Stock Market Liquidity and Trading Activity: Is China Different?

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Abstract

We study market-wide liquidity and trading activity in China. Trading activity increases in up markets more than in down markets, which is consistent with the disposition effect and the large number of unsophisticated retail investors in China. Whereas, on average, liquidity and trading activity are lower around holidays, in more recent times, trading activity has been significantly lower before holidays and higher afterward. Aggregate short selling and margin trading activity boost trading activity, but short selling also increases spreads, indicating lower liquidity. We also document the increased influence of global factors in China.

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Abstract

We study market-wide liquidity and trading activity in China. Trading activity increases in up markets more than in down markets, which is consistent with the disposition effect and the large number of unsophisticated retail investors in China. Whereas, on average, liquidity and trading activity are lower around holidays, in more recent times, trading activity has been significantly lower before holidays and higher afterward. Aggregate short selling and margin trading activity boost trading activity, but short selling also increases spreads, indicating lower liquidity. We also document the increased influence of global factors in China.

1. Introduction

Liquidity is an important aspect of financial markets for investors, researchers, and regulators. Reduced liquidity provision is widely cited as an important catalyst of the 2007–2009 financial crisis (e.g., Nagel, 2012; Rosch and Kaserer, 2013). Emerging markets have historically had lower liquidity than their developed market counterparts (e.g., Fong, Holden, and Trzcinka, 2017), but this may have changed as the markets have become more integrated.

We investigate the level, volatility, autocorrelation, and determinants of time-varying market liquidity in China, the largest emerging market, over the last 20 years. In addition to its importance to the global economy, China is an interesting market in which to consider liquidity and trading activity, since a number of the market's features differentiate it from other markets, such as the United States.[1] First, despite the steadily growing influence of institutional investors in China, the Chinese stock market is still dominated by retail investors exhibiting behavioral biases (e.g., Xu, 2000; Yao, Ma, and He, 2014; Hilliard and Zhang, 2015), while, in mature markets, institutional investors are the key players (e.g., Shih, Chang, and Chen, 2008). Second, short selling was prohibited, and has been allowed only for selected stocks since March 2010. Prior studies, such as Charoenrook and Daouk (2005) and Beber and Pagano (2013), show short selling bans distort trading volume and liquidity. Third, weaker investor protection regulation is likely to result in more information asymmetry, which is an important determinant of liquidity (e.g., Frijns, Gilbert, and Tourani-Rad, 2008). Fourth, Chinese listed firms, especially large firms, tend to have a high level of non-tradable state ownership; state owners tend to have low incentive to actively

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[1] The impressive growth in the Chinese equity market with its unique features has recently attracted increased research interest on the comparison between the Chinese and US benchmark results and on the question of whether the classic theories stemming from the US can be applied in the Chinese market (e.g., Titman, Wei, and Zhao, 2016; Cheema and Nartea, 2017).

trade unrestricted stocks and/or provide liquidity.[2] Fifth, China has experienced a number of policy changes and reforms aimed at reducing market fragmentation and improving its market liquidity and efficiency. For instance, China opened the foreign B-share market to domestic investors in February 2001 (e.g., Lee and Wong, 2012) and allowed qualified foreign institutional investors (QFII) to invest in the domestic A-share market in December 2002 (e.g., Ding, Nisson, and Suardi, 2017). China's Split-share Structure Reform was launched in April 2005, converting non-tradable A-shares into tradable shares (e.g., Liao, Liu, and Wang, 2014). In March 2010, China started allowing short selling and margin trading on selected stocks (e.g., Chang, Luo, and Ren, 2014). According to World Bank data,[3] the total value of stocks traded in China increased 506-fold, from US$77.5 billion in 1995 to US$39.3 trillion in 2015, compared to a seven-fold increase, from US$5.1 trillion to US$41.4 trillion, in the US market over the same period.

Our work, which follows an approach similar to that of Chordia, Roll, and Subrahmanyam (2001), makes several contributions. First, a body of literature has emerged documenting the different characteristics and trading behavior of retail and institutional investors (e.g., Kelly and Tetlock, 2017). We add to this strand of research by investigating market-wide liquidity and trading activity in China's retail investor-dominated stock market. Following the approach of Chordia, Roll, and Subrahmanyam (2001), we find trading activity in China increases more in up markets than in down markets. This finding contrasts with the authors' US evidence, where trading activity reacts symmetrically in up and down markets. However, it is consistent with the literature on investor sophistication and the disposition effect. The disposition effect suggests investors hold loser stocks longer than winner stocks and prior research also shows less sophisticated investors exhibit a greater disposition effect (e.g., Dhar and Zhu, 2006). While, on average, liquidity and

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[2] See Peng, Wei, and Yang (2011) for discussion on the ownership of Chinese listed firms.
[3] See http://www.worldbank.org.

trading activity are lower around holidays, we show that, in more recent times, trading activity is significantly lower immediately prior to holidays and higher afterward. The opposite effects between the days prior to and after holidays support the argument of Meneu and Pardo (2004), that retail investors are reluctant to buy before holidays.

We also add to the literature on short selling and margin trading activities in China. Chang, Luo, and Ren (2014) and Zhao, Li, and Xiong (2014) find stock price efficiency increases and return volatility decreases after short selling and margin trading bans are lifted. Chen, Kadapakkam, and Yang (2016) provide evidence that short sellers and margin traders in China anticipate forthcoming news and help incorporate information into stock prices more efficiently. Sharif, Anderson, and Marshall (2014) show stock liquidity declines when short selling bans are lifted. Their reasoning is that uninformed investors avoid trading with informed investors and therefore withdraw liquidity from shortable stocks. In contrast to prior studies, which typically investigate stock prices and/or the liquidity of relatively small samples of stocks over a short time, we use a sample period of 1995–2016 and provide empirical evidence on the effects of aggregate short selling and margin trading activity on aggregate market liquidity and trading activity. While aggregate short selling and margin trading improve market trading activity, aggregate short selling also increases spreads, indicating lower liquidity. The detrimental effect of short selling on spreads in China is inconsistent with the developed market evidence (e.g., Beber and Pagano, 2013), but it is supportive of the idea that short sellers in China are informed investors (e.g., Chang, Luo, and Ren, 2014) and, accordingly, their trading increases the information asymmetry component of the spreads.

Earlier research on time-series changes in the Chinese market liquidity uses monthly turnover and turnover–volatility ratios as liquidity proxies (e.g., Gao and Kling, 2006). Fong,

Holden, and Trzcinka (2017) investigate low-frequency liquidity proxies for international equity markets and show that the Amihud (2002) ratio is the best low-frequency price impact proxy and the closing percent quoted spread of Chung and Zhang (2014) is the best low-frequency spread proxy to capture the percent cost dimension of liquidity. We therefore use the Amihud (2002) ratio and the closing percent quoted spread of Chung and Zhang (2014) to measure the price impact and percent cost dimensions of liquidity, respectively; we use share volume and trading value to measure trading activity. In addition, we consider the role of global factors and document their increased influence in China. We conduct our analysis for the entire Chinese market as a whole and for five subgroups of stocks: (1) Shanghai A shares, (2) Shanghai B shares, (3) Shenzhen A shares excluding ChiNext (the Growth Enterprise Board of the Shenzhen Stock Exchange) shares, (4) Shenzhen B shares, and (5) ChiNext shares.

The remainder of this paper proceeds as follows. Section 2 describes the data and our liquidity and trading activity measures. The core results are set forth in Section 3. Section 4 presents our conclusions.

2. Institutional background

The Chinese stock market consists of two main exchanges: the Shanghai Stock Exchange (SSE) and the Shenzhen Stock Exchange (SZSE), both established in early 1990s. Two share classes are traded on the exchanges. The A shares are denominated in Chinese Yuan and predominantly traded by domestic retail investors, while B shares are priced in US and Hong Kong dollars, and traded exclusively by foreign investors until February 2001 when the Chinese government allowed domestic residents to invest in B shares.

Other regulatory changes launched to remove barriers to capital participation have been enacted. For example, the QFII program, designed to allow qualified foreign institutions' direct access to the capital market in China, came into effect in December 2002. The total QFII quota has been expanded from the program's initial US$4 billion to US$87.3 billion by the end of 2016 (China Daily, 2016). In April 2005, the Split-Share Structure Reform was initiated with an aim to convert all non-tradable shares (including non-tradable state-owned shares) into tradable shares (Liao, Liu, and Wang, 2014). In March 2010, the removal of short selling and margin trading bans on 90 selected stocks marked the first time for short selling and margin trading to take place in China's equity market (Chen, Kadapakkam, and Yang, 2016). The number of stocks eligible for short selling and margin trading reached 700 by March 2014 (Li, Li, Li, and Wu, 2016). In addition, the Shanghai-Hong Kong Stock Connect was launched in November 2014. The program provides an investment channel through which investors in the Chinese and Hong Kong stock markets can trade eligible stocks listed on the other market through their local exchange (Huo and Ahmed, 2017).

3. Data and liquidity and trading measures

Our sample consists of all stocks listed on the SSE and SZSE between January 1995 and June 2016. We source stock data on the total return index (RI), stock prices (P and UP), shares outstanding (NOSH), trading volume (VO), closing bid (PB), and ask prices (PA) from Thomson Reuters Datastream. Following Yao, Ma, and He (2014), we obtain all stock data in Chinese yuan (CNY). We follow Amihud, Hameed, Kang, and Zhang (2015) in handling data errors in Datastream. We set daily returns as missing if they are greater than 200% or if $(1 + r_{i,d}) \times (1 + r_{i,d-1}) - 1 \leq 50\%$, where $r_{i,d}$ is the return of stock i on day d and at least either $r_{i,d}$ or $r_{i,d-1}$ is greater than 100%. Daily returns are calculated using the individual stock total return index, which controls for

stock splits and dividends and is reported to the nearest hundredth. To avoid rounding errors, we set daily returns as missing if the return index for the previous or the current day is less than 0.01. We exclude non-trading days defined as days on which more than 90% of stocks have zero returns. Data on one-year loan prime rates and term spreads are from the People's Bank of China and the Asian Development Bank.[4] Macroeconomic announcements dates over 2000–2016 are sourced from Bloomberg. In addition, we obtain daily short selling and margin trading data from Chinese Securities Market and Accounting Research (CSMAR).

Whereas earlier studies often describe liquidity as an elusive concept, more recent research has established standard liquidity measures. We follow Amihud, Hameed, Kang, and Zhang (2015) and use Amihud's (2002) ratio as our first liquidity measure. The daily Amihud (2002) measure is defined as

$$Amihud_t = \frac{|r_t|}{volume_t} \tag{1}$$

where r_t is the return on day t and $volume_t$ is the dollar volume on day t. We remove stocks with Amihud (2002) values in the top 1% each day. We also remove stocks priced in the top or bottom 1% of the cross section.[5]

According to Fong, Holden, and Trzcinka (2017), the closing percent quoted spread from Chung and Zhang (2014) is the best spread proxy for capturing changes in effective and quoted spreads. The closing percent quoted spread (*Spread*) of stock i on day t is defined as

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[4] See   http://www.pbc.gov.cn/zhengcehuobisi/125207/125213/125440/125838/125888/2968985/index.html   (in Chinese) and https://asianbondsonline.adb.org/china/data.php.
[5] For consistency, we exclude stocks priced in the top or bottom 1% of the cross section when calculating other liquidity and trading activity variables.

$$Spread_{i,t} = \frac{Ask_{i,t} - Bid_{i,t}}{M_{i,t}} \qquad (2)$$

where $Ask_{i,t}$ is the closing ask price of stock i on day t, $Bid_{i,t}$ is the closing bid price of stock i on day t, and $M_{i,t}$ is the mean of $Ask_{i,t}$ and $Bid_{i,t}$. We exclude negative spreads and, following Chung and Zhang (2014), we drop all closing percent quoted spreads that are greater than 50% of the quote midpoint.

We calculate the market share volume and trading value as proxies for stock trading activity. We assign a value of zero for the share volume and trading value if a stock does not trade on a given day.[6] To construct reliable market-level measures for each of the above liquidity and trading activity variables, we require a minimum number of 10 stocks on a given day; we then equal- and value-weight each stock's daily liquidity and trading activity on its market capitalization of the previous day. Similar to Chung and Chuwonganant (2014), we take the log of our liquidity and trading activity measures.[7] Following Chordia, Roll, and Subrahmanyam (2001) and Brockman, Chung, and Perignon (2009), we use the equal-weighted measures for our core results and include the value-weighted results in the Internet Appendixes.

4. Results

4.1 Summary statistics of market liquidity and trading activity

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[6] This method is not applied to the Amihud (2002) and spread measures, since a stock that does not trade on a given day does not have an Amihud ratio (2002) or spread value of zero.

[7] In contrast to the results of Chordia, Roll, and Subrahmanyam (2001), we find positive skewness for all the liquidity and trading activity measures. We therefore use log-scaled measures and include summary statistics for the original values in Appendix A.

Table 1 presents summary statistics for the log-scaled market liquidity and trading activity measures for the entire market and for each of our five subgroups. A-share markets, on average, are more liquid and have higher price levels and trading activity than B-share markets do. The average liquidity and trading activity of ChiNext are higher than for the other subgroups, at least partly because ChiNext was launched more recently, in October 2009. Figures 1 and 2 indicate the Amihud (2002) and spread measures have declined over time, while the dollar volume and share volume have gradually increased. There is a significant increase around the 2007–2009 crisis period in both figures, indicating an increase in trading activity and a decrease in market liquidity. The number of listed stocks steadily increases (Figure 3) and remains almost constant between 2004 and 2006, 2008 and 2009, and 2012 and 2013, coinciding with periods of moratorium for IPOs in China. Driven largely by the establishment of ChiNext, the period between October 2009 and June 2012 saw a relatively rapid growth in the number of stocks.

[Insert Table 1 Here]

[Insert Figures 1 to 3 Here]

We present summary statistics for the absolute log differences for all the variables[8] in Table 2. Panel A's results for the entire market suggest that the average absolute daily percentage changes in the Amihud (2002) ratio, spread, share volume, and trading value are 50.77%, 12.02%, 17.70%, and 17.67%, respectively. Consistent with Chordia, Roll, and Subrahmanyam (2001), we find greater volatility in the share volume and trading value than in the spread measure. The average absolute daily percentage change in prices is around 1.38%, indicating the volatility of price is markedly lower compared to other liquidity and trading activity proxies but higher than the 0.56%

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[8] While reducing the influence of outliers, log differences in the variables are approximately equal to the daily percentage changes in these variables.

in the United States (Chordia, Roll, and Subrahmanyam, 2001). Consistent with the results in Table 1, we find greater volatility in B shares than in A shares.

4.2 Correlations and autocorrelations of market liquidity and trading activity

In Table 3, we report the correlations between simultaneous log differences in market liquidity and trading activity variables. As expected, we find negative correlations between (il)liquidity and trading activity measures. In Panel A, the correlation between the Amihud (2002) and spread measures is positive but low, at 0.1270, ranging from 0.0661 to 0.1856 for five subgroups in Panels B through F. The trading volume and share volume co-vary closely and the correlation is as high as 0.9848 for the entire market and above 0.97 for all five subgroups of stocks.

Table 4 presents the first- to fifth-order autocorrelations for each of the five variables in Table 3. We show statistically significant negative autocorrelations in the log differences of the Amihud (2002) ratio, spread, share volume, and trading value, suggesting that daily changes in these variables are likely to be stationary. In addition, we find a significant positive first-order autocorrelation in market prices.[9]

[Insert Tables 3 and 4 Here]

4.3 Market liquidity and trading activity determinants

To examine the determinants of daily changes in market liquidity and trading activity, we first follow Chordia, Roll, and Subrahmanyam (2001) and estimate our baseline regression as per Equations (3) and (4). We use the Cochrane–Orcutt (1949) procedure to correct for first-order serial dependence in the residuals:

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[9] Greater price dependency implies a less efficient price discovery process.

$$\Delta MKTILLQ_t = \quad \alpha_0 + \beta'X_t + \sum_{i=1}^{4} \alpha_{1i}DAY_{it} + \alpha_2 HOLI_t + \alpha_3 GDP_t + \alpha_4 GDP(1\text{-}2)_t + \alpha_5 CPI_t$$

$$+ \alpha_6 CPI(1\text{-}2)_t + \varepsilon_t \tag{3}$$

$$\Delta TRADING_t = \quad \alpha_0 + \beta'X_t + \sum_{i=1}^{4} \alpha_{1i}DAY_{it} + \alpha_2 HOLI_t + \alpha_3 GDP_t + \alpha_4 GDP(1\text{-}2)_t + \alpha_5 CPI_t$$

$$+ \alpha_6 CPI(1\text{-}2)_t + \varepsilon_t \tag{4}$$

where $\Delta MKTILLQ$ is the log difference (denoted by Δ) in market (il)liquidity measured by either the Amihud (2002) or the spread values and $\Delta TRADING$ is the log difference in trading activity measured by either the share volume or trading value. We conduct augmented Dickey–Fuller tests to ensure the log differences in our liquidity and trading activity variables are stationary.

The term X_t represents a set of potential time-varying determinants of daily variations in market liquidity and trading activity, including $MKT\_RET^+_t$, $MKT\_RET^-_t$, $MA\_MKT^+_t$, $MA\_MKT^-_t$, MA_ABMKT_t, $\Delta PRIME\_RATE_t$, and $\Delta TERM\_SPR_t$. The variables MKT_RET^+ and MKT_RET^- are the signed concurrent market returns; MA_MKT^+ and MA_MKT^- are the signed five-day moving averages of past market returns; MA_ABMKT is the past five-day average of absolute market returns used as a proxy for market volatility; $\Delta PRIME\_RATE$ and $\Delta TERM\_SPR$ are the daily changes in the one-year loan prime rate and term spread, respectively; DAY_{it} is the day of the week dummies for Monday through Thursday; and $HOLI_t$ is a dummy variable set to one for days immediately preceding and following holiday closures.

According to Chordia, Roll, and Subrahmanyam (2001) and Brockman, Chung, and Perignon (2009), market liquidity and trading activity increase prior to scheduled macroeconomic announcements. We include dummy variables to capture pre-announcement portfolio rebalancing. The variables GDP_t and $GDP(1-2)_t$ are dummies set to one for the gross domestic product (GDP) announcement dates and for two trading days prior to GDP announcements. The variables CPI_t and $CPI(1-2)_t$ are defined as for GDP, but for Consumer Price Index (CPI) announcements. The description and data sources of the variables used in the analysis are provided in Table 5.

[Insert Tables 5 and 6 Here]

We estimate Equations (3) and (4) for the entire sample and for five subsamples of stocks. In Table 6, we present only the regression results for the entire market for brevity. Our findings hold for subsamples and the results are contained in Appendixes B and C for the SSE and SZSE, respectively. With all the explanatory variables included in regressions, the adjusted R^2 values range from 0.1675 to 0.6200, suggesting that these variables explain 16.75% to 62.00% of the variation in market liquidity and trading activity. Consistent with Chordia, Roll, and Subrahmanyam (2001), on average, our liquidity measures respond to negative market returns more than to positive market returns. The trading activity results indicate the share volume and trading value are significantly higher when there are larger positive or negative market returns; however, trading activity reacts to positive returns more than to negative returns. We show a change in the share volume of 8.62% (0.08615) and a change in trading value of 9.58% (0.09584) for a one standard deviation increase in a positive market return, whereas a one standard deviation decrease in a negative market return leads to a 2.98% (0.02979) increase in the share volume and a 1.62% (0.01615) increase in trading value. The finding is inconsistent with the US evidence that shows trading activity responds symmetrically to positive and negative returns (Chordia, Roll, and

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Subrahmanyam, 2001). However, provided that the Chinese stock market is well known for its dominance of unsophisticated individual investors (e.g., Chen, Cai, and Ho, 2009), our results are supportive of the literature on investor sophistication and the disposition effect. The disposition effect states investors tend to hold loser stocks longer than winner stocks and prior research, such as the study of Dhar and Zhu (2006), shows that less sophisticated investors exhibit a greater disposition effect. Our conjecture is further supported by the subsample results in Appendixes B and C showing that the asymmetric effects of positive and negative market-wide returns on market liquidity are stronger in the A-share markets which are dominated by relatively unsophisticated individual investors, than in the foreign institutional investors dominated B-share markets. Moreover, we find positive market returns exert a stronger impact in the SSE than the SZSE, which is consistent with Tan, Chiang, Mason, and Nelling (2008) providing evidence that herding behavior is greater in the Shanghai market and in rising markets.

Our finding also supports the arguments of Wang and Cheng (2004). As those authors note, a large volume of winner stocks would indicate that relatively irrational investors dominate the market, while a large volume of loser stocks is less likely to be caused by irrational investors in the presence of short selling constraints.[10] To assess the extent to which the asymmetric response of trading activity to market returns is due to short selling and margin trading bans, we re-estimate our regressions in Table 6 for the post-March 2010 period, when short selling and margin trading bans were lifted for selected stocks, and report the regression results in Appendix D. While both positive and negative market returns exert stronger effects on market trading activity, our results indicate the response of trading activity to market returns becomes less asymmetric when short selling and margin trading bans are lifted.

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[10] China started allowing short selling and margin trading only after March 2010.

The coefficients of *MA_MKT-* indicate that a recent down market is associated with decreased market liquidity and trading activity. Consistent with Chordia, Roll, and Subrahmanyam (2001), we find higher market-wide volatility (*MA_ABMKT*) is associated with lower trading activity. The impact of *MA_ABMKT* on market liquidity is not consistent across the two liquidity measures. The day-of-the-week dummies show significantly lower market liquidity and trading activity on Monday, but significant improvements in market liquidity and trading activity on Tuesday. The results in Columns (2), (4), (6), and (8) of Table 6 show evidence of decreased liquidity and trading activity around holidays, while the results in Columns (7) and (9) suggest an insignificant impact of *HOLI* on trading activity during more recent times.[11] We therefore replace *HOLI* in Equations (3) and (4) with *PRE_HOLI* (a dummy variable set to one for the days preceding holidays) and *POST_HOLI* (a dummy variable set to one for the days following holidays) and then re-estimate the regressions results. We find opposite effects for the days immediately prior to and after holidays for our trading activity measures: The share volume and trading value are lower immediately before holidays and higher after holidays. Our results support the argument of Meneu and Pardo (2004), that retail investors are reluctant to buy before holidays. In Panel B, we present only the coefficients of *PRE_HOLI* and *POST_HOLI* for brevity.

China's one-year loan prime rate change has a significantly negative effect on trading activity,[12] which supports the idea that increases in interest rates decrease trading activity. We present evidence of increased market liquidity around macroeconomic announcements, but the results show trading activity decreases as well.

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[11] Note that the results are based on a shorter period when Δ*PRIME_RATE*, Δ*TERM_SPR*, *GDP*, *GDP(1-2)*, *CPI*, and *CPI(1-2)* are included in the regressions.

[12] Our subsample results show that the market liquidity of Shenzhen A shares also significantly decreases when the loan prime rate increases.

4.4 Influence of short selling and margin trading

The adjusted R^2 values in Table 6 suggest it is possible to find variables that have additional explanatory power for daily changes in market liquidity and trading activity. China started to allow short selling and margin trading for selected stocks in March 2010. It has been established that short selling and margin trading affect stock liquidity (e.g., Beber and Pagano, 2013). In this section, we add two proxies for daily short selling (*SHORT_SELL*) and margin trading (*MARGIN_TRAD*) to our baseline regressions to investigate whether aggregate short selling and margin trading have additional explanatory power.[13] We estimate the following regressions:

$$\Delta MKTILLQ_t = \alpha_0 + \beta' X_t + \sum_{i=1}^{4} \alpha_{1i} DAY_{it} + \alpha_2 HOLI_t + \alpha_3 GDP_t + \alpha_4 GDP(1\text{-}2)_t + \alpha_5 CPI_t$$

$$+\alpha_6 CPI(1\text{-}2)_t + \alpha_7 \Delta SHORT\_SELL + \alpha_8 \Delta MARGIN\_TRAD + \varepsilon_t \qquad (5)$$

$$\Delta TRADING_t = \alpha_0 + \beta' X_t + \sum_{i=1}^{4} \alpha_{1i} DAY_{it} + \alpha_2 HOLI_t + \alpha_3 GDP_t + \alpha_4 GDP(1\text{-}2)_t + \alpha_5 CPI_t$$

$$+\alpha_6 CPI(1\text{-}2)_t + \alpha_7 \Delta SHORT\_SELL + \alpha_8 \Delta MARGIN\_TRAD + \varepsilon_t \qquad (6)$$

where $\Delta SHORT\_SELL$ is the daily change in the total volume of the underlying securities sold by credit traders through securities lending and $\Delta MARGIN\_TRAD$ is the daily change in the total value of the underlying securities bought by credit traders through margin trading. Other variables

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[13] China makes daily short selling and margin trading data available to the public, which allows us to study whether aggregate short selling and margin trading affect market liquidity and trading activity on a daily basis. The other policy changes and reforms aforementioned in Section 2 are more likely to influence market liquidity and trading activity in a gradual process over time. The data associated with these events are not available at daily frequency (e.g., state-owner shareholding); accordingly, we do not add proxies for these events to our baseline regressions.

are as defined in Equations (3) and (4). In Table 7, we present only the coefficients of *SHORT_SELL* and *MARGIN_TRAD*. Adding *SHORT_SELL* and *MARGIN_TRAD* to the baseline regressions improves the adjusted R^2 values from 0.81% to 8.97%. The full-sample results in Panel A show that margin trading is associated with a greater share volume and trading value and lower spreads. Short selling is also positively related to trading activity measures but larger spreads. Our finding of increased spreads is consistent with the work of Chang, Luo, and Ren (2014), who argue that short sellers in China "are potentially informative investors" (p. 412). We find no significant effects of short selling and trading activity on the Amihud (2002) measure, which could be partially due to China's price limit regulation. Our results hold when we re-estimate the models for the SSE and SZSE, respectively, in Panels B and C.

[Insert Table 7 Here]

4.5 Influence of global factors

Given the large body of research documenting the success of China's recent policy changes and reforms (including the lift of short selling and margin trading bans), we expect improved Chinese market integration and aggregate market liquidity in more recent years, and therefore posit an increased impact of global factors on the Chinese market's liquidity. We consider two variables as global factors: (1) global liquidity (*GLBILLQ*), calculated as per Brockman, Chung, and Perignon (2009), and (2) the Chicago Board Options Exchange Market Volatility Index (VIX), a proxy for global risk perceptions.

We split the sample into two equal subperiods (1995–2005 and 2006–2016) and first conduct the following regression:

$$\Delta MKTILLQ_t = \Delta GLOB\_FACTOR_t + \Delta GLOB\_FACTOR_{t-1} + \Delta GLOB\_FACTOR_{t+1} + \varepsilon_t \qquad (7)$$

where $\Delta MKTILLQ_t$ is the log difference in market (il)liquidity measured by either the Amihud (2002) or spread values on day t; $\Delta GLOB\_FACTOR_t$, $\Delta GLOB\_FACTOR_{t-1}$, and $\Delta GLOB\_FACTOR_{t+1}$ are the log differences in global factors measured by either global liquidity (*GLBILLQ*) or the VIX index (*VIX*) on days t, t - 1, and t + 1.

In Panel A of Table 8, our results indicate global factors have exerted a greater impact on the Chinese market in more recent years. However, when local factors are added to the regressions in Panel B, global factors are no longer significant. This result suggests that the impact of global factors on market liquidity is through local factors. Our results for the subsamples of stocks are similar and presented in Appendixes E and F.

[Insert Table 8 Here]

5. Conclusions

Liquidity is an important consideration for market participants, regulators, and academics. We contribute to the literature by investigating various aspects of market-wide liquidity and trading activity in China, the largest emerging economy, over 1995–2016. The Chinese market is an interesting setting for liquidity studies, since a number of its features differentiate it from other markets, such as the United States (e.g., dominance of retail investors with speculative trading motives, recent policy and market reforms that were at least partially designed to improve liquidity).

We show gradually increased market liquidity and trading activity over time. The average absolute daily percentage changes in the Amihud (2002) ratio, spread, share volume, and trading

value are 50.77%, 12.02%, 17.70%, and 17.67%, respectively, indicating highly volatile market liquidity and trading activity. While it is well established that market liquidity reacts to negative market returns more than to positive returns (e.g., Hameed, Kang, and Viswanathan, 2010), we find positive market returns exert a greater impact on trading activity than negative returns do in China. This finding is consistent with the Chinese market being dominated by unsophisticated retail investors, who are likely to exhibit a stronger disposition effect (e.g., Dhar and Zhu, 2006). A recent down market is associated with decreased market liquidity and trading activity. Recent market volatility reduces trading activity but has mixed effects on liquidity. While both liquidity and trading activity decrease around holidays, on average, we find, in more recent times, that trading activity is significantly lower immediately prior to holidays and higher afterward, which is consistent with the study of Meneu and Pardo (2004), who show retail investors are reluctant to buy before holidays. Our results also show that aggregate short selling and margin trading lead to a greater market-wide share volume and trading value, but short selling also increases spreads. Moreover, we find an increased influence of global factors in China.

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Table 1. Descriptive statistics of market liquidity and trading activity

This table presents summary statistics for the following log-scaled market liquidity and trading activity measures: the Amihud (2002) ratio, spread, price (CNY), share volume (millions), and trading value (millions of CNY). Panel A shows the results for the entire market. Panels B to F show the results for the following five subgroups of stocks: (1) Shanghai A shares, (2) Shanghai B shares, (3) Shenzhen A shares excluding ChiNext shares, (4) Shenzhen B shares, and (5) ChiNext shares.

	No. of stocks	Amihud	Spread	Price	Share volume	Trading value
Panel A: Full sample						
Mean	1572	-7.5524	-5.9383	1.7566	1.7431	3.3283
SD	717	1.9417	0.7135	0.5285	0.9345	1.3533
Median	1459	-7.8949	-6.0518	1.8190	1.8541	3.2889
Minimum	343	-11.0983	-7.2982	0.5800	-4.9015	-3.4429
Maximum	2891	-0.5940	-2.4434	3.2730	3.9810	6.6780
Panel B: Shanghai A shares						
Mean	709	-8.6321	-6.1656	1.7942	1.8959	3.4939
SD	255	1.3048	0.3935	0.4920	1.0084	1.4160
Median	823	-8.5979	-6.1943	1.8692	1.9944	3.3816
Minimum	169	-11.8776	-7.1957	0.7516	-4.3823	-2.8062
Maximum	1072	-2.1200	-4.4763	3.1860	4.4649	7.1164
Panel C: Shanghai B shares						
Mean	50	-6.3155	-5.0573	1.0825	-0.0991	0.9315
SD	5	1.9370	1.0187	0.6395	0.8673	1.2660
Median	52	-6.7178	-5.4075	1.2488	-0.1489	0.9377
Minimum	33	-10.5437	-6.8755	-0.6116	-4.7946	-3.6680
Maximum	52	-0.4415	-2.0462	2.4433	3.4568	5.1011
Panel D: Shenzhen A shares						
Mean	665	-8.5827	-6.2547	1.7760	1.6707	3.2627
SD	339	1.2422	0.5102	0.5367	0.9376	1.3392
Median	530	-8.6207	-6.2507	1.8349	1.8011	3.3168
Minimum	118	-11.6593	-7.5849	0.4231	-5.9956	-5.1758
Maximum	1236	-1.9514	-2.5516	3.2358	4.6942	6.5097
Panel E: Shenzhen B shares						
Mean	51	-5.8196	-4.9488	1.2254	-0.1459	0.8902
SD	7	2.0193	0.9080	0.5794	1.0104	1.3518
Median	53	-6.3559	-5.2078	1.2792	-0.1022	1.1131
Minimum	23	-10.1942	-6.8709	-0.2921	-6.9728	-6.7181
Maximum	58	1.1903	-0.7499	2.4193	5.7340	5.7842
Panel F: ChiNext shares						
Mean	314	-9.3651	-6.8769	2.3435	2.0018	4.2035
SD	132	0.9645	0.4110	0.5041	0.4386	0.8259
Median	355	-9.4660	-6.8494	2.2426	2.0337	4.1315
Minimum	28	-11.6674	-8.8691	1.5403	0.6997	2.4473
Maximum	493	-4.0816	-5.7573	3.6232	3.3267	6.1798

Table 2. Absolute log differences in market liquidity and trading activity
This table presents summary statistics for the absolute values of log differences in market liquidity and trading activity. Panel A contains the results for the entire market. Panels B to F contain the results for the following five subgroups of stocks: (1) Shanghai A shares, (2) Shanghai B shares, (3) Shenzhen A shares excluding ChiNext shares, (4) Shenzhen B shares, and (5) ChiNext shares.

	Market liquidity		Trading activity		
	|ΔAmihud|	|ΔSpread|	|ΔPrice|	|ΔShare volume|	|ΔTrading value|
Panel A: Full sample					
Mean	0.5077	0.1202	0.0138	0.1770	0.1767
SD	0.4984	0.1526	0.0141	0.2310	0.2232
Median	0.3767	0.0803	0.0098	0.1278	0.1264
Panel B: Shanghai A shares					
Mean	0.4184	0.1116	0.0138	0.1883	0.1876
SD	0.3915	0.1185	0.0146	0.2342	0.2272
Median	0.3166	0.0793	0.0096	0.1354	0.1361
Panel C: Shanghai B shares					
Mean	0.5869	0.1998	0.0145	0.3219	0.3223
SD	0.5002	0.1666	0.0167	0.2991	0.3004
Median	0.4679	0.1597	0.0089	0.2540	0.2509
Panel D: Shenzhen A shares					
Mean	0.4117	0.1389	0.0142	0.1748	0.1751
SD	0.3907	0.2544	0.0147	0.2459	0.2422
Median	0.3066	0.0812	0.0100	0.1261	0.1263
Panel E: Shenzhen B shares					
Mean	0.5740	0.1925	0.0142	0.3277	0.3287
SD	0.5596	0.1818	0.0167	0.3539	0.3551
Median	0.4258	0.1490	0.0088	0.2419	0.2402
Panel F: ChiNext shares					
Mean	0.5127	0.2092	0.0179	0.1479	0.1495
SD	0.4578	0.1709	0.0157	0.1338	0.1346
Median	0.4101	0.1744	0.0136	0.1164	0.1158

Table 3. Correlations of simultaneous market liquidity and trading activity
This table presents the correlations between simultaneous log differences in market liquidity and trading activity measures. Panel A contains the results for the entire market. Panels B to F contain the results for the following five subgroups of stocks: (1) Shanghai A shares, (2) Shanghai B shares, (3) Shenzhen A shares excluding ChiNext shares, (4) Shenzhen B shares, and (5) ChiNext shares.

	Market liquidity		Trading activity	
	ΔAmihud	ΔSpread	ΔPrice	ΔShare volume
Panel A: Full sample				
ΔSpread	0.1270			
ΔPrice	-0.1900	-0.4226		
ΔShare volume	-0.0761	-0.0398	0.1827	
ΔTrading value	-0.0936	-0.0735	0.2610	0.9848
Panel B: Shanghai A shares				
ΔSpread	0.1856			
ΔPrice	-0.2925	-0.4760		
ΔShare volume	-0.0599	-0.0051	0.1982	
ΔTrading value	-0.0887	-0.0417	0.2741	0.9824
Panel C: Shanghai B shares				
ΔSpread	0.0661			
ΔPrice	-0.1823	-0.3414		
ΔShare volume	-0.1587	-0.1252	0.1099	
ΔTrading value	-0.1607	-0.1369	0.1563	0.9763
Panel D: Shenzhen A shares				
ΔSpread	0.0812			
ΔPrice	-0.3265	-0.2431		
ΔShare volume	-0.1581	-0.0322	0.1897	
ΔTrading value	-0.1825	-0.0519	0.2634	0.9884
Panel E: Shenzhen B shares				
ΔSpread	0.0683			
ΔPrice	-0.2118	-0.3011		
ΔShare volume	-0.1925	-0.1103	0.1141	
ΔTrading value	-0.1874	-0.1128	0.1544	0.9703
Panel F: ChiNext shares				
ΔSpread	0.0665			
ΔPrice	-0.1822	-0.6099		
ΔShare volume	0.0588	-0.0049	0.1725	
ΔTrading value	0.0337	-0.0903	0.2949	0.9827

Table 4. Autocorrelations of market liquidity and trading activity

This table presents the first- to fifth-order autocorrelations for each of the variables contained in Table 3. Autocorrelations that are statistically significant at the 0.0001 level are in bold. Panel A contains the results for the entire market. Panels B to F contain the results for the following five subgroups of stocks: (1) Shanghai A shares, (2) Shanghai B shares, (3) Shenzhen A shares excluding ChiNext shares, (4) Shenzhen B shares, and (5) ChiNext shares.

	Order (lag in daily observations)				
	1	2	3	4	5
Panel A: Full sample					
ΔAmihud	**-0.4223**	0.0142	-0.0554	0.0244	-0.0395
ΔSpread	**-0.3636**	**-0.0792**	-0.0106	0.0006	-0.0190
ΔPrice	**0.0724**	-0.0015	0.0316	0.0415	0.0017
ΔShare volume	**-0.2250**	**-0.0604**	**-0.0588**	-0.0157	-0.0009
ΔTrading value	**-0.1785**	**-0.0820**	**-0.0614**	-0.0206	0.0036
Panel B: Shanghai A shares					
ΔAmihud	**-0.4111**	-0.0056	-0.0347	0.0152	0.0073
ΔSpread	**-0.3632**	**-0.0934**	0.0389	-0.0434	-0.0063
ΔPrice	**0.0677**	-0.0042	0.0189	0.034	0.0032
ΔShare volume	**-0.2404**	**-0.0607**	**-0.0601**	-0.0103	0.004
ΔTrading value	**-0.1928**	**-0.0854**	**-0.0586**	-0.0171	0.0047
Panel C: Shanghai B shares					
ΔAmihud	**-0.4519**	0.0037	-0.0029	-0.0516	0.0449
ΔSpread	**-0.4227**	-0.0204	-0.0251	0.0019	0.0040
ΔPrice	**0.1292**	-0.0053	0.0375	0.0340	0.0217
ΔShare volume	**-0.2595**	**-0.1050**	-0.0373	-0.0400	0.0005
ΔTrading value	**-0.2537**	**-0.1001**	-0.0374	-0.0408	-0.0008
Panel D: Shenzhen A shares					
ΔAmihud	**-0.3964**	0.0011	-0.0292	0.0105	-0.0063
ΔSpread	**-0.3720**	**-0.1234**	-0.0112	0.0367	-0.0021
ΔPrice	**0.0746**	0.0026	0.0340	0.0469	-0.0012
ΔShare volume	**-0.2154**	**-0.0707**	-0.0474	-0.0111	-0.0269
ΔTrading value	**-0.1897**	**-0.0758**	-0.0424	-0.0146	-0.0251
Panel E: Shenzhen B shares					
ΔAmihud	**-0.3929**	-0.0311	-0.0102	-0.0108	-0.0035
ΔSpread	**-0.3639**	-0.0622	0.0143	-0.0137	-0.0054
ΔPrice	**0.1137**	0.0246	**0.0744**	**0.0574**	0.0346
ΔShare volume	**-0.2646**	**-0.0900**	-0.0208	-0.0264	-0.0111
ΔTrading value	**-0.2602**	**-0.0821**	-0.0333	-0.0226	-0.0016
Panel F: ChiNext shares					
ΔAmihud	**-0.2850**	-0.1017	-0.0270	0.0081	-0.0140
ΔSpread	**-0.3705**	**-0.1190**	0.0515	-0.0125	-0.0497
ΔPrice	**0.0973**	-0.0244	0.0423	0.0264	-0.0045
ΔShare volume	**-0.2383**	**-0.1392**	0.0013	0.0026	-0.0530
ΔTrading value	**-0.2014**	**-0.1443**	0.0040	0.0024	-0.0606

Table 5. Variable definitions

This table defines the explanatory variables in the time-series regressions.

Determinants of liquidity	
MKT_RET+	The concurrent market return if positive and zero otherwise. Source: Datastream.
MKT_RET-	The concurrent market return if negative and zero otherwise. Source: Datastream.
MA_MKT+	The market return of the past five trading days if positive and zero otherwise. Source: Datastream.
MA_MKT-	The market return of the past five trading days if negative and zero otherwise. Source: Datastream.
MA_ABMKT	The average of absolute market returns of the past five trading days. Source: Datastream.
Δ*PRIME_RATE*	China's one-year loan prime rate. Source: People's Bank of China and Datastream.
Δ*TERM_SPR*	The difference between the 10- and 2-year benchmark bond yields. Source: Asian Development Bank.
DAYi	Day of the week dummies for Monday through Thursday.
HOLI	A dummy variable set to 1 for the days immediately preceding and/or following holidays (including New Year, Spring Festival, Qingming Festival, Labor Day, Dragon Boat Festival, Mid-Autumn Festival, and National Day).
GDP	A dummy variable set to 1 for GDP announcement dates. Source: Bloomberg.
GDP(1-2)	A dummy variable set to 1 for two trading days prior to a GDP announcement. Source: Bloomberg.
CPI	A dummy variable set to 1 for CPI announcement dates. Source: Bloomberg.
CPI(1-2)	A dummy variable set to 1 for two trading days prior to a CPI announcement. Source: Bloomberg.
Δ*SHORT_SELL*	Total volume of the underlying securities sold by credit traders through securities lending. Source: CSMAR.
Δ*MARGIN_TRAD*	Total value of the underlying securities bought by credit traders through margin trading. Source: CSMAR.

Table 6. Time-series regressions

Panel A presents our baseline time-series regression results for the entire market. The results for our subgroups are similar and reported in Appendixes B and C for the Shanghai Stock Exchange and Shenzhen Stock Exchange, respectively. Independent variables are as defined in Table 5. In Panel B, we test whether the days preceding holidays and the days following holidays have different effects. We use the Cochrane–Orcutt (1949) procedure to correct for first-order serial dependence in the residuals. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Panel A: Full Sample								
MKT_RET+	-0.8949	2.8981***	-3.2148***	-5.0999***	11.2166***	7.4664***	12.0563***	8.3058***
	(-1.20)	(3.17)	(-15.85)	(-30.39)	(34.70)	(24.92)	(38.32)	(27.96)
MKT_RET-	-13.0653***	-14.0533***	-4.1651***	-4.5309***	-3.2187***	-2.4156***	-2.1748***	-1.3099***
	(-18.48)	(-19.07)	(-21.67)	(-33.98)	(-10.58)	(-10.00)	(-7.35)	(-5.47)
MA_MKT+	1.5482	3.3669**	1.9337***	2.7327***	0.2655	1.5976***	0.1706	1.3886***
	(1.06)	(2.13)	(4.83)	(9.30)	(0.41)	(3.02)	(0.27)	(2.65)
MA_MKT-	6.0733***	4.6082***	3.6944***	4.8533***	-1.8404***	-1.4174***	-2.1069***	-1.7295***
	(3.85)	(2.81)	(8.56)	(15.91)	(-2.62)	(-2.58)	(-3.06)	(-3.18)
MA_ABMKT	-5.5879***	-8.4728***	-0.4190	0.8857***	-7.5639***	-5.3712***	-7.5616***	-5.3311***
	(-5.53)	(-7.48)	(-1.52)	(4.20)	(-16.77)	(-14.16)	(-17.09)	(-14.21)
MONDAY	0.1513***	0.1880***	0.0047	0.0062	-0.0289**	0.0138	-0.0276**	0.0140
	(4.38)	(4.98)	(0.54)	(0.98)	(-2.17)	(1.19)	(-2.18)	(1.22)
TUESDAY	-0.0524*	-0.0552*	0.0041	0.0064	-0.0011	0.0360***	0.0009	0.0339***
	(-1.88)	(-1.79)	(0.56)	(1.19)	(-0.10)	(3.68)	(0.09)	(3.49)
WEDNESDAY	0.0083	0.0199	-0.0007	0.0084	0.0062	0.0223**	0.0079	0.0209**
	(0.30)	(0.65)	(-0.09)	(1.58)	(0.55)	(2.30)	(0.73)	(2.17)
THURSDAY	-0.0476	0.0073	0.0185**	0.0219***	0.0195	0.0305***	0.0171	0.0264**
	(-1.37)	(0.19)	(2.12)	(3.49)	(1.46)	(2.63)	(1.35)	(2.29)
HOLI	0.0868**	0.0595*	0.0051	0.0043	-0.0558***	0.0032	-0.0555***	0.0050
	(2.56)	(1.68)	(0.55)	(0.66)	(-3.71)	(0.27)	(-3.76)	(0.42)
ΔPRIME_RATE		34.9812		5.5312		-26.0880***		-24.7181***
		(1.32)		(1.16)		(-3.01)		(-2.87)
ΔTERM_SPR		-7.7792		-2.5132		4.5584		5.2417
		(-0.64)		(-1.14)		(1.14)		(1.32)
GDP		-0.1729**		-0.0030		0.0002		-0.0024
		(-2.32)		(-0.23)		(0.01)		(-0.10)
GDP(1-2)		0.1073**		0.0124		-0.0120		-0.0101
		(2.36)		(1.47)		(-0.79)		(-0.67)
CPI		-0.0833*		0.0048		-0.0328**		-0.0311**
		(-1.79)		(0.57)		(-2.16)		(-2.07)
CPI(1-2)		0.0112		-0.0145***		-0.0119		-0.0083
		(0.39)		(-2.72)		(-1.24)		(-0.88)
Constant	-0.0041	-0.0257	-0.0003	-0.0083*	-0.0017	-0.0261***	-0.0017	-0.0243***
	(-0.18)	(-0.98)	(-0.06)	(-1.78)	(-0.18)	(-3.09)	(-0.19)	(-2.90)
Obs	5212	2547	5206	2545	5214	2547	5214	2547
Adj. R²	0.0903	0.1675	0.1985	0.6200	0.1991	0.2172	0.2375	0.2678

Table 6 (continued)

Panel B: Effects of days preceding and following holidays								
PRE_HOLI	-0.0432	-0.0582	0.0253	0.0100	-0.0360	-0.0398**	-0.0296	-0.0353*
	(-0.73)	(-0.96)	(1.62)	(0.93)	(-1.45)	(-2.04)	(-1.23)	(-1.82)
POST_HOLI	0.2164***	0.1771***	-0.0151	-0.0014	-0.0756***	0.0463**	-0.0813***	0.0452**
	(3.66)	(2.92)	(-0.97)	(-0.13)	(-3.05)	(2.37)	(-3.39)	(2.34)
Obs	5212	2547	5206	2545	5214	2547	5214	2547
Adj. R^2	0.0914	0.1691	0.1987	0.6199	0.199	0.2197	0.2375	0.2700

Table 7. Short selling and margin trading activity

This table presents the effects of short selling and margin trading activity for the entire sample and for the Shanghai and Shenzhen A-share markets, respectively. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

	ΔAmihud	ΔSpread	ΔShare volume	ΔTrading value
Panel A: Full Sample				
Δ*SHORT_SELL*	0.5056	1.6383***	6.5148***	6.2012***
	(0.41)	(7.54)	(17.33)	(16.56)
Δ*MARGIN_TRAD*	-0.0364	-0.0343*	0.0748**	0.0835***
	(-0.36)	(-1.94)	(2.44)	(2.74)
Obs	2547	2545	2547	2547
Adj. R^2	0.1669	0.6281	0.3069	0.3451
Panel B: Shanghai A shares				
Δ*SHORT_SELL*	-0.7435	3.0630***	10.0245***	9.6695***
	(-0.38)	(9.57)	(16.36)	(15.83)
Δ*MARGIN_TRAD*	-0.0824	-0.0507**	0.0602	0.0709*
	(-0.66)	(-2.49)	(1.55)	(1.83)
Obs	2547	2544	2547	2547
Adj. R^2	0.2019	0.5967	0.3053	0.3373
Panel C: Shenzhen A shares				
Δ*SHORT_SELL*	2.4322	4.5789***	17.1935***	16.8103***
	(0.74)	(7.88)	(17.87)	(17.63)
Δ*MARGIN_TRAD*	0.0444	-0.2448***	0.6863***	0.6888***
	(0.10)	(-3.29)	(5.49)	(5.56)
Obs	2547	2532	2547	2547
Adj. R^2	0.2037	0.6048	0.3171	0.3642

Table 8. Global factors

This table presents the effects of global factors (global liquidity and VIX) on market liquidity. The results for our subgroups are similar and reported in Appendixes E and F for the Shanghai Stock Exchange and the Shenzhen Stock Exchange, respectively. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

Panel A: Without local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	-0.0629	0.0981*	-0.1899	0.3564**	0.0413	0.0829***	0.1570*	0.1135***
	(-0.60)	(1.84)	(-0.62)	(2.41)	(0.81)	(2.81)	(1.78)	(3.30)
$\Delta GLOB\_FACTOR_{t-1}$	-0.2848***	0.0332	-0.4797	-0.2917**	0.1045*	0.0308	-0.0695	-0.0328
	(-2.62)	(0.61)	(-1.64)	(-2.03)	(1.91)	(1.03)	(-0.81)	(-0.96)
$\Delta GLOB\_FACTOR_{t+1}$	-0.0115	0.0522	0.6594**	0.4218***	0.0386	0.1089***	-0.0275	0.0950***
	(-0.11)	(0.95)	(2.26)	(2.93)	(0.71)	(3.65)	(-0.32)	(2.79)
Constant	-0.0004	-0.0005	-0.0005	-0.0005	-0.0014	-0.0005	-0.0013	-0.0005
	(-0.04)	(-0.07)	(-0.05)	(-0.07)	(-0.42)	(-0.29)	(-0.41)	(-0.29)
Obs	2420	2503	2420	2503	2416	2501	2416	2501
Adj. R^2	0.0019	0.0003	0.0031	0.0082	0.0005	0.0058	0.0001	0.0083

Panel B: With local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	-0.0936	-0.0018	-0.0907	0.1024	0.0345	-0.0110	0.1560*	-0.0130
	(-0.92)	(-0.04)	(-0.29)	(0.78)	(0.69)	(-0.63)	(1.75)	(-0.62)
$\Delta GLOB\_FACTOR_{t-1}$	-0.3075***	-0.0407	-0.4340	-0.2494*	0.1003*	-0.0239	-0.0472	-0.0097
	(-2.88)	(-0.84)	(-1.48)	(-1.96)	(1.88)	(-1.34)	(-0.55)	(-0.47)
$\Delta GLOB\_FACTOR_{t+1}$	0.0224	0.0184	0.5084*	0.1204	0.0540	0.0249	-0.0269	0.0044
	(0.21)	(0.38)	(1.74)	(0.94)	(1.01)	(1.40)	(-0.31)	(0.22)
MKT_RET+	-3.3221***	-0.1719	-3.3049***	-0.1046	-1.8143***	-5.4712***	-1.8075***	-5.4797***
	(-2.71)	(-0.19)	(-2.70)	(-0.12)	(-4.95)	(-36.41)	(-4.92)	(-36.42)
MKT_RET-	-12.1960***	-16.7135***	-12.2880***	-16.5980***	-3.1299***	-4.0395***	-3.1246***	-4.0457***
	(-8.75)	(-22.57)	(-8.81)	(-22.28)	(-7.25)	(-33.00)	(-7.24)	(-32.81)
MA_MKT+	-0.8823	4.7704***	-1.0097	4.5856***	1.3806*	2.9356***	1.4224*	2.9261***
	(-0.32)	(3.06)	(-0.37)	(2.95)	(1.65)	(11.14)	(1.70)	(11.08)
MA_MKT-	7.1149**	6.0496***	7.4436**	5.9775***	2.3611**	3.9417***	2.2482**	3.9576***
	(2.26)	(3.69)	(2.36)	(3.65)	(2.47)	(14.20)	(2.35)	(14.21)
MA_ABMKT	-3.1181*	-7.8148***	-3.0378*	-7.7530***	-1.1842**	0.9124***	-1.2254**	0.9248***
	(-1.70)	(-6.90)	(-1.65)	(-6.86)	(-2.12)	(4.76)	(-2.20)	(4.81)
$MONDAY$	0.1048*	0.2126***	0.0781	0.2105***	0.0089	0.0059	0.0129	0.0059
	(1.68)	(5.89)	(1.23)	(5.83)	(0.51)	(1.09)	(0.72)	(1.08)
$TUESDAY$	-0.0648	-0.0537*	-0.0745	-0.0575**	0.0035	0.0102**	-0.0009	0.0104**
	(-1.30)	(-1.85)	(-1.48)	(-1.98)	(0.25)	(2.23)	(-0.06)	(2.27)

Table 8 (continued)

WEDNESDAY	-0.0202	0.0306	-0.0017	0.0338	-0.0071	0.0093**	-0.0069	0.0096**
	(-0.41)	(1.07)	(-0.03)	(1.18)	(-0.50)	(2.05)	(-0.47)	(2.11)
THURSDAY	-0.1038*	0.0215	-0.1118*	0.0221	0.0149	0.0181***	0.0158	0.0183***
	(-1.67)	(0.59)	(-1.79)	(0.61)	(0.85)	(3.31)	(0.90)	(3.36)
HOLI	0.1419**	0.1132***	0.1230*	0.1112***	0.0105	0.0068	0.0120	0.0063
	(2.11)	(3.40)	(1.83)	(3.35)	(0.52)	(1.20)	(0.59)	(1.12)
Constant	0.0232	-0.0455*	0.0285	-0.0451*	0.0042	-0.0074*	0.0041	-0.0076*
	(0.58)	(-1.82)	(0.71)	(-1.80)	(0.36)	(-1.86)	(0.35)	(-1.90)
Obs	2420	2503	2420	2503	2416	2501	2416	2501
Adj. R^2	0.0542	0.2299	0.053	0.2314	0.0494	0.6483	0.049	0.6476

Appendix A. Descriptive statistics of market liquidity and trading activity

This table presents summary statistics for levels of the following market liquidity and trading activity measures: Amihud ratio, spread, price (CNY), share volume (millions), and trading value (millions of CNY). The terms EW and VW refer to daily market liquidity being equal and value weighted, respectively.

	Number of stocks	Amihud	Spread	Price (CNY)	Share volume (millions)	Trading value (millions of CNY)
Panel A: Full sample EW						
Mean	1572	0.0039	0.0037	6.6578	8.4513	63.4965
SD	717	0.0135	0.0054	3.7285	7.5056	91.8302
Median	1459	0.0004	0.0024	6.1655	6.3862	26.8124
Minimum	343	0.0000	0.0007	1.7861	0.0074	0.0320
Maximum	2891	0.5521	0.0869	26.3895	53.5713	794.7306
Panel B: Full sample VW						
Mean	1572	0.0006	0.0024	7.8314	31.5750	257.5136
SD	717	0.0020	0.0024	4.0236	43.0491	433.2272
Median	1459	0.0001	0.0019	6.9847	18.3006	89.1586
Minimum	343	0.0000	0.0006	2.2522	0.0249	0.1542
Maximum	2891	0.0856	0.0449	26.6579	540.6371	4462.3610

Appendix B. Time-series regressions: the Shanghai Stock Exchange

This table presents our baseline time-series regression results for the Shanghai Stock Exchange. The independent variables are as defined in Table 5. We use the Cochrane–Orcutt (1949) procedure to correct for first-order serial dependence in residuals. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

Panel A: Shanghai A shares

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	1.4612***	5.6913***	-2.2239***	-4.3170***	11.3887***	8.0733***	12.1761***	8.7998***
	(2.75)	(5.91)	(-14.63)	(-26.90)	(37.83)	(25.75)	(41.33)	(28.25)
MKT_RET-	-17.2546***	-17.2559***	-4.3975***	-4.0714***	-3.3639***	-2.7714***	-2.3700***	-1.6666***
	(-32.84)	(-22.24)	(-29.17)	(-31.94)	(-11.33)	(-10.96)	(-8.17)	(-6.63)
MA_MKT+	2.2211**	2.3675	2.2709***	2.7255***	-0.3792	1.3029**	-0.4060	1.1410**
	(2.02)	(1.37)	(7.23)	(9.77)	(-0.60)	(2.35)	(-0.65)	(2.07)
MA_MKT-	6.3006***	6.8156***	3.0264***	4.0447***	-1.0587	-1.4181**	-1.3585**	-1.7704***
	(5.27)	(3.87)	(8.85)	(14.17)	(-1.54)	(-2.50)	(-2.01)	(-3.15)
MA_ABMKT	-9.1733***	-10.6425***	-1.2464***	0.5164***	-7.3822***	-5.7728***	-7.4111***	-5.7233***
	(-12.46)	(-8.90)	(-5.92)	(2.66)	(-17.45)	(-14.99)	(-17.75)	(-14.98)
MONDAY	0.1626***	0.2291***	-0.0150**	-0.0024	-0.0336**	0.0114	-0.0347***	0.0118
	(6.40)	(6.23)	(-2.12)	(-0.39)	(-2.46)	(0.93)	(-2.67)	(0.96)
TUESDAY	-0.0379*	-0.0149	0.0048	0.0076	-0.0067	0.0309***	-0.0047	0.0278***
	(-1.82)	(-0.47)	(0.82)	(1.46)	(-0.59)	(2.98)	(-0.43)	(2.69)
WEDNESDAY	0.0056	0.0183	0.0027	0.0086*	0.0088	0.0220**	0.0094	0.0192*
	(0.27)	(0.58)	(0.47)	(1.66)	(0.77)	(2.14)	(0.86)	(1.87)
THURSDAY	-0.0069	0.0374	0.0122*	0.0242***	0.0187	0.0297**	0.0163	0.0243**
	(-0.27)	(1.02)	(1.73)	(3.89)	(1.37)	(2.41)	(1.25)	(1.97)
HOLI	0.1272***	0.0896**	-0.0054	-0.0037	-0.0528***	0.0069	-0.0530***	0.0076
	(4.86)	(2.32)	(-0.73)	(-0.59)	(-3.51)	(0.55)	(-3.58)	(0.62)
ΔPRIME_RATE		26.8864		0.4876		-25.1431***		-23.6108***
		(0.95)		(0.11)		(-2.74)		(-2.59)
ΔTERM_SPR		-11.2618		-1.2038		3.9254		4.3863
		(-0.87)		(-0.57)		(0.93)		(1.05)
GDP		-0.1141		0.0022		-0.0051		-0.0064
		(-1.45)		(0.17)		(-0.20)		(-0.25)
GDP(1-2)		0.0765		0.0097		-0.0162		-0.0163
		(1.55)		(1.21)		(-1.01)		(-1.03)
CPI		-0.0123		0.0121		-0.0348**		-0.0321**
		(-0.25)		(1.50)		(-2.17)		(-2.02)
CPI(1-2)		0.0038		-0.0156***		-0.0114		-0.0067
		(0.12)		(-3.05)		(-1.13)		(-0.66)
Constant	-0.0156	-0.0523*	0.0043	-0.0074*	0.0002	-0.0241***	0.0011	-0.0213**
	(-0.92)	(-1.95)	(0.90)	(-1.66)	(0.02)	(-2.73)	(0.12)	(-2.42)
Obs	5212	2547	5206	2545	5214	2547	5214	2547
Adj. R^2	0.2121	0.2021	0.2592	0.5816	0.2276	0.2241	0.2643	0.2649

Appendix B (continued)

Panel B: Shanghai B shares

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	-0.1706	5.0056***	-4.9290***	-7.0907***	13.0524***	11.1759***	13.9614***	12.0296***
	(-0.27)	(6.48)	(-20.56)	(-18.28)	(33.29)	(23.68)	(35.87)	(25.63)
MKT_RET-	-14.2305***	-18.3588***	-2.8459***	-2.9999***	-8.4340***	-7.1622***	-7.4788***	-6.2467***
	(-20.68)	(-25.55)	(-11.81)	(-8.88)	(-19.97)	(-16.36)	(-17.84)	(-14.35)
MA_MKT+	2.4884*	4.8681***	2.8966***	3.0504***	0.5333	0.6763	0.2693	0.5267
	(1.95)	(3.52)	(6.14)	(4.52)	(0.65)	(0.78)	(0.33)	(0.61)
MA_MKT-	2.7623*	2.8407*	2.2476***	3.7815***	0.4342	1.2792	0.6799	1.1892
	(1.84)	(1.72)	(4.14)	(4.74)	(0.45)	(1.24)	(0.71)	(1.16)
MA_ABMKT	-7.5387***	-12.5276***	0.5575	1.9620***	-11.0579***	-9.3464***	-10.8857***	-9.3645***
	(-8.08)	(-12.28)	(1.64)	(4.00)	(-18.50)	(-14.63)	(-18.37)	(-14.74)
MONDAY	0.1576***	0.1459***	0.0026	-0.0181	-0.0923***	-0.0070	-0.0931***	-0.0071
	(4.26)	(3.73)	(0.21)	(-1.00)	(-4.72)	(-0.32)	(-4.78)	(-0.33)
TUESDAY	-0.1754***	-0.1422***	0.0018	0.0090	0.0409**	0.0076	0.0353**	0.0006
	(-5.93)	(-4.49)	(0.18)	(0.62)	(2.44)	(0.41)	(2.12)	(0.03)
WEDNESDAY	0.0094	0.0022	-0.0011	0.0115	-0.0159	-0.0108	-0.0229	-0.0142
	(0.32)	(0.07)	(-0.11)	(0.80)	(-0.95)	(-0.59)	(-1.38)	(-0.79)
THURSDAY	-0.0158	0.0398	0.0115	0.0223	0.0086	0.0023	0.0068	-0.0040
	(-0.42)	(1.01)	(0.92)	(1.23)	(0.44)	(0.11)	(0.35)	(-0.19)
HOLI	0.0849**	0.0675*	0.0140	-0.0012	-0.0009	0.0116	0.0022	0.0174
	(2.41)	(1.92)	(1.16)	(-0.08)	(-0.04)	(0.53)	(0.10)	(0.80)
ΔPRIME_RATE		18.4220		-5.7532		-28.8593*		-23.2187
		(0.69)		(-0.47)		(-1.78)		(-1.44)
ΔTERM_SPR		-12.6662		-6.5503		6.5863		9.1250
		(-1.03)		(-1.17)		(0.88)		(1.23)
GDP		0.0475		-0.0293		-0.0020		0.0053
		(0.63)		(-0.85)		(-0.04)		(0.12)
GDP(1-2)		0.0832*		0.0095		0.0440		0.0450
		(1.83)		(0.45)		(1.56)		(1.60)
CPI		-0.0318		0.0266		-0.0433		-0.0483*
		(-0.68)		(1.23)		(-1.53)		(-1.72)
CPI(1-2)		0.0233		0.0044		-0.0309*		-0.0274
		(0.81)		(0.34)		(-1.73)		(-1.54)
Constant	0.0116	-0.0095	-0.0001	-0.0028	0.0140	0.0050	0.0160	0.0086
	(0.49)	(-0.38)	(-0.01)	(-0.24)	(1.04)	(0.34)	(1.20)	(0.59)
Obs	5076	2545	5009	2514	5076	2545	5076	2545
Adj. R^2	0.1126	0.2388	0.1498	0.2085	0.2025	0.2128	0.2188	0.2279

Appendix C. Time-series regressions: Shenzhen Stock Exchange

This table presents our baseline time-series regression results for the Shenzhen Stock Exchange. The independent variables are as defined in Table 5. We use the Cochrane–Orcutt (1949) procedure to correct for first-order serial dependence in the residuals. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

Panel A: Shenzhen A shares

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	1.0093*	3.4406***	-2.2799***	-4.7624***	10.7049***	7.3208***	11.6066***	8.1738***
	(1.89)	(3.66)	(-7.25)	(-28.42)	(33.30)	(24.86)	(37.07)	(28.05)
MKT_RET-	-18.0183***	-16.8015***	-3.8604***	-4.4569***	-2.7149***	-2.0016***	-1.6843***	-0.9361***
	(-35.64)	(-22.33)	(-12.85)	(-33.14)	(-8.92)	(-8.48)	(-5.68)	(-4.01)
MA_MKT+	4.2518***	5.8076***	1.3580**	2.0741***	0.0360	1.4358***	-0.0941	1.2611**
	(3.99)	(3.55)	(2.19)	(7.18)	(0.05)	(2.77)	(-0.15)	(2.47)
MA_MKT-	5.5028***	3.0039*	3.1765***	4.8151***	-1.7020**	-1.2787**	-1.9997***	-1.5693***
	(4.85)	(1.76)	(4.73)	(15.68)	(-2.43)	(-2.37)	(-2.93)	(-2.94)
MA_ABMKT	-10.1297***	-11.7526***	-0.6931	0.9252***	-7.0646***	-5.0286***	-7.0667***	-5.0193***
	(-13.99)	(-9.86)	(-1.64)	(4.39)	(-15.79)	(-13.35)	(-16.20)	(-13.49)
MONDAY	0.1536***	0.1272***	0.0148	-0.0026	-0.0171	0.0164	-0.0179	0.0161
	(6.17)	(3.45)	(1.04)	(-0.41)	(-1.23)	(1.45)	(-1.32)	(1.43)
TUESDAY	-0.0448**	-0.0693**	0.0122	0.0003	0.0018	0.0404***	0.0025	0.0388***
	(-2.19)	(-2.25)	(1.04)	(0.06)	(0.16)	(4.22)	(0.21)	(4.08)
WEDNESDAY	0.0283	-0.0010	-0.0006	-0.0018	0.0083	0.0244**	0.0085	0.0226**
	(1.40)	(-0.03)	(-0.05)	(-0.34)	(0.70)	(2.57)	(0.74)	(2.40)
THURSDAY	0.0022	0.0022	0.0193	0.0050	0.0264*	0.0314***	0.0225*	0.0270**
	(0.09)	(0.06)	(1.35)	(0.79)	(1.90)	(2.78)	(1.67)	(2.41)
HOLI	0.0976***	0.0359	-0.0047	-0.0025	-0.0448***	-0.0044	-0.0439***	-0.0001
	(3.79)	(0.98)	(-0.32)	(-0.39)	(-2.83)	(-0.38)	(-2.84)	(-0.01)
ΔPRIME_RATE		48.4887*		10.5031**		-29.7316***		-28.2177***
		(1.79)		(2.21)		(-3.50)		(-3.35)
ΔTERM_SPR		-0.8550		-3.3112		5.3449		6.5239*
		(-0.07)		(-1.51)		(1.36)		(1.68)
GDP		-0.0565		-0.0109		0.0046		0.0018
		(-0.74)		(-0.82)		(0.19)		(0.07)
GDP(1-2)		0.0484		0.0123		-0.0047		-0.0019
		(1.03)		(1.48)		(-0.31)		(-0.13)
CPI		-0.1042**		-0.0044		-0.0332**		-0.0317**
		(-2.20)		(-0.52)		(-2.23)		(-2.16)
CPI(1-2)		0.0089		-0.0136***		-0.0116		-0.0101
		(0.30)		(-2.59)		(-1.23)		(-1.08)
Constant	-0.0158	0.0064	-0.0031	0.0013	-0.0056	-0.0282***	-0.0048	-0.0262***
	(-0.94)	(0.24)	(-0.32)	(0.27)	(-0.57)	(-3.38)	(-0.50)	(-3.18)
Obs	5199	2547	5124	2532	5202	2547	5202	2547
Adj. R²	0.2421	0.2041	0.0677	0.5947	0.1865	0.2195	0.2275	0.2768

Appendix C (continued)

Panel B: Shenzhen B shares

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	-2.5745***	1.7465*	-4.8253***	-7.2825***	12.5680***	11.9527***	13.4943***	12.9635***
	(-3.71)	(1.76)	(-19.08)	(-19.00)	(27.99)	(22.76)	(30.26)	(24.97)
MKT_RET-	-15.3327***	-19.2993***	-3.1865***	-4.1978***	-6.9995***	-7.1833***	-6.2003***	-6.5311***
	(-20.40)	(-21.44)	(-12.30)	(-12.42)	(-14.49)	(-15.13)	(-12.92)	(-13.92)
MA_MKT+	-1.1641	2.7198	2.3574***	2.9896***	0.5299	-0.5175	0.5254	-0.6698
	(-0.84)	(1.47)	(4.77)	(4.43)	(0.57)	(-0.52)	(0.57)	(-0.68)
MA_MKT-	9.3974***	7.1895***	2.6078***	4.5289***	-0.8114	2.3284**	-1.0227	2.0141*
	(5.74)	(3.45)	(4.44)	(5.81)	(-0.75)	(2.07)	(-0.95)	(1.82)
MA_ABMKT	-4.0388***	-8.6820***	0.3107	1.8190***	-9.9078***	-8.9885***	-10.0598***	-9.3600***
	(-3.97)	(-6.31)	(0.88)	(3.59)	(-14.63)	(-12.10)	(-14.98)	(-12.79)
MONDAY	0.1776***	0.1214***	-0.0084	-0.0052	-0.0682***	0.0055	-0.0648***	0.0005
	(4.56)	(2.94)	(-0.68)	(-0.33)	(-3.08)	(0.27)	(-2.94)	(0.03)
TUESDAY	-0.1089***	-0.1436***	-0.0234**	-0.0100	0.0528***	0.0276	0.0461**	0.0114
	(-3.46)	(-4.23)	(-2.31)	(-0.79)	(2.80)	(1.60)	(2.46)	(0.66)
WEDNESDAY	-0.0187	-0.0157	-0.0195*	-0.0189	-0.0091	-0.0138	-0.0133	-0.0231
	(-0.60)	(-0.47)	(-1.95)	(-1.53)	(-0.49)	(-0.80)	(-0.71)	(-1.36)
THURSDAY	0.0105	0.0307	-0.0026	0.0063	0.0144	0.0210	0.0126	0.0089
	(0.27)	(0.74)	(-0.21)	(0.40)	(0.65)	(1.03)	(0.57)	(0.44)
HOLI	0.0339	0.0385	0.0263**	0.0310**	0.0063	0.0440**	0.0073	0.0452**
	(0.89)	(0.99)	(2.07)	(2.23)	(0.25)	(2.11)	(0.29)	(2.19)
ΔPRIME_RATE		23.4304		11.2110		-38.5754**		-42.4980***
		(0.80)		(1.07)		(-2.51)		(-2.80)
ΔTERM_SPR		6.2139		3.5240		13.4322*		13.3593*
		(0.46)		(0.73)		(1.90)		(1.91)
GDP		-0.2972***		-0.0043		0.0274		0.0138
		(-3.63)		(-0.14)		(0.64)		(0.33)
GDP(1-2)		0.1566***		-0.0038		0.0364		0.0206
		(3.12)		(-0.21)		(1.36)		(0.78)
CPI		0.0132		0.0146		-0.0332		-0.0269
		(0.26)		(0.79)		(-1.24)		(-1.01)
CPI(1-2)		0.0020		-0.0009		-0.0319*		-0.0267
		(0.06)		(-0.07)		(-1.87)		(-1.59)
Constant	-0.0025	-0.0065	0.0163**	0.0063	-0.0038	-0.0098	-0.0017	0.0005
	(-0.10)	(-0.23)	(2.02)	(0.60)	(-0.25)	(-0.69)	(-0.11)	(0.04)
Obs	4984	2547	4917	2516	5088	2547	5088	2547
Adj. R²	0.1199	0.19	0.1435	0.2504	0.1485	0.2002	0.1654	0.2222

Appendix C (continued)

Panel C: ChiNext shares

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	11.2281***	11.3036***	-7.9451***	-7.9581***	7.4209***	7.3728***	8.2283***	8.1875***
	(8.51)	(8.56)	(-20.88)	(-20.85)	(20.45)	(20.28)	(23.21)	(23.05)
MKT_RET-	-18.3454***	-18.4367***	-5.2981***	-5.3045***	-2.3519***	-2.3311***	-1.0694***	-1.0548***
	(-15.99)	(-16.06)	(-15.85)	(-15.84)	(-7.47)	(-7.40)	(-3.48)	(-3.43)
MA_MKT+	6.3491**	6.3323**	3.8418***	3.8387***	0.4248	0.3959	0.3225	0.2841
	(2.51)	(2.51)	(5.69)	(5.68)	(0.64)	(0.60)	(0.50)	(0.44)
MA_MKT-	0.7931	0.6441	6.9854***	7.0220***	-0.5725	-0.5347	-1.0432	-0.98727003
	(0.30)	(0.24)	(9.43)	(9.41)	(-0.81)	(-0.76)	(-1.52)	(-1.44)
MA_ABMKT	-15.9854***	-15.8272***	2.0375***	2.0807***	-4.8428***	-4.8402***	-4.8024***	-4.7976***
	(-8.19)	(-8.11)	(3.91)	(3.98)	(-9.46)	(-9.44)	(-9.63)	(-9.62)
MONDAY	0.0695	0.0737	0.0112	0.0107	0.0071	0.0057	0.0078	0.0064
	(1.29)	(1.37)	(0.61)	(0.58)	(0.44)	(0.35)	(0.48)	(0.40)
TUESDAY	-0.0859*	-0.0850*	0.0132	0.0123	0.0370***	0.0369***	0.0383***	0.0381***
	(-1.78)	(-1.76)	(0.88)	(0.82)	(2.69)	(2.67)	(2.83)	(2.82)
WEDNESDAY	-0.0520	-0.0486	0.0052	0.0037	0.0197	0.0201	0.0185	0.0188
	(-1.08)	(-1.01)	(0.35)	(0.25)	(1.44)	(1.46)	(1.38)	(1.40)
THURSDAY	-0.0659	-0.0685	0.0319*	0.0312*	0.0276*	0.0283*	0.0285*	0.0292*
	(-1.23)	(-1.28)	(1.73)	(1.69)	(1.70)	(1.74)	(1.78)	(1.82)
HOLI	0.0388	0.0236	-0.0054	-0.0085	-0.0208	-0.0184	-0.0216	-0.01955819
	(0.64)	(0.39)	(-0.33)	(-0.52)	(-1.30)	(-1.15)	(-1.39)	(-1.25)
ΔPRIME_RATE		119.1628*		23.1112		-32.5769*		-32.3993*
		(1.92)		(1.31)		(-1.91)		(-1.95)
ΔTERM_SPR		54.5169		0.9293		4.3953		2.8840018
		(1.62)		(0.09)		(0.47)		(0.32)
GDP		-0.0735		0.0050		-0.0138		-0.0229
		(-0.61)		(0.14)		(-0.42)		(-0.70)
GDP(1-2)		-0.0726		-0.0280		0.0122		0.0078
		(-0.93)		(-1.30)		(0.59)		(0.38)
CPI		0.0677		-0.0300		-0.0275		-0.0237
		(0.88)		(-1.34)		(-1.29)		(-1.14)
CPI(1-2)		-0.0581		0.0008		0.0033		0.0042
		(-1.14)		(0.06)		(0.24)		(0.32)
Constant	0.0245	0.0261	-0.0091	-0.0066	-0.0255**	-0.0242*	-0.0242**	-0.0229*
	(0.55)	(0.59)	(-0.69)	(-0.50)	(-2.08)	(-1.96)	(-2.02)	(-1.89)
Obs	1614	1614	1598	1598	1614	1614	1614	1614
Adj. R^2	0.1567	0.1582	0.4678	0.4675	0.2166	0.2169	0.2818	0.2822

Appendix D. Time-series regressions: Post-2010

China started allowing short selling and margin trading for selected stocks on March 31, 2010. In this table, we re-estimate our baseline time-series regressions for the period after March 31, 2010. The independent variables are as defined in Table 5. In Panel B, we test whether the days preceding holidays and the days following holidays have different effects. We use the Cochrane–Orcutt (1949) to correct for first-order serial dependence in the residuals. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

	ΔAmihud		ΔSpread		ΔShare volume		ΔTrading value	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
MKT_RET+	7.4181***	7.5410***	-5.1125***	-5.1081***	8.2322***	8.1672***	9.0856***	9.0271***
	(6.08)	(6.18)	(-20.41)	(-20.35)	(18.61)	(18.43)	(21.03)	(20.85)
MKT_RET-	-15.5060***	-15.5835***	-5.6013***	-5.5993***	-3.1817***	-3.1348***	-1.8923***	-1.8493***
	(-15.70)	(-15.79)	(-27.61)	(-27.59)	(-8.88)	(-8.75)	(-5.41)	(-5.28)
MA_MKT+	6.8001***	6.7768551	2.7840***	2.8695***	2.1301***	2.2072***	1.8566**	1.9141**
	(3.07)	(3.06)	(6.06)	(6.24)	(2.66)	(2.76)	(2.39)	(2.46)
MA_MKT-	2.278292	2.1732742	6.1543***	6.1335***	-1.4920*	-1.3745*	-1.8926**	-1.7743**
	(1.02)	(0.97)	(13.26)	(13.18)	(-1.85)	(-1.70)	(-2.41)	(-2.25)
MA_ABMKT	-12.5130***	-12.4114***	0.9660***	0.9551***	-5.8690***	-5.8407***	-5.8078***	-5.7778***
	(-7.78)	(-7.74)	(2.90)	(2.87)	(-10.10)	(-10.07)	(-10.27)	(-10.22)
MONDAY	0.1523***	0.1528***	0.0022	0.0021	0.02342538	0.0221	0.02319282	0.0219
	(3.69)	(3.70)	(0.26)	(0.25)	(1.55)	(1.46)	(1.56)	(1.47)
TUESDAY	-0.05392015	-0.05599175	-0.0012	-0.0015	0.0272**	0.0272**	0.0248**	0.0247**
	(-1.53)	(-1.59)	(-0.17)	(-0.22)	(2.12)	(2.12)	(1.98)	(1.96)
WEDNESDAY	-0.0070	-0.0103	0.0046	0.0040	0.0153	0.0154628	0.0121	0.01197987
	(-0.20)	(-0.29)	(0.65)	(0.56)	(1.21)	(1.21)	(0.97)	(0.96)
THURSDAY	0.0053	0.0020	0.0235***	0.0232***	0.0300**	0.0306**	0.0258*	0.0262*
	(0.13)	(0.05)	(2.84)	(2.80)	(1.99)	(2.03)	(1.74)	(1.77)
HOLI	0.03867216	0.02996158	-0.0012	-0.0020	-0.0045405	-0.0038	-0.00212008	-0.0014
	(0.94)	(0.73)	(-0.15)	(-0.24)	(-0.31)	(-0.26)	(-0.15)	(-0.10)
ΔPRIME_RATE		105.4803**		11.8197		-28.1453*		-26.0018*
		(2.48)		(1.35)		(-1.82)		(-1.72)
ΔTERM_SPR		8.7047		-6.9078		-4.6813		-5.3759
		(0.34)		(-1.32)		(-0.51)		(-0.59)
GDP		-0.13292043		-0.0067		-0.0078		-0.0087
		(-1.58)		(-0.39)		(-0.26)		(-0.29)
GDP(1-2)		0.07070271		0.0138		-0.0194		-0.0182
		(1.33)		(1.26)		(-1.01)		(-0.97)
CPI		0.00368929		-0.0053		-0.0337*		-0.031112
		(0.07)		(-0.47)		(-1.68)		(-1.59)
CPI(1-2)		-0.0268		-0.01186487		-0.0077		-0.0031
		(-0.76)		(-1.63)		(-0.60)		(-0.25)
Constant	-0.0208	-0.0191	-0.0101	-0.00920115	-0.0313***	-0.0283**	-0.0279***	-0.0253**
	(-0.69)	(-0.63)	(-1.64)	(-1.49)	(-2.86)	(-2.57)	(-2.61)	(-2.35)
Obs	1518	1518	1518	1518	1518	1518	1518	1518
Adj. R²	0.1741	0.1760	0.6205	0.6210	0.1935	0.1953	0.2441	0.2454

Appendix E. Global factors: the Shanghai Stock Exchange

This table presents the effects of global factors (global liquidity and VIX) on the market liquidity of the Shanghai Stock Exchange. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

Panel A: Shanghai A shares

Panel A1: Without local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.0586	0.1639***	-0.0622	0.2341	0.0685*	0.0681**	0.1501**	0.0820**
	(0.88)	(3.00)	(-0.31)	(1.57)	(1.67)	(2.45)	(2.13)	(2.50)
$\Delta GLOB\_FACTOR_{t-1}$	-0.0578	0.0892	-0.0792	-0.4085***	0.0709	0.0219	-0.0841	-0.0132
	(-0.82)	(1.61)	(-0.42)	(-2.79)	(1.63)	(0.77)	(-1.24)	(-0.41)
$\Delta GLOB\_FACTOR_{t+1}$	-0.1050	0.0673	0.2200	0.2694*	0.0120	0.1009***	0.0114	0.0734**
	(-1.49)	(1.21)	(1.17)	(1.84)	(0.28)	(3.57)	(0.17)	(2.27)
Constant	-0.0007	-0.0010	-0.0007	-0.0009	-0.0003	-0.0005	-0.0003	-0.0005
	(-0.10)	(-0.13)	(-0.10)	(-0.12)	(-0.12)	(-0.28)	(-0.11)	(-0.28)
Obs	2420	2503	2420	2503	2416	2501	2416	2501
Adj. R^2	0.0003	0.0027	-0.0004	0.0049	0.001	0.0052	0.0012	0.0046

Panel A2: With local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.0323	0.0688	0.0780	-0.0492	0.0615	-0.0118	0.1049	-0.0346*
	(0.56)	(1.43)	(0.43)	(-0.38)	(1.59)	(-0.69)	(1.52)	(-1.70)
$\Delta GLOB\_FACTOR_{t-1}$	-0.0689	0.0190	-0.0625	-0.3519***	0.0737*	-0.0227	-0.0682	0.0051
	(-1.12)	(0.40)	(-0.37)	(-2.78)	(1.79)	(-1.30)	(-1.03)	(0.25)
$\Delta GLOB\_FACTOR_{t+1}$	-0.0802	0.0469	0.0663	-0.0686	0.0284	0.0300*	0.0533	-0.0127
	(-1.30)	(0.98)	(0.39)	(-0.54)	(0.69)	(1.72)	(0.81)	(-0.64)
MKT_RET+	-1.3280**	3.1978***	-1.3347**	3.1376***	-0.9298***	-4.7729***	-0.9336***	-4.7894***
	(-2.18)	(3.53)	(-2.19)	(3.47)	(-3.72)	(-33.26)	(-3.73)	(-33.34)
MKT_RET-	-18.3038***	-19.3097***	-18.2889***	-19.4437***	-4.2605***	-3.8400***	-4.2627***	-3.8669***
	(-24.44)	(-25.63)	(-24.41)	(-25.66)	(-13.52)	(-32.70)	(-13.53)	(-32.68)
MA_MKT+	1.6961	5.1510***	1.7404	5.0644***	2.2456***	2.9983***	2.2875***	3.0092***
	(1.16)	(3.18)	(1.19)	(3.13)	(3.67)	(12.07)	(3.74)	(12.07)
MA_MKT-	5.5922***	6.5765***	5.5220***	6.6197***	1.8843***	3.3762***	1.7856**	3.4034***
	(3.25)	(3.87)	(3.21)	(3.90)	(2.61)	(12.93)	(2.47)	(12.99)
MA_ABMKT	-8.4409***	-10.9613***	-8.4671***	-10.8050***	-2.3742***	0.4908***	-2.4090***	0.5021***
	(-8.95)	(-9.42)	(-8.98)	(-9.30)	(-6.00)	(2.74)	(-6.08)	(2.80)
$MONDAY$	0.0910**	0.2210***	0.0936**	0.2209***	-0.0239*	0.0006	-0.0238*	0.0007
	(2.47)	(6.49)	(2.49)	(6.50)	(-1.78)	(0.11)	(-1.73)	(0.12)
$TUESDAY$	-0.0682**	-0.0214	-0.0743**	-0.0244	0.0045	0.0122***	-0.0004	0.0127***
	(-2.36)	(-0.75)	(-2.55)	(-0.86)	(0.41)	(2.70)	(-0.04)	(2.83)

Appendix E (continued)

WEDNESDAY	-0.0012	0.0149	0.0040	0.0170	-0.0010	0.0075*	-0.0010	0.0076*
	(-0.04)	(0.53)	(0.14)	(0.60)	(-0.09)	(1.67)	(-0.09)	(1.69)
THURSDAY	-0.0371	0.0247	-0.0387	0.0231	-0.0018	0.0224***	-0.0027	0.0226***
	(-1.01)	(0.73)	(-1.05)	(0.68)	(-0.13)	(4.10)	(-0.20)	(4.15)
HOLI	0.1725***	0.1086***	0.1725***	0.1096***	-0.0044	-0.0001	-0.0040	-0.0003
	(4.59)	(3.11)	(4.60)	(3.15)	(-0.28)	(-0.01)	(-0.25)	(-0.06)
Constant	0.0120	-0.0495**	0.0121	-0.0511**	0.0125	-0.0070*	0.0137	-0.0073*
	(0.52)	(-2.02)	(0.52)	(-2.08)	(1.41)	(-1.80)	(1.53)	(-1.89)
Obs	2420	2503	2420	2503	2416	2501	2416	2501
Adj. R^2	0.2471	0.2612	0.2464	0.2630	0.1120	0.6258	0.1117	0.6253

Panel B: Shanghai B shares

Panel B1: Without local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.1330	0.1046*	-0.4951	0.2235	-0.0342	0.1562***	0.1737*	0.2675***
	(1.16)	(1.86)	(-1.50)	(1.41)	(-0.65)	(2.75)	(1.91)	(3.89)
$\Delta GLOB\_FACTOR_{t-1}$	-0.1524	0.0295	0.0103	-0.2885*	0.0687	0.0621	-0.1000	-0.1572**
	(-1.29)	(0.50)	(0.03)	(-1.88)	(1.23)	(1.05)	(-1.15)	(-2.34)
$\Delta GLOB\_FACTOR_{t+1}$	-0.2287*	0.1087*	0.6779**	0.3855**	-0.0136	0.2213***	-0.0761	0.1870***
	(-1.93)	(1.85)	(2.15)	(2.51)	(-0.25)	(3.76)	(-0.88)	(2.79)
Constant	-0.0027	-0.0016	-0.0028	-0.0016	0.0001	-0.0009	0.0002	-0.0009
	(-0.23)	(-0.22)	(-0.25)	(-0.21)	(0.04)	(-0.26)	(0.05)	(-0.26)
Obs	2299	2488	2299	2488	2263	2466	2263	2466
Adj. R^2	0.0017	0.0011	0.0012	0.0049	-0.0003	0.0066	0.0004	0.0129

Appendix E (continued)

Panel B2: With local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.0473	0.0129	-0.1615	-0.0746	-0.0678	0.0855*	0.1381	0.1337**
	(0.42)	(0.26)	(-0.48)	(-0.53)	(-1.35)	(1.69)	(1.54)	(2.17)
$\Delta GLOB\_FACTOR_{t-1}$	-0.1784	-0.0167	-0.1116	-0.3048**	0.0541	0.0141	-0.0579	-0.1083*
	(-1.54)	(-0.32)	(-0.35)	(-2.23)	(1.02)	(0.27)	(-0.68)	(-1.81)
$\Delta GLOB\_FACTOR_{t+1}$	-0.2133*	0.0530	0.2935	0.02781794	-0.0111	0.1628***	-0.1213	0.1133*
	(-1.84)	(1.02)	(0.94)	(0.20)	(-0.21)	(3.12)	(-1.43)	(1.90)
MKT_RET+	-3.4576***	2.9845***	-3.4808***	3.0638***	-3.3247***	-7.3286***	-3.3133***	-7.3054***
	(-3.39)	(3.81)	(-3.41)	(3.91)	(-10.74)	(-19.41)	(-10.71)	(-19.33)
MKT_RET-	-9.7737***	-18.1690***	-9.7343***	-18.3033***	-2.4220***	-2.7802***	-2.3812***	-2.6927***
	(-7.56)	(-24.08)	(-7.50)	(-24.00)	(-6.74)	(-8.27)	(-6.60)	(-7.94)
MA_MKT+	-0.6511	6.0079***	-0.4987	5.8614***	3.0649***	3.0194***	3.0628***	2.9796***
	(-0.28)	(4.15)	(-0.22)	(4.05)	(4.48)	(4.44)	(4.47)	(4.38)
MA_MKT-	2.4046	3.4005**	2.2520203	3.3913*	0.4742	3.6727***	0.4480	3.6129***
	(0.89)	(1.96)	(0.84)	(1.96)	(0.61)	(4.69)	(0.58)	(4.61)
MA_ABMKT	-2.5553	-11.7553***	-2.6310115	-11.7202***	-0.5554	2.1154***	-0.5538	2.1338***
	(-1.54)	(-10.58)	(-1.58)	(-10.57)	(-1.13)	(4.13)	(-1.13)	(4.17)
MONDAY	0.1777***	0.1181***	0.1737**	0.1153***	0.0256	-0.0238	0.0340*	-0.0247
	(2.62)	(3.05)	(2.52)	(2.98)	(1.42)	(-1.41)	(1.85)	(-1.46)
TUESDAY	-0.2263***	-0.1219***	-0.2316***	-0.1245***	-0.0089	0.0081	-0.0093	0.0051
	(-4.21)	(-3.90)	(-4.27)	(-3.99)	(-0.62)	(0.59)	(-0.64)	(0.37)
WEDNESDAY	0.0122	-0.0067	0.0231	-0.0042	-0.0145	0.0131	-0.0103	0.0145
	(0.23)	(-0.22)	(0.43)	(-0.14)	(-1.01)	(0.97)	(-0.71)	(1.08)
THURSDAY	-0.0639	0.0084	-0.0704	0.0077	-0.0059	0.0125	-0.0024	0.0127
	(-0.94)	(0.22)	(-1.04)	(0.20)	(-0.33)	(0.74)	(-0.13)	(0.75)
HOLI	0.1145	0.0588	0.1137	0.0583	0.0422**	-0.0053	0.0443**	-0.0058
	(1.63)	(1.64)	(1.62)	(1.63)	(2.20)	(-0.34)	(2.31)	(-0.37)
Constant	0.0206	0.0059	0.0219	0.00542747	0.0029	0.0017	-0.0002	0.0023
	(0.48)	(0.24)	(0.50)	(0.22)	(0.24)	(0.15)	(-0.01)	(0.20)
Obs	2299	2488	2299	2488	2263	2466	2263	2466
Adj. R^2	0.0635	0.2225	0.0620	0.2241	0.1033	0.2225	0.1033	0.2231

Appendix F. Global factors: the Shenzhen Stock Exchange

This table presents the effects of global factors (global liquidity and VIX) on the market liquidity of the Shenzhen Stock Exchange. We exclude ChiNext in this table, since the data on ChiNext stocks start in November 2009. The numbers in parentheses are t-statistics. * = significance at the 10% level; ** = significance at the 5% level; *** = significance at the 1% level.

Panel A: Shenzhen A shares

Panel A1: Without local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.0356	0.1213**	-0.2593	0.5226***	0.0085	0.0864***	0.21607486	0.1270***
	(0.52)	(2.21)	(-1.28)	(3.49)	(0.10)	(2.92)	(1.45)	(3.70)
$\Delta GLOB\_FACTOR_{t-1}$	-0.0450	0.0210	-0.0364	-0.3718**	0.1875**	0.0396	0.0445	-0.0355
	(-0.62)	(0.38)	(-0.19)	(-2.54)	(2.03)	(1.33)	(0.31)	(-1.04)
$\Delta GLOB\_FACTOR_{t+1}$	-0.1270*	0.0539	0.5178***	0.2565*	0.0703	0.1072***	0.0934	0.0780**
	(-1.76)	(0.97)	(2.67)	(1.75)	(0.77)	(3.60)	(0.65)	(2.29)
Constant	-0.0006	-0.0009	-0.0006	-0.0009	0.0001	-0.0006	0.0001	-0.0006
	(-0.08)	(-0.12)	(-0.09)	(-0.12)	(0.02)	(-0.33)	(0.02)	(-0.33)
Obs	2407	2503	2407	2503	2348	2497	2348	2497
Adj. R^2	0.0004	0.0009	0.0022	0.0082	0.0005	0.0057	0.0004	0.0081

Panel A2: With local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	-0.0039	0.0209	-0.0346	0.2425*	0.0020	-0.0013	0.2303	0.0101
	(-0.07)	(0.45)	(-0.20)	(1.89)	(0.02)	(-0.07)	(1.49)	(0.45)
$\Delta GLOB\_FACTOR_{t-1}$	-0.0398	-0.0524	-0.0436	-0.3219**	0.1750*	-0.0120	0.0751	-0.0113
	(-0.65)	(-1.11)	(-0.26)	(-2.58)	(1.90)	(-0.63)	(0.51)	(-0.52)
$\Delta GLOB\_FACTOR_{t+1}$	-0.1029*	0.0175	0.3305**	-0.0416	0.0807	0.0282	0.0639	-0.0020
	(-1.68)	(0.37)	(1.97)	(-0.33)	(0.88)	(1.48)	(0.43)	(-0.09)
MKT_RET+	-0.4080	0.8945	-0.4518	0.9784	-0.6549	-4.9523***	-0.6505	-4.9597***
	(-0.64)	(1.01)	(-0.71)	(1.10)	(-1.12)	(-31.18)	(-1.11)	(-31.22)
MKT_RET-	-19.8698***	-19.7751***	-19.8348***	-19.6888***	-2.5810***	-4.0841***	-2.6037***	-4.0828***
	(-27.52)	(-27.04)	(-27.51)	(-26.78)	(-3.85)	(-31.50)	(-3.89)	(-31.32)
MA_MKT+	1.6819	7.0502***	1.7553	6.9123***	1.1339	2.0940***	1.1376	2.0955***
	(1.15)	(4.53)	(1.20)	(4.44)	(0.85)	(7.60)	(0.86)	(7.59)
MA_MKT-	8.3624***	4.2772***	8.2267***	4.2377***	1.4410	4.1517***	1.2946	4.1568***
	(5.21)	(2.61)	(5.13)	(2.59)	(0.97)	(14.28)	(0.88)	(14.27)
MA_ABMKT	-8.7887***	-11.2690***	-8.8283***	-11.2060***	-1.5519*	0.9068***	-1.6195*	0.9139***
	(-9.42)	(-9.93)	(-9.49)	(-9.89)	(-1.83)	(4.50)	(-1.91)	(4.53)
$MONDAY$	0.1779***	0.1413***	0.1715***	0.1415***	0.0427	0.0004	0.0457	0.0005
	(5.01)	(4.08)	(4.75)	(4.09)	(1.41)	(0.07)	(1.48)	(0.09)
$TUESDAY$	-0.0246	-0.0865***	-0.0278	-0.0925***	0.0273	0.0024	0.0226	0.0022
	(-0.86)	(-3.05)	(-0.97)	(-3.27)	(1.10)	(0.49)	(0.90)	(0.45)

Appendix F (continued)

	GLBILLQ Pre-2005	GLBILLQ Post-2005	VIX Pre-2005	VIX Post-2005	GLBILLQ Pre-2005	GLBILLQ Post-2005	VIX Pre-2005	VIX Post-2005
WEDNESDAY	0.0668**	0.0018	0.0686**	0.0054	0.0049	0.0046	0.0012	0.0048
	(2.35)	(0.06)	(2.39)	(0.19)	(0.20)	(0.94)	(0.05)	(1.00)
THURSDAY	0.0136	0.0043	0.0100	0.0054	0.0360	0.0041	0.0366	0.0043
	(0.39)	(0.12)	(0.28)	(0.16)	(1.19)	(0.70)	(1.21)	(0.72)
HOLI	0.1647***	0.0998***	0.1643***	0.0985***	-0.0049	0.0055	-0.0022	0.0052
	(4.20)	(2.99)	(4.20)	(2.96)	(-0.14)	(0.93)	(-0.06)	(0.89)
Constant	-0.0395*	-0.0095	-0.0369	-0.0097	-0.0127	-0.0008	-0.0115	-0.0009
	(-1.73)	(-0.39)	(-1.61)	(-0.39)	(-0.64)	(-0.19)	(-0.58)	(-0.21)
Obs	2407	2503	2407	2503	2348	2497	2348	2497
Adj. R^2	0.2913	0.2859	0.2918	0.2876	0.0093	0.6008	0.0096	0.6002

Panel B: Shenzhen B shares

Panel B1: Without local factors

	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	0.0079	0.0361	-0.5819	0.5377***	0.0074	0.0848*	0.07536605	0.2126***
	(0.06)	(0.58)	(-1.63)	(3.15)	(0.11)	(1.69)	(0.70)	(3.53)
$\Delta GLOB\_FACTOR_{t-1}$	0.0900	0.0556	0.0434	-0.3992**	-0.0095	0.0354	-0.1042	-0.0409
	(0.68)	(0.88)	(0.13)	(-2.40)	(-0.14)	(0.69)	(-1.00)	(-0.70)
$\Delta GLOB\_FACTOR_{t+1}$	0.1156	0.0359	0.4754	0.5420***	-0.0134	0.1497***	-0.0775	0.1376**
	(0.87)	(0.56)	(1.39)	(3.25)	(-0.19)	(2.90)	(-0.75)	(2.34)
Constant	0.0009	-0.0014	0.0009	-0.0013	-0.0023	-0.0004	-0.0022	-0.0004
	(0.07)	(-0.17)	(0.07)	(-0.16)	(-0.55)	(-0.13)	(-0.54)	(-0.13)
Obs	2193	2503	2193	2503	2158	2487	2158	2487
Adj. R^2	-0.0009	-0.0008	0.0003	0.0119	-0.0014	0.0029	-0.0007	0.0086

Appendix F (continued)

Panel B2: With local factors

|	ΔAmihud				ΔSpread			
	GLBILLQ		VIX		GLBILLQ		VIX	
	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005	Pre-2005	Post-2005
$\Delta GLOB\_FACTOR_t$	-0.0624	-0.0642	-0.5607	0.04266875	-0.0058	0.0117	0.0922	0.0324
	(-0.50)	(-1.16)	(-1.57)	(0.27)	(-0.09)	(0.27)	(0.86)	(0.60)
$\Delta GLOB\_FACTOR_{t-1}$	0.0536	-0.0016	0.2326	-0.4417***	-0.0052	-0.0083	-0.1190	-0.0070
	(0.42)	(-0.03)	(0.69)	(-2.93)	(-0.08)	(-0.18)	(-1.16)	(-0.13)
$\Delta GLOB\_FACTOR_{t+1}$	0.1564	-0.0133	0.0450	0.0991	-0.0072	0.0665	-0.0989	0.0314
	(1.22)	(-0.23)	(0.13)	(0.66)	(-0.11)	(1.46)	(-0.97)	(0.60)
MKT_RET+	-4.0715***	-1.0133	-3.9894***	-0.9245	-3.6315***	-6.8054***	-3.6314***	-6.8227***
	(-3.95)	(-1.01)	(-3.87)	(-0.92)	(-9.94)	(-18.56)	(-9.92)	(-18.59)
MKT_RET-	-12.3735***	-20.6218***	-12.5955***	-20.6037***	-2.2649***	-3.5190***	-2.2566***	-3.4684***
	(-9.90)	(-21.72)	(-10.01)	(-21.29)	(-5.50)	(-10.56)	(-5.45)	(-10.21)
MA_MKT+	-3.2655	4.8461**	-3.3516	4.6274**	1.8213**	2.6591***	1.8637**	2.6722***
	(-1.52)	(2.55)	(-1.56)	(2.44)	(2.41)	(4.02)	(2.47)	(4.03)
MA_MKT-	10.5269***	8.0406***	10.6849***	7.7611***	1.4929	4.3538***	1.4433	4.3207***
	(4.01)	(3.74)	(4.07)	(3.61)	(1.60)	(5.87)	(1.54)	(5.81)
MA_ABMKT	-1.4313	-8.2253***	-1.4755	-8.1246***	-0.0200	1.9680***	-0.0342	1.9730***
	(-0.92)	(-5.55)	(-0.95)	(-5.50)	(-0.04)	(3.83)	(-0.07)	(3.84)
MONDAY	0.2122***	0.1626***	0.1895**	0.1614***	-0.0022	-0.0068	0.0029	-0.0070
	(2.93)	(3.86)	(2.58)	(3.84)	(-0.11)	(-0.46)	(0.14)	(-0.47)
TUESDAY	-0.1062*	-0.1052***	-0.0884	-0.1059***	-0.0392**	-0.0002	-0.0419**	-0.0008
	(-1.83)	(-3.07)	(-1.51)	(-3.10)	(-2.28)	(-0.01)	(-2.40)	(-0.07)
WEDNESDAY	-0.0131	-0.0122	-0.0278	-0.0042	-0.0168	-0.0109	-0.0121	-0.0107
	(-0.23)	(-0.36)	(-0.48)	(-0.12)	(-0.98)	(-0.93)	(-0.70)	(-0.91)
THURSDAY	-0.0387	0.0584	-0.0440	0.0593	-0.0136	0.0126	-0.0121	0.0127
	(-0.54)	(1.38)	(-0.61)	(1.41)	(-0.67)	(0.85)	(-0.59)	(0.86)
HOLI	0.0590	0.0385	0.0542	0.0361	0.0285	0.0332**	0.0288	0.0329**
	(0.77)	(0.97)	(0.71)	(0.91)	(1.15)	(2.45)	(1.16)	(2.43)
Constant	0.0095	-0.0282	0.0140	-0.0311	0.0198	0.0014	0.0180	0.0017
	(0.21)	(-1.00)	(0.31)	(-1.11)	(1.45)	(0.14)	(1.31)	(0.17)
Obs	2193	2503	2193	2503	2157	2487	2157	2487
Adj. R^2	0.0884	0.2022	0.0888	0.2051	0.0825	0.2292	0.0833	0.2286
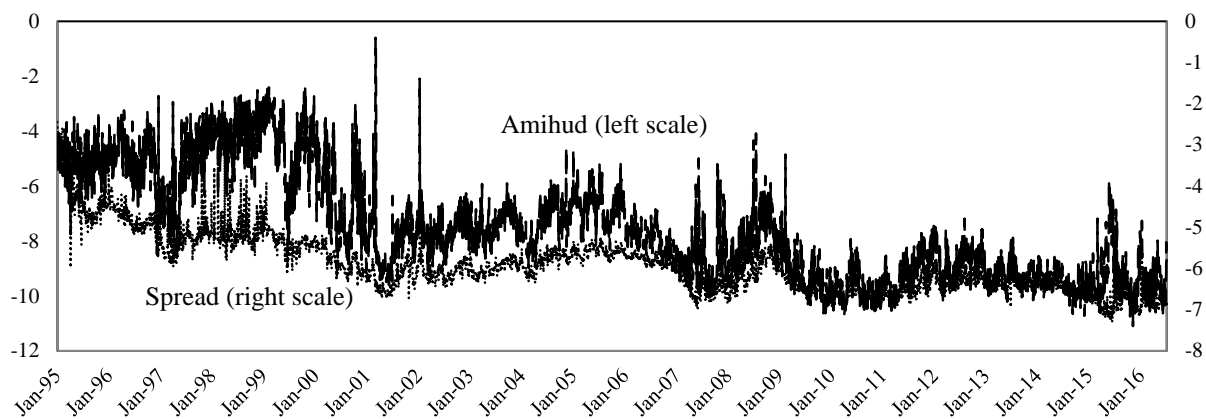
Figure 1. Average log Amihud (2002) ratios and closing percent quoted spreads
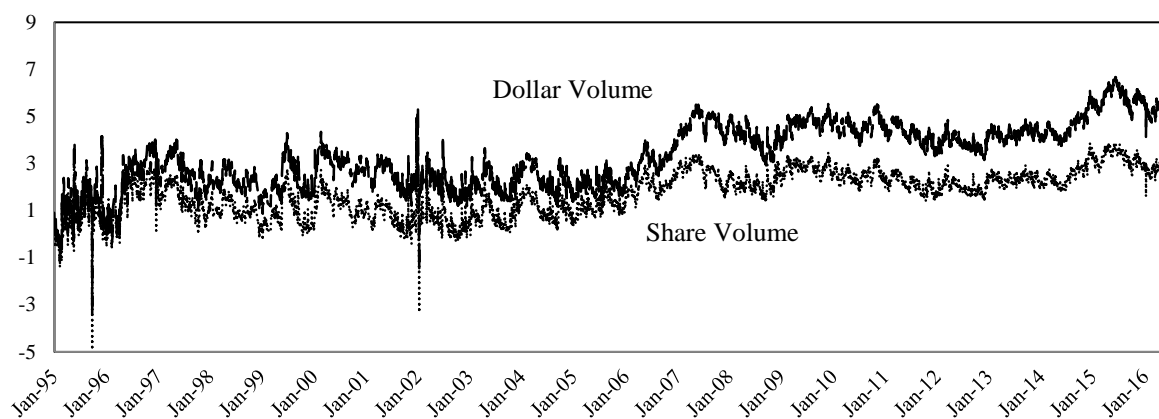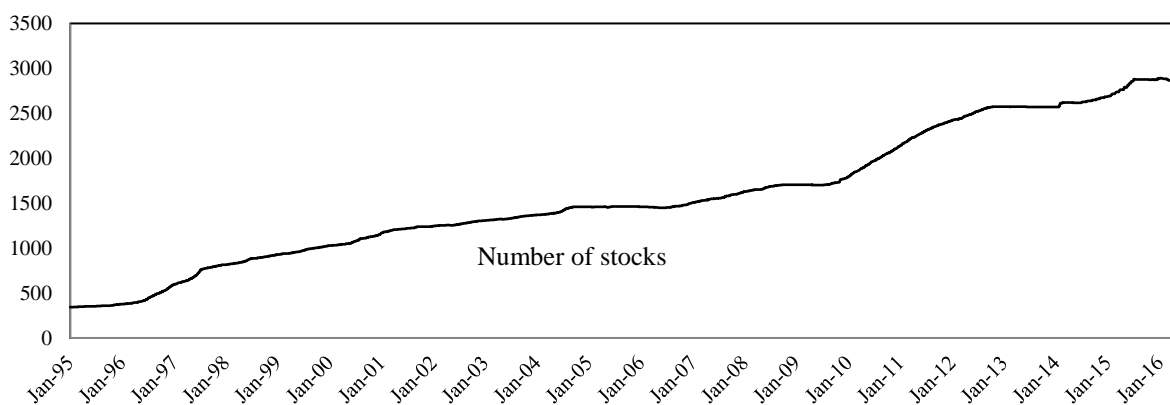

Figure 2. Average log dollar volume and share volume

Figure 3. Number of stocks for the entire sample