On price difference of A+H companies

Yang Liu

*Department of Investment, Truvalue Asset Management Co. Ltd,
Shenzhen, China, and*

In-Mu Haw

Neeley School of Business, Texas Christian University, Fort Worth, Texas, USA

Abstract

Purpose – For Chinese companies that cross-list in Chinese A share and Hong Kong (H share) markets, the H share price has been consistently lower than the A share price by an average of 85% in recent years. This is puzzling because most institutional differences between the two markets have been eliminated since 2007. The purpose of this study is to explain the puzzle of the price difference of A+H companies.

Design/methodology/approach – Using all A and H share Chinese firms in the period 2007–2013 and a simultaneous equations approach, this study identifies three new explanations for the recent price difference.

Findings – First, utilizing a unique earning quality measure that is directly related to non-persistent components of fair value accounting under International Financial Reporting Standards (IFRS), this study finds that the lower the earnings quality, the lower the H share price relative to the A share price, and hence the greater the price difference. Second, the higher the myopic investor ownership in A share firms, the larger the A share price relative to the H share price. Third, the short-selling mechanism introduced to the A share market since 2010 helps reduce the price difference.

Originality/value – First, this study identifies three new explanations for the puzzle of the AH price difference which remains substantial even after the institutional and accounting standards differences between the two markets were eliminated. Second, we examine the impact of the implementation of fair value accounting under IFRS in an emerging market on the pricing difference of cross-listed shares and reveal that it can induce an unintended negative consequence on the pricing difference of cross-listed shares. Third, this study contributes to the literature on short sales by providing its mitigating role in pricing differences across two different markets. Finally, this study makes improvements in research design, which utilizes a unique measure of earnings quality that is directly related to the implementation of IFRS and a simultaneous equations approach that minimizes endogeneity concern.

Keywords Cross-listing, Chinese A and H shares, Price difference, Earnings quality, IFRS, Myopic investor, Short sell

Paper type Research paper

1. Introduction

Some Chinese companies cross-list in Mainland China and Hong Kong markets and issue two types of shares: (1) Class A shares, which are traded in Renminbi in China stock markets and (2) Class H shares, which are traded in Hong Kong dollar in Hong Kong stock market

(henceforth, A+H companies) [1]. By December 2017, there are 95 actively traded companies that issued both A and H shares. These two classes of shares have equal rights to cash flows and equal voting privileges. However, A share price has been substantially higher than H share price even after adjusting the exchange rate in recent years. It is puzzling that such phenomenon continues to exist even after the implementation of the same accounting standards in the two markets and a series of regulatory changes that include unblocking the capital flows between Hong Kong and China A share markets for institutional and individual investors (for example, QFII [2] in 2005, Qualify Domestic Institutional Investors (QDII) [3] in 2007, and Shanghai-Hong Kong Connect [4] in 2014). In contrast to the rational expectation, the average price difference between A share and H share (hereafter, AH price difference) has been more than 85% and increased rather than diminished in recent years. The literature leaves the inquiry open to new explanatory variables and calls for researchers to look for alternative explanations.

A similar price difference exists for A+B companies, which issue both A shares and B shares in China's domestic markets. The B shares are traded in US dollar in the Shanghai stock exchange and traded in the Hong Kong dollar in the Shenzhen stock exchange. Prior studies provide several explanations for the price difference of A+B companies. These explanations concentrate on differences in institutional environments between the two markets, which result in either inflated A share price or discounted B share price. They suggest that A share price is inflated for the following reasons: limited alternative investment available in A share market (Fernald & Rogers, 2002); the relatively low supply of A shares compared with its demand (Lee, Rui and Wu 2008); and short constraints in A share market (Mei, Scheinkam, & Xiong, 2009). Researchers also suggest that B share price is discounted for the following reasons: information disadvantage due to different languages and accounting standards (Chakravarty, Sarkar, &Wu, 1998; Tang, 2011); information asymmetry between informed domestic investors and other investors (Chan, Menkveld, & Yang, 2008); lower liquidity of B share (Chen, Lee, & Rui, 2001); and a concern of government ownership (Karolyi, Li, & Liao, 2009) and political risk of state-owned enterprises (SOEs) (Hung, Wong, & Zhang, 2012).

Although they are important characteristics to explain the price difference between A and B shares in the same Chinese markets, they may not be able to fully explain the AH price difference because both China and Hong Kong markets use the same official Chinese language, have adopted the same accounting standards under International Financial Reporting Standards (IFRS) since 2007 [5] and become to have a similar degree of liquidity [6]. Despite the narrowed institutional differences between the two markets, the AH price difference continues to exist and even become larger in recent years. This phenomenon is puzzling because A share investors now have more channels to invest overseas through QDII and Shanghai-Hong Kong Connect; the supply of A share has increased by almost 10 times in terms of market value; security margin selling (similar to short selling) in A share market is permitted; and the government ownership of A+H companies and the number of SOEs have sharply declined.

Drawing upon the literature, we identify three new characteristics that could explain AH price difference in recent years: earnings quality under IFRS, myopic investors and short selling. The cross-listed Chinese A+H companies provide a novel setting for testing the role of financial reporting quality in explaining the puzzle in the pricing difference between the two markets where the same IFRS are implemented (since 2005 in Hong Kong and 2007 in China). First, we propose that the AH price difference is related to the H share price discounted by Hong Kong investors due to the lower earnings quality of Chinese A+H companies associated with more discretions and flexibilities allowed under IFRS. Prior studies find that the mandatory adoption of IFRS improves the quality and the comparability of financial information in developed countries (e.g. Barth, Landsman, & Lang, 2008; Daske,

Hail, Leuz, & Verdi, 2008; Byard, Li, & Yu, 2011; DeFond, Hu, Hung, & Li, 2011; Yip & Young, 2012) [7]. These findings suggest that the benefits of IFRS adoption are likely to diminish in China, where legal institutions and implementation credibility are weak and managers' opportunistic reporting incentives are high.

DeFond (2010) points out that it is promising to incorporate fair value into an earnings quality measure. He, Wong, and Young (2012) find greater earnings management that might be attributed to the introduction of fair value accounting in China. Therefore, we measure earnings quality by the ratio of non-persistent accounting items to net profit, which directly reflects the consequence of IFRS adoption. We choose three non-persistent accounting items that consist of gains/losses from fair value changes; gains/losses from the investment of non-current assets; and gains/losses from disposal of non-current assets. Reporting on the income statement, the first item not only lacks persistence but also is subject to discretion. The second item is shown as operating profit and is manipulative to boost core earnings. The third item is more difficult to manipulate but the disposal choice in timing and magnitude is subject to management discretion. Our earnings quality measure serves as an ideal proxy for earnings persistence, earnings reliability and the effect of implementing IFRS for Chinese companies.

Hong Kong stock market is regarded as a more mature market than the emerging China market given its long history and open market system to allow easy access to foreign investors. We argue that more sophisticated investors in Hong Kong can better see through the low earnings quality of Chinese A+H companies via well-developed media and newspaper circulations (as well as active analysts following) than pervasive myopic investors in mainland China. Poor earnings quality reduces stock price as it lowers earnings persistence, resulting in lower expected future earnings and higher information risk, which leads to a higher required cost of capital. We thus predict that the lower the earnings quality, the deeper the discount of H share price and hence the higher the AH price difference.

Second, we predict that prevalent myopic investors in the A share market play a significant role in inflating A share price and hence cause the price difference of A+H companies. The capital market consists of two groups of investors, sophisticated and unsophisticated investors, and the group with higher ownership sets the marginal price of the asset (Hand, 1990). Unlike in Hong Kong, investors in the A share Chinese market are typically myopic, who tend to focus on short-term returns and pay more attention to the trading activities of their fellow investors. In the A share market, dominant myopic investors can push share price far away from its fundamental value, and it is more difficult for rational investors to quickly drag the price back through arbitrage due to the constraints (such as stop loss and margin call). Those myopic investors are unwilling to arbitrage the price back because when the price is expected to rise, it is natural for them to jump on the wagon of rising price and earn profits. Such behaviors lead to inflating A share price and enlarging AH price difference.

Third, we predict that a short-selling helps reduce the possibility of A share price being highly speculated, thereby lowering AH price difference. Since March 2010, China Securities Regulatory Commission (CSRC) have allowed investors to participate in "Security Margin Trading", which is similar to a short sell mechanism. Until the end of 2014, 72 A+H companies' stocks are allowed to short sell, and from 2010, the number of the short sell of A+H companies has continually increased, providing us with the unique opportunity to test the impact of introducing a short sell mechanism in A share market on the price difference.

We use all A and H share Chinese firms in the period 2007–2013 and a simultaneous equations approach to address endogeneity and find the following. First, we report that the lower the earnings quality, the larger the price difference around earnings announcements after controlling for factors identified in previous studies. The non-persistent accounting items that represent 34% of the net profit are significantly discounted by H share investors.

Our additional analysis shows that lower earnings quality measure is significantly related to lower stock returns of H shares compared to A shares around earnings announcements, suggesting a cause of the price difference. Second, we find that companies with a larger percentage of myopic investors in A share market have their A share price inflated, causing a larger AH price difference. Third, we show that a short sell mechanism in A share market helps reduce the price gap between A+H shares. In sum, our findings suggest that the low earnings quality of Chinese firms, myopic investor behavior and a short sell mechanism in A share market appear to be primary characteristics to explain the cross-sectional variation in the price difference of A+H companies in recent years. Our results are robust to a battery of sensitivity tests, including short-window pricing measures around earnings announcements and long-window pricing measures, year fixed effects and first-day IPO premium effect.

This paper contributes to the literature on IFRS and the pricing of cross-listed shares in the following ways. First, we contribute to the literature on IFRS adoption (e.g. Barth *et al.*, 2008; Daske *et al.*, 2008; DeFond *et al.*, 2011; He *et al.*, 2012). While prior studies evaluate the cross-sectional variation of the impact of IFRS across firms/countries, we focus on its impact on pricing differences of cross-listed shares by providing evidence that the implementation of IFRS in emerging markets can lead to an unintended negative consequence on the pricing difference of cross-listed shares. Our results echo the finding of lower stock price synchronicity for firms with foreign investors than firms with only domestic investors (A shares) in Chinese markets (Gul, Kim, & Qiu, 2010). Our study focuses on a measure of earnings quality that directly reflects the implementation of IFRS in China and utilizes a simultaneous equations approach that addresses the endogeneity concern.

Second, we offer new explanations for the puzzle of the AH price difference which remains substantial even after most institutional differences were eliminated between China A share and Hong Kong markets. In addition to earnings quality, we find that the AH price difference can be explained by A share prices that were inflated by myopic Chinese investors and deflated by a short sell mechanism. We show the implication of a short-sale mechanism in China on the pricing difference of cross-listed shares in the market where speculative myopic investors are dominant. We contribute to the prior studies on the determinants of dual shares (e.g. Tang, 2011; Chan *et al.*, 2008, Chen *et al.*, 2001; Karolyi, Li, & Liao, 2009; Hung *et al.*, 2012). The findings of this paper offer useful insights to investors and regulators in emerging markets to improve the market efficiency and reduce the pricing difference of cross-listed shares by improving the credibility of financial reporting under IFRS and investors' understanding of earnings quality.

The rest of the paper is organized as follows. Section 2 provides the institutional background about A+H companies and reviews the literature; Section 3 develops our hypotheses; Section 4 describes research design; Section 5 presents descriptive statistics and main empirical results; Section 6 provides robustness tests; and finally, Section 7 concludes the paper.

2. Institutions and literature review

2.1 Institutional and regulatory environments

On July 15, 1993, Tsingtao Brewery Company was listed on Hong Kong main board exchange, being the first company to issue both A share in China and H share in Hong Kong stock markets. H shares are issued by companies whose registration addresses are in mainland China and who are listed on Hong Kong main board exchange. H shares are only part of the shares traded in the Hong Kong stock exchange. More and more Chinese companies are cross-listed on A and H share markets. While some companies are first listed in the A share market and subsequently listed in H share market, some are of the opposite order.

In Figure 1, the red solid line represents the average A and H share price difference from January 2005 to March 2015. On average, after adjusting for the exchange rate, A share stock price is persistently higher than H share stock price in the whole period (i.e. greater than 1 of the price difference). It shows that the overall price difference has not been arbitraged away over time. The trading strategy of buying H shares and selling A shares could yield an average annual excess return of about 17.6% (Li, Chui, & Li, 2014), but an average A share price is still more than 85% higher than H share price by March 2015. The green dash line in Figure 1 represents the 10 largest market values of A+H companies' average price differences. The dashed line is below 1 sometime in the period of July 2010 and October 2014, which means that for the largest A+H companies, H share price could be higher than A share price, suggesting a large cross-sectional variation among A+H companies even in the opposite direction. The objective of our study is to investigate determinants that explain these variations in the recent period.

There are five major Chinese regulations that affect the A+H companies from 1993 to 2015. For the first time in June 2005, CSRC announced the first list of QFII (Qualify Foreign Institutional Investors), which allowed foreign institutional investors to directly invest in A share China markets. Meanwhile, the trading amount did not reach the ceiling which was set by CSRC. On February 15, 2006, the Ministry of Finance of the People's Republic of China issued a new set of *Accounting Standards for Business Enterprises* (ASBEs), which was substantially converged with IFRS. The new set of ASBEs took into effect on January 1, 2007, and all companies listed in China must follow ASBEs, which are almost the same accounting standards used in Hong Kong since 2005. Since then, the financial information set becomes almost the same in the two markets. Even though the IFRS in China has some differences from those in Hong Kong, the financial statements issued by A+H companies in A share China market can be directly issued in the Hong Kong market without adjustment because the Hong Kong stock exchange accepts the audited financial statement using Chinese IFRS. In June 2007, CSRC announced the first list of QDII, which allowed some of the security companies in mainland China to directly invest in overseas capital markets, including the Hong Kong stock market. Since then, Chinese investors can directly invest in the foreign capital markets, including the Hong Kong market.

In March 2010, CSRC announced that part of the A share stocks could be traded by security margin mechanism, which is similar to short sales. The new policy means that part of
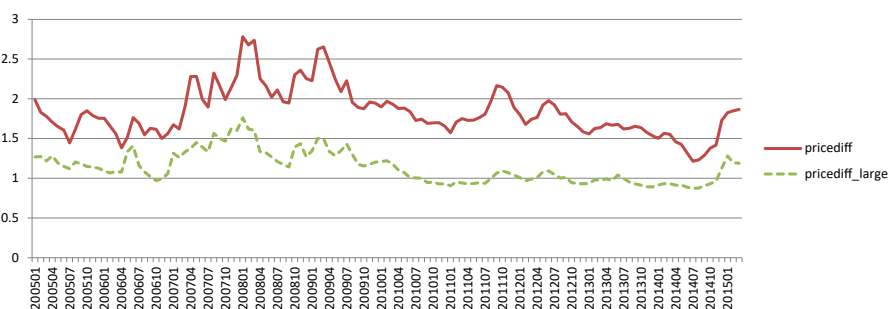
Note(s): The horizontal axis represents the sample period from January 2005 to March 2015, and the vertical axis represents the price difference.
Pricediff: All the A+H companies' average A share prices in Hong Kong dollars divided by the average H share prices in Hong Kong dollars.
Pricediff_large: 10 largest market value A+H Companies' average A share prices in Hong Kong dollars divided by the average H share prices in Hong Kong dollars

Figure 1.
A+H company price differences between A share and H share over time

the A share stocks could be short sell [8]. Table 1 provides the number of stocks that could be short sell from March 2010 to the end of 2014. We only list the end of each quarter's number of stocks that could be short sell. The requirements [9] for the stocks to be short sell in the market are as follows: (1) the stock has been traded in A share market at least three months; (2) the tradable shares are at least 200 million shares or market value larger than 800 million RMB; (3) the number of shareholder is larger than 4,000; (4) the stock's average daily turnover is higher than 20% of the average daily turnover of all the stocks in the market. The difference between the stock's average daily return and the daily return of the market should be smaller than 4%. The volatility of that stock price should be not higher than 500% of the average market volatility; (5) the company's stock has already completed the Stock Split Reform; and (6) the stock has never been Special-Treated. Although the number of stocks that could be short sell is increasing as shown in Table 1, some stocks could be kicked out of the pool if the stock cannot meet those six requirements. In fact, some stocks indeed were kicked out of the sample, and for most of the time, it was because the stock could not meet the fourth requirement. When an investor wants to short sell the stocks, the margin on the account of the investor should be higher than 50% of the total short sell shares market value. As shown in the last column of Table 1, the number of A+H companies' stocks that could be short sell is also increasing over time.

In November 2014, the Shanghai-Hong Kong Connect allowed mainland individual investors to directly buy stocks listed in the Hong Kong market and allowed the investors in the Hong Kong market to directly buy stocks listed in Shanghai A share market. Therefore, not only institutional investors, but also individual investors can invest in two markets freely; meanwhile, short sale is allowed in A share market, which is similar in the Hong Kong market. It is surprising to note that the price difference of A+H companies sharply increased than decreased from the end of 2014 around the time of the issuance of the regulation on Shanghai-Hong Kong Connect (Figure 1). After implementing these five regulations, the institutional differences between China A share and Hong Kong markets were largely eliminated.

year	month	No. of stocks that could be short sell	No. of A+H companies' stocks that could be short sell
2010	3	42	17
2010	6	89	28
2010	9	89	29
2010	12	90	29
2011	3	90	30
2011	6	90	30
2011	9	90	30
2011	12	285	41
2012	3	285	45
2012	6	287	45
2012	9	287	45
2012	12	288	45
2013	3	509	57
2013	6	506	55
2013	9	707	59
2013	12	713	59
2014	3	714	62
2014	6	710	62
2014	9	913	71
2014	12	913	71

Note(s): The first day when stocks could be short sell in A share market was March 31, 2010

Table 1.
No. of companies that could be short sell in A share market

However, as shown in Figure 1, the price difference between A+H Companies has still remained and even increased in some periods. Therefore, the institutional differences that were identified as determinants of the price differences of dual shares in prior studies cannot explain the fundamental reasons for the price difference in recent years.

2.2 Literature review on pricing differences of dual shares
A similar price difference exists for A+B companies which issue both A shares and B shares in China capital markets. The B shares are traded in the US dollar in the Shanghai exchange or traded in the Hong Kong dollar in the Shenzhen exchange. On average, A share price is higher than B share price, and the price difference ratio is about 60%. Prior studies provide several explanations for the price difference of A+B companies. Although A+H companies' price differences may not follow the pattern of A+B companies, the explanations for AB price differences might be useful in explaining AH price differences.

Specifically, A share price is known to be inflated for the following reasons. First, Fernald and Rogers (2002) argue that limited alternative investments available in China lead to higher A share price. However, the constraint on mainland Chinese citizen to invest overseas has been largely removed by two recent regulations: QDII in 2007 and the Shanghai-Hong Kong Connect in 2014. These new channels largely mitigate previous concerns about the constraints on foreign investing. Due to the Shanghai-Hong Kong Connect, all mainland investors can invest in the Hong Kong market even without QDII quota. However, the pattern of the AH price difference did not change after the first regulation in 2007 (as shown in Figure 1). Therefore, the prior explanation of the limited alternative investments available in A share markets cannot fully explain the AH price differences in recent years after regulatory changes. Second, Lee *et al.* (2008) argue that the supply of A share is relatively small compared with its demand, resulting in a higher A share price. The total number of A share companies increased from 1,445 to 3,467 from January 2007 to December 2017 and the traded market value increased from 2,041 billion RMB to 56,526 billion RMB over the same period, but the AH price difference remains. Thus, the relatively lower supply of A shares cannot fully explain their price difference.

Chinese B share price is known to be discounted for the following reasons. First, Chakravarty *et al.* (1998) and Tang (2011) suggest that the different language and accounting principles create information asymmetry between A and B share markets and give information disadvantage to B share investors (i.e. foreign investors until a recent regulation change), leading to a lower price. However, information asymmetry is not a big concern today in A and H share markets because the official language is Chinese in both Hong Kong and A share China markets. The A+H companies release important news in both Chinese and English at the same time. Even though some news is only released in Chinese, most investors in Hong Kong understand Chinese. Furthermore, China has adopted IFRS since 2007 [10], which has already been implemented in Hong Kong since 2005. However, Figure 1 shows that the price difference has not disappeared or decreased, suggesting that the information asymmetry may not fully explain the price difference [11].

Chen *et al.* (2001) find the lower liquidity of B shares to be the primary reason for the B share discount. The market value of H shares is substantially larger than that of B shares, suggesting that the liquidity difference between A and H share markets is not as dramatic as that between A and B share markets. Therefore, the lower liquidity of H shares is unlikely to fully explain the AH price difference. Hung *et al.* (2012) propose that Chinese SOEs are listed overseas to gain a political rent and that overseas investors are concerned about the political risk of SOEs, which may explain discounted share prices. Specifically, the executives of SOEs are likely to be promoted to a senior government position subsequent to the listing of an SOE in the Hong Kong market. In fact, nearly all A+H companies were SOEs upon their listing in Hong Kong market. Recently, however, since government ownership has decreased overtime, about half of the A+H

companies become non-SOEs, but the AH price differences remain persistent. Interestingly, for some companies with high government ownership, such as the Construction Bank of China, their H share price is even higher than their A share price (Figure 1, dash line). Therefore, the political risk of SOEs may not fully explain the recent AH price differences.

For A+H company price difference research, there were some papers that provided some explanations. Bai, Tang, and Yiu (2019) found that the price difference is related to the industry sector. We have controlled the industry factor in our study. Huo and Ahmed (2017) observed a leading role of the Shanghai stock market to the Hong Kong stock market in terms of both mean and volatility spillover effects after the Stock Connect. The paper indicates one market investor's behavior could affect the other market investors. We indirectly controlled the spillover effects as we use the simultaneous equation to solve the price return and turnover mutual effect which leads to the endogeneity concern. Ruan, Zhang, Lv, and Lu (2018) found that the market efficiency of the Shanghai stock market increased after the implementation of the Stock Connect. Fan and Wang (2017) also showed that after controlling for company-specific factors, market performance and investor preferences, the new policy is indeed effective in reducing the AH share premium. Meanwhile, new factors such as corporate governance are also found to be important in determining the AH share premium. We use an ownership structure to control the governance factor. Overall, the previous price difference studies were focused on finding new explanations. Besides finding the new explanations, the price return and turnover could also affect each other. This endogeneity problem has never been addressed in previous research.

In sum, the above explanations that were identified in the literature may not be able to fully explain the AH price differences in recent years because most institutional differences between China and Hong Kong markets have disappeared. Both markets use the same official language, have adopted the same IFRS accounting principles and have a similar degree of liquidity when A share investors have channels to invest overseas through QDII and Shanghai-Hong Kong Connect. The supply of A shares has substantially increased since the initiation of security margin selling. The government ownership of A+H companies has significantly reduced. Despite these institutional and governance changes, the AH difference even becomes larger. Therefore, our study aims to identify new fundamental factors and use new research design to explain the recent price differences of A+H companies.

3. Hypothesis development

Since 2007, all the listed Chinese A share companies are required to report financial statements according to IFRS. One important feature of IFRS comes from fair value accounting, which allows managers' greater discretion in estimating the market price. The A+H companies disclose IFRS information in Chinese and English at the same time in both markets, which makes the information sets similar in the two markets. The removal of the differences in accounting standards in the two markets provides a novel setting to test differential investor reactions to the same information set in the two markets and the effect on the AH price difference around earnings announcements.

Prior studies find that the benefits of mandatory IFRS adoption for the quality of earnings and disclosure are largely confined to countries where the rule of law and compliance incentives are strong (e.g. Barth *et al.*, 2008; Daske *et al.*, 2008; Byard *et al.*, 2011; DeFond *et al.*, 2011; Yip and Young, 2012). Their findings suggest that the benefits of IFRS adoption are likely to be lower in less developed countries. Consistent with this view, He *et al.* (2012) find greater earnings management that might be attributed to the introduction of fair value accounting after the IFRS conversion in China [12]. Their findings are consistent with greater incentives of Chinese managers to manage earnings upward, more discretions and flexibilities allowed under IFRS and less implementation credibility in China.

China and Hong Kong markets consist of different qualities of investors and market participants and legal and extra-legal (such as news media) institutions to protect shareholders. Hong Kong stock market is considered as a more efficient market that imposes stricter regulations to protect shareholders than A share market in mainland China, where shareholder protection is weak, state ownership is high and political connections are pervasive (e.g. La Porta, Silanes, Shleifer, & Vishny, 1998, 2000; Hung *et al.*, 2012). Investors in the Hong Kong stock market are regarded as more sophisticated and better informed through well-developed media and newspaper circulations than Chinese investors in A share market (e.g. Dyck & Zingales, 2002). Therefore, we predict that, at the earnings announcements of A+H companies, investors in the H share market can see through the lower quality of financial reporting prepared by A+H Chinese companies and discount their H share price given greater discretions available under IFRS. In contrast, domestic investors in A share market, which primarily consists of speculative investors along with less independent media and newspapers, have less capability to see through the low earnings quality.

Low earnings quality reduces stock price via two ways: low earnings quality means (1) low earnings persistence, which results in low expected future earnings, and (2) high information risk, leading to a higher required cost of capital to compensate for the risk. We predict that A+H companies with lower earnings quality have a larger price difference between A and H shares around earnings announcements. The first hypothesis is therefore stated as follows (in alternative form):

H1. Earnings quality of A+H companies is negatively associated with the price difference of A+H companies around earnings announcements.

Unlike the USA and Hong Kong stock markets, the Chinese A share market is dominated by myopic investors, whose purpose of buying a stock is simply to resell it in the short run [13]. Harrison and Kreps (1978) state that owning a stock can be viewed as owning several rights, such as a resale right, a voting right and a cash flow right. They argue that when investors attach a higher value to a resale right than a cash flow right, discovering what their fellow investors know and how they will react to public information is more important than the information itself; and the investors take into account the beliefs, preferences of their fellow investors, to predict the aggregated future price. Myopic investors pay more attention to the resale right instead of the cash flow right and care more about whether the price will rise than whether the price is inflated. Their behavior not only meets the definition of speculation in Feiger (1976), but is also consistent with the description by Harrison and Kreps (1978).

Hand (1990) shows that the larger myopic investor ownership, the more likely they determine the price, calling this view as "The extended functional fixation view." He further elaborates that when responding to accounting data, sometimes a firm's stock price is set by a sophisticated marginal investor, and sometimes it is set by an unsophisticated marginal investor. Chinese myopic investors are basically unsophisticated investors. When a market's major players are myopic investors, the pricing mechanism is different from a market where major players are rational investors. In a mature market with dominantly rational investors, even though myopic investors can drive price away from the present value of expected future dividends or cash flows conditional on all public information, rational investors can quickly incorporate all public information into the price of a stock through the arbitrage process. However, in a Chinese market that is dominated by myopic investors, investors can push price away from the fundamental value, and rational investors are unable to quickly drag the price back through arbitrage due to constraints such as stop loss and margin call. Sometimes, they are even unwilling to arbitrage the price back, because when the price is expected to rise, myopic investors are likely to jump on the wagon of rising price and earn profits despite the stock being overvalued.

We thus hypothesize that the dominance of myopic investors in the Chinese A share market inflates A share price and hence enlarges the AH price difference. We expect that the higher the myopic investor ownership of A shares, the greater the extent of inflation in A share price and the larger the AH price difference. The second hypothesis is stated as follows (in alternative form):

H2. Myopic investor ownership in A share market is positively associated with the price difference of A+H companies.

Mei *et al.* (2009) propose that, due to short constraints in A share market, the price has been speculated too high, thereby causing AB price difference. Although myopic investors can either inflate or deflate price, A share price is more likely to be inflated than deflated due to the lack of a short-selling mechanism in A share market before March 2010. The official name of the short sale in China is called "Security Margin Trading," the mechanism is basically the same as a short sale. In March 2010, CSRC issued the first list of companies that could be traded using security margin trading in A share market. The list is updated timely on the website of the Shanghai stock exchange [14] and Shenzhen stock exchange [15]. Based on previous findings, short selling is expected to reduce the possibility of A share price being speculated too high, thereby lowering the AH price difference [16]. Meanwhile, the number of A+H companies' stocks that could be short sell have variations across years, which provides a necessary condition to test the short sale effect in the Chinese A share market. Therefore, the third hypothesis is stated as follows (in alternative form):

H3. Short sale in A share market is negatively associated with the price difference of A+H companies.

4. Research design

The earnings quality measure is our variable of interest for H1. Following DeFond (2010) who provides directions for future earnings quality research to incorporate fair value into an earnings quality measure, we focus on fair value components for the earnings quality measure as follows, where gain refers to both gains and losses: [17]

$$Gain_{i,t} = \frac{FVgain_{i,t} + INVgain_{i,t} + DISPOSALgain_{i,t}}{Netprofit_{i,t}}$$

The numerator is the sum of three components of profits for each firm *i* per quarter *t*: gains or losses from fair value change; gains or losses from investment; and gains or losses from disposal of non-current assets. We refer to the numerator as the non-persistent part of earnings because these components are not as persistent as income from operations. The first component from fair value change fluctuates with the market and appears on income statement since 2007 when China adopted IFRS. When the market booms, this account increases and reverses in recession. It is non-persistent due to the low persistence of gains/losses from fair value changes. Therefore, this account not only is less persistent but also manipulative by managers. The second component includes not only income from the associate company, but also other income from investment. Since 2007, this account has been included in operating profit. Due to the infrequent and unstable nature of investment and the volatility of market returns on investment, this item is generally regarded as not as persistent as income from operations. He *et al.* (2012) show that managers have incentives to boost operating income by manipulating the gains/losses from investment by selling available for sale securities. The third component is not persistent due to the infrequent nature of asset

disposal. Although this account is more difficult to manipulate, the choice of disposal and the timing of disposal are subject to managers' discretion. Overall, these three components constitute the main portion of non-persistent components of profit in China, which allow managers greater discretion and flexibility under IFRS.

We deflate the sum of non-persistent components by net profit (*Gain*), which serves as our earnings quality measure. Since prior studies find that Chinese managers tend to make income-increasing management rather than income-decreasing management (e.g. Haw, Qi, Wu, & Wu, 2005), we focus on income increasing *Gain*. To make our interpretation easier, we also require positive net profits as the denominator. The lower ratio of *Gain* indicates higher earnings quality.

Figure 2 plots the average daily price and turnover for A shares. The red solid line represents the A+H companies' average daily price, while the green dash line represents the A+H companies' average daily turnover. It shows that the price and turnover are often moving together, suggesting that the price and turnover are simultaneously determined in the stock market, causing the endogenous problem. Not only the turnover could affect price, but also the price could affect turnover.

To address this concern, we use 3SLS method to estimate the simultaneous equations. While Eq. (1) includes *aturnover* as an independent variable, Eq. (2) employs it as the dependent variable. The equation systems to test the first hypothesis are as follows:

$$
\begin{aligned}
pricedif_{i,(-2,+2)} = {} & c_0 + c_1 Gain_{i,t} + c_2 aturnover_{i,(-2,+2)} + c_3 mtop_{i,t} + c_4 totalshares_{i,t} \\
& + c_5 shortdummy_{i,t} + c_6 supply_{i,t} + c_7 govownership_{i,t} + c_8 marketvalue_{i,t} \\
& + c_9 fanindex_{i,t} + \mu_{i,t}
\end{aligned}
$$

(1)

$$
\begin{aligned}
aturnover_{i,(-2,+2)} = {} & d_0 + d_1 Gain_{i,t} + d_2 pricedif_{i,(-2,+2)} + d_3 mtop_{i,t} + d_4 totalshares_{i,t} \\
& + d_5 shortdummy_{i,t} + d_6 supply_{i,t} + d_7 govownership_{i,t} + d_8 marketvalue_{i,t} \\
& + d_9 absEPSchange_{i,t} + d_{10} mom_{i,t} + \nu_{i,t}
\end{aligned}
$$

(2)

The AH price difference is the average price difference calculated as $pricedif_{i,(-2,+2)} = \frac{Price_A * exchange\,rate}{Price_H}$ for each company in the short-widow period $(-2, +2)$
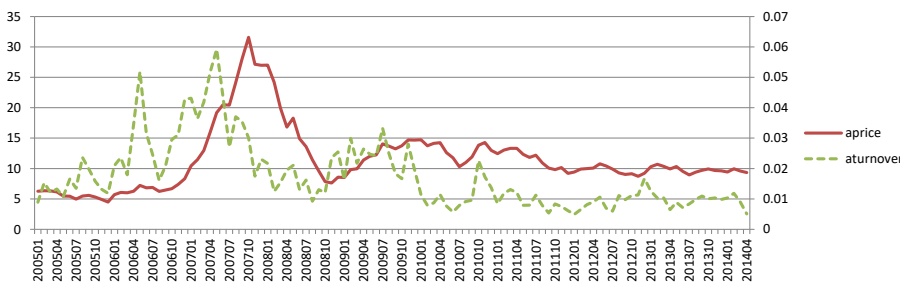
Note(s): The horizontal axis represents the sample period from January 2005 to April 2014. The left hand side vertical axis represents the average A share prices of A+H companies in RMB, the right hand side vertical axis represents the average daily A share turnover of A+H companies

Figure 2.
Daily A share price and turnover of A+H companies over time

surrounding earnings announcement date (0), where $Price_A$ and $Price_H$ represent A share price (in RMB) and H share price (in Hong Kong dollars), respectively. The exchange rate in the numerator makes both prices in Hong Kong dollars. The ratio minus one represents a premium (if positive) or discount (if negative) of the adjusted A share price relative to the H share price. Here we focus on the short-widow period to test the relationship between earnings quality and price difference when *Gain* is first announced to the markets, so capturing investors' differential responses to the same news. Following Tang (2011), $pricedif_{i,(-2,+2)}$ is the five–day average price difference around the earnings announcement date [18]. H1 predicts a positive coefficient on *Gain*, suggesting that the larger *Gain* (i.e. lower earnings quality), the larger the price difference around earnings announcements.

$aturnover_{i,(-2,+2)}$ is the five–day average trading volume of A shares divided by total tradable A shares around the earnings announcement date (Chen *et al.*, 2001) [19]. We also estimate *pricedif* and *aturnover* for the alternative periods of (−5, +5) and (−10, +10).

We measure myopic investor ownership (*mtop*) as one minus the ownership of the top 10 shareholders [20]. In China markets, institutional investors' ownership is quite low and large individual shareholders are present. Unlike small individual investors, large individual investors tend to have close ties with a company, hold its stock for a long period, and thus behave like institutional investors. Given the lack of large presence of institutional investors in China markets, most China studies use top 10 shareholders as a proxy for sophisticated investors. We thus use one minus top 10 shareholders' ownership to proxy for the ownership of myopic investors (*mtop*), who are considered to be speculative [21]. We include *shortdummy*, which proxies for whether the company could be short sell in the quarter, where *shortdummy* equals 1 and 0 otherwise [22]. H2 predicts a significantly positive coefficient on *mtop* and H3 predicts a significantly negative coefficient on *shortdummy*, respectively. We measure independent variables based on quarterly data from financial statements.

Eq. (1) includes control variables that were identified to influence the price difference of dual shares in the literature. Lee *et al.* (2008) argue that the supply of A share is relatively small compared with its demand, resulting in a higher A share price and hence a larger AB difference and predict that the price difference increases as the relative supply of A share decreases. We thus include *supply*, which is tradable A shares divided by tradable H shares to control for the supply of A shares relative to H shares. We predict the coefficient on *supply* to be negative because the larger the variable, the higher the relative supply of A shares, the lower the relative A share price, and thus the lower the price difference. We introduce the market value of a company's A shares, *marketvalue*, to control for the supply of each company's capitalization relative to that of the whole A share market. The larger the supply, the lower the A share price, and the smaller the price difference. Thus, we predict a negative coefficient on *marketvalue*. In addition, the larger the *marketvalue*, the myopic investors are hard to speculate the price. Thus, it is necessary to control the capitalization of each company.

Karolyi *et al.* (2009) find that a political risk associated with government ownership is an important factor affecting price differences. Hung *et al.* (2012) argue that overseas investors are concerned about the political risk of Chinese SOEs listed in overseas markets. We thus include the percentage of shares owned by the government, *govownership*, to control for the concern of the political risk. They predict that a higher government ownership generates a higher political risk and thus a greater discount of the foreign share price. We also include a total number of tradable A shares (*totalshares*) as a control variable because it affects price and volume. Finally, we add Fan, Wang, and Zhu (2011) index, *Fanindex*, to control for the institutional environment of each company.

In Eq. (2) where *aturnover* is the dependent variable, we add two more control variables that might affect volume in addition to those included in Eq. (1). Kim and Verrecchia (1991) assume that traders are diversely informed and differ in the precision of their private prior

information. When the new information changes traders' beliefs, the traders respond differently and lead to positive volume. Bamber, Barron, and Stevens (2011) point out that the absolute changes in the analyst mean forecast and changes in forecast dispersion could proxy for the precision of prior private information. However, for quarterly data, the number of analyst forecasts for Chinese firms is too small to produce meaningful measures of forecast dispersion. Thus, we include the absolute change of consensus analyst forecast, *absEPSchange*. Following Lee and Swaminathan (2000) which show that trading volume is related to stock return, we include momentum, *mom*. Finally, to keep Eq. (1) to be just identified, we need to drop one of the independent variables used in Eq. (1) when specifying Eq. (2). We drop *Fanindex* as it has the lowest correlation with *aturnover*.

5. Descriptive statistics and empirical results

5.1 Sample and descriptive statistics

Table 2 presents the sample distribution by year and industry. It shows the number of companies listed in both A share in China and H share in Hong Kong markets during each of the sample period 2007–2013. It indicates that by the third quarter of 2013, there are 82 A+H companies. The A+H companies cover nearly all industries with a concentration on manufacturing (36 firms), financial (14 firms) and transportation (12 firms) industries. The number of A+H companies has increased from 51 in 2007 to 82 in September 2013. We select all companies that are listed on both A and H share markets.

We use quarterly financial data of 82 companies to test our hypotheses. The top 10 tradable shareholder ownership, tradable shares, government ownership, market value, momentum and financial data are obtained from RESSET database, while the stock price and trading volume come from CSMAR. Our sample period starts from the first quarter of 2007 to the third quarter of 2013 to capture the effects of IFRS adoption in China since 2007.

We first present descriptive statistics of variables measured based on firm-quarters in Table 3. Our sample size consists of 1,456 firm-quarters. Panel A shows that *pricedif* has a mean of 1.848, suggesting that A share price is, on average, higher than H share price by 84.8% over our sample period, after adjusting for the exchange rate [23]. The average turnover (*aturnover*) is 1.6%. The average myopic investors' ownership (*mtop*) is 0.546, meaning that the top 10 shareholder ownership represents 0.454. Average *mownership*, which is 1 minus institutional ownership, is 0.837, meaning that institutional ownership covers 0.163. The large ownership of the top 10 shareholders (0.454) relative to institutional ownership (0.163) indicates the prevalence of large individual shareholders in China markets.

Industry	2007	2008	2009	2010	2011	2012	2013
Mining	5	7	7	7	7	8	8
Manufacturing	21	24	24	27	30	36	36
Utilities	3	3	3	3	3	3	3
Construction	1	2	3	3	3	4	4
Transportation	10	10	11	12	12	12	12
IT	1	1	1	1	1	1	1
Wholesale and retail	0	0	0	0	1	1	1
Financial	8	8	10	11	13	14	14
Real estate	1	1	1	1	1	1	1
Social services	1	1	1	1	1	2	2
Total	*51*	*57*	*61*	*66*	*72*	*82*	*82*

Note(s): Sample period covers from January 1, 2007, to September 30, 2013

Table 2.
Sample distribution of A+H share companies by year and industry

Panel A descriptive statistics

Variable	N	Mean	Std. Dev	Minimum	Maximum
pricedif	1456	1.848	0.963	0.797	5.135
aturnover	1456	0.016	0.018	0.000	0.088
mtop	1456	0.546	0.301	0.028	0.970
mownership	1456	0.837	0.191	0.035	0.998
totalshares	1456	3.004E+10	7.182E+10	2.777E+08	3.506E+11
shortdummy	1456	0.319	0.466	0.000	1.000
supply	1456	1.826	1.522	0.068	7.655
mom	1456	0.017	0.244	−0.448	0.938
govownership	1456	0.233	0.263	0.000	0.827
marketvalue	1456	17.463	1.648	13.907	21.257
fanindex	1456	9.616	1.163	5.120	11.800
Absepschange	1456	0.09496	0.18998	0	3.4182

Note(s): Financial variables are measured based on quarterly data; AH price difference is measured as follows: $Pricedif_{i,t} = \frac{Price_A * exchange\ rate}{Price_H}$, where $Price_A$ stands for A share price and $Price_H$ stands for H share price. The exchange rate in the numerator converts the A share price from RMB to Hong Kong dollars – aturnover = average daily trading A share volume divided by tradable A shares; mtop = 1-top 10 shareholder ownership; mownership = 1-institutional ownership; totalshares: total tradable A shares; shortdummy: 1 if a company is on the list of security margin trading and 0; otherwise; supply = tradable A shares divided by tradable H shares; mom: the quarterly return of A shares; govownership: government-owned tradable A shares divided by total tradable A shares; marketvalue: capitalization of A shares; fanindex: institutional environment index from Fan *et al.* (2011); Absepschange: quarterly absolute change of analyst forecast consensus

Spearman/Pearson correlation matrix, $N = 1456$
Prob> |r| under H0: Rho = 0

Panel B correlations

	pricedif	Aturnover	mtop	totalshares	shortdummy	supply	govownership	marketvalue	fanindex	absepschange	mom
pricedif		0.391***	0.234***	−0.533***	−0.521***	−0.235***	0.0470*	−0.582***	−0.069***	−0.073***	−0.036
aturnover	0.314***		0.789***	−0.424***	−0.485***	−0.613***	0.511***	−0.263***	0.067**	0.025	0.217***
mtop	0.219***	0.624***		−0.179***	−0.342***	−0.686***	0.577***	−0.094***	0.109***	−0.002	0.036
totalsharess	−0.264***	−0.166***	−0.106***		0.459***	0.062**	0.180***	0.858***	−0.112***	0.025	−0.059**
shortdummy	−0.445***	−0.380***	−0.340***	0.259***		0.361***	−0.260***	0.445***	0.055**	0.059**	−0.048*
supply	−0.235***	−0.451***	−0.590***	0.005	0.391***		−0.640***	−0.017	0.09***	−0.001	−0.044*
govownership	−0.0230	0.450***	0.659***	0.118***	−0.304***	−0.630***		0.232***	−0.076***	0.044*	−0.005
marketvalue	−0.578***	−0.230***	−0.099***	0.560***	0.421***	0.094***	0.223***		−0.110***	0.141***	−0.040
fanindex	−0.00400	0.0310	0.097***	−0.112***	0.015	0.032	−0.072***	−0.110***		0.047*	0.015
absepschange	−0.011	0.043	0.051**	−0.088***	0.004	−0.020	−0.007	0.021	0.084***		−0.021
mom	0.00400	0.390***	0.096***	−0.037	−0.099***	−0.080***	0.046*	−0.061**	0.027	0.081***	

Note(s): Spearman's rank correlations appear above the diagonal while Pearson's correlation coefficients appear below the diagonal. *, **, and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively. All variables are as defined in Panel A of Table 3

Table 3.
Descriptive statistics
and correlations for
sample firm-quarters

The mean value of *shortdummy* is 0.319, meaning that about one-third of the observations are eligible for short selling. As shown in Table 2, 59 companies were allowed to be short sell until the third quarter of 2013. The mean value of *govownership* is 0.233, suggesting that 23.3% of A shares are controlled by the government. The mean of *absepschange*, the absolute change of analyst forecast consensus, is 0.095. Before the absolute value transformation, the average change in forecast is −0.03, which is consistent with an average downward change of consensus forecasts.

In Panel B of Table 3, Spearman's rank correlations are shown above the diagonal, while Pearson's correlation coefficients are shown below. Consistent with predictions, *mtop* and *aturnover* are significantly and positively correlated with *pricedif*, while *shortdummy*, *supply* and *marketvalue* are significantly and negatively correlated with *pricedif*.

5.2 Descriptive analysis and empirical results around earnings announcements
Testing H1 requires earnings announcement dates, positive numerator and denominator of the *Gain* ratio, daily average stock prices for each period of $(-2, +2)$, $(-5, +5)$ and $(-10, +10)$ and non-missing control variables used in Eqs. (1) and (2). Due to missing observations, our sample for testing H1 reduces to 789 observations from the original sample of 1,456. Table 4 provides descriptive statistics of the sample used for testing H1. Panel A shows that the distributions of *pricedif22, pricedif55 and pricedif1010* are quite similar. Their mean values have a range of 1.88–1.89, indicating that on average, A share price is higher than H share price by 88%-89% around the earnings announcement dates, close to the quarterly price difference of 84.8% in Table 2. The distributions of *aturnover22, aturnover55* and *aturnover1010* are also similar with a mean range of 1.64–1.68%. The mean value of *Gain* is 0.34, indicating that the non-persistent part of the total net profit causes the bottom line substantially overstated. Panel B provides the correlations among main variables. The correlations between *Gain* and the price differences are significantly positive at the 1% level (with Pearson correlation coefficients of 0.31), consistent with the prediction that the larger the *Gain*, the lower the earnings quality, and the larger the price difference between AH shares at the earnings announcement dates. We find that the larger price difference is not caused by the higher A share price for those firms with lower earnings quality. Instead, the correlations between *Gain* and stock prices show that the lower the earnings quality, the lower the prices in both markets (untabulated). The larger price difference is thus related to a deeper discount taken by H share investors.

Table 5 provides the univariate analysis to compare market reactions to earnings announcements in A and H share markets [24]. We partition the sample into two groups based on the median *Gain*. We classify the full sample observations into two subgroups of higher (lower) *Gain* as a low (high) earnings quality group. For the low earnings quality group, the mean returns are 0.094 for H shares and 0.130 for A shares in the five-day period of $(-2, +2)$ around earnings announcements, and they are significantly different at the 5% level. Similar patterns appear in other return periods. In contrast, for the higher earnings quality group, the returns are more or less the same between A shares and H shares. Overall, evidence suggests that *Gain* captures the market reactions to the earnings quality of Chinese firms under IFRS.

Table 6 provides multivariate analysis using Eq. (1) on the AH price difference and Eq. (2) on trading volume around earnings announcements when *Gain* is first available to the markets. The testing period covers the first quarter of 2007 to the third quarter of 2013, during which both A and H share markets have produced the same IFRS information set. Column (1) presents the empirical results based on the short-window period of $(-2, +2)$. Regarding the price difference as the dependent variable, the coefficient on *Gain* is 0.229 and significant at the 1% level, suggesting that the higher the *Gain*, the lower earnings quality

Table 4.
Descriptive statistics and correlations for the Short-window Test around earnings announcements (H1)

Panel A Descriptive Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
pricedif22	789	1.89	0.91	0.83	5.38
pricedif55	789	1.89	0.90	0.83	5.40
pricedif1010	789	1.88	0.90	0.83	5.29
aturnover22	789	1.64%	1.89	0.02	9.09
aturnover55	789	1.66%	1.90	0.02	9.51
aturnover1010	789	1.68%	1.91	0.03	9.79
Gain	789	0.34	0.92	0.00	5.98

Note(s): $pricedif22$, $pricedif55$, and $pricedif1010$ is the 5-day (-2, $+2$), 11-day (-5, $+5$) and 21-day (-10, $+10$) average price difference around the earnings announcement day 0, respectively; $Pricedif_t = \frac{Price_t}{Price_A * exchange\ rate}$ where t represents short-window of (-2, $+2$), (-5, $+5$) and (-10, $+10$) $aturnover22$, $aturnover55$ and $aturnover1010$ is the 5-day, 11-day and 21-day average A share turnover around the earnings announcement day, respectively, in a percentage of tradable A shares; $Gain_{i,t} = \frac{fairvalue_{i,t} + invest_{i,t} + disposal_{i,t}}{net_{profit,i,t}}$

Panel B Correlations

	pricedif22	pricedif55	pricedif1010	aturnover22	aturnover55	aturnover1010	Gain
pricedif22	1	0.999***	0.996***	0.332***	0.340***	0.342***	0.320***
pricedif55	0.999***	1	0.999***	0.329***	0.337***	0.339***	0.323***
pricedif1010	0.995***	0.998***	1	0.324***	0.332***	0.335***	0.326***
aturnover22	0.328***	0.326***	0.322***	1	0.989***	0.973***	-0.042
aturnover55	0.323***	0.323***	0.318***	0.978***	1	0.990***	-0.040
aturnover1010	0.318***	0.317***	0.312***	0.946***	0.982***	1	-0.039
Gain	0.305***	0.307***	0.307***	0	0.006	0.00300	1

Note(s): Spearman's rank correlations appear above the diagonal while Pearson's correlation coefficients appear below the diagonal. *, **, and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively. All variables are as defined in Panel A above

and the larger price difference between A and H shares. This is consistent with H1, indicating that the earnings quality of A+H companies is negatively related to the price difference. The coefficient on *mtop* is 0.809 and significant at the 1% level, consistent with H2 that the higher the myopic investor ownership, the larger the price difference. This result is consistent with the view that the myopic investors who pay more attention to their fellow investors' trading behavior inflate A share price. This result echoes Mei *et al.* (2009), who argue that, due to the short sale constraint of A shares, the speculative investors drive the price up [25]. Meanwhile, the coefficient of *shortdummy* is significantly negative with the coefficient of −0.272 ($p < 0.01$), indicating that firms that are eligible for short selling tend to have a lower price difference, consistent with H3.

Regarding the control variables, *supply* is negatively associated with the price difference at the 1% level, which is consistent with the prediction that the larger the supply of a firm's A share, the lower the price difference. The negative coefficient on *marketvalue* suggests that the larger the firm size, the lower the price difference, which is consistent with the trend shown in Figure 1. The coefficient of *aturnover* is insignificant. Inconsistent with the prediction, the coefficient of *govownership* has a significantly negative coefficient, indicating that the higher government ownership in A shares leads to a smaller price difference. This is opposite to the prediction of a larger discount in H share price due to the political concern and hence a larger price difference. A possible explanation might be that *govonwership* has no effect, as found by Tang (2011), but the observed negative effect might be the effect of market value, which is highly correlated with government ownership (see Panel B of Table 3). Specifically, cross-listed Chinese firms were originally SOEs and the largest firms (such as Petro China), which typically have high government ownership and small (even lower than 1) price difference between A and H shares. The explanatory power of the model appears reasonable (36.5% of R^2). The results are quite similar when we use alternative windows (−5, +5) and (−10, +10) for the price difference measures, as reported in Columns (2) and (3).

Using Eq. (2) on the A share turnover as the dependent variable, Table 6 shows that the coefficients on *Gain* are all negative (suggesting the higher *Gain*, the lower trading volume) across different windows but marginally significant ($p < 0.10$) only in the last column. We find a significantly positive coefficient on *mtop* ($p < 0.01$) in each column, suggesting that myopic investors create volume. There is a significant effect of momentum (*mom*) on turnover, consistent with the literature. However, other control variables are generally insignificant to explain turnover in A share market. Overall, the results in Table 6 suggest that around the earnings announcements, the earnings quality of A+H companies is negatively related to the AH price difference; myopic ownership has a positive effect on the price difference; and

Earnings quality	Observations	A & H shares	Returns (−2, +2)	Returns (−5, +5)	Returns (−10, +10)
High	596	A share	0.054	0.060	0.052
		H share	0.045	0.062	0.055
		Difference	0.009[*]	−0.002	−0.003
Low	595	A share	0.130	0.110	0.088
		H share	0.094	0.089	0.061
		Difference	0.036[**]	0.021	0.026[*]

Note(s): We employ a market model in A and H share markets with its own market index to estimate returns around the earnings announcements. Earnings quality is measured by *Gain*. We classify the sample into two subgroups based on the median value of *Gain*. The total observations in this table (1,191) are larger than observations in Table 6 which requires non-missing control variables. [*], [**] and [***] indicate statistically significant at the 10%, 5% and 1% levels, respectively

Table 5.
Univariate Test of earnings quality in A and H share markets: Market reactions to earning announcements

Variables	(1) Equation (1) pricedif22	(1) Equation (2) aturnover22	(2) Equation (1) pricedif55	(2) Equation (2) aturnover55	(3) Equation (1) pricedif1010	(3) Equation (2) aturnover1010
Gain	0.229*** (7.932)	−0.0937 (−1.384)	0.231*** (8.100)	−0.0967 (−1.414)	0.230*** (8.127)	−0.119* (−1.728)
mtop	0.809*** (3.360)	1.633*** (7.347)	0.817*** (3.577)	1.570*** (6.879)	0.810*** (3.798)	1.448*** (6.242)
totalshares	0.268*** (6.984)	−0.0207 (−0.234)	0.269*** (7.086)	−0.0417 (−0.468)	0.266*** (7.096)	−0.0763 (−0.854)
shortdummy	−0.272*** (−3.593)	−0.0535 (−0.484)	−0.271*** (−3.650)	−0.0106 (−0.0952)	−0.271*** (−3.705)	0.0267 (0.236)
supply	−0.213*** (−6.835)	0.0446 (0.686)	−0.213*** (−6.916)	0.0564 (0.863)	−0.211*** (−6.928)	0.0858 (1.307)
mom		0.997*** (9.607)		1.060*** (10.20)		1.144*** (10.88)
govownership	−1.239*** (−6.412)	0.108 (0.297)	−1.261*** (−6.647)	0.260 (0.700)	−1.258*** (−6.735)	0.521 (1.387)
marketvalue	−0.240*** (−7.786)	−0.0511 (−0.704)	−0.237*** (−7.858)	−0.0337 (−0.466)	−0.235*** (−7.871)	−0.0189 (−0.261)
absepschange		0.101 (0.719)		0.0458 (0.325)		0.0421 (0.301)
fanindex	−0.104*** (−3.757)		−0.104*** (−3.799)		−0.105*** (−3.852)	
pricedif22		0.314 (1.141)				
aturnover22	−0.0572 (−0.561)					
pricedif55				0.377 (1.358)		
aturnover55			−0.0516 (−0.540)			
pricedif1010						0.467* (1.671)
aturnover1010					−0.0456 (−0.517)	
Constant	7.287*** (13.12)	−0.681 (−0.372)	7.240*** (13.22)	−1.131 (−0.619)	7.207*** (13.24)	−1.614 (−0.881)
Observations	789	789	789	789	789	789
Adj R^2	0.365	0.467	0.372	0.464	0.376	0.450

Note(s): t-statistics are reported in parentheses, with *, ** and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively. All variables are as defined in Tables 3 and 6

Table 6.
Regression results with short-window AH price differences around earnings announcements

shortdummy has a negative effect on the price difference, after controlling for other factors that may influence the price difference and addressing endogenous concern using 3SLS estimation. These results are supportive of our hypotheses.

5.3 Further tests on long-window period

Equations (1) and (2) focus on short-window price differences around earnings announcements to examine investors' responses to the same news of *Gain* in two different markets. We further test the impacts of myopic ownership of A share (*mtop*) and short sell (*shortdummy*) based on the long-window price differences. Eq. (3) uses the price difference in each quarter t between A and H shares (*pricedif$_{i,t}$*) as the dependent variable and includes those control variables used in Eq. (1). We add Eq. (4) which includes turnover (*aturnover*) in each quarter as the dependent variable and those control variables used in Eq. (2). We use 3SLS method to estimate the simultaneous equations to address endogeneity issue. The equation systems to test the second and third hypotheses are as follows:

$$pricedif_{i,t} = \alpha_0 + \alpha_1 aturnover_{i,t} + \alpha_2 mtop_{i,t} + \alpha_3 totalshares_{i,t} + a_4 shortdummy_{i,t}$$
$$+ a_5 supply_{i,t} + a_6 govownership_{i,t} + a_7 marketvalue_{i,t} + a_8 fanindex_{i,t} + \epsilon_{i,t} \quad (3)$$

$$aturnover_{i,t} = b_0 + b_1 pricedif_{i,t} + b_2 mtop_{i,t} + b_3 totalshares_{i,t} + b_4 shortdummy_{i,t}$$
$$+ b_5 supply_{i,t} + b_6 govownership_{i,t} + b_7 marketvalue_{i,t} + b_8 absEPSchange_{i,t}$$
$$+ b_9 mom_{i,t} + \eta_{i,t}$$

$$(4)$$

The AH price difference of each A+H company for each quarter is calculated as $pricedif_{i,t} = \frac{Price_A * exchange\ rate}{Price_H}$. We measure *aturnover* by average trading A share volume divided by total tradable A shares in each quarter (Chen *et al.*, 2001). All variables are measured based on quarterly data.

Table 7 shows the univariate analysis for the relation between myopic investor ownership (*mtop*) and A+H company price difference. Our sample size consists of 1,456 firm-quarters as the long-window price difference tests focus on *mtop* and *shortdummy* without requiring earnings announcement dates and positive *Gain* ratios. We partition the full sample into two subgroups based on myopic investors' ownership: High (Low) if the observation has the ownership higher (lower) than the median ownership. The mean AH price difference is 1.996 for the sample of higher myopic investors' ownership and 1.70 for the lower ownership, and the difference is significant at the 1% level. It is consistent with H2.

Table 8 presents the empirical results for H2 and H3 using Eq. (3) and Eq. (4) with quarterly measures. In Column (1) based on the AH price difference as the dependent variable, the coefficient of *mtop* is significantly positive at the 1% level (with the coefficient of 0.80),

myopic investor ownership	Observations	AH price difference
High	729	1.996
Low	727	1.700
AH price difference	1,456	0.2963***

Note(s): AH price difference is measured as $Pricedif_{i,t} = \frac{Price_A * exchangerate}{Price_H}$; High/Low myopic investor ownership is classified based on the median of *mtop* (1- top 10 shareholder ownership). *, ** and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively

Table 7.
Univariate Test for H2

Variables	Equation (3) pricedif	Equation (4) aturnover
pricedif		0.439 (1.514)
aturnover	−0.179*** (−2.869)	
mtop	0.800*** (5.783)	1.249*** (7.549)
totalsharess	0.0852*** (3.497)	−0.0597* (−1.705)
shortdummy	−0.492*** (−8.959)	0.0462 (0.317)
supply	−0.0834*** (−4.493)	0.0118 (0.407)
mom		1.423*** (13.79)
govownership	−0.598*** (−4.607)	0.796*** (3.605)
marketvalue	−0.295*** (−16.11)	0.0301 (0.368)
absepschange		−0.0201 (−0.208)
fanindex	−0.0599*** (−3.394)	
Constant	7.588*** (21.86)	−2.265 (−1.126)
Observations	1,456	1,456
Adj R^2	0.375	0.511

Note(s): *t*-statistics are reported in parentheses, with *, ** and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively. All variables are as defined in Panel A of Table 3

consistent with H2 that the higher the myopic investor ownership, the larger the price difference. The coefficient of *shortdummy* is significantly negative at the 1% level (with the coefficient of −0.492), indicating that firms eligible for short selling tend to have a lower price difference, consistent with H3. These results are consistent with those of Table 6 based on the price differences around earnings announcements and enhance the validity of our analysis [26].

The results on control variables are mostly consistent with those of Table 6. One exception is a significantly negative coefficient of *aturnover*, indicating that the higher liquidity of A shares causes a smaller price difference rather than a larger price difference. One possible explanation is that, unlike B share market, H share market is highly liquid and the relative liquidity may have little impact on AH price difference [27].

Column (2) of Table 8 presents the results of Eq. (4) using quarterly turnover as the dependent variable. We find a significantly positive coefficient of 1.249 on *mtop* at the 1% level, suggesting that myopic investors create volume in A share market. The coefficient of *shortdummy* is statistically insignificant, as shown in Table 6. Regarding the control variables, the coefficient on *govownership* is significantly positive, probably due to the effect of large SOEs which have higher government ownership and high turnover. There is a significant effect of momentum (*mom*) on turnover, consistent with the literature, but an insignificant effect of the absolute change in consensus analyst forecast (*absepschange*). Overall, the results in Table 8 suggest that myopic ownership has a positive effect on the AH price difference and turnover, while *shortdummy* has a negative effect on the price difference. The consistent results between short-window and long-window dependent variables enhance the validity of our findings.

6. Robustness tests
6.1 Considering IPO first day premium
Among our sample of 82 A+H companies, 21 companies were listed first in the Hong Kong market and subsequently listed in A share market. The IPO first-day premium is a concern because the first-day premium is included in the A share price. We repeat Eq. (3) and Eq. (4) without those 21 companies' observations and present results in Panel A of Table 9, which are similar to those in Table 8. Using the price difference as the dependent variable, the coefficients on *mtop* and *shortdummy* are significant at the 1% level with the predicted signs.

| Variables | (1) IPO First-day premium | | (2) Relative turnover of AH shares | | (3) year fixed effects | |
	Equation (3) pricedif	Equation (4) aturnover	Equation (3) pricedif	Equation (4) aturnover	Equation (3) pricedif	Equation (4) aturnover
pricedif		0.781*** (3.203)		0.371 (1.053)		0.462* (1.694)
aturnover	-0.221*** (-3.361)		-0.302 (-1.578)		-0.168 (-1.417)	
mtop	1.161*** (7.525)	0.892*** (4.237)	0.934*** (3.388)	1.128*** (5.614)	0.722*** (3.790)	1.120*** (7.540)
totalsharess	0.180*** (6.184)	-0.0932** (-1.965)	0.131*** (3.477)	0.106** (2.527)	0.0907*** (3.751)	-0.0505 (-1.500)
shortdummy	-0.420*** (-6.579)	0.183 (1.484)	-0.449*** (-7.932)	0.224 (1.268)	-0.349*** (-5.623)	0.175 (1.554)
supply	-0.189*** (-8.362)	0.0919* (1.760)	-0.0871*** (-4.131)	-0.0117 (-0.343)	-0.0777*** (-4.215)	0.0216 (0.806)
mom		1.604*** (13.08)		0.524*** (4.791)		0.925*** (9.308)
govownership	-1.085*** (-6.867)	1.533*** (4.510)	-0.529*** (-3.650)	0.503** (2.030)	-0.668*** (-5.044)	0.666*** (3.052)
marketvalue	-0.327*** (-14.530)	0.129* (1.786)	-0.360*** (-6.938)	-0.147 (-1.450)	-0.317*** (-13.360)	0.0122 (0.150)
absepschange		0.0465 (0.411)		-0.198* (-1.695)		0.0189 (0.204)
fanindex	-0.115*** (-5.169)		-0.0611*** (-3.194)		-0.0613*** (-3.473)	
Yeardummy					YES	YES
Constant	8.805*** (19.280)	-4.838*** (-2.693)	8.666*** (10.39)	1.122 (0.454)	8.040*** (16.470)	-1.175 (-0.602)
Observations	1,141	1,141	1,385	1,385	1,456	1,456
Adj R²	0.431	0.311	0.337	0.344	0.388	0.553

Note(s): In Column 2, *aturnovers* is a relative turnover between A and H shares: the A share turnover divide H share turnover. In Column 3, *Yeardummy* represents dummy variables that indicate the year of each observation. *t*-statistics are reported in parentheses, with *, ** and *** indicate statistically significant at the 10%, 5% and 1% levels, respectively. All variables are as defined in Table 3

Table 9.
Robustness tests

Using turnover as the dependent variable, we find a significantly positive coefficient on *mtop* but an insignificant coefficient on *shortdummy*, as shown in Table 8. Overall, IPO first-day premium does not affect our main results.

6.2 Considering relative turnover between A and H shares
Since our main analyses use A share turnover as a proxy of *aturnover*, we employ a relative turnover measure between A and H shares to ensure that our result is robust to the measure. Panel B of Table 9 provides evidence consistent with our main results in Table 8, indicating that alternative turnover measure does not affect our hypothesized variables of *mtop* and *shortdummy*.

6.3 Considering time effect
Throughout the paper, we draw our inferences from cross-sectional differences across firms. We further investigate the effect of within-firm variation of myopic investor ownership and short selling on the price difference and turnovers of A+H companies. To investigate this, we estimate firm fixed-effects regression after adding year dummies to Eq. (3) and (4). Panel C of Table 9 presents the empirical results that are similar to Table 8. The myopic investor ownership (*mtop*) remains positively associated with the price difference and turnovers. The short dummy variable (*shortdummy*) is also negatively associated with the price difference. Our results are robust to the time effect. The firm fixed effects regressions partially address the endogeneity concern to the extent that omitted variables are constant over time [28].

7. Conclusions
We investigate three new characteristics – earnings quality under IFRS, myopic investors and short selling – to explain the cross-sectional price differences of cross-listed A+H companies in recent years after the institutional differences between mainland China and Hong Kong stock markets have mostly disappeared. Taking advantage of the implementation of IFRS in both markets in explaining the price differences, we first hypothesize that sophisticated investors in the Hong Kong market better see through the financial reporting quality of A+H Chinese companies and discount the H share price, causing the AH price difference. We utilize a unique measure of earnings quality that directly reflects the adoption of IFRS in China, which reflects non-persistent accounts of fair value accounting and a simultaneous equations approach to address the endogeneity issue. Using all the A+H share companies in the period of 2007–2013, we find that the lower the earnings quality, the larger the price difference around earnings announcements. Second, we hypothesize that the trading behaviors of pervasive myopic investors in A share market inflate A share price and increase the price difference. We find that the higher the myopic investor ownership, the larger the price difference. Third, we hypothesize that a short-sale mechanism that is recently allowed in A share market reduces the possibility of A share price being highly inflated and thus reduces the price difference. We find that to the extent that the stock allows to be short sell, the price difference decreases. Our results are robust to short- and long-window measures of price differences and turnovers.

We contribute to the literature on IFRS and the pricing difference of cross-listed shares in the following ways. First, we identify three new explanations for the puzzle of the AH price difference which remains substantial even after the institutional and accounting standards differences between the two markets were eliminated. Second, we examine the impact of the implementation of fair value accounting under IFRS in an emerging market on the pricing difference of cross-listed shares and reveal that it can induce an unintended negative consequence on the pricing difference of cross-listed shares. While prior studies test the implications of IFRS adoption across firms and countries, our study highlights the

importance of financial reporting quality in explaining the pricing difference of cross-listed shares and contributes to the literature on IFRS adoption (e.g. Barth *et al.*, 2008; Daske *et al.*, 2008; DeFond *et al.*, 2011; He *et al.*, 2012). Third, this study contributes to the literature on short sales by providing its mitigating role in pricing differences across two different markets. We show that the AH price difference exacerbates by inflated A share price through trading behaviors of myopic A share investors but declines by a short-sale mechanism, thus, providing evidence on the implication of a speculative factor incorporated in A share market on the pricing mechanism for A+H companies. Finally, we make improvements in research design, which utilizes a unique measure of earnings quality that is directly related to the implementation of IFRS (DeFond, 2010) and a simultaneous equations approach that minimizes endogeneity concern.

Notes

1. Throughout this paper, we use H share market to represent the Hong Kong stock market, as "H" is an abbreviation for "Hong Kong."

2. QFII: In 2005, China Securities Regulatory Commission announced the first list of Qualify Foreign Institutional Investors (QFII), who are able to invest in the domestic capital market directly.

3. QDII: in 2007, China Securities Regulatory Commission announced the first list of Qualify Domestic Institutional Investors (QDII), who are able to invest in the foreign capital market directly including the Hong Kong market. Recently, the number of the QDII is about 69. Due to Shanghai-Hong Kong Connect, all the security companies do not need QDII quota anymore to invest in the Hong Kong market.

4. Shanghai-Hong Kong Connect: Shanghai-Hong Kong Connect has been launched in November 2014, the Connect allows mainland citizens to buy hundreds of stocks listed in Hong Kong market directly; meanwhile, investors in the Hong Kong market could buy hundreds of stocks listed in Shanghai A share market directly. The stocks could be traded by both sides including most A and H companies. This new channel largely mitigates previous concerns about the constraints on foreign investing.

5. These institutional changes should help minimize the information asymmetry concern. Recently, government ownership has decreased over time, changing about a half of the A+H companies from SOEs to non-SOEs. However, the AH price difference continue to remain in recent years.

6. By the end of 2017, A share stock market has 3,467 listed companies with a total market value of about 9 trillion US dollars, and the Hong Kong market has 2,118 listed companies with total market value of more than 4 trillion US dollars.

7. Some studies find mixed evidence. For example, Ahmed, Neel, & Wang (2013) find that mandatory adopters exhibit greater income smoothing, more earnings management and less timely loss recognition than non-adopters, and these negative effects of IFRS adoption on accounting quality are mainly driven by adopters in strong enforcement countries.

8. Mei *et al.* (2009) argue that due to a short constraint in A share market, the price has been highly speculated. After March 2010, many A+H companies could be traded as security margin selling, similar to short selling. Thus, a short constraint may not fully explain the price difference in recent years.

9. http://www.sse.com.cn/aboutus/innovation/margin/rules/c/147.shtml

10. The Ministry of Finance of the People's Republic of China issued a new set of Accounting Standards for Business Enterprises (ASBEs), which are substantially converged with IFRS. The new set of ASBEs took into effect on January 1, 2007, and all companies listed in China must apply ASBEs for the preparation of their financial statements.

11. Chan *et al.* (2008) develop a measure to proxy for the information asymmetry between informed domestic investors and other investors. Tang (2011) uses the measure as a control, but the measure was not statistically significant.

12. However, Liu, Yao, Hu, & Liu (2011) report marginal improvement in earnings quality after the IFRS convergence in China.

13. Our sample description shows that the myopic investor ownership is larger than 50%. Meanwhile, other companies in A share market have higher myopic investor ownership, especially the companies listed on the SME board and ChiNext.

14. http://www.sse.com.cn/market/dealingdata/overview/margin/#

15. http://www.szse.cn/main/disclosure/rzrqxx/bdzqxx/

16. The information advantage of short sellers may come from either private information (Desai, Krishnamurthy, & Venkataraman, 2006; Khan & Lu, 2013) or sophisticated skills in interpreting public information (Dechow, Hutton, Meulbroek, & Sloan, 2001; Engelberg, Reed, & Ringgenberg, 2012). We expect that short sellers in China are controlling shareholders, not myopic investors, who have private information, and sophisticated investors.

17. This measure is also consistent with Dechow, Ge, & Schrand (2010) which list the following requirements for earnings quality measure: It should be conditional on the decision-relevance of the information, informative about the firm's financial performance and determined by the firm's fundamental performance and the ability of accounting system to measure the performance.

18. This model is not designed for an ERC test, but for testing the relation between earnings quality and the AH price difference. However, to ensure that *Gain* represents earnings quality under IFRS, we provide return tests in Table 5.

19. We measure *aturnover* based on A share turnover instead of the relative turnover between A and H shares for our main analyses and use the latter as a robustness test (showing similar results in Table 10), because of the following reasons: First, Chen *et al.* (2001) find the lower liquidity of B shares to be the primary reason for the AB price difference. Mei *et al.* (2009) test A share turnover and B share turnover as a separate independent variable and find that only A share turnover is significant. Second, A share turnover not only captures the liquidity of A and H share markets but also has more variations across all the companies. Third, using the simultaneous equations approach by setting A share turnover as the dependent variable in Eq. (2), it is easier to interpret the effects of our hypothesized variables on volume. Fourth, it is easier to identify explanatory variables in Eq. (2) when we set A share turnover as the dependent variable compared with setting the relative turnover between A and H shares.

20. This measure is conceptually consistent with Hand (1990). The likelihood that the stock price will be set by the latter type is conditional on the relative proportion of a firm's stock held by unsophisticated investors.

21. As a sensitivity test, we use *mownership*, which is 1 minus institutional ownership, as an alternative proxy for *mtop* in Eq. (1) and Eq. (2) and find similar results.

22. The intra-day short sales data are unavailable in China.

23. The AH price difference is the average price difference for each quarter calculated as $pricedif = \frac{Price_A * exchange\ rate}{Price_H}$ for each company in each quarter (see also Eq. (3) in Section 5.3).

24. We use a market model in each market and estimate returns against each market index (to control for differential market risk). The number of observations here is slightly higher than that used in multivariate analysis in Table 6 that requires non-missing control variables.

25. Some argue that Chinese myopic investors are not familiar with a short-selling mechanism and do not predict their fellow investors to short sell the stocks even when short selling is allowed. When the myopic investors predict the future stock price, they take into consideration their fellow investors' trading activity without short sales.

26. In our original model, we include the earnings quality measure, *Gain* in Eq. (3) and Eq. (4) and find consistent results on the coefficient on *Gain* as reported in Table 6 with a reduced sample of 789 observations. Tables 7 and 8 report results based on a larger sample size of 1,456 observations

although the overall results are quite similar between Table 6 and Table 8 to show that our results are not sensitive to sample size.

27. It is also possible that there may be omitted variables in the model that might be correlated with A share turnover. For example, myopic investors are relatively harder to speculate the price of a high turnover firm, resulting in a lower AH price difference.

28. We repeat Eq. (1) and Eq. (2) using the short-window measures of price differences and turnovers in each of robustness tests for 6.1 – 6.3 and find almost the same results as reported in Table 6. We do not report the results for brevity.

Reference

Ahmed, A.S., Neel, M., & Wang, D. (2013). Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence. *Contemporary Accounting Research*, *30*(4), 1344–1372.

Bai, Y., Tang, W. M., & Yiu, K. F. C. (2019). Analysis of price differences between A and H shares. *Asia-Pacific Financial Markets*, *26*, 529–552.

Bamber, L., Barron, O., & Stevens, D. (2011). Trading volume around earnings announcements and other financial reports: Theory, research design, empirical evidence, and directions for future research. *Contemporary Accounting Research*, *28*, 431–471.

Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research*, *46*(3), 467–498.

Byard, D., Li, Y., & Yu, Y. (2011). The effect of mandatory IFRS adoption on financial analysts' information environment. *Journal of Accounting Research*, *49*(1), 69–96.

Chakravarty, S., Sarkar, A., & Wu, L. (1998). Information asymmetry, market segmentation and the pricing of cross-listed shares: Theory and evidence from Chinese A and B shares. *Journal of International Financial Markets, Institutions and Money*, *8*, 325–355.

Chan, K., Menkveld, A., & Yang, Z. (2008). Information asymmetry and asset prices: Evidence from the China foreign shares discount. *The Journal of Finance*, *63*, 159–196.

Chen, G., Lee, B., & Rui, O. (2001). Foreign ownership restrictions and market segmentation in China's stock markets. *Journal of Financial Research*, *24*, 133–155.

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of Accounting Research*, *46*(5), 1085–1142.

Dechow, P. M., Hutton, A. P., Meulbroek, L., & Sloan, R. G. (2001). Short-sellers, fundamental analysis, and stock returns. *Journal of Financial Economics*, *61*(1), 77–106.

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earning quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*, 344–401.

DeFond, M. (2010). Discussion of 'understanding earning quality: A review of the proxies, their determinants and their consequences'. *Journal of Accounting and Economics*, *50*, 402–409.

DeFond, M., Hu, X., Hung, M., & Li, S. (2011). The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. *Journal of Accounting and Economics*, *51*(3), 240–258.

Desai, H., Krishnamurthy, S., & Venkataraman, K. (2006). Do short sellers target firms with poor earnings quality? Evidence from earnings restatements. *Review of Accounting Studies*, *11*(1), 71–90.

Dyck, A., & Zingales, L. (2002). The corporate governance role of the media. In *The Right to Tell—The Role of Mass Media in Economic Development*. Washington, DC: The World Bank Institute, 107–37.

Engelberg, J. E., Reed, A. V., & Ringgenberg, M. C. (2012). How are shorts informed?: Short sellers, news, and information processing. *Journal of Financial Economics*, *105*(2), 260–278.

Fan, Q., & Wang, T. (2017). The impact of Shanghai-Hong Kong stock Connect policy on A-H share price premium. *Finance Research Letters*, *21*, 222–227.

Fan, G., Wang, X., & Zhu, H. (2011). *Report on the relative process of marketization in each region of China*". Beijing: The Economic Science Press. (In Chinese).

Feiger, G. (1976). What is speculation?. *The Quarterly Journal of Economics*, *90*, 677–687.

Fernald, J., & Rogers, J. (2002). Puzzles in the Chinese stock market. *The Review of Economics and Statistics*, *84*, 416–432.

Gul, F. A., Kim, J. B., & Qiu, A. A. (2010). Ownership concentration, foreign shareholding, audit quality, and stock price synchronicity: Evidence from China. *Journal of Financial Economics*, *95*(3), 425–442.

Hand, J. (1990). A test of the extended functional fixation hypothesis. *The Accounting Review*, *65*, 740–763.

Harrison, J., & Kreps, D. (1978). Speculative investor behavior in a stock market with heterogeneous expectations. *The Quarterly Journal of Economics*, *92*, 323–336.

Haw, I., Qi, D., Wu, D., & Wu, W. (2005). Market consequences of earnings management in response to security regulations in China. *Contemporary Accounting Research*, *22*, 95–140.

He, X., Wong, T., & Young, D. (2012). Challenges for implementation of fair value accounting in emerging markets: Evidence from China. *Contemporary Accounting Research*, *29*, 538–562.

Hung, M., Wong, T., & Zhang, T. (2012). Political considerations in the decision of Chinese SOEs to list in Hong Kong. *Journal of Accounting and Economics*, *53*, 435–449.

Huo, R., & Ahmed, A.D. (2017). Return and volatility spillovers effects: Evaluating the impact of Shanghai-Hong Kong stock Connect. *Economic Modelling*, *61*, 260–272.

Karolyi, G., Li, L., & Liao, R. (2009). A (partial) resolution of the Chinese discount puzzle. *Journal of Financial Economic Policy*, *1*, 80–106.

Khan, M., & Lu, H. (2013). Do short sellers front-run insider sales?. *The Accounting Review*, *88*(5), 1743–1768.

Kim, O., & Verrecchia, R. (1991). Trading volume and price reaction to public announcements. *Journal of Accounting Research*, *29*, 302–321.

La Porta, R., Silanes, F. L. D., Shleifer, A., & Vishny, R. W. (1998). Law and finance. *Journal of Political Economy*, *106*, 1113–1155.

La Porta, R., Silanes, F. L. D., Shleifer, A., & Vishny, R. W. (2000). Agency problems and dividend policies around the world. *The Journal of Finance*, *55*, 1–33.

Lee, C., & Swaminathan, B. (2000). Price momentum and trading volume. *The Journal of Finance LV*, *5*, 2017–2069.

Lee, B., Rui, O., & Wu, W. (2008). Market segmentation and stock prices discount in the Chinese stock market: Revisiting B-share discounts in the Chinese stock market. *Asia-Pacific Journal of Financial Studies*, *37*, 1–44.

Li, M., Chui, C., & Li, C. (2014). Is pairs trading profitable on China AH-share markets? *Applied Economics Letters*, *21*, 1116.

Liu, C., Yao, L. J., Hu, N., & Liu, L. (2011). The impact of IRFS on accounting quality in a regulated market: An empirical study of China. *Journal of Accounting, Auditing & Finance*, *26*(4), 659–676.

Mei, J., Scheinkman, J., & Xiong, W. (2009). Speculative trading and stock prices: Evidence from Chinese A-B share premia. *Annals of Economics and Finance*, *10-2*, 225–255.

Ruan, Z., Lv, D., & Lu, X. (2018). Financial liberalization and stock market cross-correlation: MF-DCCA analysis based on Shanghai-Hong Kong stock Connect. *Physica A: Statistical Mechanics and Its Applications*, *491*, 779–791.

Tang, W. (2011). Isolating the effect of disclosure on information risk. *Journal of Accounting and Economics*, *52*, 81–99.

Yip, R. W. Y., & Young, D. (2012). Does mandatory IFRS adoption improve information comparability?. *The Accounting Review*, *87*(5), 1767–1789.

Further reading

Barberis, N., & Huang, M. (2008). Stocks as lotteries: The implications of probability weighting for security prices. *American Economic Review*, *98*(5), 609–632.

Scheinkman, J., & Xiong, W. (2003). Overconfidence and speculative bubbles. *Journal of Political Economy*, *116*(6), 1183–1219.

Sloan, R. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings?. *The Accounting Review*, *71*(3), 289–315.

Sze, J. (1993). The allure of B shares. *China Business Review*, *20*, 42–48.

Xiong, W., & Yu, J. (2011). Chinese warrants bubble. *American Economic Review*, *101*, 2723–2753.

Corresponding author
Yang Liu can be contacted at: liuyang5249@hotmail.com