eastern regions	$East$	According to the classification of the National Bureau of Statistics of China (NBSC), eastern regions include: Beijing, Fujian, Guangdong, Hainan, Hebei, Jiangsu, Shandong, Shanghai, Tianjin, Zhejiang, Heilongjiang, Jilin and Liaoning.
Central regions	Mid	According to classification of NBSC, central regions include: Anhui, Henan, Hubei, Hunan, Jiangxi and Shanxi.
Western regions	$West$	According to classification of NBSC, western regions include: Chongqing, Gansu, Guangxi, Guizhou, Inner-Mongolia, Ningxia, Qinghai, Shaanxi, Sichuan, Tibet, Xinjiang and Yunnan.
Local SOEs	$LSOE$	Dummy variable that equals 1 if the ultimate controller is a local government.
Central SOEs	$CSOE$	Dummy variable that equals 1 if the ultimate controller is a central government.
NSOE	$NSOE$	Dummy variable that equals 1 if the ultimate controller is a non-state entity.
Foreign shares	FS	Dummy variable that equals 1 if some shares of a firm are held by foreigners.
Special treatment	ST	Dummy variable that equals 1 if the firm is specially treated in year t.
State subsidy	SUB	State subsidies scaled by market value of a firm.

Table 3.2: Sample selection

Panel A: Sample selection		Observations	
Initial sample for 2003–9 (excluding financial firms)		10,235	
Excluding firm-years with missing financial data		218	
Final sample		10,017	
Panel B: Yearly distribution			
Sample year	Number of firm-years	% of total sample	
2003	1,237	12.35	
2004	1,326	13.24	
2005	1,329	13.27	
2006	1,394	13.92	
2007	1,497	14.94	
2008	1,574	15.71	
2009	1,660	16.57	
Total	10,017	100	
Panel C: Industry distribution			
Industry	Number of firm-years	% of sample	% of market cap
Agriculture, Forestry and Fishing	261	2.61	1.45
Mining	178	1.78	10.57
Manufacturing	5,891	58.81	48.18
Utilities	426	4.25	6.14
Construction	212	2.12	2.29
Transportation	427	4.26	7.06
Information Technology	651	6.5	5.88
Trade	637	6.36	5.27
Real Estate	442	4.41	6.14
Service	300	2.99	2.22
Media	77	0.77	0.64
Others	515	5.14	4.16

This table presents the sample selection (Panel A), yearly distribution (Panel B) and industry distribution (Panel C). % of market cap is calculated as the market value of tradable shares for each industry divided by total market value of tradable shares of the entire sample.

3.3 SUMMARY STATISTICS AND CORRELATION MATRIX

Table 3.3 presents the summary statistics of the variables used in the analyses. Panel A is based on the full test sample, which includes firms in both the treatment and control groups. The treatment group consists of firms that issue only A shares and the control group consists of firms that issue both A and B shares. From the pre- to the post-IFRS convergence period, the median share price (P) nearly doubled from ¥6.670 to 10.250. Over the same period there appeared to be a broadly similar increase in the median level of earnings per share (EPS) from ¥0.130 to ¥0.210. Nonetheless, the median level of book value per share ($BVPS$) is similar between the two periods, ie ¥2.659 and ¥2.810. Thus, the equity value of Chinese listed firms in the sample increased in accordance with their profitability through time. Panel B is based only on the firms in the treatment group. As in the full sample, a broadly consistent increase in stock price and earnings per share through time is observed. The significant increase in the values for indicators of regional development (*Gov, Legal, Credit, East, and West*), ownership (*LSOE, CSOE, NSOE* and *FS*) and subsidy (*SUB*) indicate a general increase in the number of listed firms in most categories through time.

Table 3.4, overleaf, presents the correlation matrix of the variables used in the analyses. Panel A is based on the full sample and Panel B is based only on the treatment group. In Panel A, both Pearson and Spearman correlations show that

stock price has greater correlation with earnings per share than book value per share. In Panel B, a similar pattern is observed. Panel B further shows that stock price is positively correlated with indicators of manufacturing sector (*Manu*), more developed regions (*Gov, Legal, Credit, and East*), non-state-owned enterprises (*NSOE*), centrally controlled state enterprises (*CSOE*) and foreign ownership (*FS*). Stock price is also negatively correlated with indicators of less developed regions (*Mid* and *West*), local-state-owned enterprise (*LSOE*), delisting avoidance motive (*ST*) and government subsidies (*SUB*).

3.4 VALUE RELEVANCE TESTS OF TREATMENT GROUP VERSUS CONTROL GROUP

Table 3.5, overleaf, presents the findings of the first value relevance test through the regression analyses based on Equation 1. The regression equation is fitted separately for the treatment and control groups. Recall that the treatment group comprises firms that reported under IFRS-converged CAS for the first time in 2007 while the control group comprises firms that provided additional accounting information in line with IFRS even before 2007. Thus, if IFRS convergence exerted any direct influence on financial reporting quality around 2007, it should appear only in firms of the treatment group and not in firms of the control group.

Among firms in the treatment group, it can be seen that the coefficients for *BVPS* and *EPS* are both significantly positive,

Table 3.3: Summary statistics

Pre-IFRS convergence period (2003–6)							Post-IFRS convergence period (2007–9)						
Panel A: Full sample		Obs.	Mean	25th pct	50th pct	75th pct	Std	Obs.	Mean	25th pct	50th pct	75th pct	Std
<i>P</i>	5,286	8.296	4.040	6.670	10.490	5.811	4,731	12.489 ^a	7.140	10.250 ^a	16.130	6.973	
<i>EPS</i>	5,286	0.155	0.030	0.130	0.300	0.290	4,731	0.261 ^a	0.050	0.210 ^a	0.469	0.339	
<i>BVPS</i>	5,286	2.742	1.753	2.659	3.641	1.370	4,731	2.958 ^a	1.760	2.810 ^a	4.067	1.614	
Panel B: Treatment group sub-sample		Obs.	Mean	25th pct	50th pct	75th pct	Std	Obs.	Mean	25th pct	50th pct	75th pct	Std
<i>P</i>	4,942	8.292	4.040	6.645	10.470	5.853	4,446	12.625 ^a	7.190	10.350 ^a	16.340	7.057	
<i>EPS</i>	4,942	0.155	0.033	0.131	0.300	0.290	4,446	0.263 ^a	0.055	0.210 ^a	0.470	0.339	
<i>BVPS</i>	4,942	2.769	1.792	2.675	3.658	1.354	4,446	3.001 ^a	1.812	2.836 ^a	4.101	1.597	
<i>Manu</i>	4,942	0.578	0.000	1.000	1.000	0.494	4,446	0.591	0.000	1.000	1.000	0.492	
<i>Gov</i>	4,942	8.372	7.750	8.510	9.460	1.339	4,446	8.460 ^a	7.750	8.530 ^a	9.570	1.310	
<i>Legal</i>	4,942	5.811	3.810	5.130	7.780	2.718	4,446	5.979 ^a	3.810	5.300 ^a	8.390	2.695	
<i>Credit</i>	4,942	8.122	6.320	8.410	10.560	2.331	4,446	8.320 ^a	6.780	8.440 ^a	10.820	2.332	
<i>East</i>	4,942	0.612	0.000	1.000	1.000	0.487	4,446	0.638 ^a	0.000	1.000 ^a	1.000	0.481	
<i>Mid</i>	4,942	0.173	0.000	0.000	0.000	0.378	4,446	0.165	0.000	0.000	0.000	0.372	
<i>West</i>	4,942	0.215	0.000	0.000	0.000	0.411	4,446	0.197 ^b	0.000	0.000 ^b	0.000	0.398	
<i>LSOE</i>	4,942	0.529	0.000	1.000	1.000	0.499	4,446	0.411 ^a	0.000	0.000 ^a	1.000	0.492	
<i>CSOE</i>	4,942	0.156	0.000	0.000	0.000	0.363	4,446	0.180 ^a	0.000	0.000 ^a	0.000	0.384	
<i>NSOE</i>	4,942	0.314	0.000	0.000	1.000	0.464	4,446	0.410 ^a	0.000	0.000 ^a	1.000	0.492	
<i>FS</i>	4,942	0.060	0.000	0.000	0.000	0.238	4,446	0.070 ^c	0.000	0.000 ^c	0.000	0.255	
<i>ST</i>	4,923	0.084	0.000	0.000	0.000	0.278	4,386	0.083	0.000	0.000	0.000	0.277	
<i>SUB</i>	4,930	0.002	0.000	0.000	0.002	0.004	4,371	0.002 ^a	0.000	0.001 ^a	0.003	0.004	

This table presents summary statistics of variables used in the analyses (mean, 25th percentile, 50th percentile, 75th percentile, and standard deviation). Panel A consists of firms of both treatment group and control group. Treatment group comprises firms that issue only A shares. Control group comprises firms that issue both A and B shares. Panel B consists only of firms in the treatment group. All variable definitions are presented in Table 3.1. All variables except the dummy are winsorised at the 5% and 95% levels. a, b and c indicate significant difference between pre- and post- IFRS adoption at 1%, 5% and 10%, respectively, on the basis of a two-tailed test.

Table 3.4: Correlation matrix

Panel A: Full sample		P		BVPS				EPS				POST			
P						0.449				0.577				0.358	
BVPS		0.481								0.627				0.060	
EPS		0.601				0.616								0.153	
POST		0.312				0.072				0.166					

Panel B: Treatment group sub-sample																	
	P	BVPS	EPS	POST	Manu	Gov	Legal	Credit	East	Mid	West	LSOE	CSOE	NSOE	FS	ST	SUB
P		0.448	0.579	0.366	0.014	0.062	0.072	0.049	0.033	-0.014	-0.027	-0.099	0.063	0.054	0.022	-0.194	0.108
BVPS	0.481		0.623	0.064	0.037	0.033	0.045	0.003	0.037	0.036	-0.077	0.070	0.024	-0.091	0.025	-0.410	0.102
EPS	0.602	0.617		0.156	-0.009	0.099	0.106	0.075	0.075	-0.005	-0.085	-0.025	0.018	0.013	0.026	-0.265	0.049
POST	0.318	0.078	0.170		0.013	0.037	0.034	0.042	0.026	-0.009	-0.023	-0.119	0.031	0.099	0.019	-0.003	0.223
Manu	0.018	0.033	-0.007	0.013		-0.078	-0.145	-0.010	-0.105	0.091	0.041	-0.028	-0.037	0.058	0.096	0.017	0.090
Gov	0.039	0.050	0.092	0.033	-0.066		0.756	0.708	0.587	-0.258	-0.464	-0.121	-0.001	0.127	0.106	-0.067	0.086
Legal	0.055	0.036	0.093	0.031	-0.153	0.654		0.604	0.784	-0.486	-0.487	-0.129	0.061	0.087	0.109	-0.050	0.097
Credit	0.038	0.003	0.073	0.043	-0.018	0.584	0.555		0.441	-0.347	-0.206	-0.090	-0.132	0.196	0.103	-0.024	0.108
East	0.027	0.034	0.073	0.027	-0.106	0.548	0.697	0.424		-0.582	-0.657	-0.105	0.036	0.081	0.087	-0.029	0.049
Mid	-0.009	0.036	-0.005	-0.010	0.091	-0.154	-0.390	-0.331	-0.582		-0.230	0.075	-0.006	-0.073	-0.028	-0.023	-0.033
West	-0.025	-0.074	-0.083	-0.023	0.042	-0.513	-0.473	-0.200	-0.657	-0.230		0.056	-0.038	-0.029	-0.078	0.056	-0.028
LSOE	-0.099	0.061	-0.024	-0.119	-0.028	-0.098	-0.105	-0.075	-0.105	0.075	0.056		-0.425	-0.710	-0.075	-0.063	-0.021
CSOE	0.052	0.022	0.017	0.031	-0.037	0.016	0.072	-0.128	0.036	-0.006	-0.038	-0.425		-0.336	-0.015	-0.047	0.021
NSOE	0.062	-0.081	0.011	0.099	0.058	0.090	0.054	0.178	0.081	-0.073	-0.029	-0.710	-0.336		0.090	0.103	0.006
FS	0.026	0.027	0.030	0.020	0.096	0.093	0.106	0.105	0.087	-0.029	-0.078	-0.075	-0.015	0.090		-0.021	0.017
ST	-0.169	-0.413	-0.243	-0.004	0.015	-0.070	-0.052	-0.026	-0.028	-0.023	0.055	-0.063	-0.047	0.103	-0.021		-0.097
SUB	-0.029	0.046	-0.018	0.077	0.034	0.001	0.040	0.031	0.026	-0.018	-0.015	0.018	0.008	-0.025	-0.021	-0.018	

This table presents a correlation matrix. Below (above) the diagonal is Pearson (Spearman) correlation, respectively. Panel A consists of both firms that issue only A shares (ie treatment group) and those that issue both A and B shares (i.e. control group). Panel B consists of only A-share firms. All variable definitions are presented in Table 3.1. All variables except the dummy are winsorised at the 5% and 95% levels. Bold numbers suggest significance at the 1% level.

Table 3.5: Value relevance test of treatment group versus control group

	Treatment group		Control group		Significant difference test
	Coeff.	t-stat	Coeff.	t-stat	
Intercept	7.154 ^a	(4.32)	4.786 ^a	(7.03)	
BVPS	1.136 ^a	(17.06)	1.224 ^a	(4.82)	
EPS	4.276 ^a	(15.95)	6.395 ^a	(7.14)	
Post	3.739 ^a	(17.63)	2.030 ^a	(3.09)	
Post×BVPS	0.087	(1.29)	0.235	(1.03)	NO
Post×EPS	0.622 ^c	(1.90)	-0.549	(-0.47)	YES
Firm fixed effect	YES		YES		
Observations	9,388		629		
AdjustedR2	0.762		0.749		

This table presents the results from regression analyses of value relevance. The treatment group consists of firms that only issue A shares. The control group consists of firms that issue both A and B shares. All variable definitions are presented in Table 3.1. All variables except Post are winsorised at the 5% and 95% levels. The numbers in parenthesis are t-statistics. ^a, ^b and ^c indicates significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test compares the effect between the two sub-samples at the 5% level, on the basis of a one-tailed test.

ie 1.136 (*t*-stat = 17.06) and 4.276 (*t*-stat = 15.95) respectively. This indicates that both book value and earnings were value relevant before IFRS convergence in China. The coefficients for the interaction terms *Post* \times *BVPS* and *Post* \times *EPS* are 0.087 (*t*-stat=1.29) and 0.622 (*t*-stat=1.90) respectively. This suggests that the value relevance of reported earnings was incrementally higher for firms in the treatment group during the post-IFRS convergence period than in the pre-IFRS convergence period. Turning to the control group, although the coefficients for *BVPS* (1.224, *t*-stat = 4.82) and *EPS* (6.395, *t*-stat = 7.14) are also significantly positive, there is no significant coefficient for either of the interaction terms *Post* \times *BVPS* (0.235, *t*-stat = 1.03) and *Post* \times *EPS* (-0.549, *t*-stat = -0.47). Therefore, no increase is seen in value relevance for either book value per share or earnings per share in the control group after year 2007. Further tests reveal that there is a statistically significant difference between coefficients for the term *Post* \times *EPS* between the treatment and control group for.

The observation that the value relevance of reported earnings significantly increases only for firms in the treatment group, but

not for the control group, strengthens the inference that the observed effect is attributable to IFRS convergence in China from 2007 onwards. This also reduces the likelihood that the observed effect is caused by confounding effects other than the introduction of IFRS-converged CAS: for instance, the business cycle or a time trend. In other words, there is evidence to confirm that IFRS convergence in China improved the informativeness of earnings reported by listed firms, on average.

3.5 THE EFFECTS OF INSTITUTIONAL FACTORS ON THE VALUE-RELEVANCE EFFECTS OF IFRS

Industry classification

Table 3.6 presents the value relevance tests conditional on industry classification within the treatment group for which there is an IFRS-convergence effect. Panel A indicates that the coefficient pertaining to *BVPS* is broadly similar between manufacturing firms (1.217, *t*-stat = 13.80) and non-manufacturing firms (1.074, *t*-stat = 10.38). Panel A also indicates that the coefficient pertaining to the *EPS* is broadly similar between manufacturing firms (4.040, *t*-stat = 11.64)

Table 3.6: Value relevance test conditional on industry classification

Panel A: Manufacturing versus non-manufacturing								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. <i>R</i> ²
Manufacturing	4.193 ^a (14.97)	1.217 ^a (13.80)	4.040 ^a (11.64)	4.727 ^a (16.69)	-0.015 (-0.17)	1.306 ^a (3.14)	5,484	0.766
Non-manufacturing	5.130 ^a (16.07)	1.074 ^a (10.38)	4.538 ^a (10.71)	2.381 ^a (7.33)	0.236 ^b (2.20)	0.276 (-0.51)	3,904	0.759
Significant difference test					NO	YES		
Panel B: Value relevance by industry classifications								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. <i>R</i> ²
Agriculture	2.577 ^b (2.06)	1.477 ^a (3.98)	2.931 ^c (1.88)	3.357 ^a (2.77)	1.043 ^a (2.74)	-1.507 (-0.78)	255	0.783
Mining	4.150 ^b (2.11)	1.206 ^b (2.02)	7.450 ^a (2.76)	3.620 (1.30)	1.159 (1.30)	-2.455 (-0.61)	178	0.761
Manufacturing	4.193 ^a (14.97)	1.217 ^a (13.80)	4.040 ^a (11.64)	4.727 ^a (16.69)	-0.015 (-0.17)	1.306 ^a (3.14)	5,484	0.766
Utilities	3.369 ^a (3.81)	1.566 ^a (5.70)	3.232 ^a (2.94)	3.172 ^a (3.29)	-0.745 ^b (-2.50)	-1.172 (-0.90)	405	0.664
Construction	5.010 ^a (3.77)	0.660 (1.62)	4.574 ^b (2.08)	3.812 ^a (2.85)	-0.074 (-0.18)	0.080 (0.03)	212	0.805
Transportation	5.793 ^a (5.07)	0.392 (1.05)	9.456 ^a (6.55)	2.343 ^b (1.98)	-0.192 (-0.47)	-3.448 ^c (-1.89)	391	0.619
Information Technology	7.561 ^a (8.46)	1.367 ^a (5.50)	3.597 ^a (3.63)	1.747 ^b (2.03)	0.414 (1.61)	-1.151 (-0.85)	624	0.801
Trade	3.850 ^a (5.05)	0.947 ^a (3.52)	6.786 ^a (6.54)	2.604 ^a (3.44)	0.833 ^a (3.21)	-0.194 (-0.15)	615	0.798
Real Estate	2.389 ^b (2.44)	1.414 ^a (4.61)	5.223 ^a (4.17)	2.934 ^a (3.25)	-0.313 (-1.16)	-2.277 (-1.44)	390	0.693
Service	4.443 ^a (3.60)	1.177 ^a (2.62)	6.279 ^a (3.84)	1.730 (1.40)	0.951 ^c (1.89)	-5.277 ^b (-2.11)	265	0.834
Media	7.778 ^a (4.08)	1.054 ^c (1.82)	10.464 ^a (3.23)	0.549 (0.28)	1.485 ^b (2.38)	-6.096 (-1.55)	69	0.838
Others	5.288 ^a (7.73)	1.133 ^a (3.91)	1.534 (1.33)	4.156 ^a (5.32)	-1.022 ^a (-3.19)	3.423 ^b (2.13)	500	0.679

This table presents results from regression analyses of value relevance conditional on industry classification within the treatment group. The industries are classified according to the industry classification standards of the China Securities Regulatory Commission. All variable definitions are presented in Table 3.1. All variables except the dummy are winsorised at the 5% and 95% levels. The numbers in the parentheses are *t*-statistics. ^a, ^b and ^c indicates significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test in Panel A compares the effect between the two sub-samples at the 5% level, on the basis of a one-tailed test.

and non-manufacturing firms (4.538, t -stat = 10.71). In other words, under the rules-based previous Chinese domestic accounting standards, the value relevance of earnings and book values of manufacturing and non-manufacturing firms is largely consistent.

The coefficient estimated for the interaction term $Post \times BVPS$ is significantly positive in the non-manufacturing firms (0.236, t -stat = 2.20) but not in the manufacturing firms (-0.015, t -stat = -0.17), and the difference is not statistically significant. In contrast, the coefficient estimated for the interaction term $Post \times EPS$ is significantly positive for manufacturing firms (1.306, t -stat = 3.14), but insignificantly negative in non-manufacturing firms (-0.276, t -stat = -0.51). Moreover, the difference between the manufacturing and non-manufacturing groups is statistically significant for $Post \times EPS$. Thus, there is statistically significant evidence that the IFRS convergence effect on earnings is greater among the manufacturing firms.

Panel B breaks down the non-manufacturing industries into a more detailed sector classification and in the vast majority of cases the coefficient estimated for $Post \times EPS$ appears to be lower than that for the manufacturing industry. These findings are consistent with the hypothesis that manufacturing firms, more than firms in most other sectors, improve their financial reporting quality after IFRS convergence. This is possibly due to a greater need to communicate with outside investors as a result of higher competition for external capital in the manufacturing sector.

Regional development

Table 3.7, overleaf, presents the value relevance tests that are conditional on regional development status within the treatment group. Panels A, B and C classify regions by government decentralisation, legal environment indices and credit market development respectively, on the basis of the location of their headquarters.⁷ Among firms in regions where the index level is classified as low, the magnitude of the coefficients for $Post \times BVPS$ and $Post \times EPS$ appears to be higher than for their counterparts in regions where the index level is classified as high. For instance, in Panel A the coefficient for $Post \times BVPS$ is 0.237 (t -stat = 2.13) among firms in the 'low government involvement' region and 0.095 (t -stat = 0.78) among those in the 'high government involvement' region. In the same panel, the coefficient for $Post \times EPS$ is 1.661 (t -stat = 3.09) in the 'low government involvement' region and -0.402 (t -stat = -0.67) in the 'high government involvement' region. The difference between the high versus low groups is also statistically significant for the coefficient on $Post \times EPS$. This suggests that firms in regions that are less developed improve their financial reporting quality more following IFRS convergence than firms in regions that are more developed. Panel D provides a consistent picture. Firms located in the more developed eastern coastal regions appear to have a smaller $Post \times EPS$ coefficient than their counterparts in the less-developed inland regions. On the whole, the consistency of these findings provides evidence that firms in less-developed regions are associated with a greater increase in financial reporting quality after IFRS convergence. Firms in such regions may have greater incentives to do so since

they have greater disadvantages in acquiring external capital than firms in more developed regions.

State and foreign ownership

Table 3.8, overleaf, presents the value relevance tests conditional on ownership type for which an IFRS-convergence effect can be seen within the treatment group. Panel A partitions firms into non-state controlled firms, local-government-controlled firms, and central-government-controlled firms. The coefficients for $Post \times BVPS$ and $Post \times EPS$ are both significantly positive in non-state controlled firms, ie 0.608 (t -stat = 4.17) and 1.313 (t -stat = 1.71) respectively. For central-government-controlled firms, which receive the most state financial support, the coefficient of $Post \times BVPS$ is insignificant in magnitude at 0.227 (t -stat = 0.99) and the coefficient of $Post \times EPS$ is also statistically insignificant at 0.626 (t -stat = 0.59). This is consistent with the hypothesis that firms receiving more government financial support will have a lower incentive to improve financial reporting under IFRS-converged CAS, possibly because they prioritise serving government's objectives over the need to communicate with outside investors. Nonetheless, since the differences between the central-government-controlled firms and non-state-controlled firms are not statistically significant in Panel A, it is not possible to draw any firm conclusions.

Panel B partitions firms into those with and without foreign ownership⁸ The coefficient for $Post \times BVPS$ is insignificantly different among firms without and with foreign ownership, ie 0.445 (t -stat = 4.94) and 0.067 (t -stat = 0.22) respectively. Nonetheless, the coefficient for $Post \times EPS$ is significantly higher for firms with foreign ownership (4.808, t -stat = 2.69) than for firms without foreign ownership (1.672, t -stat = 3.62). This finding is consistent with the hypothesis that, in moving from pre-convergence CAS to IFRS-converged CAS, Chinese listed firms improved the quality of reported earnings more if they were under the scrutiny of foreign investors.

Delisting regulation

Table 3.9, overleaf, presents the value-relevance tests conditional on delisting avoidance incentives within the treatment group. Firms are classified as having high delisting avoidance incentives if they qualify as being specially treated by stock market authorities, and otherwise as having low delisting avoidance incentives. The coefficients for $Post \times BVPS$ (0.047, t -stat = 0.60) and $Post \times EPS$ (0.646, t -stat = 1.81) are positive for the 'low delisting avoidance incentives' group, although it is significant only in the latter case. In contrast, these coefficients are negative and insignificant for the 'high delisting avoidance incentives' group. The difference in coefficient for $Post \times EPS$ between the two groups is statistically significant. These findings suggest that firms with high delisting avoidance incentives do not improve their reported earnings quality under IFRS-converged CAS, possibly because they are engaged in more earnings management. In other words, this delisting rule may impede the benefit of IFRS convergence for underperforming firms.

8. Since the proportion of foreign investor ownership in Chinese listed firms is low, firms are classified as having foreign investors however small the amount of foreign investment they may enjoy.

7. This approach follows that of Wang et al. (2008).

State subsidy

Table 3.10, overleaf, presents the value-relevance tests that are conditional on government subsidy within the treatment group. The coefficients for $Post \times EPS$ are significantly positive for low-subsidy and medium-subsidy groups but not the high-subsidy group. The coefficient for $Post \times EPS$ is 1.711 (t -stat = 2.87) in low-subsidy group and -0.463 (t -stat = -0.69) in the high-subsidy group. The rise in value relevance for earnings

significantly higher for the low-subsidy group than for the high-subsidy group. This finding is consistent with the hypothesis that less-subsidised firms have greater reliance on external capital and therefore greater incentives to improve financial reporting under IFRS-converged CAS than under the previous CAS. For firms more subsidised by the government, the dependence on outside investors is lower and the need to cater for their information demand is lower.

Table 3.7: Value relevance test conditional on regional development

Panel A: Classified by government decentralisation index								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. R^2
Low	7.730 ^b (2.11)	0.995 ^a (8.97)	3.315 ^a (7.68)	3.835 ^a (10.65)	0.237 ^b (2.13)	1.661 ^a (3.09)	3,105	0.754
Medium	10.162 ^c (3.42)	1.151 ^a (9.59)	4.291 ^a (8.86)	4.504 ^a (11.65)	-0.164 (-1.35)	1.111 ^c (1.90)	2,901	0.772
High	4.076 ^c (1.82)	1.312 ^a (11.09)	5.079 ^a (10.34)	3.167 ^a (8.68)	0.095 (0.78)	-0.402 (-0.67)	3,382	0.764
Significant difference test (High – Low)					NO	YES		
Panel B: Classified by legal environment index								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. R^2
Low	5.172 ^b (2.51)	1.007 ^a (8.85)	3.270 ^a (7.32)	4.092 ^a (10.80)	0.172 (1.47)	1.927 ^a (3.47)	2,910	0.749
Medium	10.513 ^a (2.60)	1.315 ^a (11.80)	3.594 ^a (8.12)	3.942 ^a (11.56)	0.041 (0.38)	0.680 (1.28)	3,524	0.761
High	10.016 ^a (4.80)	1.122 ^a (9.03)	6.109 ^a (11.73)	3.362 ^a (8.49)	-0.013 (-0.10)	-0.370 (-0.57)	2,954	0.775
Significant difference test (High – Low)					NO	YES		
Panel C: Classified by credit market index								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. R^2
Low	6.030 ^b (2.07)	0.943 ^a (8.32)	4.709 ^a (10.83)	3.317 ^a (9.02)	0.224 ^b (2.00)	0.296 (0.54)	3,111	0.763
Medium	7.634 ^b (2.12)	1.216 ^a (10.07)	2.858 ^a (5.87)	5.087 ^a (12.97)	-0.128 (-1.03)	2.358 ^a (4.02)	2,762	0.766
High	7.278 ^a (3.30)	1.302 ^a (11.35)	4.940 ^a (10.27)	3.163 ^a (8.96)	0.077 (0.64)	-0.174 (-0.30)	3,515	0.762
Significant difference test (High – Low)					NO	NO		
Panel D: Classified by regions								
	Intercept	BVPS	EPS	Post	Post \times BVPS	Post \times EPS	Obs.	Adj. R^2
East	7.096 ^b (2.46)	1.204 ^a (13.65)	5.119 ^a (14.33)	3.322 ^a (12.17)	0.111 (1.24)	-0.182 (-0.42)	5,859	0.770
Mid	6.011 ^a (2.71)	0.988 ^a (6.43)	2.863 ^a (4.63)	3.904 ^a (7.38)	0.105 (0.66)	2.755 ^a (3.72)	1,590	0.764
West	5.913 ^c (1.93)	1.124 ^a (8.04)	3.197 ^a (5.85)	4.906 ^a (10.83)	-0.022 (-0.15)	1.395 ^b (2.01)	1,939	0.742
Significant difference test (East – West)					NO	YES		

This table presents results from regression analyses of value relevance conditional on institutional development within the treatment group. In Panels A, B and C, institutional environment is classified into terciles based on government decentralization, legal environment and credit market indices respectively. All variable definitions are presented in Table 3.1. The numbers in the parentheses are t-statistics. All variables except the dummy are winsorised at the 5% and 95% levels. ^a, ^b and ^c indicates significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test in each panel compares the effect between the two designated sub-samples at the 5% level, on the basis of a one-tailed test.

Table 3.8: Value relevance test conditional on ownership type

Panel A: State ownership (SOE) versus non-state ownership								
	<i>Intercept</i>	<i>BVPS</i>	<i>EPS</i>	<i>Post</i>	<i>Post</i> × <i>BVPS</i>	<i>Post</i> × <i>EPS</i>	<i>Obs.</i>	<i>Adj.R</i> ²
Non-SOE	8.983 ^a (12.29)	0.868 ^a (9.93)	7.735 ^a (16.47)	3.064 ^a (7.42)	0.608 ^a (4.17)	1.313 ^c (1.71)	3,366	0.632
Local government SOE	12.075 ^a (18.93)	0.635 ^a (8.85)	7.241 ^a (18.22)	2.724 ^a (7.21)	0.318 ^b (2.52)	2.628 ^a (3.97)	4,431	0.604
Central government SOE	7.605 ^a (6.27)	0.750 ^a (4.86)	8.636 ^a (12.04)	3.020 ^a (4.26)	0.227 (0.99)	0.626 (0.59)	1,567	0.572
Significant difference test (Central vs Non-SOE)					NO	NO		

Panel B: Foreign ownership versus domestic ownership								
	<i>Intercept</i>	<i>BVPS</i>	<i>EPS</i>	<i>Post</i>	<i>Post</i> × <i>BVPS</i>	<i>Post</i> × <i>EPS</i>	<i>Obs.</i>	<i>Adj.R</i> ²
With foreign investor	12.143 ^a (5.45)	0.699 ^a (3.88)	9.191 ^a (7.10)	3.450 ^a (3.38)	0.067 (0.22)	4.808 ^a (2.69)	608	0.680
Without foreign investor	11.180 ^a (22.19)	0.743 ^a (13.75)	7.596 ^a (26.42)	2.980 ^a (11.19)	0.445 ^a (4.94)	1.672 ^a (3.62)	8,780	0.601
Significant difference test (Without – With)					NO	YES		

This table presents results from regression analyses of value relevance conditional on institutional development within the treatment group. In Panels A, B and C, institutional environment is classified into terciles based on government decentralization, legal environment and credit market indices respectively. All variable definitions are presented in Table 3.1. The numbers in the parentheses are t-statistics. All variables except the dummy are winsorised at the 5% and 95% levels. ^a, ^b and ^c indicates significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test in each panel compares the effect between the two designated sub-samples at the 5% level, on the basis of a one-tailed test.

Table 3.9: Value relevance test by delisting avoidance motive

	<i>Intercept</i>	<i>BVPS</i>	<i>EPS</i>	<i>Post</i>	<i>Post</i> × <i>BVPS</i>	<i>Post</i> × <i>EPS</i>	<i>Obs.</i>	<i>Adj.R</i> ²
Low	10.960 ^a (2.68)	0.991 ^a (13.25)	5.614 ^a (18.78)	4.004 ^a (15.99)	0.047 (0.60)	0.646 ^c (1.81)	8,528	0.771
High	5.337 ^c (1.96)	1.266 ^a (3.06)	1.860 ^b (2.24)	5.361 ^a (7.71)	-0.472 (-1.13)	-0.525 (-0.51)	781	0.558
Significant difference test					NO	YES		

This table presents results from regression analyses of value relevance conditional on delisting avoidance motive within the treatment group. Delisting motive is classified as High (Low) if ST = 1 (0). ST is 1 if the firm is specially treated and 0 otherwise. All other variable definitions are presented in Table 3.1. The numbers in the parentheses are t-statistics. All variables except the dummy are winsorised at the 5% and 95% levels. ^a, ^b and ^c indicate significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test compares the effect between the two sub-samples at the 5% level, on the basis of a one-tailed test.

Table 3.10: Value relevance tests conditional on government subsidy

	<i>Intercept</i>	<i>BVPS</i>	<i>EPS</i>	<i>Post</i>	<i>Post</i> × <i>BVPS</i>	<i>Post</i> × <i>EPS</i>	<i>Obs.</i>	<i>Adj.R</i> ²
Low subsidy	9.087 ^a (3.07)	1.311 ^a (10.49)	3.575 ^a (7.89)	4.758 ^a (11.94)	-0.043 (-0.34)	1.711 ^a (2.87)	3,091	0.760
Medium Subsidy	11.416 ^a (3.22)	1.231 ^a (8.68)	4.427 ^a (7.82)	3.184 ^a (7.38)	-0.110 (-0.74)	1.436 ^b (2.03)	3,140	0.774
High subsidy	14.959 ^a (5.15)	1.084 ^a (8.05)	4.729 ^a (8.24)	3.474 ^a (7.66)	0.263 ^c (1.93)	-0.463 (-0.69)	3,070	0.773
Significant difference test (High – Low)					NO	YES		

This table presents results from regression analyses of value relevance conditional on government subsidy within the treatment group. Firms are classified as low-, medium- and high-subsidy, according to industry-adjusted subsidies scaled by market value. All variable definitions are presented in Table 3.1. The numbers in the parentheses are t-statistics. All variables except the dummy are winsorised at the 5% and 95% levels. ^a, ^b and ^c indicate significance at 1%, 5% and 10%, on the basis of a two-tailed test. The significant difference test compares the effect between the two designated sub-samples at the 5% level, on the basis of a one-tailed test.

4. Conclusion

4.1 DOES IFRS CONVERGENCE BENEFIT CHINA?

The analyses provide an affirmative answer to this question: they were a comprehensive set of analyses on the effect of IFRS-converged CAS in China from 2007 onwards. The findings across a range of institutional factors reveal that firms with the greater demand for external capital experience a greater increase in the value relevance of their accounting earnings under IFRS-converged CAS. This includes firms that are in more competitive industries, located in less-developed regions, under less state control, with greater foreign ownership, and in receipt of less government subsidy.

Existing cross-country studies suggest that, because of weak legal enforcement and investor protection, countries such as China may not necessarily benefit from IFRS convergence. Indeed, previous studies of the IFRS convergence effect in China have yielded mixed and weak results. Nonetheless, contrary to this prediction, the present study confirms that the IFRS convergence has benefited some firms in China. As in other countries, this benefit is not uniform but heterogeneous across firms, depending on each firm's reporting incentives. This is consistent with the argument in extant accounting literature that incentives, especially capital market incentives, influence accounting quality above and beyond accounting standards (eg Ball et al. 2003).

4.2 WHAT DO WE LEARN FROM CHINA'S IFRS CONVERGENCE EXPERIENCE?

The evidence reported above shows that IFRS convergence increased the value relevance of earnings more for firms with the most need to attract capital from external investors (ie those firms with low or no government subsidy). This in turn suggests that the adoption of IFRS-converged CAS may have served to narrow the gap in competitiveness across firms with varying degrees of government support under state-sponsored capitalism in China. Given China's increasing prominence in the world economy, the experience of IFRS convergence in China has useful implications for other transitional and emerging economies. Even so, the conclusion the IFRS convergence had generally beneficial effects on value relevance does not apply for firms in or close to ST status. Arguably, this is because the scope for earnings management is increased under the principles-based approach to financial reporting heralded by IFRS convergence.

One of the most important functions of the capital market is to allocate financial resources efficiently. To achieve this function, the information efficiency of the capital market is paramount. Beyer et al. (2010) suggest that investors demand financial statement information for two reasons. First, financial statement information helps investors predict the future prospect of firms and value securities before they commit their capital. Second, once the capital is committed, financial statement information assists investors to monitor firms. Beyer et al. (2010) go on to suggest that three important components of the corporate information environment cater for investors' financial information demands. These are voluntary disclosure attributed to firms' financial reporting incentives, mandatory disclosure influenced by intervention through standards and regulations, and analyst research as financial information intermediation. In the case of China, the findings confirm that intervention through changes in

accounting standards has helped improve the flow of financial statement information to equity investors. In other words, IFRS convergence has the potential to improve the information environment of the capital market in China and contribute to its sustainable economic growth.

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