IFRS Convergence and Stock Market Impact:
Evidence from the 2007 China Reform

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This study examines whether China's adoption of new accounting standards in 2007 benefits shareholders by reducing information asymmetry in China's stock market. Information asymmetry is measured by bid-ask spread, stock return volatility, and analyst forecast spread. Contrary to common perception and standard setter's expectation, we find that information asymmetry has actually increased after the switch to the new CAS in 2007. Our results suggest that China's recent convergence towards IFRS did not benefit shareholders, and that it was perceived negatively by market participants, which is consistent with earnings quality evidence from He et al. (2012).

Keywords: China, Accounting Convergence, Emerging Market, IFRS

INTRODUCTION

On February 15, 2006, the Ministry of Finance of China issued a new set of accounting standards. The new China Accounting Standards (CAS) represent a big step towards full convergence with IFRS and are significantly different from the older set of standards issued between 1993 and 2001(old China GAAPs), especially due to the wider application of fair value accounting (Yu, 2006). The new CAS came into effect on January 1, 2007 and are applicable to all domestic private and publicly-traded A-share firms in China. Foreign-invested enterprises, which were once governed under a separate set of accounting standards, are now governed by the new CAS as well. But the new CAS are not applicable to domestic publicly-traded firms that issued B-shares, which have been required to report their financial statements under International Financial Reporting Standards (IFRS) since the early 1990s. The dual-class firms which issued both A-shares and B-shares were required to prepare two separate sets of financial statements, i.e. one in compliance with the old Chinese GAAP and one in compliance with IFRS.

In this paper, we will examine whether the new CAS benefits shareholders by reducing information asymmetry in *China's A-share* market after the standard change in 2007. This question is largely unexplored and the answer is not crystal clear ex ante. On one hand, further convergence towards high-quality accounting standards could improve the quality of accounting information and reduce information asymmetry between management and shareholders. For example, Platikanova and Nobes (2006) show that, on average, bid-ask spread (a proxy of information asymmetry) did decline for publicly-traded firms in Europe after the mandatory adoption of IFRS in 2005. On the other hand, the anticipated equity market benefit following the convergence with IFRS could be elusive in China, since a mere accounting standard change might not offset the negative effects of economic and political incentives that impact financial reporting practices in developing nations (Ball, Robin and Wu, 2003; Jian and Wong, 2008). In addition, the new CAS greatly expands the use of fair value accounting in asset and liability valuation, granting Chinese managers ample discretion to manage earnings at A-share firms. According to He et al. (2012), those managers are able to exploit CAS loopholes for personal gain: After 2007, earnings components based on fair value accounting are found to be not relevant to firm valuation, and accounting quality under the CAS is lower than that under the older version of China GAAPs (or PRC GAAPs). Therefore, accounting quality could actually decline after the 2007 standard change and information asymmetry might increase instead. In sum, how the new CAS impacts the degree of information asymmetry is an interesting empirical question that demands a comprehensive study.

In this study, information asymmetry is measured by three widely-accepted proxies: (1) bid-ask spread; (2) stock return volatility; and (3) analyst forecast dispersion. Using data from 2006 and 2008, we control for various factors associated with the three measures above and find that there is a significant increase in bid-ask spread, stock return volatility, and analyst forecast dispersion after the adoption of CAS. In order to rule out the possibility that our findings are driven by other confounding events occurred in 2007, we explore a difference-in-difference design using dual-class firms which issue both A-shares and B-shares. More specifically, we compare the change in the degree of information asymmetry between A-share market and B-share market in the year before and after the adoption of CAS. We find that, compared to B-share market, the A-share market experiences a significantly greater increase in the degree of information asymmetry post-CAS. We exclude 2007 since it is the transition year, but if we include 2007 observations and compare them with those in 2006, we still get qualitatively similar results. We also understand that equity volatility and bid-ask spread in China's A-share market could be negatively impacted by the credit crisis originating from the U.S. equity market. After eliminating all observations after June 2008 and re-performing all the tests, we still get similar results.

In the second stage, we explore the cross-sectional differences in the increase in information asymmetry after the adoption of CAS. We find that firms with weaker corporate oversight, such as smaller firms, younger firms, and firms with less analyst coverage, experience a more pronounced rise in information asymmetry.

Our study makes several contributions to the literature. First, we extend the literature on the market effect of IFRS convergence by focusing on the largest emerging market, China. In contrast to the positive market effects as documented in previous European studies (Platikanova and Nobes, 2006; Gassen and Sellhorn, 2006), we document a *significant and negative* market effect with increased information asymmetry. Our results lend further support to the assertion in prior studies that social and economic factors could invalidate the positive impact of high-quality financial reporting standards in nations with immature market regulation or corporate governance (Ball et al., 2003). In sum, our paper could be informative to emerging market regulators when they consider IFRS convergence or adoption. Second, this paper also explores a unique setting, China and the 2007 new CAS, and contributes to the China accounting research.

The remainder of the paper is organized as follows. Section 2 reviews accounting literature and develops hypotheses. Section 3 provides sample selection and descriptive statistics. Section 4 presents research methodology, models, and findings. Section 5 discusses robustness tests. Section 6 concludes the paper.

LITERATURE REVIEW

IFRS adoption or convergence has been a global trend in the capital markets after 2000. Since the mandatory adoption of IFRS by the EU and Australia in 2005, numerous studies have examined its impact on accounting quality and market effects. For example, Clarkson et al. (2011) show that IFRS adoption results in increased information for determining book value and earnings. In terms of market effect, improved accounting quality and better comparability are supposed to reduce information asymmetry in the equity market. With data from the German stock market, Gassen and Sellhorn (2006) provide evidence showing that German companies under IFRS have smaller bid-ask spreads than those firms that report under the less sophisticated German domestic GAAPs. In addition, Platikanova and Nobes (2006) show that, on average, bid-ask spread did decline for publicly-traded companies in Europe after the mandatory adoption of IFRS in 2005. Since the new CAS in China represents a further convergence towards the IFRS, *ex ante*, it follows that the 2007 accounting reform should improve the quality of financial reporting numbers in China's A-share market, therefore, reduce information asymmetry after 2007.

On the other hand, the anticipated equity market benefit following the 2007 GAAP change could be elusive for the following two reasons. First, a mere standard change may not match the negative forces of economic and political incentives. This is especially true in emerging nations. For example, Elbanan (2010), using a sample of Egyptian firms, documents insignificant evidence that earnings management decreases post-IFRS convergence. Ball, Robin and Wu (2003) specifically examined the accounting quality of publicly-traded firms in four Asian countries (regions), Malaysia, Singapore, Hong Kong and Thailand. Those countries have domestic accounting standards similar to the superior accounting standards in the English-speaking common law nations, but accounting quality in those nations is not higher than that in the European code law nations. Ball, Robin and Wu (2003) attribute the result to economic and political influence on financial statement preparers' incentives. However, even in the EU, where political and social systems are more advanced than those of Asian nations, Daske et al. (2008) still show that the market benefits of IFRS adoption is only significant in European nations where firms have incentives to be transparent to their investors.

Second, previous China research unveiled many accounting irregularities and rampant managerial manipulations in China's domestic A-share market (Jian and Wong, 2008; Liu and Lu, 2007), and an auditor does not seem to improve reporting quality, especially for the privatized former SOEs that dominate the A-share market (Wang and Wong, 2008). The new CAS regime greatly expands the use of fair value accounting and has been associated with more earnings management and low accounting quality in the post-transition China (He et al., 2012). Therefore, without major social and corporate governance reforms to remove certain undue political or economic incentives, a mere standard change might not reap anticipated benefits in China's A-share equity market.

SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

Our sample is obtained from the China Stock Market & Accounting Research Database (CSMAR) over the period of 2006-2008 and is comprised of all publicly listed Chinese companies on the Shen Zhen Exchange (SZSE) and the Shanghai Exchange (SSE). Because the Chinese Accounting Standard (CAS) came into effect after January 1, 2007 and annual reports under the new CAS will not be filed until early 2008, we exclude all observations in 2007.[1] This results in 1,374 sample firms and 33,349 firm-month observations, as shown in Panel A of Table 1. There is no significant change in sample size before and after the CAS adoption.

TABLE 1
DESCRIPTIVE STATISTICS OF SAMPLE FIRMS

Panel A. Sample Composition (2006 vs. 2008, A-share vs. Dual-class Observations)

	Number of Firm-month observations	Percentage
Firm-month Observations of All Publicly Traded Chinese Firms in the Years 2006 and 2008	33,349	100%
Firm-month Observations in 2006	16,389	49.14%
Firm-month Observations in 2008	16,960	50.86%
A-share only Firm-month Observations	29,454	88.32%
Dual-class Firm-month Observations	3,895	11.68%
A-share Observations	31,400	94.16%
B-share Observations	1,949	5.84%

Panel B. Sample Composition (Pre-adoption vs. Post-adoption)

	Pre-adoption (2006)		Post-adoption (2008)	
Firm-month Observations from A-share only Firms	14,463	88.24%	14,991	88.39%
Firm-month Observations from Dual-class Firms	1,926	11.76%	1,969	11.61%
Sub-total	16,389	100%	16,960	100%
A-shares Firm-month Observations	15,425	94.12%	15,975	94.19%
B-shares Firm-month Observations	964	5.88%	985	5.81%
Sub-total	16,389	100%	16,960	100%

Panel C. Industry Distribution

Industry Class	Number of Unique Firms	Percentage
A-Agriculture, forestry, animal husbandry, and fishing	28	2.04%
B-Mining	38	2.77%
C-Manufacturing	748	54.44%
D-Production and distribution of electricity, gas, and water	67	4.88%
E-Construction	27	1.97%
F-Transport, storage, and post	60	4.37%
G-Information transmission, computer services, and software	70	5.09%
H-Wholesale and retail sales	96	6.99%
I-Accommodation and restaurants	17	1.24%
J-Finance and Insurance	114	8.30%
K-Real estate	43	3.13%
L-Renting and lending, and commercial services	16	1.16%
M-Scientific research, technical services and geologic perambulation	50	3.64%
Total	1374	100.00%

There are two types of tradable shares in the Chinese stock markets: A-shares that are sold to domestic investors only and B-shares that are purchased by foreign investors.[2] In our sample, about 88% of firms issue only A-shares and the remaining 12% of firms are dual-class firms, with both A-shares and B-shares outstanding. This sample is consistent with the fact that the majority of listed companies in China issue only A-shares. In this study, we focus on the A-share market, but firms with both A-share and B-share trading (dual-class firms) will be used for our difference-in-difference design.

Panel B of Table 1 presents a comparison of our sample before and after the CAS adoption. There is no significant change in sample composition over time. This should ease the concern that our results could be driven by the shift of sample firms. Table 1, Panel C presents the industry distribution of sample firms. The majority of our sample is manufacturing firms, followed by financial firms and retailers.

Table 2 reports the descriptive statistics for the variables used in the regression analysis. Panel A presents statistics for firm-month observations with A-shares only, while Panel B provides the results for observations from the dual-class firms. All variables are winsorized at the top and bottom 1%. The A-share-only sample has a mean total market capitalization of 21.521 (log-normalized value), or about RMB 2.2 billion, a mean bid-ask spread of 0.053, and an average return volatility of 0.037. About 38% of the A-shares-only firms are followed by analysts, with a mean analyst forecast dispersion of 0.185. The descriptive statistics of the dual-class sample are presented in Panel B. The mean of the log-normalized market capitalization of our dual-class sample is 20.922, a bit smaller than that of A-shares-only firms.

TABLE 2
VARIABLE DESCRIPTIVE STATISTICS

Panel A. A-share Market Descriptive Statistics

Firms listed on the A-share market only

Variable	N	mean	p50	p25	p75	sd
Spread	29,454	0.053	0.053	0.040	0.065	0.016
Volatility	29,454	0.037	0.036	0.026	0.046	0.013
Dispersion	1,329	0.185	0.109	0.052	0.221	0.242
Size	29,454	21.521	21.342	20.729	22.116	1.115
Price	29,454	8.732	6.134	4.011	10.223	7.888
Beta	29,454	1.008	1.054	0.908	1.152	0.255
Follow	1,329	38.218	20.000	9.000	47.000	47.968

Note: "Dispersion" and "Follow" are firm-year variables for Regression Model (3). "Spread" and "Volatility" are firm-month variables for Regression Model (1) and (2).

Panel B. Descriptive Statistics for Dual-class Firms

Dual-class firms

Variable	N	mean	p50	p25	p75	sd
Spread	3,895	0.049	0.047	0.037	0.059	0.016
Volatility	3,895	0.033	0.032	0.024	0.042	0.012
Turnover	3,895	0.006	0.004	0.001	0.009	0.007
Size	3,895	20.922	20.896	20.055	21.804	1.315
Price	3,895	5.580	3.920	1.232	7.268	6.401
Beta	3,895	0.984	1.011	0.879	1.114	0.186

Variable definitions are provided in Appendix. This sample is used for tests in Table 6.

To test our hypothesis, we use three proxies for stock/firm-level information asymmetry: bid-ask spread, stock return volatility, and analyst forecast dispersion. Bid-ask spread and stock return volatility are commonly used in the literature as a measure of information asymmetry (Flannery et al., 2004; Leuz and Verrecchia, 2000, Lange and Lundholm, 1993). Anticipating the adverse-selection problem arising from informed trading, uninformed traders will increase their bid-ask spread to protect against probable loss. Consequently, the larger the bid-ask spread, the higher the level of information asymmetry. Similarly, a high level of return volatility implies high levels of information asymmetry, as more information can facilitate smoother transitions in share prices thus lower return volatility (Amihud and Mendelson, 1986). Last, information asymmetry is also positively associated with analyst forecast dispersion (Leuz, 2003; Krishnaswami and Subramanian, 1999; Cheng et al., 2011). Analyst disagreement regarding earnings forecast indicates a lack of available information about a firm, therefore, we use analyst forecast dispersion as the third measure of information asymmetry.

Table 3 provides a univariate comparison of measures of information asymmetry pre- and post-adoption of CAS. All three information asymmetry measures are significantly higher post-CAS adoption at the statistical level of 1%. For example, the mean bid-ask spread for A-shares increases from 0.024 pre-adoption to 0.038 post-adoption. Next, we also examine the change of information asymmetry for B-shares, which are not likely to be affected by the CAS reform in 2007 because B-shares investors have been provided with financial reports under IFRS since early 1990s. Our results show that, although the increase of information asymmetry is also statistically significant for B-shares only observations, the magnitude is much smaller compared with that for the A-shares sample. In sum, the preliminary results above seem to suggest that the level of information asymmetry is likely to increase after the adoption of the new CAS. It seems that the convergence towards IFRS in 2007 in the Chinese market is not perceived by investors as favorable.

TABLE 3
UNIVARIATE TEST FOR THE THREE MEASURES OF INFORMATION ASYMMETRY

Stocks Traded on the A-share Market							
	Pre-adoption (2006)			Post-adoption (2008)			Diff (Post-Pre)
	obs	mean	sd	obs	mean	sd	
Spread	15,425	0.024	0.009	15,975	0.038	0.010	0.014***
Volatility	15,425	0.029	0.012	15,975	0.043	0.010	0.014***
Analyst Forecast Dispersion	562	0.097	0.168	771	0.249	0.009	0.152***

Stocks Traded on the B-share Market							
	Pre-adoption (2006)			Post-adoption (2008)			Diff (Post-Pre)
	obs	mean	sd	obs	mean	sd	
Spread	964	0.022	0.009	985	0.029	0.009	0.007***
Volatility	964	0.027	0.010	985	0.035	0.106	0.008***

Note: *, **, *** Significant at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Variable definitions are provided in Appendix.

Before examining the change of information asymmetry pre-and post-CAS adoption with multivariate tests, we also conduct another simple market-based test: To examine the short- and long-term market reactions following the first public announcement of the IFRS-like CAS. China's Ministry of Finance officials began working on a radical accounting reform in 2005. All efforts bore fruit on February 15, 2006, when the new CAS was first promulgated. Investors were also informed that the new CAS would be effective after January 1, 2007. If local A-share investors believe that A-share firms will provide

financial statements with superior quality under the post-2007 CAS than under the pre-2007 China GAAPs, then they should respond favorably to the adoption news. Otherwise, they should respond negatively. Using the market-adjusted model, we calculate the cumulative abnormal returns (CAR) both in the short windows and in the long windows for the A-share market and the B-share market. For the short-term, we calculate the 1- and 3-day windows surrounding February 15, 2006. For the long-term, we calculate the 30- and 40-day windows. Table 4 presents the mean CARs for the A-share market and the B-share market. The 1- (3-) day mean CAR, over the (0,1) window or (-1,1) window, for A-shares is -0.82% (-0.89%) and is statistically significant at 0.001 level, but the B-share CARs are mostly insignificantly different from zero. For the A-share firm-month sample, the 30- (40-) CAR is even more negative, -3.12% (-1.13%) , and still statistically significant. In contrast, the 30- (40-) CAR for the B-share firm-month sample is -1.2% (1.28%) and statistically insignificant even at 10% level. The last row of Table 4 shows that the differences in CAR for all windows between A-share and B-share samples are statistically significant at 5% level. In sum, as the non-accounting-reform news shall impact both A-share and B-share markets, the market reaction difference between A-share market and B-share market is most likely be driven by news of the new 2007 CAS. This finding suggests that, on average, Chinese local investors seem to believe that the adoption of the new CAS will hurt accounting quality. But since univariate tests often fail to control for differences in other control variables between two samples, we perform the multivariate tests below before drawing a final conclusion.

TABLE 4
MARKET REACTIONS AROUND THE ANNOUNCEMENT OF NEW CAS ADOPTION ON FEBRUARY 15, 2006, AS MEASURED BY CUMULATIVE ABNORMAL RETURN (CAR)

Event Study	CAR(0,1)	CAR(-1,1)	CAR(-15,15)	CAR(-20,20)
Mean CAR, A-share stocks	-0.82%	-0.89%	-3.12%	-1.13%
P value	(<.0001)	(<.0001)	(<.0001)	(0.0015)
Mean CAR, B-share stocks	-0.24%	-0.14%	-1.20%	1.28%
P value	(0.039)	(0.3346)	(0.1107)	(0.1409)
Diff (A-B)	-0.57%	-0.75%	-1.93%	-2.41%
P value	(0.0014)	(0.0365)	(0.0478)	(0.0338)

Note: Variable definitions are provided in Appendix.

RESEARCH METHODOLOGY AND FINDINGS

The Impact of IFRS Convergence on Information Asymmetry

In this section, we focus on A-share only firms and use multivariate regression to test our hypothesis that there is a change in stock/firm-level information asymmetry pre- and post- China's convergence with IFRS. Following Leuz and Verrecchia (2000) and Choi, Sami and Zhou (2010), we regress our three information asymmetry proxies (bid-ask spread, return volatility, and analyst forecast dispersion) on the time indicator of CAS adoption and other control variables. Our regressions are specified as follows (firms and month subscripts omitted):

$$Spread = b_0 + b_1 * Post + b_2 * Size + b_3 * Turnover + b_4 * Volatility + IndustryFixedeffect \qquad (1)$$

$$Volatility = b_0 + b_1 * Post + b_2 * Size + b_3 * Turnover + b_4 * Beta + IndustryFixedeffect \qquad (2)$$

$$Dispersion = b_0 + b_1 * Post + b_2 * Size + b_3 * Beta + b_4 * Follow + IndustryFixedeffect \qquad (3)$$

We use firm-month observations for the first two models and firm-year observations for the third model. Our main variable of interest in the three models is *Post*, an indicator variable that equals to one for the year after CAS adoption, and zero for the year before. If investors believe that IFRS convergence under the new CAS will improve accounting quality, we expect b_1 to be negative. However, if local investors do not think that converging with IFRS is appropriate under current market conditions, b_1 is expected to be positive.

Prior research also shows that firm size is one of the most important determinants of firm information asymmetry. Therefore, we include firm size in our model as a control variable. *Size* is measured as the log value of firms' monthly total market capitalization by the end of each month. To control for firms' intrinsic risk, we include return volatility in the first model and beta in the second and third models. In addition, liquidity shocks can also explain large bid-ask spreads or low return volatility. Thus, we include share turnover as a control variable for models (1) and (2). Last, following the prior literature (Cheng, et al., 2011), we also control for analyst coverage (number of analysts following one firm, FOLLOW) when analyst forecast dispersion is used as the dependent variable. In all three models, we control for industry fixed effects. The standard error is clustered at the firm- and month-levels.

Table 5 presents the results of estimating models (1), (2), and (3) using a sample of A-shares-only firms. Column 1 (2) shows the results using bid-ask spread (return volatility) as the proxy for information asymmetry. The coefficients on *Post* are positive and significant at the 1% level in both the bid-ask spread and the return volatility regressions. This finding suggests that firm information asymmetry significantly increased after China's convergence with IFRS, implying that, at least in the eyes of A-share investors, the adoption of new CAS after January 2007 is associated with lower accounting quality and higher information asymmetry. Column 3 presents results using analyst forecast dispersion as the dependent variable. We include in this model only firms that are followed by analysts, and we apply firm-year observations because analyst forecasts are done annually. Since many firms in the A-share market do not have analyst coverage, sample size in model (3) is reduced by a large margin. Nevertheless, we still find that *Post* has a statistically significant and positive coefficient, consistent with the other two models. Overall, our findings indicate that IFRS convergence is perceived as less favorable, which supports many researchers' concern that IFRS cannot be effectively applied in countries whose financial markets are immature and have low levels of transparency (Ball et al., 2003; He et al., 2012). All of our control variables are significant and consistent with findings in the prior literature.

Although we find evidence that information asymmetry increases after the adoption of CAS in 2007, these findings are likely subject to other cofounding events that also took place in 2007. For example, the U.S. subprime crisis of 2008 caused turmoil in financial markets all over the world; the 2008 Beijing Olympics (in August 2008) may have increased Chinese investors' optimism about their domestic A-share market; and the reform of share ownership structure after 2005 could have also affected investors' trading activities. Thus, the increase in information asymmetry might not be due solely to a change in accounting standards. To address the issue of confounding time-series events, we now study the interesting setting of dual-class firms in China. By definition, dual-class firms issue two types of shares: A-shares, which are sold to domestic investors, and B-shares, which are mainly sold to foreign investors. Both shares are traded on the Chinese stock exchanges and depend on the same underlying stream of corporate cash flows. Thus, any event that could affect firm performance should have the same impact on A- and B-shares. Dual-class firms, however, do not use the same accounting standard for A- and B-shares before the adoption of CAS They were required to report to domestic investors in accordance with older version of China GAAPs while to foreign investors in accordance with IFRS. After the adoption of CAS, they now prepare only one set of financial statements based on CAS. Also, according to Tang (2011), there is a substantial information gap between local investors and foreign investors due to media controls imposed by the Chinese government.[3] This provides us a unique setting where two groups of shareholders rely on the same stream of cash flows but use two different reporting systems. As B-shares are reported under IFRS and are less affected by the adoption of CAS, they serve as a nice control group for the

corresponding A-shares for which the reporting standard shifts from local Chinese GAAP to the IFRS-like CAS. We, therefore, explore a difference-in-difference research design to compare the change in the degree of information asymmetry between A-share market and B-share market in the year before and after the adoption of CAS.

$$Spread = b_0 + b_1 * Post + b_2 * Bshare + b_3 * Post * Bshareb_2 * Size + b_4 * Turnover + b_5 * Volatility + IndustryFi xedeffect \tag{4}$$

$$Volatility = b_0 + b_1 * Post + b_2 * Bshare + b_3 * Post * Bshare + b_4 * Size + b_5 * Turnover + b_6 * Beta + IndustryFixedeffect \tag{5}$$

TABLE 5
REGRESSION OF BID-ASK SPREAD, RETURN VOLATILITY, AND ANALYST FORECAST DISPERSION OVER CONTROL VARIABLES AND POST-2007 DUMMY VARIABLE, A-SHARE FIRMS ONLY

	A-shares-only firms		
	(1)	(2)	(3)
VARIABLES	Spread	Volatility	Dispersion
Post	0.007***	0.014***	0.104***
	(0.000)	(0.000)	(0.000)
Size	0.000***	-0.000*	0.033***
	(0.000)	(0.094)	(0.000)
Turnover	0.214***		1.945**
	(0.000)		(0.018)
Volatility	0.881***		
	(0.000)		
Beta		0.008***	0.018***
		(0.000)	(0.006)
Follow			0.001***
			(0.000)
Constant	0.009***	0.024***	-0.691***
	(0.000)	(0.000)	(0.000)
Industry Fixed Effect	YES	YES	YES
Observations	29,454	29,454	1,329
R-squared	0.801	0.330	0.191

Note: *, **, *** Significant at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Variable definitions are provided in Appendix.

The dependent and independent variables are the same as defined above. *Bshare* is an indicator variable that equals one for shares that are sold mainly to foreign investors and equals zero otherwise. Our variable of interest is the coefficient on the interaction term between *Post* and *Bshare*. If the change of information asymmetry after the adoption of CAS is not primarily driven by changes in economic

conditions but rather by the change in accounting standards, we expect the positive association between information asymmetry proxies and *Post* to be more pronounced for A-share stocks.

Table 6 presents the results of modes (4) and (5). Consistent with our expectations, the coefficients on the interaction terms between *Post* and *Bshare* are negative and significant for both information asymmetry proxies.[4] In addition, the coefficient on *Post* is still positive and significant at the 1% level. This finding shows that the increase of information asymmetry is greater for A-share market, which are affected by the accounting standard change, compared with B-share market, which are not. All other control variables are significant and consistent with previous findings. We believe that using B-share market as a control makes our previous finding more robust and persuasive. The fact that A-share market suffers a higher degree of deterioration in information quality compared with B-share market suggests that the convergence towards IFRS through the 2007 new CAS is viewed by investors as lowering accounting quality.

TABLE 6
REGRESSION OF BID-ASK SPREAD, RETURN VOLATILITY, AND ANALYST FORECAST DISPERSION OVER CONTROL VARIABLES AND POST-2007 DUMMY VARIABLE, DUAL-CLASS FIRMS

Dual-Class firms				
	(1)	(2)	(3)	(4)
VARIABLES	Spread	Volatility	Spread	Volatility
Post	0.005***	0.010***	0.007***	0.013***
	(0.000)	(0.000)	(0.000)	(0.000)
Bshare			-0.002***	-0.005***
			(0.000)	(0.000)
Post*Bshare			-0.002***	-0.004***
			(0.000)	(0.000)
Size	-0.000***	0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)
Turnover	0.236***		0.168***	
	(0.000)		(0.000)	
Volatility	0.952***		0.935***	
	(0.000)		(0.000)	
Beta		0.015***		0.015***
		(0.000)		(0.000)
Constant	0.017***	-0.002	0.030***	0.031***
	(0.000)	(0.397)	(0.000)	(0.000)
Industry Fixed Effect	yes	yes	yes	yes
Observations	3,895	3,895	3,895	3,895
R-squared	0.787	0.275	0.792	0.33

Note: *, **, *** Significant at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Variable definitions are provided in Appendix.

Corporate Oversight and Cross-sectional Differences in Information Asymmetry Change

Once we have identified a significant increase of information asymmetry after the adoption of CAS, it is important to explore what drives this increase. Prior literature argues that IFRS-like convergence may fail in China, because its domestic A-share market suffers from weak oversight over financial reporting (corporate and regulatory) and managers can easily take advantage of the wide discretion bestowed by the new principle-based accounting standards (He et al., 2012). If the increase of information asymmetry is mostly driven by earnings management discretion, we expect CAS adoption to lead to more information asymmetry for firms whose quality of oversight is low and earnings management is most likely. We use three proxies to measure the firm's oversight quality: firm size, firm age, and number of analysts following. Cheng et al. (2011) and Pittman and Fortin (2004) suggest that firm size and firm age are positively associated with the quality of oversight and monitoring effectiveness, as smaller firms and younger firms are less monitored, less covered by press, and less transparent. Thus, we expect smaller and younger firms to suffer a larger increase of information asymmetry after the adoption of CAS. Prior research also finds that an analyst following can lead to more timely price discovery (Brenana et al., 1993; Brennan and Subrahmanyam, 1996) and a higher-quality information environment (Hong et al., 2000; Barth and Hutton, 2004). When firms are followed by a large number of analysts, they are under better scrutiny by the capital market and are less likely to manage earnings. Therefore, an analyst following is also expected to mitigate the negative impact of CAS adoption on information asymmetry.

The regression specification in Table 7 is similar to that in Table 5. We define *Large (OLD) Firm* dummy variable, taking the value of 1 if firms size (age) is above the sample median and 0 otherwise. *Analyst* equals 1 if the number of analysts following is above the sample median and 0 otherwise. We re-estimate regression models (1) and (2) and interact *Post* with our three proxies for the quality of information environment.[5] The results show that the coefficients on the interaction terms are negative and significant in five out of our six model specifications, implying that the increase of information asymmetry caused by CAS adoption is more pronounced in smaller firms, younger firms, and firms that are followed by fewer analysts. Overall, these findings are consistent with the view that investors perceive the new CAS implementation negatively due to the concern of potential earnings management. Moreover, the fact that there is a cross-sectional difference in CAS's impact on information asymmetry among firms helps ease the concern that our findings are driven by other correlative time-series events instead of CAS adoption.

ROBUSTNESS TESTS

The recent U.S. credit crisis peaked in September 2008 and can be a potential confounding event. It is possible that the increase of information asymmetry is mainly driven by investors' lack of confidence, instead of the change of accounting standards. Although the U.S. subprime crisis started in late 2007, its effect did not spread widely to the Asia stock markets until the collapse of Lehman Brothers in September 2008. Thus, to ease the influence of the U.S. crisis, we re-estimate our regression models using only the monthly observations prior to June 30, 2008[6]. In addition, as annual reports are usually publicly disclosed from January through April, testing the level of information asymmetry around these months can more precisely capture market investors' perceptions of financial reporting quality. Table 8 provides the results of estimating regression models (1), (2), (4), and (5) using monthly observations with the first half of the 2008. Consistent with prior findings, *Post* is positive and significant at the 1% level in all models. Columns (3) and (4) present the results from dual-class firms that issue both A- and B-shares. Again, we find that the influence of CAS on information asymmetry is most pronounced for A-share stocks. In summary, the findings in Table 8 suggest that, using observations prior to the financial crisis and around the disclosure of financial statements, we still find that the level of information asymmetry significantly increases subsequent to the adoption of CAS.

CONCLUSION

This study examines whether the adoption of new CAS after 2007 benefits A-share Chinese investors by reducing information asymmetry. We document some interesting evidence. First, we show that, contrary to accounting standard setter's expectation back in China, the new CAS are perceived negatively by market participants and, the A-share firms in the post-2007 period experienced higher information asymmetry (higher bid-ask spread, higher stock return volatility, and higher analyst forecast dispersion). Second, using a special sample of dual-class firms which previously prepared one set of financial statement under old Chinese GAAP for the A-share market and another set of financial statements under IFRS to B-share market, we find that, post-CAS-adoption, the increase in information asymmetry is significantly stronger in the A-share market. The following procedures are also adopted to alleviate the concern that our results are driven by confounding events in 2007. We first exclude the transition year of 2007 and later include it, and in both cases, our results are similar. We take into consideration the fact that the U.S. credit crisis in 2008 could potentially influence market confidence in the A-share market, thus creating noise for our tests. Therefore, we also limit our sample period to June 2008 but still obtain statistically significant and similar results. Third, we examine the characteristics of firms that experience higher information asymmetry post-2007, and find that smaller firms, younger firms, and firms with less analyst coverage experience a greater post-CAS-adoption increase in information asymmetry than other firms.

TABLE 7
CROSS-SECTIONAL DIFFERENCES IN INFORMATION ASYMMETRY CHANGE

VARIABLES	(1) Spread	(2) Volatility	(3) Spread	(4) Volatility	(5) Spread	(6) Volatility
Post	0.007***	0.014***	0.007***	0.014***	0.007***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Old	0.001***	0.001***				
	(0.000)	(0.001)				
Post*Old	**-0.001***	**-0.001**				
	(0.000)	**(0.010)**				
Large			0.001***	0.002***		
			(0.000)	(0.000)		
Post*Large			**-0.001***	**-0.002***		
			(0.000)	**(0.000)**		
Analyst Following					0.000**	0.001***
					(0.037)	(0.001)
Post*Analyst Following					**0.000**	**-0.001***
					(0.733)	(0.000)
Size	0.000***	-0.000	0.000**	-0.001***	0.000***	-0.000**
	(0.000)	(0.112)	(0.011)	(0.000)	(0.000)	(0.046)
Turnover	0.215***		0.214***		0.215***	
	(0.000)		(0.000)		(0.000)	
Volatility	0.880***		0.879***		0.880***	
	(0.000)		(0.000)		(0.000)	

VARIABLES	(1) Spread	(2) Volatility	(3) Spread	(4) Volatility	(5) Spread	(6) Volatility
Beta		0.008***		0.008***		0.008***
		(0.000)		(0.000)		(0.000)
Constant	0.009***	0.024***	0.012***	0.032***	0.011***	0.025***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Industry Fixed Effect	YES	YES	YES	YES	YES	YES
Observations	29,454	29,454	29,454	29,454	29,454	29,454
R-squared	0.801	0.331	0.801	0.332	0.801	0.331

Note: *, **, *** Significant at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Variable definitions are provided in Appendix.

TABLE 8
REGRESSION OF BID-ASK SPREAD AND RETURN VOLATILITY OVER CONTROL VARIABLES AND POST-2007 DUMMY VARIABLE
(2008 OBSERVATIONS BY JUNE 30, 2008)

	A-shares only firms		Dual-class firms	
VARIABLES	(1) Spread	(2) Volatility	(3) Spread	(4) Volatility
Post	0.006***	0.012***	0.007***	0.011***
	(0.000)	(0.000)	(0.000)	(0.000)
Bshare			0.001	0.001
			(0.162)	(0.326)
Post*Bshare			-0.005***	-0.006***
			(0.000)	(0.000)
Size	0.001***	0.001***	-0.001***	0.000
	(0.000)	(0.000)	(0.000)	(0.362)
Turnover	0.221***	0.523***	0.238***	0.445***
	(0.000)	(0.000)	(0.000)	(0.000)
Volatility	0.904***		0.888***	
	(0.000)		(0.000)	
Beta		0.008***		0.013***
		(0.000)		(0.000)
Constant	0.002	-0.004*	0.024***	0.010**
	(0.182)	(0.061)	(0.000)	(0.040)
Industry Fixed Effect	YES	YES	YES	YES
Observations	14,552	14,552	1,931	1,931
R-squared	0.791	0.460	0.738	0.298

Note: *, **, *** Significant at the 0.1, 0.05 and 0.01 levels, respectively (two-tailed). Variable definitions are provided in Appendix.

Our results could be informative to standard-setters and market regulators in emerging markets. This study contributes to the literature on the economic effect of IFRS adoption and lends further support to

the argument that social, institutional, and political factors could be more important determinants to enhance financial reporting quality than the mere adoption of IFRS (Ball et al., 2003; Ball et al., 2000). This study also contributes to the Chinese accounting literature.

ENDNOTES

1. Including observations in year 2007 does not change our findings.
2. Trading between A- and B-shares is largely restricted by the Chinese government. Prior to 2001, domestic investors could only trade in the A-share market, while foreigners could only trade on the B-share market. Since 2001, domestic investors (not including institutional investors) can trade in B-shares but not vice versa. Nevertheless, cross-trading is still largely limited because of foreign currency control under the capital account even by 2017.
3. The Chinese CAS-based report is released in mainland China through one designated newspaper, while the IFRS-based report is released in Hong Kong, either in Chinese or English, through another designated newspaper. No dual-class firms are followed by analysts. Only a few dual-class firms provide detailed reconciliations for the two sets of financial statements, one under China CAS and one under IFRS.
4. We are not able to use analyst forecast dispersion in this test, because analyst forecast dispersion is firm-level rather than share-level data.
5. We are not able to do an additional test on analyst forecast dispersion, because only firms that are followed by analysts have data on analyst forecast dispersion. In other words, firms that have analyst forecast dispersion are those that have a relatively higher information environment quality.
6. Several banks failed in the summer of 2008 (e.g. IndyMac Bank) and one large national bank, Wachovia, ran into difficulty in July 2008. Therefore, we use June 30, 2008 as a more conservative cutoff point. We also tried with August 30, 2008, as the alternative cutoff point and got very similar results.

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APPENDIX

VARIABLE DEFINITIONS

Spread	The average of bid-ask spread, calculated as the difference of bid and ask price scaled by the average price, over a month
Volatility	The standard deviation of stock return over a month
Dispersion	The standard deviation of analyst forecasted EPS over a year
Post	Equals 1 for the observations after year 2007, and 0 for the observations before year 2007
Size	The log value of total monthly market capitalization
Turnover	The average turnover, calculated as trading volume scaled by total shares outstanding, over a month
Price	The average of stock price over a month
Beta	The stock beta factor calculated using the market model
Bshare	Equals 1 if the shares are listed on the B-market, and 0 otherwise
Follow	The number of analysts following
Age	log value of the number of years that companies have been listed on stock exchanges