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Financial statement comparability and stock liquidity: evidence from China

Muhammad Ansar Majeed[a] and Chao Yan[b]

[a]International Business School, Zhejiang Gongshang University, Hangzhou, P.R. China; [b]School of Accounting, Zhongnan University of Economics and Law, Wuhan, P.R. China

ABSTRACT

This study examines the effect of financial statement comparability on stock liquidity. Drawing from information asymmetry arguments, we posit that greater comparability increases financial transparency, which improves the information environment and increases stock liquidity. Our results show a positive relationship between comparability and stock liquidity. However, the effect of comparability on stock liquidity is only significant for non state-owned enterprises. Additionally, institutional ownership strengthens the impact of comparability on stock liquidity. Our findings suggest a more pronounced comparability effect on stock liquidity for firms with greater information opacity. Overall, our study indicates that higher comparability decreases information asymmetry and facilitates investors' decision-making.

KEYWORDS

Financial statement comparability; stock liquidity; SOEs; information environment

JEL CLASSIFICATION

G14; M41

I. Introduction

Financial Accounting Standards Board (FASB) (2010) suggests that financial statement comparability (hereafter comparability) is a fundamental qualitative feature of financial reporting. Comparability increases faithful representation and relevance of financial statements as well. Higher comparability enhances the magnitude of firm-specific information and boosts the extant information environment. Comparability facilitates identifying and understanding similarities and differences among different firms (Barth 2013). Relative evaluation of investment avenues would be impossible without comparable information, which makes comparability essential for investment purposes. Therefore, the FASB (2010) conceptual framework suggests that the chief objective of financial reports is to enhance comparability, which improves the usefulness of the information. Similarly, the SEC concept release[1] suggests that comparability along with reliability and transparency are the 'only way to achieve fair, liquid and efficient capital markets'. Thus, comparability, for its immense importance in equity valuation, has been given due importance in textbooks as well (Healy and Palepu 2012). The value of comparability for academics, capital market participants, standard setters, and practitioners makes it crucial to investigate the impact of comparability on stock liquidity. Comparability plays a vital role in the efficient utilization of resources (Kim et al. 2020), improving the informativeness of stock prices (Choi et al. 2019), enhancing acquisition efficiency (Chen et al. 2018), decreasing the cost of capital (Imhof, Seavey, and Smith 2017), reducing the crash risk (Kim et al. 2016), and improving firm value (Neel 2017).

Stock liquidity is of vital importance, particularly after the financial crisis of 2008, and receives greater importance from academics, investors, and regulators. Handa and Schwartz (1996) describe liquidity as the most critical market aspect. If investors invest in assets with lower liquidity, they demand a higher rate of return (Amihud and Mendelson 1986), leading to a higher cost of equity capital (Butler, Grullon, and Weston 2005). The effect of liquidity on firm value (Fang, Noe, and Tice 2009) motivates the firms to strive for greater liquidity (Levine and Zervos 1996). Prior literature notes the role of information transparency on stock liquidity (e.g. Diamond and Verrecchia 1991; Boubaker, Gounopoulos, and Rjiba 2019). Earlier studies further document financial

CONTACT Chao Yan chaoyan@zuel.edu.cn School of Accounting, Zhongnan University of Economics and Law, Wuhan, P.R. China
[1]https://www.sec.gov/rules/concept/34–42430.htm.

reporting and disclosure quality are associated with stock liquidity (Welker 1995; Frino, Palumbo, and Capalbo 2013). These studies suggest that a higher quality information environment leads to lower information asymmetry and reduces adverse selection resulting in higher liquidity (e.g. Ascioglu et al. 2012). Earlier studies mainly focused on accruals management, voluntary disclosure, IFRS adoption, annual report readability, and analyst following (Ascioglu et al. 2012; Bhattacharya, Desai, and Venkataraman 2013; Boubaker, Gounopoulos, and Rjiba 2019). However, these studies have overlooked the role of comparability in shaping stock liquidity. Our study extends the preceding literature and documents the association between comparability and stock liquidity.

Our study is based on the Chinese institutional setting where the financial market suffers from poor informational transparency. Regardless of capital market benefits, the legal, cultural, and political environment obstructs the propagation of timely and unbiased financial information, leading to greater opacity (Piotroski and Wong 2012). Therefore, the value of comparability is more significant in such an environment. Furthermore, unlike other developed economies, the Chinese institutional setting has a poor legal environment, weaker investor protection, and profound dependence on the banking system for finance. Chinese economic reforms led to the economic boom and a large private sector. However, the state still holds controlling ownership in many firms. These state-owned enterprises (SOEs) still constitute a considerable portion of the industrial sector. These SOEs have socio-political objectives, a higher likelihood of financial bailout from the state when they come across financial distress, and enjoy greater investor confidence (Shailer and Wang 2015). Therefore, in such unique institutional settings, the findings of this study make a vital contribution to the literature.

We hypothesize and document that greater comparability leads to greater informational transparency, improves the flow of financial information, and reduces adverse selection. Using De Franco, Kothari, and Verdi (2011) comparability measures and various liquidity proxies, we document that greater comparability reduces information asymmetry and improves stock liquidity. We present robust results using alternative comparability measures and other econometric techniques to address endogeneity concerns. Our additional results suggest that comparability does not affect the stock liquidity of SOEs, but the effect of comparability on liquidity remains significant for non state-owned enterprises (NSOEs). Furthermore, institutional ownership complements the influence of comparability on stock liquidity. Our additional results also document an insignificant comparability effect on liquidity during the global financial crisis. However, the association of comparability and liquidity is significant for the non-crisis period. Moreover, the association of comparability and liquidity is profound for firms with higher information opacity.

Our study contributes to the extant literature in the following ways. First, it strengthens the debate on the capital market benefit of comparability. This study extends the current line of inquiry which holds great value to investment risk management. Earlier studies document that comparability affects exploitation of corporate resources, informativeness of stock prices, acquisition efficiency, stock price crash, pricing of accruals, and cost equity capital (Choi et al. 2019; Chen et al. 2018; Imhof, Seavey, and Smith 2017). This study augments this debate and provides empirical evidence for the effect of comparability on comparability and liquidity. Second, although the literature has documented the determinants of stock liquidity (e.g. Welker 1995; Brown and Hillegeist 2007; Dang et al. 2018; Boubaker, Gounopoulos, and Rjiba 2019; Ding and Suardi 2019; Boubakri et al. 2020), these studies ignored the role of comparable financial statements in shaping stock liquidity. This study contributes to the extant literature by studying the influence of one of the most valuable traits of financial reporting, i.e. comparability, on the stock liquidity. Third, this study also offers implications for standard setters, regulators, and firms. By making comparability an important goal, while making rules and regulations, would significantly improve the information environment and increase the stock market liquidity along with other capital market benefits. Enhanced liquidity would increase investor participation in the capital market and play a significant role in its

development leading to efficient utilization of resources. This is particularly relevant for emerging economies (such as China), where the information environment is particularly opaque.

The remainder of the study is organized as follows. Section II details the previous literature and develops the hypothesis. Section III discusses the sample, research design, and variable measurement. Section IV presents the empirical findings, sensitivity analyses, and additional tests, while section V concludes the study.

II. Literature review and hypothesis development

Earlier studies (Healy and Palepu 2001) suggest the role played by accounting in shaping information asymmetry. Information asymmetry arises because some market participants have private information that others (uninformed participants) do not have. The information asymmetry among the market participants results in friction in the market-leading to adverse selection problems. Adverse selection limits trading by uninformed investors since there are other (informed) investors with greater (private) information. Consequently, the lower demand for stocks leads to lower stock liquidity (Copeland and Galai 1983). When firms improve the disclosure, it improves the information environment and makes all investors well off (Diamond 1985). Moreover, increased public information reduces the incentives of private information collection, leading to lower profits from privately informed trading (Diamond 1985).

Comparability plays an essential role in improving transparency and reducing information asymmetry (De Franco, Kothari, and Verdi 2011). Higher comparability enhances information flow and lowers the cost for financial information processing and acquisition (De Franco, Kothari, and Verdi 2011). Comparability also increases the information processing capabilities of the stakeholders since higher comparability decreases the judgment required to evaluate the relative economic performance of the firm. With lower information asymmetry as well as lower information uncertainty arising from comparability, the investors demand a lower rate of return leading to decreased cost of capital (Kim, Kraft, and Ryan 2013; Majeed and Yan 2021). Greater comparability enhances the cost of withholding information, leading to lower stock price crash risk (Kim et al. 2016). Similarly, higher comparability aids in the valuation and increases the firm value as well (Neel 2017). The valuation benefits of comparability also help foreign investors in their investment decisions, particularly in an opaque information environment such as China (Ferreira and Matos 2008; Chauhan and Kumar 2019). Higher comparability facilitates corporate acquisition decisions through improved risk identification and risk evaluation (Chen et al. 2018). Wither higher comparability, firm-specific information becomes readily available, leading to greater stock price informativeness (Choi et al. 2019). Comparability not only increases the quality but also the quantity of financial information, which increases the comprehension of accruals and which assists in the '*mapping of accruals into cash flows, earnings persistence, and audit fees*' (Chen and Gong 2019). All this discussion suggests that comparability enhances the flow of information and transparency, which decreases information asymmetry.

The role of financial disclosure in shaping stock liquidity has been documented in the prior empirical literature. High-quality disclosure is a mechanism that lessens the adverse selection problem resulting in greater liquidity (Diamond and Verrecchia 1991). The positive effect of mandatory or voluntary disclosure on stock liquidity is well documented in the earlier literature (Heflin, Shaw, and Walid 2005). For example, Welker (1995) and Heflin, Shaw, and Walid (2005) report that greater disclosure quality lessens information asymmetry resulting in (lower bid-ask spread) higher liquidity. Brown and Hillegeist (2007) also document a negative link between higher quality disclosure and the probability of informed trade. Daske et al. (2008) report that voluntary IFRS adoption increases the financial reporting transparency leading to higher stock liquidity. Similarly, Frino, Palumbo, and Capalbo (2013) suggest that IFRS adoption increases financial reporting transparency, reducing information asymmetry, leading to higher liquidity. Ascioglu et al. (2012) also document a negative association between earnings management and stock liquidity. A similar conclusion was drawn by Bloomfield and Wilks (2000), who

examine the influence of financial reporting on investors' trading behavior in laboratory settings. Their findings suggest that higher reporting financial reporting intensifies the stocks demand, leading to higher liquidity. In the same way, a higher number of analysts following indicates lower information asymmetry and decreases the costs of adverse selection resulting in the liquidity (Roulstone 2003).

From this discussion, we extract two viewpoints. First, comparability increases the availability and flow of information, which reduces information asymmetry. Second, improved transparency and lower information asymmetry increase liquidity. We combine the two lines of inquiry and propose that higher comparability reduces the information asymmetry decreases the 'adverse selection costs of transacting', which improves the liquidity. So, we expect that higher comparability by improving information transparency and reducing information asymmetry leads to higher stock liquidity. On the basis of these arguments, we propose the following hypothesis:

H1: ***Higher comparability is associated with higher stock liquidity***.

III. Sample and methodology

Sample

Our sample entails all A-listed, non-financial Chinese firms for the period 2005–2018. The data is acquired from the China Stock Market and Accounting Research (CSMAR) database. We drop financial firms like banks, insurance companies, and other financial institutions from our sample because these firms operate in different regulatory environments and face different accounting regulations. We also drop firms designated as special treatment (ST) firms and PT firms from our sample. For the calculation of comparability, all the industries with less than 15 observations are dropped. Therefore, the number of observations for comparability measures is significantly reduced compared to observations for liquidity measures and control variables. After removing all the missing variables, our final sample consists of 20,895 firm-year observations. We use the second-level classification of the China security regulatory commission (CSRC) for the identification of industry. All continuous variables are winsorized at 1% and 99%.

Measurement of liquidity

We employ four different measures of liquidity, i.e. bid-ask spread, Amihud (2002) measure of illiquidity, modified liquidity ratio, and stock turnover ratio.

Bid-Ask spread

Our first measure of liquidity is the bid-ask spread. We calculate the bid-ask spread following Corwin and Schultz (2012). Corwin and Schultz (2012) develop a novel approach to estimate the bid-ask spread using low and high prices. They argue that buyer-initiated (seller-initiated) trades represent daily high (low) prices. Therefore, the high-low price ratio signifies daily volatility as well as spread. The standard deviation of the actual value of a security is proportional to the projected log of the high-low price ratio. They further suggest a spread estimator as a function of high–low ratios over 1-day and 2-day intervals. To untangle the variance and spread parts of the high-low price, Corwin and Schultz (2012) compute the summation of the squared log price for two successive days:

$$\beta_{it} = \sum_{j=0}^{1} \left[\ln \left(\frac{H^o_{t+j}}{L^o_{t+j}} \right) \right]^2 \tag{1}$$

$$\gamma_{it} = \sum_{j=0}^{1} \left[\ln \left(\frac{H^o_{t,\,t+j}}{L^o_{t,\,t+j}} \right) \right]^2 \tag{2}$$

where HO_j represents the high price on day 'j' and LO_j represents the low price on the day 'j'. The summation of these price ratios over 2 successive days shows 2 days' variance and twice the bid-ask spread. However, these price ratios over one 2-day period show 2 days' variance and one bid-ask spread. Using prior studies on high-low price ratios, Corwin and Schultz (2012) achieve the following solution for the spread (*Spread*).

$$Spread_{it} = \frac{2(e^{\alpha_{it}} - 1)}{1 + e^{\alpha_{it}}} \tag{3}$$

$$\text{where } \alpha_{it} = \frac{\sqrt{2\beta_{it}} - \sqrt{\beta_{it}}}{3 - 2\sqrt{2}} - \sqrt{\frac{\gamma_{it}}{3 - 2\sqrt{2}}} \quad (4)$$

We compute the high-low spread estimation for each two-day interval employing Equation (3) using the daily high and low prices given in CSMAR. We calculate the bid-ask spread for each month for each sample stock by taking an average of all spreads across all two days interval for each month.

Amihud (2002) *measure of liquidity*

Following prior studies (Kunsteller, Müller, and Posch 2019; Hung et al. 2020; Qiao et al. 2020), we use the Amihud measure of liquidity, which stems from price sensitivity. Amihud (2002) measure of liquidity used low-frequency data. Amihud measure signifies the price impact of trade which signifies the adverse selection cost. Amidud's *ILLIQ* ratio is measured as the ratio of daily stock returns (absolute) to trading volume. Then the total number of trading days is used to find the average of this ratio.

$$ILLIQ_{iy} = \frac{1}{D_{iy}} \sum_{d=1}^{D_{it}} \frac{|R_{itd}|}{VOLD_{iyd}} \quad (5)$$

In this equation, $ILLIQ_{iy}$ is Amihud illiquidity measure for a firm '*i*' in year '*y*'. R_{itd} represents absolute daily returns of an '*i*' stock on '*d*' day in the '*y*' year. $VOLD_{iyd}$ is the volume of stock '*i*' on day '*d*' of the year. D_{iy} is the number of days for which data is available (number of non-zero trading days in a year). This denotes that the Amihud measure of liquidity captures price sensitivity to one Yuan of the trading volume. Amihud measure indicates illiquidity therefore, comparability is expected to have a negative relationship with liquidity. We also use the natural log of the Amihud model.

Modifies liquidity ratio

$$MLR_i = \frac{\sum_t VOL_{i,t}}{\sum_t |R_{i,t}| * Vol_{EBIT}} \quad (6)$$

where MLR_i is the modified liquidity ratio of a firm '*i*', $Vol_{i,t}$ is the trading volume of the firm '*i*' at time '*t*', $|R_{i,t}|$ is the absolute returns of a firm '*i*' at time '*t*', and Vol_{EBIT} is the volatility of earnings (EBIT) of the firm. This ratio has been used in earlier studies (e.g. Udomsirikul, Jumreornvong, and Jiraporn 2011) and signifies greater marker depth.

Stock turnover ratio

Stock turnover (*STO*) exhibits trading frequency and has been used in earlier studies (e.g. Blau 2017). Earlier studies (Datar, Naik, and Radcliffe 1998) document that *STO* explains cross-sectional variation in stock returns. *STO* is defined as the summation of (daily) shares traded divided by the total number of shares outstanding each year.

$$STO_{it} = \frac{VOL_{it}}{N_{it}} \quad (7)$$

where VOL_{it} represents shares traded for a firm '*i*' in a year '*t*' while N_{it} represents the outstanding shares of the firm '*i*' during that year. The data for the volume is obtained from daily trading (average value) for each firm. The data for outstanding shares is obtained on a yearly basis. The higher the *STO*, the higher the stock liquidity.

Measurement of financial statement comparability

We employ a firm-level comparability measure following De Franco, Kothari, and Verdi (2011). This measure is essentially an output-based proxy of comparability and has been extensively used in the extant accounting literature (Kim et al. 2021; Cheng and Wu 2017). This measure of comparability suggests that two alike experiencing similar economic events (returns) firms would yield the same output (earnings). The following regression is estimated using quarterly data from 16 previous quarters to compute the accounting function of the firm '*i*' for each year

$$\text{Earnings}_{it} = \alpha_i + \beta_i \text{Returns}_{it} + \varepsilon_{it} \quad (8)$$

Earnings represent income divided by the market value of equity. Returns represent quarterly stock returns. Moreover, $\widehat{\alpha}$ represent the accounting

function for the firms 'i' and firm 'j'. Then we calculate the predicted earnings for both firms in order to estimate the distance between the accounting functions of the firms *'i'* and firm *'j'*. The logic behind these equations is that two firms would have similar accounting functions when they experience the same economic event (proxied by stock returns). The closeness between the two accounting functions exhibits comparability, i.e. the greater the comparability, the higher the closeness between accounting functions. We estimate the accounting functions using the following equations.

$$\mathrm{E(Earnings)}_{iit} = \hat{\alpha}_{\mathrm{i}} + \beta_{\mathrm{i}}\mathrm{Returns}_{it}, \tag{9}$$

$$\mathrm{E(Earnings)}_{ijt} = \hat{\alpha}_{j} + \beta_{j}\mathrm{Returns}_{it}. \tag{10}$$

Comparability ($\mathrm{Com_{ijt}}$) between two firms 'i' and 'j' is defined as *'the mean of the absolute difference between the predicted earnings'* as calculated in the accounting functions of the firms in the above equations. Then these mean estimations are multiplied by a negative one so that the greater value represents greater financial statement comparability and vice versa.

$$\mathrm{Com_{ijt}} = (-\frac{1}{16}) \times \sum_{t-15}^{t} |\mathrm{E(Earnings_{iit})} - \mathrm{E(Earnings_{ijt})}| \tag{11}$$

We compute $\mathrm{Com_{ijt}}$ for firms *'i'* and *'j'* using all firms within the second level industry classification CSRC and fiscal year. To obtain the firm-year level of the comparability measures, we rank all the values of $\mathrm{Com_{ijt}}$ for each firm *i* from the highest to lowest within an industry. We use two variants of comparability measure i.e. $Com1_{it}$ and$Com2_{it}$ which is the average of the four and ten highest comparability scores of a given firm for the year 't' within an industry.

Empirical model

We employ the following model to study the effect of comparability on stock liquidity.

$$\begin{aligned} Liqudity_{\mathrm{it}} = {} & \beta_0 + \beta_1 Com_{\mathrm{it}} + \beta_2 SOE_{\mathrm{it}} + \beta_3 MTB_{\mathrm{it}} \\ & + \beta_4 Size + \beta_5 VOL_{\mathrm{it}} + \beta_6 QFII_{\mathrm{it}} + \beta_7 Lev_{\mathrm{it}} \\ & + \beta_8 Age_{\mathrm{it}} + \beta_9 Price_{\mathrm{it}} + \beta_{10} RD_{\mathrm{it}} + \beta_{11} PPE_{\mathrm{it}} \\ & + YearFEs + IndustryFEs + \varepsilon_{\mathrm{it}} \end{aligned} \tag{12}$$

where the dependent variable is liquidity as defined earlier. Our main independent variable is comparability, as defined by De Franco, Kothari, and Verdi (2011) and described above. Following prior studies, we use various control variables. First, we control for state ownership since state ownership influences stock liquidity (Ding and Suardi 2019). Similarly, higher growth opportunities (market to book ratio, i.e. *MTB*) lead to information asymmetry and reduce liquidity (Ali, Liu, and Su 2017). We also control for firm size (Size) as larger firms exhibit greater information transparency and have higher liquidity (Ali, Liu, and Su 2017). Moreover, greater volatility of returns (*Vol*) enhances the cost of holding stock, leading to the higher bid-ask spread, greater information asymmetry, and thus higher liquidity. We also control for foreign ownership (*QFII*) as QFIIs influence stock liquidity (Lee and Chung 2018). Since stock prices are associated with liquidity (Rubin 2007), we also control for that as well (i.e. reciprocal of the share price) (*Price*). We also control for leverage (*Lev*) as the capital structure enhances the accounting disclosure leading to higher liquidity. Furthermore, following firm age (*Age*), research and development expenditure (*R&D*), and tangibility (*PPE*) (Schoenfeld 2017; Atawnah et al. 2018). Appendix A provides variable definition.

IV. Results and discussion

Summary statistics and correlation matrix

Table 1 presents the descriptive statistics at the firm level. The mean value of the bid-ask spread is −0.198 while the median value is −0.144 with a standard deviation of 0.225. We observe a higher standard deviation of liquidity measures which suggests higher volatility in the liquidity of the stocks. The descriptive statistics of our measures of stock liquidity are close to those reported in prior literature (e.g. Lee, Sapriza, and Wu 2016; Lam, Tam, and Dong 2019; Trinh et al. 2021).

Table 1. Descriptive statistic.

Variable	Mean	Median	Max	Min	S.D.	N
Spread	−0.198	−0.144	0.122	−0.876	0.225	20,895
ILLIQ	0.975	0.366	32.227	0.025	2.708	20,895
MLR	41.358	5.930	901.893	0.023	126.360	20,895
STO	0.026	0.021	0.156	0.002	0.018	20,895
Com1	−0.573	−0.255	−0.027	−12.755	1.251	20,895
Com2	−0.809	−0.412	−0.045	−14.645	1.474	20,895
SOE	0.429	0.000	1.000	0.000	0.489	20,895
MTB	3.693	2.975	19.755	0.646	3.076	20,895
CB	0.163	0.134	0.707	0.012	0.144	20,895
VOL	0.031	0.029	0.131	0.013	0.011	20,895
QFII	0.005	0.000	0.028	0.000	0.010	20,895
AGE	16.576	18.000	28.000	4.000	6.020	20,895
Size	22.145	21.997	25.774	19.594	1.241	20,895
Price	0.106	0.089	0.358	0.013	0.067	20,895
RD	0.062	0.094	0.093	0.000	0.038	20,895
PPE	0.286	0.248	0.810	0.003	0.201	20,895

This table reports the descriptive statistics for all main variables for the period 2005–2018. The variable definition is provided in Appendix A.

Furthermore, the mean (median) values of comparability measures are −0.537 and −0.809 (−0.255 and −0.412), while the standard deviation of comparability proxies are 1.251 and 1.474, which are consistent with prior studies (e.g. Majeed and Yan 2019). The mean value of the SOE variable is 0.429, which suggests that 42.6% of the firms are state-owned enterprises in our sample which denotes the importance of state ownership in the corporate arena. Table 2 exhibits the correlation matrix between all the main variables. The analysis results suggest that comparability measures are positively associated with each other. While comparability proxies are significantly associated with liquidity proxies, which exhibits an increase in liquidity with an increase in incomparability.

Regression results

Table 3 presents the results for Equation (12). The findings suggest that comparability influences all the dimensions of stock liquidity. The coefficients are significant at the conventional level for all the measures of liquidity and comparability. These results suggest that higher comparability reduces information asymmetry by facilitating the acquisition and processing of information which increases liquidity. These results also imply that comparability improves the information environment and influences all the dimensions of liquidity (i.e. Bid-ask spread, price impact, and trading frequency). We also employ firm fixed effect regression to take into account all time-invariant firm attributes, which could be linked to both stock liquidity and comparability. The results reported in Table 4 remain consistent. Overall, our findings indicate that higher comparability decreases information asymmetry and uncertainty leading to lower adverse selection and higher stock liquidity in Chinese settings.

Our results for the control variables also remain consistent with earlier studies. SOEs have higher liquidity (Ding and Suardi 2019), and large, as well as firms with greater volatility of returns, have higher liquidity. Moreover, higher leverage, R&D, greater tangibility (PPE), and inverse price are negatively associated with liquidity (Atawnah et al. 2018; Ali, Liu, and Su 2017). Furthermore, foreign ownership and growth opportunities positively affect stock liquidity (Lee and Chung 2018). The findings for control variables are consistent with the preceding literature.

Table 2. Pearson correlation matrix.

Variable	*SPREAD*	*ILLIQ*	*MLR*	*STO*	*Com1*	*Com2*	*SOE*	*MTB*	*CB*	*VOL*	*QFII*	*AGE*	*Size*	*Price*	*RD*	*TAN*
Spread	1															
ILLIQ	**0.041**	**1**														
MLR	**−0.053**	**−0.082**	**1**													
STO	**−0.232**	**−0.065**	**0.531**	**1**												
Com1	**−0.041**	**−0.061**	**0.058**	**0.021**	**1**											
Com2	**−0.054**	**−0.071**	**0.067**	**0.018**	**0.987**	**1**										
SOE	**−0.029**	**−0.037**	**0.015**	**0.135**	**−0.049**	**−0.061**	**1**									
MTB	**−0.166**	**−0.051**	**0.003**	**0.331**	**−0.189**	**−0.198**	**−0.196**	**1**								
CB	**−0.002**	**−0.047**	**0.044**	**0.001**	**0.051**	**0.046**	**−0.032**	**0.067**	**1**							
VOL	**0.374**	**0.079**	**0.067**	**0.066**	**−0.046**	**−0.052**	−0.074	**0.045**	**0.249**	**1**						
QFII	**−0.028**	**−0.061**	**0.033**	**0.074**	**−0.043**	**−0.051**	**−0.060**	0.022	0.035	**0.048**	**1**					
AGE	**−0.013**	**−0.102**	**0.086**	−0.098	**−0.156**	**−0.172**	**0.216**	**−0.141**	**−0.318**	**−0.099**	−0.079	**1**				
Size	**−0.110**	**−0.231**	**0.091**	−0.326	**0.069**	**0.074**	**0.078**	**−0.223**	**−0.108**	**−0.237**	**−0.190**	**0.091**	**1**			
Price	0.153	0.287	**0.108**	**0.234**	**0.076**	**0.080**	**−0.078**	**0.165**	0.371	0.213	**−0.162**	**−0.132**	**−0.273**	**1**		
RD	**−0.046**	**0.012**	**−0.017**	**−0.074**	**−0.043**	**−0.052**	**0.050**	**−0.028**	**−0.095**	**−0.096**	**0.294**	**0.292**	**0.058**	**−0.152**	**1**	
PPE	0.001	**−0.038**	**−0.104**	**−0.044**	**−0.054**	**−0.057**	**0.068**	**−0.058**	**−0.215**	**−0.238**	**0.055**	**0.030**	**0.045**	**−0.078**	**0.048**	**1**

The bold represents the significance at 10% level or below.

Table 3. Financial statement comparability and stock liquidity.

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.002**	−0.036***	2.533***	0.001***	−0.002**	−0.032***	1.989***	0.001***
	(−2.13)	(−2.73)	(4.96)	(2.94)	(−2.01)	(−2.79)	(4.26)	(3.27)
SOE	−0.026***	−0.001***	1.937***	0.002***	−0.026***	−0.000***	1.914***	0.002***
	(−9.58)	(−5.96)	(2.76)	(7.50)	(−3.59)	(−3.01)	(2.76)	(7.49)
MTB	−0.004***	−0.006**	0.004**	0.001**	−0.004***	−0.006	0.034**	0.001**
	(−7.98)	(−2.49)	(2.15)	(2.43)	(−7.96)	(−1.52)	(2.09)	(2.41)
CB	−0.022*	−0.451***	25.718**	−0.002	−0.022*	−0.451***	25.859**	0.002
	(−1.86)	(−2.57)	(2.47)	(−1.51)	(−1.87)	(−2.58)	(2.50)	(1.52)
VOL	11.249***	35.583*	−56.029***	−1.419***	11.248***	35.585*	−57.358***	−1.419***
	(6.22)	(1.91)	(−4.04)	(−8.50)	(6.22)	(1.91)	(−4.05)	(−8.51)
QFII	−0.775***	−20.617***	19.141**	0.049***	−0.773***	−20.594***	219.745**	0.049***
	(−6.89)	(−6.52)	(2.18)	(4.38)	(−6.88)	(−6.52)	(2.19)	(4.40)
Size	−0.009***	−0.135***	12.611***	0.001***	−0.009***	−0.138***	12.616***	0.001***
	(−4.63)	(−7.59)	(8.15)	(7.48)	(−7.64)	(−7.58)	(8.15)	(7.45)
Age	−0.008***	−0.182***	9.509***	0.002***	−0.007***	−0.183***	9.533***	0.002***
	(−3.85)	(−3.19)	(5.33)	(9.08)	(−3.86)	(−3.20)	(5.34)	(9.07)
Price	0.001	0.002	0.865***	−0.000***	0.000	0.002	0.874***	−0.000***
	(1.61)	(1.27)	(5.53)	(−9.45)	(0.114)	(1.25)	(5.57)	(−9.46)
RD	0.233***	−0.974**	4.854	−0.012**	0.233***	−0.978**	5.022	−0.012**
	(5.29)	(−2.43)	(1.15)	(−2.56)	(5.28)	(−2.44)	(1.14)	(−2.52)
PPE	−0.002	−0.072	25.626***	0.000	0.002	0.072	25.626***	0.001
	(−1.31)	(−1.55)	(3.22)	(0.37)	(1.35)	(0.58)	(3.22)	(0.37)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.337***	9.488***	−204.919***	0.018***	0.330***	9.485***	−204.856***	0.018***
	(9.43)	(7.56)	(−7.28)	(4.63)	(9.42)	(4.99)	(−7.27)	(4.63)
Adjusted R^2 (%)	49.26	34.60	18.30	59.31	49.28	34.61	18.29	59.32
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

This table reports OLS regression results for the effect of comparability on stock liquidity for the period spanning 2005–2018. The t-values reported in the parentheses are calculated with standard errors clustered by firm. ***, **, * represents significance level at 1%,5% and 10%, respectively.

Table 4. Firm fixed results for financial statement comparability and stock liquidity.

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.004**	−0.071***	1.794***	0.002**	−0.002**	−0.067***	1.859***	0.002**
	(−2.26)	(−3.22)	(3.10)	(2.17)	(−2.20)	(−3.30)	(3.36)	(2.54)
SOE	−0.011**	−0.544***	3.748***	0.001**	−0.010**	−0.544***	3.745***	0.001**
	(−2.21)	(−3.42)	(2.89)	(2.45)	(−2.21)	(−3.34)	(2.89)	(2.46)
MTB	−0.009***	−0.033**	0.008*	0.001***	−0.009***	−0.034**	0.015*	0.001***
	(−11.38)	(−2.45)	(1.85)	(2.71)	(−11.39)	(−2.48)	(1.90)	(2.76)
CB	−0.026*	−0.272	25.475**	0.002*	−0.026	−0.272	−25.256**	0.002*
	(−1.86)	(−1.19)	(2.09)	(1.92)	(−1.51)	(−1.19)	(−2.08)	(1.92)
VOL	11.324***	31.648	15.759	1.228***	−11.325***	31.571	−114.696	1.229***
	(9.30)	(1.34)	(1.17)	(12.43)	(−9.34)	(1.34)	(−1.16)	(12.45)
QFII	−0.609***	−18.191***	11.788	0.019*	−0.609***	18.165***	156.854*	0.019*
	(−4.63)	(−6.25)	(1.63)	(1.85)	(−4.63)	(6.25)	(1.65)	(1.86)
Size	−0.008***	−0.033	11.024***	0.000*	−0.007***	0.033	10.965***	0.000
	(−3.00)	(−0.72)	(6.66)	(1.86)	(−3.01)	(0.72)	(6.64)	(1.85)
Age	−0.015***	−0.217	19.486***	−0.000	−0.014***	−0.217	19.341***	−0.000
	(−3.88)	(−1.55)	(9.85)	(−1.08)	(−3.89)	(−1.56)	(9.78)	(−1.08)
Price	0.001***	0.004	0.591***	−0.000***	0.001***	0.004	0.589***	−0.000***
	(4.89)	(1.01)	(3.45)	(−9.07)	(4.87)	(1.01)	(3.45)	(−9.09)
RD	−0.156***	−1.962**	92.080***	−0.004	0.156***	−1.963**	92.181***	−0.003
	(−2.93)	(−2.54)	(2.95)	(−0.96)	(2.93)	(−2.54)	(2.95)	(−0.96)
PPE	0.013	0.195	−41.633***	0.003**	0.013	0.197	−41.380***	0.003**
	(0.81)	(0.60)	(−4.11)	(2.13)	(0.81)	(0.59)	(−4.09)	(2.12)
Firm FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.242***	9.081***	−285.393***	−0.006	0.242***	9.060***	−282.364***	−0.006
	(3.66)	(3.94)	(−8.13)	(−1.26)	(3.65)	(3.92)	(−8.05)	(−1.24)
Adjusted R^2 (%)	43.18	24.46	16.71	48.82	43.20	24.43	16.70	48.84
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

This table reports firm fixed effect regression results for the effect of comparability on stock liquidity for the period spanning 2005–2018. The t-values reported in the parentheses are calculated with standard errors clustered by firm. ***, **, * represents significance level at 1%, 5% and 10%, respectively.

Endogeneity

One potential concern with our regression estimation is the problem of endogeneity. We employ three strategies to deal with endogeneity issues following prior studies (Ali, Liu, and Su 2017; Ding and Suardi 2019). First, we use the one-year lag of explanatory variables. The results reported in Panel A of Table 5 suggest that greater comparability is significantly associated with all three dimensions of liquidity. Second, we employ a two-stage least square (2SLS). For 2SLS estimation, we use industry average comparability scores as an instrument variable (IV) following prior studies (Do 2020; Hasan, Cheung, and Taylor 2020). To ensure the suitability of IV, we estimate the Kleibergen-Paap LM test of the under-identifying or weak-identifying restriction. As reported in Panel B of Table 5, the results remain consistent with prior findings. Third, we use a two-step system GMM to deal with endogeneity issues. The GMM estimation lessens simultaneity, unobserved heterogeneity, and dynamic endogeneity concerns. Panel C of Table 5 reports the results for GMM estimation. The diagnostics for all the models exhibit insignificant statistics for second-order autocorrelation (AR2). The statically insignificant Hansen J-statistics of over-identification suggests the validity of instruments in the two-step system GMM. Overall, the results concur with those reported in Table 3 that comparability is positively associated with liquidity.

Table 5. Financial statement comparability and stock liquidity using alternative econometric specifications.

Panel A: Using lag of comparability

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.005**	−0.056**	0.824***	0.001***	−0.004**	−0.051**	0.827***	0.000***
	(−2.32)	(−2.19)	(6.57)	(3.44)	(−2.09)	(−2.29)	(7.80)	(4.49)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	−0.186***	7.840***	−0.457**	0.046***	−0.185***	7.831***	0.046***	0.046***
	(−5.11)	(7.18)	(−2.49)	(9.57)	(−5.08)	(7.17)	(9.58)	(9.58)
Adjusted R^2 (%)	39.24	16.30	43.50	60.47	39.28	16.29	43.61	60.50
N	18,693	18,693	18,693	18,693	18,693	18,693	18,693	18,693

Panel B: Two-stage least square using IV

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.019*	−0.367***	9.441***	0.019***	−0.051*	−0.258***	9.684***	0.014***
	(−1.91)	(−3.26)	(4.48)	(4.22)	(−1.93)	(−3.24)	(4.48)	(4.22)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	−0.270***	−0.963***	−8.660***	0.028***	−0.273***	−0.620***	−8.692***	0.027***
Shea Partial R^2	0.2668	0.2154	0.2857	0.3154	0.2795	0.2276	0.2970	0.3275
Kleibergen-Paap LM (under-identification test)	51.344***	59.986***	49.436***	57.921***	52.686***	61.363***	50.903***	56.578***
Kleibergen-Paap (weak-identification test)-	21.946***	24.876***	25.519***	26.459***	22.686***	24.623***	23.903***	25.578***
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

Panel C: GMM

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.014**	−0.052**	0.472**	0.001**	−0.011**	−0.051**	0.481**	0.001*
	(−2.11)	(−2.31)	(2.04)	(2.07)	(−2.17)	(−2.19)	(2.43)	(1.91)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	−0.572***	−0.095**	0.149***	−0.961**	−0.875**	1.365*	−0.087**	−0.298**
	(−2.81)	(−2.23)	(2.96)	(−1.98)	(−2.49)	(1.97)	(−2.34)	(−2.14)
AR1	19.63***	19.72***	19.68***	19.11***	19.31***	20.87***	19.22***	20.17***
	(8.29)	(3.25)	(5.36)	(6.32)	(5.17)	(3.24)	(5.35)	(6.30)
AR2	1.38	1.06	1.08	0.89	1.31	1.11	1.06	0.92
	(0.54)	(0.41)	(1.30)	(1.47)	(0.87)	(0.54)	(0.42)	(1.47)
Hansen J-statistics	325.11	351.05	637.24	314.16	368.47	365.39	698.79	317.34
	(0.92)	(1.66)	(1.53)	(0.99)	(1.41)	(1.58)	(1.42)	(0.93)
N	18,587	18,587	18,587	18,587	18,587	18,587	18,587	18,587

This table reports results for the effect of comparability on stock liquidity for the period spanning 2005–2018. The t-values reported in the parentheses are based on standard errors clustered by firm. ***, **, * represents significance level at 1%,5% and 10%, respectively.

Alternative measure of comparability

To ensure the credibility of the results, we re-estimate our results using alternative comparability measures. Following prior studies (e.g. Majeed, Yan, and Tauni 2018; Kim, Kim, and Musa 2018), we use two different proxies of the comparability. This first measure of comparability considers the likelihood that stock prices lead earnings. Prior studies suggest that current stock prices signal future earnings since current stock prices contain more information regarding future earnings than present or historical earnings (Kothari 1992; Collins et al. 1994). To deal with this issue, we introduce lagged stock return in Equation (8), as shown in the following equation, to measure comparability.

$$\text{Earnings}_{it} = \alpha_i + \beta_i \text{Returns}_{it} + \gamma_i \text{Returns}_{it-1} + \varepsilon_{it} \quad (13)$$

where Returns_{it-1}represses the stock return of the preceding quarter.

Another measure of comparability is based on asymmetric timeliness of earnings (accounting conservatism), as demonstrated in Basu (1997). Conservatism theory proposes that the earnings response to bad news (measured as negative stock returns) is more robust than earnings response to good news (measured as positive stock returns), i.e. asymmetric response. For that purpose, we incorporate a binary variable to represent negative stock return along with the interaction term of this binary variable and stock return in the Equation (8). The results for the association of comparability and stock liquidity, as presented in Table 6, concur with the findings reported earlier.

Additional tests

Comparability, state ownership, and stock liquidity

State ownership is an essential aspect of the corporate world, particularly in China, where SEOs constitute a significant portion of listed firms (Wu et al. 2016). SOEs are essentially different from NSOEs in various aspects, e.g. governance mechanisms, objectives, financial reporting choices, and perceived investor risk (Allen et al. 2012). SOEs are also responsible for achieving socio-political goals such as employment, promoting specific industries, regional economic development, and advancing the government's political agenda (Borisova et al. 2015). The SOEs also have a higher likelihood of government support in financial distress (Faccio 2006), providing assurance to the stakeholders and decreasing the cost of capital

Table 6. Robustness checks for financial statement comparability and stock liquidity.

Panel A: Comparability measure using lagged stock returns

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.002**	−0.033***	0.610***	0.002**	−0.002**	−0.029***	0.696***	0.001***
	(−2.05)	(−3.17)	(8.26)	(2.48)	(−2.04)	(−3.06)	(8.41)	(2.81)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.336***	9.477***	−0.092	0.018***	0.336***	9.476***	−0.091	0.018***
	(9.41)	(7.55)	(−1.31)	(4.63)	(9.41)	(7.55)	(−1.30)	(4.64)
Adjusted R^2 (%)	49.26	34.62	12.51	59.31	49.26	34.61	12.52	59.31
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

Panel B: Comparability based on asymmetric earnings-returns association

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.001**	−0.034***	2.095***	0.001***	−0.002**	−0.032***	1.828***	0.001***
	(−2.12)	(−3.14)	(5.36)	(3.08)	(−2.04)	(−3.21)	(4.86)	(3.21)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.336***	9.478***	−204.439***	0.018***	0.336***	9.475***	−204.371***	0.018***
	(9.42)	(7.55)	(−7.26)	(4.64)	(9.41)	(7.55)	(−7.25)	(4.64)
Adjusted R^2 (%)	49.26	34.62	18.31	59.32	49.27	34.62	18.30	59.30
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

This table reports results for the effect of comparability on stock liquidity for the period spanning 2005–2018 using two alternative measures of comparability. The t-values reported in the parentheses are calculated with standard errors clustered by firm. ***, **, * represents significance level at 1%, 5% and 10%, respectively.

(Shailer and Wang 2015). The SOEs also enjoy preferential access to credit in China. The four big banks in China are also state-owned, providing most industrial and commercial loans. Since the state also owns the funds providers, SOEs are expected to have greater and potentially low-cost access to finance. Consequently, state ownership positively affects firm value and encourages investors to trade in such stocks. Hence, state ownership increases the trading activity in stock because of benefits enjoyed by SOEs, leading to higher liquidity. Furthermore, stocks of risky firms have higher inventory risk and inventory carryover risk. State ownership decreases the riskiness of the assets, decreasing the inventory risk, which consequentially increases liquidity (Ding and Suardi 2019). Keeping in view the vital status of the SOEs, we study the nexus of comparability and stock liquidity in SOEs.

We divide our sample into SOEs and NSOEs to study the effect of comparability on stock liquidity. As presented in Panel A of Table 7, our findings show an insignificant effect of comparability and stock liquidity for SOEs. Our results suggest that financial reporting is relevant to the equity valuation of SOEs. Furthermore, as discussed earlier, SOEs have various advantages over NSOEs, making them particularly attractive for investors. However, as presented in Panel B of Table 7, the effect of comparability on stock liquidity remains significant for NSEOs.

Table 7. Financial statement comparability, ownership structure, and stock liquidity.

Panel A: SOEs

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.002	−0.058	2.912	0.000	−0.002	−0.050	2.303	0.000
	(−1.61)	(−1.12)	(1.52)	(1.26)	(−1.63)	(−1.08)	(1.25)	(1.26)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.349***	9.219***	−275.643***	0.009*	0.349***	9.221***	−275.887***	0.009***
	(7.08)	(3.85)	(−5.90)	(1.68)	(7.08)	(3.85)	(−5.90)	(2.68)
Adjusted R^2 (%)	57.51	45.22	12.09	62.11	57.50	45.21	12.08	62.12
N	8,964	8,964	8,964	8,964	8,964	8,964	8,964	8,964

Panel B: NSOEs

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.003*	−0.007**	1.777***	0.001**	−0.002*	−0.011**	1.345**	0.001**
	(−1.78)	(−2.40)	(2.75)	(2.02)	(−1.79)	(−2.42)	(2.29)	(2.01)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.334***	10.506***	−131.716***	0.020***	0.333***	10.502***	−131.487***	0.020***
	(5.96)	(10.16)	(−3.83)	(3.58)	(5.95)	(10.16)	(−3.82)	(3.59)
Adjusted R^2 (%)	42.20	25.93	15.71	57.50	42.20	25.93	15.70	57.51
N	11,931	11,931	11,931	11,931	11,931	11,931	11,931	11,931

Panel C: Comparability, institutional ownership, and stock liquidity

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.007**	−0.002**	3.458***	0.000***	−0.001**	−0.007**	2.753***	0.001***
	(−2.17)	(−2.13)	(5.60)	(2.63)	(−2.37)	(−2.55)	(4.90)	(2.93)
IO	−0.012**	−0.517***	45.607***	0.004***	−0.011	0.453***	46.181***	0.004***
	(−2.05)	(−3.47)	(4.90)	(3.37)	(−1.07)	(3.05)	(4.08)	(3.38)
*Comp*IO*	−0.010***	−0.222**	5.419***	−0.000	−0.010***	−0.231**	4.427***	0.000
	(−2.63)	(−2.30)	(3.40)	(−0.41)	(−2.68)	(−2.52)	(3.09)	(0.47)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.337***	9.408***	−200.203***	0.013***	0.337***	9.400***	−200.220 ***	0.014***
	(9.45)	(7.49)	(−7.20)	(4.71)	(9.38)	(7.49)	(−7.19)	(4.72)
Adjusted R^2 (%)	49.28	34.72	18.44	49.40	49.28	34.75	18.43	49.41
N	20,895	20,895	20,895	20,895	20,895	20,895	20,895	20,895

This table reports results for the effect of comparability on stock liquidity for the period spanning 2005–2018. Panel A and panel B report of the effect of comparability and liquidity for SOEs and NSOEs. Panel C reports the results for the effect of institutional ownership on the relationship between comparability and liquidity. Institutional ownership (IO) represents the percentage of shares held by institutional investors. The t-values reported in the parentheses are calculated with standard errors clustered by firm. ***, **, * represents significance level at 1%, 5% and 10%, respectively.

Comparability, institutional ownership, and stock liquidity

Considering the effect of ownership structure on stock liquidity, we further examine the influence of institutional ownership on the relationship between comparability and liquidity. The institutional investors being informed traders induce information asymmetry, which consequently decreases liquidity (adverse selection hypothesis) (Copeland and Galai 1983; Dang et al. 2018). However, on the other hand, rivalry among informed traders decreases information risk, resulting in superior informational efficiency and increasing the likelihood of trade which increases stock liquidity (trading hypothesis) (Foster and Viswanathan 1996). Furthermore, higher trading frequency reduces the transaction cost leading to higher stock liquidity (Merton 1987; Demsetz 1968). Another view suggests that superior monitoring (governance view) by institutional investors curbs the managers' opportunistic and self-serving behavior, leading to higher quality financial reporting (Chung, Firth, and Kim 2002), lower information asymmetry, and ultimately higher liquidity. Our findings in Panel C of Table 7 suggest institutional ownership complements the effect of comparability on stock liquidity. These findings provide support to the trading hypothesis and governance view.

Comparability, financial crisis, and stock liquidity

Stock liquidity decreases during the crisis period, which is ascribed to financial contagion. The effect of the crisis on stock liquidity motivates studying the influence of comparability on liquidity during the crisis period. Liquidity commonality and flight-to-liquidity are two vital transmission channels for a crisis to impact stock liquidity. Earlier theoretical models (e.g. Brunnermeier and Pedersen 2009) suggest market liquidity is greatly reliant on flight-to-liquidity and liquidity commonality. Flight to liquidity intensifies during a crisis (uncertain) period, resulting from immense selling pressure by investors. Hameed, Kang, and Viswanathan (2010) document a severe drop in liquidity when the market declines, which is quite common during a crisis (Yeyat et al. 2008). Næs, Skjeltorp, and Ødegaard (2011) concur with the argument that market liquidity reduces with the decline in economic growth. Rösch and Kaserer (2013) provide empirical evidence for the argument and note a positive relationship between liquidity and market risk. Liquidity commonality increases in crises or declining markets, resulting in higher systemic risk (Hameed, Kang, and Viswanathan 2010; Rösch and Kaserer 2013). The financial constraints decrease the ability of financial intermediaries to hold or increase their portfolios leading to a shortage of liquidity and ultimately increasing commonality. Furthermore, media effect, herding behavior, and cross-country economic interdependence (Kaminsky and Reinhart 2000; Bekaert et al. 2014) also increase liquidity commonality particularly. We divide our sample period into two subsamples, i.e. crisis and non-crisis periods. We define the crisis period as 2008, 2009, and 2010 while the rest are considered non-crisis years. Panel A and Panel B of Table 8 show that the effect of comparability on liquidity remains insignificant during the crisis period. However, higher comparability improves stock liquidity in the non-crisis period. These findings suggest the benefits of comparability decrease during an economic downturn.

Comparability, information opacity, and stock liquidity

The information environment has a profound effect on stock liquidity. Information opacity plays a vital role in the stock market liquidity since it decreases the adverse selection costs leading to higher demand and increases stock liquidity. (Diamond and Verrecchia 1991; Leuz and Verrecchia 2000; Schoenfeld 2017). Thus, we study the impact of an opaque information environment on the relationship between comparability and stock liquidity. A broad measure of information opacity is employed in this study which has been used preceding literature as well (Hu et al. 2021). This opacity index is created by Shanghai and Shenzhen stock exchanges. It is an alphabetical index and comprises four letters, i.e. A, B, C, and D. A denotes the best information environment (lower information opacity or lower opacity), and D signify the worst information environment (greater information asymmetry or highest opacity). This ranking is based on firms' mandatory disclosure and constructed by evaluating the timeliness, accuracy, integrity, legality, fairness, and

Table 8. Financial statement comparability, global financial crisis/information opacity, and stock liquidity.

Panel A: Crisis period

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.001	−0.037	0.614	0.001	−0.002	−0.032	0.826	0.001
	(−0.78)	(−1.54)	(0.71)	(0.12)	(−0.70)	(−1.54)	(0.64)	(0.47)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.336***	6.764***	−124.424**	−0.012	0.336***	6.758***	−124.483	−0.012
	(4.71)	(10.79)	(2.53)	(−1.48)	(4.72)	(10.79)	(−0.12)	(−1.41)
Adjusted R^2 (%)	72.08	41.36	17.75	52.99	72.08	41.37	17.75	52.99
N	3,265	3,265	3,265	3,265	3,265	3,265	3,265	3,265

Panel B: Non-crisis period

	Com1				*Com 2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.002**	−0.034**	2.668***	0.002***	−0.002**	−0.030**	2.080***	0.001***
	(−2.09)	(−2.27)	(5.05)	(3.29)	(−2.00)	(−2.28)	(4.25)	(3.50)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.291***	9.297***	−218.055***	0.016***	0.291***	9.293***	−217.943***	0.016***
	(7.52)	(6.51)	(−7.47)	(4.03)	(7.51)	(6.51)	(−7.46)	(4.04)
Adjusted R^2 (%)	35.48	34.51	18.49	60.60	35.48	34.52	8.48	60.61
N	17,630	17,630	17,630	17,630	17,630	17,630	17,630	17,630

Panel C: **Comparability, information opacity, and stock liquidity**

	Com1				*Com2*			
Variable	*Spread*	*ILLIQ*	*MLR*	*STO*	*Spread*	*ILLIQ*	*MLR*	*STO*
Com	−0.010***	−0.106**	3.257***	0.001***	−0.053***	−0.129***	1.377**	0.001**
	(−2.57)	(−2.51)	(2.84)	(3.36)	(−9.03)	(−3.18)	(2.35)	(2.53)
Opacity	0.003**	0.209*	−9.730***	0.001	0.004	0.207**	−7.596***	0.001*
	(2.52)	(1.81)	(−3.17)	(1.11)	(0.84)	(2.00)	(−2.71)	(1.84)
*Comp*Opacity*	−0.008***	−0.216**	2.973**	−0.001	−0.256***	−0.101	4.632*	0.002***
	(−2.73)	(−2.06)	(2.51)	(−0.94)	(−9.39)	(−0.99)	(1.88)	(3.97)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.260***	10.609***	−237.987***	0.031***	0.174***	10.540***	−239.848***	0.031***
	(6.02)	(8.57)	(5.62)	(7.07)	(4.31)	(8.48)	(5.64)	(6.94)
Adjusted R^2 (%)	33.38	8.83	4.85	44.40	47.79	8.89	4.84	44.63
N	8,375	8,375	8,375	8,375	8,375	8,375	8,375	8,375

Panel A and Panel B of this table report results for the effect of comparability on stock liquidity during the global financial crisis and non-crisis period. Panel C reports the results for the effect of information opacity on the relationship between comparability and liquidity. *Opacity* a binary variable for information opacity which is equal to zero if the firm is given an A ranking by the stock exchange and one otherwise.The t-values reported in the parentheses are calculated with standard errors clustered by firm. ***, **, * represents significance level at 1%, 5% and 10%, respectively.

truthfulness of the information disclosed. We use a binary variable for information opacity equal to zero if the firm is given an A ranking by the stock exchange and one otherwise. Our findings panel C of Table 8 suggest that comparability plays a substantial role in shaping the liquidity for firms with higher information asymmetry (opacity).

V. Conclusion

This study explores the effect of the qualitative aspect of financial reporting, i.e. comparability, on the stock liquidity. Comparability improves the acquisition and processing of financial information leading to lower information asymmetry. Higher comparability improves the comparison of investment avenues and makes decision-making quick and eloquent. This study augments the previous studies that financial reporting bridges the gap among investors and reduces the adverse selection cost leading to higher stock liquidity. In this way, our study extends earlier literature by studying the effects of qualitative aspects of financial reporting.

We document that higher comparability enhances the flow of information to the traders, reduces adverse selection, and increases stock liquidity. Our results remain identical when we use alternative comparability measures or alternative econometric specifications, e.g. lag of the primary independent variable, two-stage least square regression, and GMM. Further, we delve into the institutional settings of the Chinese market and explore the role of state ownership on the nexus of comparability and stock liquidity. We document

that comparability has an insignificant association with liquidity in SOEs. The objectives, as well as decisions of SOEs, are different from NEOs. The support of the state reduces its default risk and improves its suitability for investment. We also examine the effect of institutional ownership on the relationship between comparability and liquidity. Our findings suggest that institutional ownership strengthens the relationship between comparability and liquidity. The findings also indicate that the effect of comparability on stock liquidity is significant only in the non-crisis period. Additionally, the impact of comparability on stock liquidity is profound for firms with higher information opacity.

Our study has important implications for capital market participants. Comparability can be important for firms, particularly in emerging markets like China, where the information environment and opaque information are more significant challenges. Regulators should give comparability due importance since it can facilitate the flow of information, increase the liquidity of the stocks, and improve the development of the stock market, which in turn can increase the efficient allocation of scarce resources. Comparability is vital for developing and developed countries that suffer from an opaque information environment.

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Appendix A

Variable	Variable definition
Spread	The bid-ask spread is calculated according to Corwin and Schultz (2012) using low and high prices.
ILLIQ	Amihud (2002) *ILLIQ* ratio, calculated as the ratio of daily stock returns (absolute) to trading volume in the Chinese Yuan. Then total number of trading days is used to find the average of this ratio.
MLR	The ratio of trading volume to absolute returns of a stock divided by the volatility of earnings (EBIT).
STO	*STO* is defined as the summation of (daily) shares traded divided by the total number of shares outstanding each year.
Com1	It is the average of the four highest comparability scores of a given firm for the year.
Com2	It is the average of the ten highest comparability scores of a given firm for the year.
SOE	A dummy variable is equal to one if the firm is a state-owned enterprise and zero otherwise.
MTB	Market to book ratio of equity.
CB	Cash balance divided by total assets.
VOL	Volatility of returns, i.e. the standard deviation of daily stock returns.
QFII	Percentage of shares that are held by foreign institutional investors.
AGE	Number of years since the firm's listing.
Size	Natural log of total assets.
Price	The reciprocal of the share price.
RD	Ratio of R&D expenditures to total assets.
PPE	Tangibility is the ratio of net property, plant, and equipment to total assets.
Year FEs	Year fixed effects.
Industry FEs	Industry fixed effects.
N	Number of observations.