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Impacts of the Stock Market Liberalization in China: Evidence from the Foreign Institutional Investor Scheme

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ABSTRACT

The aim of this paper is to analyze the influence of the Qualified Foreign Institutional Investors (QFII) scheme announcement on the Chinese A- and B-share markets, using an event study method with the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) process. The results indicate that the announcement of the QFII system did cause a rapid drop in stock prices and trading volumes for both the Shanghai and Shenzhen stock markets. The abnormal returns in the Shanghai A-share market are influenced the most by the QFII scheme and both stock markets experienced a sustained decline in the trading volumes. The results of cross-sectional variation further reveal that the number of board members, the shareholding ratio of block shareholders, the market capitalization of firm equity, and SOEs are all positively related to the abnormal trading activities. It is worth pointing out that stock listings in the overall Shanghai stock market and the both A-share markets exhibit a negative relationship with the abnormal trading behavior, implying that A-share stocks might be overvalued after the opening up of the B-share market.

INTRODUCTION

The rapid growth of China's financial markets has captured global investors' attention. China's recent remarkable aggregate economic growth rates, averaging 10% per year since 1992, have been accompanied by similar growth in its equity markets. China has two stock exchanges: the Shanghai Securities Exchange (SHSE) and the Shenzhen Securities Exchange (SZSE). There are two different types of shares, known as type "A" and type "B", that are traded in both stock markets. In the beginning, the Chinese government only allowed domestic investors to trade A-shares, while foreign investors could invest in B-shares only. The B-share market was set up for two purposes. The first purpose is to satisfy foreign investors' demand to invest in the China stock markets. The other one is to prevent foreign speculators from attacking the local stock markets.[1] According to previous studies, A-shares have a high price premium relative to the corresponding B-shares, although the owners of A- and B-shares have the same rights.[2] China's government also took note of this unique feature and believed that market segmentation and liquidity are possible explanations for the price differentials in these two different types of shares.

During the past few years, the Chinese government has launched several policies to reduce the price difference between A- and B-shares. In February 2001, the government (China Securities Regulatory Commission, CSRC) allowed domestic residents to invest in the B-share market.[3] The next important innovation was announced on November 7, 2002, when the CSRC proclaimed the opening of the A-share market by employing a Qualified Foreign Institutional Investors (hereafter QFII) scheme. The QFII scheme is a transient that facilitates the limited introduction of foreign capital and the opening up of China's financial markets. Similar schemes have been widely adopted in some countries, for example, Taiwan, South Korea, and India. The QFII scheme is likely to grow as the government searches desperately for ways to revive the moribund stock markets (Asiamoney, 2005). It follows from what has been said that these two reforms should diminish the price differential between A- and B-shares.

The CSRC expects that the A- and B-shares will become more efficient and attract more investors to invest in the stock markets by eliminating investment restrictions. When it comes to maturity, the Chinese government plans to combine A-shares with B-shares in the near future. More noteworthy is that China's financial markets are among the largest emerging financial markets in the world (Wang and Firth, 2004). Thus, there is more interest and research on China's stock market data due to the country's rapid growth and potential opportunities for investors (Cao *et al*., 2005).

The issue now arises is that there are only a few research studies that have investigated the impact of the QFII scheme in China. Against such a background, if we focus on clarifying the impact of the QFII scheme in China, then the result helps interpret the influence upon adopting the QFII scheme. For foreign investors, if they plan to invest in

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[1] Data Resource: China Securities Regulatory Commission (CSRC).

[2] Fernald and Rogers (2002) addressed this anomaly in their "Puzzles in the Chinese Stock Market" and Bailey *et al.* (1999) referred to "The Strange Case of China".

[3] The purpose of this policy is to eliminate the numerous arbitrage opportunities between A- and B-shares in both stock markets, because there is a large price discount for B-shares relative to A-shares (Bailey, 1994). Hence, a huge amount of domestic money should enter and improve the activities of the B-share market. The results show that after allowing domestic residents to invest in the B-share market, it definitely impacted the China A- and B-share markets (Chen, 2007; Chiu *et al.*, 2005), and the large discount has dramatically declined (from 80% to about 45%) as a result of this policy (Yang and Lau, 2005). It can be emphasized that the B-share market has been opened to the public through this deregulation.

China's stock markets, then the results of this paper could assist them in familiarizing themselves with this huge emerging financial arena.

To clarify our motivation, as a beginning, we examine whether trading activities exist between different shares and markets during the pre-event (before the QFII scheme announcement) and the post-event (after the announcement) periods and shall pay special attention to investigate whether there are abnormal returns and abnormal trading volumes of the A- and B-shares in the SHSE and the SZSE via an event study with the GARCH process. In other words, once the CSRC implemented QFII, we expect to uncover whether the prices of A-shares or B-shares generated abnormal returns and abnormal trading volumes surrounding the announcement date. To the best of our knowledge, just a few research studies have focused on the change in the trading policy. This is particularly true for previous studies which have examined the impact of implementing the QFII scheme. Unlike most previous papers, we model abnormal returns according to the GARCH (Generalized Autoregressive Conditional Heteroskedasticity) estimation to control for time-varying volatility.[4]

The study is value added, because it fills a gap in the literature. However, a missing link in the literature remains in how the information transmits across share classes and sectors. That should be important to discover, as individual and institutional investors use A- and B-share indices and sector indices as benchmarks to track the performance of actively managed portfolios in China.

Examining the relative importance of the sectors in China's stock markets also allows for a better understanding of the dynamics of financial markets in an economy undergoing significant reforms and regulatory changes such as have occurred in China. We further analyze the pattern of information flow both across and within the classes of shares and sectors of the two Chinese stock exchanges. Adding to this point, there are also few research studies investigating whether a firm's properties will affect the abnormal trading behavior. We intend to uncover this literature gap via cross-sectional variation.

The plan of the article proceeds as follows. Section 2 provides a brief description of the related literature and some hypotheses. Section 3 outlines the characteristics of the data and the models. Section 4 presents empirical results. The paper ends with a brief conclusion in Section 5.

LITERATURE REVIEW AND FORMULATION OF HYPOTHESES

Literature Review

Studies on China's stock markets have grown rapidly especially during the past decade. Researchers have examined different aspects of these segmented stock markets, including asset pricing differences, return and volatility transmissions, and price-volume linkages. As seen in many emerging markets, China set up legal restrictions on the foreign ownership of domestic equity in order to control local firms, especially those companies that are of strategic and national importance.[5] A major reason for this arrangement is to attract foreign funds, yet avoid losing ownership control rights.

[4] See, for example, Corhay and Rad (1996).
[5] See, for example, Taiwan, South Korea, and India.

There is an unusual phenomenon that is inconsistent with the price premiums broadly found in other countries, which goes as follows (e.g., Bailey and Jagtiani, 1994; Domowitz *et al.*, 1997; Stulz and Wasserfallen, 1995; Bailey *et al.*, 1999; Li *et al.*, 2006): there exists a large price discount for China's B-shares relative to the A-shares. Numerous studies including Bailey (1994) and Ma (1996) document that the A- and B-share markets are segmented despite the expectation that the two classes of shares are likely to be impacted by the same factors.

One of the main reasons assigned to the B-share discount is that there might be more risk in the B-share market compared with the A-share market. One school of thought on B-share discounts believes that foreign investors have less information about Chinese firms, owing to the difficulty they face in accessing information about B-shares.

Bailey (1994) argued that the lower required returns of Chinese citizens due to limited investment opportunities might have an effect. Su (1999) expressed a one-period capital asset pricing model under ownership restrictions to explain the discounts on foreign-owned Chinese B-shares relative to the prices of domestic A-shares. Fung *et al.* (2000) provided supportive evidence for the argument for segmented A-share and B-share markets. Sun and Tong (2000) clarified the price discount of the B-shares by differential demand elasticity. They indicated that when H-shares (Chinese companies listed in Hong Kong) become more attractive than B-shares, the B-shares' discount becomes larger.

Chen *et al.* (2001) found that relatively non-liquid B-shares have a higher expected return and are priced lower to compensate investors for increased trading costs and B-share price movements that are more closely related to market fundamentals than A-share prices. Wang and Xu (2004) also explained that return differences among individual stocks are due to the different investment environments in China, asymmetrical information, and market efficiency.

Regarding the topic of information transmissions, Yang (2003) contradicted the arguments of no informational asymmetry (Chen *et al.*, 2001), better-informed domestic investors (Su and Fleisher, 1999), and the informational leading role of the Shenzhen market over the Shanghai market (Fung *et al.*, 2000). Their findings in China's stock markets suggests that A- and B-share investors have distinct paths to information, and that information often reaches the B-share market before it reaches the A-share market. This is consistent with some research, for example, Froot *et al.* (2001) and Pan *et al.* (2001). Although the China stock markets have been the object of study for a long time, there is little agreement as to information transmissions.

All the situations that we mentioned above have led to the stock markets in China becoming separated. The Chinese government as a result tried to wipe out this segmentation in its stock markets. The CSRC first announced that domestic citizens would be allowed to hold and trade B-shares starting on February 19, 2001. Gao and Tse (2004) argued that this change eliminated the rigid segmentation between the A- and B-share markets. Chiu *et al.* (2005) also presented that the CSRC, by permitting domestic residents to invest in B-shares, will impact both the A- and B-share stock markets. In summary, the A- and B-share markets became more integrated after the deregulation.

Previous studies have indicated that the QFII scheme might help to open up China's stock markets. The widespread assumption that institutional investors play an important role in a stock market is based upon the concept that such liberalization is aimed at boosting foreign investment in a local securities market (Topic Magazine, 2004). Although sometimes institutional investors' daily trading value does not account for the largest proportion of the entire market, however, the influence caused by them is much greater than the trading value (Yang, 2002).

Over the past few years, a considerable number of studies have adopted various approaches to demonstrate the segmentation in China's equity markets. Yu (1996) and Su and Fleisher (1998) discovered that the ARCH/GARCH models could be fitted to Chinese stock market returns. They also explored the distributional assumptions underlying the ARCH/GARCH model plus the impact of the government policy intervention on volatility. Chui and Kwok (1998) used the iterated linear seemingly uncorrelated regressions (ITSUR) to estimate the lead-lag relation between A- and B-shares in China.

Fung *et al.* (2000) employed the latent variable asset pricing framework to explore the degree to which the two-tier markets of A- and B-shares in China are segmented. Chen *et al.* (2001) used a panel data model to analyze the cross-sectional and time-series determinants of the price differences between the two classes of shares. Most studies, such as Yang (2003), utilized the multivariate VAR models to argue the segmentation in China's stock markets. Brooks and Ragunathan (2003) extended the multivariate VAR model augmented with a GARCH (1, 1) model to examine the spillover in volatility between A- and B-share prices.

For the reasons mentioned above, we arrive at the conclusion that market segmentation causes the price differences between A- and B-shares in China's stock markets. The motivation of this paper is to describe the different processes of price volatilities on A- and B-shares and to illustrate the changes of volatility transmissions during the pre- and post-event periods. Additionally, the information transmission process between different shares and a firm's properties are still an unknown problem. Therefore, we try to figure out how the policy changes in China can cause different kinds of impact upon its stock markets and disclose the information transmission process.

Hypotheses' Development

In this section we formulate some hypotheses to be examined in the event study.

(1) Did domestic and foreign investors react in some definable way to this investment policy adjustment?

Through our investigation we collected other policy reforms concerning some investment legality. For example, opening stock repurchases and earnings announcements based on two different accounting standards (Su, 2003). Gonzalez and Gonzalez (2004) analyzed the consequences of legal restrictions on the volume of shares firms can repurchase. Gao and Tse (2004) looked at two different accounting standards, IAS and PRC GAAP, in China's segmented stock markets.[6] They found that there are different abnormal returns and trading volumes on the event day and during the pre- and post-event periods. These arguments constitute the intuition for the following hypothesis.

H1. *The A- and B-share markets exhibit abnormal returns and trading volumes in reaction to the QFII scheme announcement.*

(2) Did the capital structure and ownership structure affect the information assessment?

It is without doubt that publicly released news lead to financial market reactions. This drives us to the question of how different firms' structures respond to the QFII announcement. We further attempt to discover whether the capital

[6] International accounting standards (IAS) and PRC generally accepted accounting principles (PRC GAAP).

structure (e.g. firm age, turnover rate, and market capitalization of firm equity) or the ownership structure (e.g. State-owned Enterprises (SOEs), number of board members, and shareholding ratio of block shareholders) affect the information access. If the results prove that there are strong associations between abnormal trading behaviors and a firm's properties, then we may assume that firm-specific characteristics affect the degree of abnormal returns and trading volumes. Rosa *et al.* (2005) also argued that the proportion of stock held by block shareholders is positively related to abnormal trading return. To the best of our knowledge, there is still a literature gap of research on a firm's properties and how they affect China's stock markets.

H2. *There are strong associations between abnormal trading behaviors and a firm's properties.*

(3) Were the trading volumes surrounding the announcement date accompanied by large price changes?

He and Wang (1995) showed that volume might lag behind information flow when the information is private. They demonstrated that "exogenous information," which includes new private signals and public announcements, generates trading together with large price changes, while volume generated by existing private information is not accompanied by significant price changes. Chan *et al*. (2001) investigated the impact of salient political and economic news revealed in the Stock Exchange of Hong Kong. They found that both types of news have an impact on return volatility and volume. Long *et al*. (1999) noted a significantly positive relation between changes in volume and absolute price returns in both A- and B-shares. As defined by Long *et al.* (1999), this altered investment policy is exogenous and the following hypothesis is expected.

H3. *Upon the QFII scheme announcement, there are high volume volatilities in reaction to high return volatilities in both A- and B-share markets.*

DATA AND METHODOLOGY

Data

In order to investigate the impact of the QFII scheme announcement on China's stock markets, we collected daily data of four stock markets from the *China Center for Economic Research (CCER)* database. These benchmark indices are the Shanghai A-share index (SHA), the Shanghai B-share index (SHB), the Shenzhen A-share index (SZA), and the Shenzhen B-share index (SZB).

We also checked the data to ensure that there are no separate significant information events that occurred around the QFII scheme announcement date. The sample period for this study covers 161 daily observations for each stock index price series, which was from 140 days prior to the announcement to 20 days after the announcement. To be included in our sample, a firm must have available information on stock returns, trading volume, firm age, number of board members, shareholding ratio of block holders, turnover rate, total market capitalization, and state-owned ratio. The final sample firms include 628 companies listed on the SHA, 51 listed on the SHB, 483 listed on the SZA, and 56 listed on the SZB.

Methodology

We adopt an event study to examine the reaction of investors to positive and negative news (also called events) first. Thus, we can construct abnormal returns and abnormal volumes by adopting an event study. We further explore cross-sectional variation in these returns and volumes.

Event Study with the GARCH Process

In an efficient market, the effect of the QFII scheme announcement should be reflected in stock price changes immediately following the announcement. Customarily, the measure of the market reaction is realized using a residual analysis. Fama *et al.* (1969) introduced the concept of an "event-study." This is probably the single most important breakthrough in our understanding of how stock prices respond to new information. The Fama *et al.* (1969) research design has inspired a very large number of empirical studies on market efficiency and allows us to accumulate evidence that stock prices respond in apparently clever ways to information.

Empirical evidence specifically shows that stock returns tend to exhibit clusters of outliers, implying that the volatility series evolves over time in a non-linear fashion.[7] We use an event study methodology that assumes returns follow a GARCH (1,1) process in order to examine the effects of removing investment restrictions on the stock returns. We focus on the differential reactions of the A- and B-share investors to the removal of investment restrictions - namely, we compare the behavior of the price reactions of the A- and B-shares in response to the QFII scheme.

While trading volume has generally been ignored in previous research as an indicator of differential market behavior, in this paper we investigate the trading volumes of the A- and B-shares in reaction to the QFII announcement. As shown by He and Wang (1995), trading volume around a deregulation date has important implications for the information values of deregulation.

Unlike most previous research, the event study model with the GARCH estimation is herein utilized to analyze the effects of deregulation on stock prices, in line with McKenzie *et al.* (2004). The abnormal returns are calculated around the date when the deregulation period ends. More specifically, the abnormal return (AR) for stock i on day t is defined as:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}) = \varepsilon_{i,t}, \qquad (1)$$

where $\varepsilon_{i,t} \mid \Psi_{t-1} \sim (0, h_{i,t})$, and Ψ_{t-i} denotes all information available at time $t-1$. The conditional variance in the GARCH case is:

$$h_{i,t} = \omega_i + \delta_i h_{i,t-1} + \gamma_i \varepsilon_{i,t-1}^2, \qquad (2)$$

with $\omega_i > 0$, $\gamma_i > 0$, $\delta_i \geq 0$, and $\gamma_i + \delta_i < 1$. The parameters are all estimated by maximum likelihood.

[7] Cao and Tasy (1992), Corhay and Rad (1996), and Solibakke (2002) found that the GARCH-family models are superior to the OLS. Support for the use of this model can be found in Reyes (1999), McKenzie *et al.* (2004), and Chen *et al.* (2004).

Here, $R_{i,t}$ is the return on stock i on day t, and $R_{m,t}$ is the return on the SHSE's and the SZSE's A- and B-share indices on day t. The coefficient of α_i, β_i, and the conditional variance equation are estimated based on the market model with the GARCH process by modeling $R_{i,t}$ for the 120-day (half year) period [-140, -21] - that is, 140 trading days before the event date, defined as the QFII scheme announcement date (QAD), to 21 trading days (one and half months) before QAD on $R_{m,t}$.

We also calculate the cumulative abnormal return (CAR) for each individual firm i, covering 20 trading days pre-QAD to 20 days post-QAD.

$$CAR_{i,t} = \sum_{T=-20}^{20} AR_{i,t} \,. \tag{3}$$

We next calculate the cross-sectional average of abnormal returns (AAR). The cross-sectional cumulative average abnormal returns (CAAR) are then estimated to investigate for their statistical significance. In this paper we employ the generalized sign test examine whether the number of stocks with positive cumulative abnormal returns in the event window exceeds the number expected in the absence of abnormal performance. The number expected is based on the fraction of positive abnormal returns in the 120-day estimation period:

$$\hat{p} = \frac{1}{n}\sum_{j=1}^{n}\frac{1}{120}\sum_{t=E_1}^{E_{120}} S_{j,t} \,,$$

where

$$S_{j,t} = \begin{Bmatrix} 1 & \text{if } AR_{j,t} > 0 \\ 0 & \text{otherwise} \end{Bmatrix}$$

The calculations of AAR and CAAR are as below:[8]

$$AAR_t = \frac{\sum_{i=1}^{N} AR_{i,t}}{N}, \tag{4}$$

$$CAAR_{T_1,T_2} = \sum_{j=1}^{N}\frac{CAR_{j,(T_1,T_2)}}{N}, \tag{5}$$

and $N =$ number of sample firms.

The test statistic uses the normal approximation to the binomial distribution with parameter $\hat{p}$. Define w as the number of stocks in the event window for which the cumulative abnormal return $CAR_{j,(T_1,T_2)}$ is positive. The

[8] Abnormal returns are examined using the generalized sign Z-test in the literature; see Sanger and Peterson (1990), Singh *et al.* (1991), and Chen *et al.* (1991). In this paper we also use the generalized sign Z-test to test whether there are any significant abnormal trading activities for each trading day in the event period of event window. For a more detailed explanation of the generalized sign Z-test, see Sprent (1989) and Cowan (1992).

generalized sign test statistic is:

$$Z_G = \frac{w - n\hat{p}}{\left[n\hat{p}(1-\hat{p})\right]^{1/2}}.$$

Testing the abnormal trading volumes of ***H1***, we analyze the abnormal trading volumes for 41 days, centered on QAD. Abnormal daily trading volume is calculated relative to each stock's pre-QAD average daily trading volume (Chen *et al.*, 2004 and Campbell and Wasley, 1996) as:

$$AV_{i,T} = \frac{V_{i,T}}{\frac{1}{120}\sum_{t=-21}^{-140} V_{i,t}} - 1, \qquad (6)$$

where $V_{i,T}$ is the trading volume for stock i on day T. We first compute the average volumes of each stock from $t = -140$ to $t = -21$ relative to QAD ($t = 0$). For $t = -20$ to $t = +20$, we calculate for each day the ratio of daily volume to its mean (which is obtained earlier, based on the period [-140, -21]). We subtract one from the ratios and average across firms to get an estimate of abnormal volume $AV_{i,T}$ across each day surrounding QAD.

Cross-Sectional Variation in AAR and CAAR Values

We further explore the cross-sectional variation in these returns and volumes. In fact, cross-sectional mean abnormal returns and trading volumes do not control for other exogenous factors that might cause a variation in the AAR, CAAR, ATV, and CATV values. Therefore, we estimate regressions of the following form:

$$AAR_{i,T+k} = \gamma + \sum_{i=1}^{n} \delta_i X_i + \varepsilon \quad i = 1,...., N, \qquad (7)$$

$$ATV_{i,T+k} = \gamma + \sum_{i=1}^{n} \delta_i X_i + \varepsilon \quad i = 1,...., N, \qquad (8)$$

where X contains weakly exogenous variables. These variables include the years since establishment (AGE), the number of board members (BM), the shareholding ratio of block shareholders (BSH), the turnover rate (TO), the natural logarithm of the market capitalization of firm equity (SIZE), the shareholding ratio of the state (SOEs), and dummy variables indicating whether the company is a state-owned enterprise (D_{SOEs}, a dummy variable is equal to one if the percentage of shareholding by the state is higher than 50% and is zero otherwise), listed on the Shanghai stock market (D_{SH}), and belongs to A-shares (D_A). These variables are chosen, because they account for many effects considered in several studies in the literature.[9]

[9] Examples abound. Zahid and Shekar (2002) found a large impact of stock returns on subsequent insider transactions. Li and McNally (2007) also indicated that the abnormal return may be attributable to private information. Reburn (1994) argued that insiders of smaller firms can earn larger abnormal returns than insiders of larger firms and Wang and Iorio (2007b) even explored that size has the most significant effect in capturing variations in stock returns. Finally, Wei *et al.* (2005) discovered that there is a significant relation between ownership structure and firm value.

EMPIRICAL RESULTS

In this study the main stress falls on analyzing the impact on China's stock markets after the QFII scheme announcement via an event study with the GARCH process. We investigate whether there are abnormal trading activities – abnormal returns and abnormal trading volumes within the event period. If there are significant abnormal trading activities during the event period, we can then conclude that the announcement of the QFII scheme did affect the stock markets. In the last part of chapter 4, we further explore a cross-sectional variation concerning the property of each firm in the trading activities.

As of December 2002, the total companies listed on the SHSE and the SZSE are 715 and 508, respectively. There are 44 companies that have issued both A- and B-shares on the SHSE at the same time and 43 companies that did so on the SZSE. More than 70% of companies that issued B-shares have also issued A-shares on the SHSE and the SZSE (see Table 1).

For all empirical tests and analyses in the tables, an event window of 41 days, from day - 20 to day +20, is selected. This event window allows us to examine possible market reversal effects. The empirical results are reported in the following parts.

Results of AARs and CAARs

Table 2 reports average abnormal returns (AARs) and cumulative average abnormal return (CAARs) in the Shanghai and Shenzhen stock markets.

Shanghai Stock Market

First of all, the SHA should have a greater influence than the SHB, because the QFII scheme opens up the A-share market. As a widely accepted assumption, the influence of the QFII scheme announcement will be greater in the A-share market. Table 2 indicates by the generalized sign z-test that the AAR is significant at day -20 (twenty days before the event day, or about one month). It implies that before the official announcement date, the Shanghai stock market seems to start to exhibit significant AARs. It is interesting to note that the AARs in the SHA are positive at day -3, day -2, and day -1, while on the contrary, the situation of reversal appears on the event day (day 0). The AARs are negative and significant at day 0. The continuous and significant negative impacts of the SHA prolong for at least four days after the announcement date.

The point to observe is that after the QFII policy announcement, the AARs kept decreasing. This result is consistent with the findings from Bosch and Hirschey (1989) and Karpoff and Rankine (1994) in that there is a positive pre-announcement effect followed by a negative post-announcement drift. One obvious feature is that the announcement precipitates a decline in the CAARs. Twenty days after the announcement date, the CAAR is -2.94 %. It follows from what has been said that the QFII scheme announcement did impact the SHA. For the short term, this policy affected the SHA in negative ways significantly.

So far as the SHB is concerned, the announcement of the QFII scheme almost did not result in any influence.

The trend of the CAARs remains at a stable level around -1%. We may go on from this to the conclusion that the varied reactions of the SHA and the SHB might be caused by market segmentation.

Shenzhen Stock Market

According to Table 2, the AARs in the SZA are significantly positive at day -20 and -19. One thing, however, might be certain: the information of the QFII scheme announcement probably had been known to some traders well ahead of its public announcement date. This is a point to which we shall return to discuss later. There is also a reversal reaction in the SZA. The AARs at day -2 and -1 are positive. When it comes to the event day (day 0), the AARs reverse to negative and are significant. The continuous and negative impacts prolong for five days. The difference between the SHA and the SZA is that there is no significant influence on the CAAR at day +20, while the SHA shows to have been significantly negatively impacted on the same day.

There are different responses in the SZB compared with the SHB. The AAR is positive and significant at the event day. In contrast, after the announcement negative AARs are incurred and there is a reversal of the positive run-up in the pre-announcement period. During our event window, the AARs at days -20, -15, -13, and 0 are positive and significantly different from zero. A reversal situation appears from day +1, and the AARs turn to be negative from this day on. So far as the CAARs are concerned, the unique feature is that the CAARs are positive and significant from day -20 to day +2, while the CAARs in the SHA, the SHB, and the SZA are negative from the beginning of our event window (day -20).

---Insert Table 2 here---

For the present, we shall confine our attention to the differences in the SHA and the SZA, which is the main purpose of this paper. Table 3 summarizes the CAARs for various event windows in each A-share market. In the SHA, the CAARs' values are all significantly negative over each event period. The event period of (+11, +20) shows a reversal of negative impact. The CAARs during this event window are significantly positive - that is to say, the announcement started to affect the SHA in a positive way. Another striking point is that we only observe the constantly significantly results via the panel of prior to the event in the SHA. This result implies that the SHA plays a leading role among these four markets. It is easy to tell that the impact of the QFII scheme announcement is weaker in the SZA. According to the panel SZA of Table 3, the CAARs prior to the event are not significant. We hence indicate that the expectation of the announcement did not cause a constant influence prior to the event, although the AARs prior to the event provide little evidence about divulging such information.

---Insert Table 3 Here---

Results of ATVs and CATVs

As mentioned previously, in studies on stock-price volatility, volume is usually considered to play an important role in affecting price volatility (Song *et al.*, 2005). Table 4 contains the abnormal trading volume (ATV) and cumulative trading volume (CATV) in the Shanghai and Shenzhen markets. Table 5 reports the CATV for various event

windows.

Shanghai Stock Market

We begin our analysis by looking into the SHA again. The SHA of Table 4 shows that the ATV in our event period of only 4 days (days +1, +11, +15, and +17) is not significant. Only 3 days (days -2, +16, and +19) present a positive ATV during our event period. All the CATVs are significantly negative and the CATV during days -20 to +20 is -11.44%. The z-test rejects the null hypothesis that the ATVs before are equal to the ATVs after at the 1% level of significance.

Table 4's SHB indicates that the decline of trading volume is also observed. Stated clearly, the ATVs exhibit a negative tendency in 35 days during our event window. Only 6 days (days -8, -2, +3, +14, +15, and +16) are positive. A reversal of negative ATV is found at day +1. When it comes to day +2, the ATV turns down to be negative and significant. Without exception, all of the CATVs in our observed window from Table 4 are negative and are significant with a z-test at the 1% level no matter if it is prior to or after the announcement.

The announcement of the QFII scheme seriously impacted trading volumes in the SHA and the SHB. The liquidity of the Shanghai markets plunged. An interesting phenomenon is that the reduction of liquidity had no impact on return volatility in the SHB. This phenomenon is not consistent with Kim and Verrecchia's findings (2001) that a firm's stock returns depend on trading volume.

Shenzhen Stock Market

We observe a significant reduction in the ATV and CATV on the SZA and the SZB from Table 4. Table 4 details a significant decrease in the volume of trading prior to and after the event. In the SZA, the ATVs at day -2 and day +16 are significantly positive. Aside from these two days, the ATVs are all negative. Panel SZB of Table 4 indicates a similar condition as in the SZA. There are 39 days in our event period that presented a negative number of ATV. Moreover, the CATVs are significant and negative in the whole event period for both A- and B-shares.

---Insert Table 4 Here---

From Table 5, when using different pre- and post-event windows, we find that almost each event window is significantly negative. One also can see that in the column prior to the event, each event window presents a significant result. This notable mark implies that China's stock markets are not strong and efficient yet. This conclusion is consistent with Huang's findings (2004).

---Insert Table 5 Here---

It should be concluded, from what has been said above, that the QFII scheme announcement caused a rapid drop in stock prices and trading volume in the SHSE and the SZSE. It is surprising to note that there are not high return volatilities in reaction to the high volume volatilities in both A- and B-share markets. The best possible explanation might be that the stock price limits installed in each market might affect the return volatilities in both A- and B-shares,

whereas volume volatilities would not be restricted.[10]

For the present, we shall confine our attention to why the announcement leads to a negative result in our observed period. There is not much evidence to decide the matter. The most likely explanation of the decrease is that carrying out of the QFII scheme had been discussed for a long time. Serious price manipulation might also affect this situation. Overall, the move to integrate the A- and B-share markets displays a desirable result.[11] It highlights how sensitive China's stock markets remain to regulatory policies.

Results of Cross-Sectional Regressions

The results in Table 6 are helpful in understanding what might affect abnormal trading behavior upon the announcement of the QFII scheme. The measure variables contain years since establishment (AGE), number of board members (BM), shareholding ratio of block holders (BSH), turnover rate (TO), total market capitalization (SIZE), and real state-owned enterprises (SOEs). The dummy variable measures the relationship between abnormal trading behaviors and the listing stock exchanges. The event window (-5, +5) is selected, because in this period the movement of abnormal trading behavior is considered to be greatest.

The correlation between abnormal trading returns and a firm's properties

We now notice here that the variables measuring relative to the BM and the BSH have little power in predicting variations in the AR on the day of announcement. However, TO, SIZE, and SOEs are positive and significantly different from 0, while AGE, D_{SOEs}, D_{SH}, and D_A are significantly negative. It must be noted that the positive relationship between the state-owned ratio and the AR turns to be negative, when the ratio exceeds 50%. The negative AR at announcement day is primarily explained by D_A (about -0.8124) - that is to say, from the aspect of a dual listing company, the AR in the A-shares will be smaller than the B-shares at announcement day.

The cumulative effects of the announcement in the second column of Table 6 tell a somewhat different story. In the regression with CAR (-5, +5) as the dependent variable, the BM is positive and significant while it is negative and insignificant at day 0. The same observation applies to Alexander *et al.* (2007). The most likely explanation might be that a board member could have private knowledge of the announcement before it is publicized to the public. Except for this, the decrease in the predicting power of the SOEs is also exhibited in this event window.

To put it more precisely, the older the firm's age is, the lower the AR. This negative relationship is also the case found in the listing in the Shanghai stock market, where the listing in A-shares and the state-owned ratio both exceeded 50%. From another angle, the AR is higher when the turnover rate or total market capitalization is larger. What this makes clear is that part of a firm's properties might be related with abnormal trading returns. This will lead us further into consideration of whether a firm's properties are also related with the abnormal trading volume.

[10] The daily price limits in China's stock markets are set at 10%, for both upper and lower price movements, based on the previous day's closing price.
[11] See for example, Chen *et al*., 2006

The correlations between abnormal trading volumes and a firm's properties

Table 6 presents that the ATV is significantly positive related to the BSH, TO, and SIZE, and significantly negatively related to D_A at the 5% level. The other variables do not help in explaining ATV on the announcement day. Among these variables, the BSH has the largest coefficient at 0.2918. These results suggest that the BSH may be more important in predicting ATV than other variables. An interesting phenomenon is the positive relationship between SIZE and ATV - namely, when the total market capitalization is increasing, ATV will also rise. The result does not hold in the previous study where Choi and Choe (1998) argued that the relationship between a firm's size and trading volume around the disclosure date is negative.

The column of CATVs (-5, +5) in Table 6 indicates that AGE and D_A are both significantly negative, while TO is positive. These results lead to the conclusion that the turnover rate dominates ATV and CATV. We can be fairly certain that the higher ratio will lead to an increase in abnormal trading volume. Moreover, the stock listing in the A-share market will also reduce the abnormal trading volume regardless of the event day or 11-day event period. It seems reasonable to surmise, such as the conclusion we mentioned above, that part of a firm's properties might be also related with abnormal trading volume.

---Insert Table 6 Here---

We therefore are able to conclude that a firm's properties are related to abnormal trading behaviors. To put it clearly, AGE is negatively related to abnormal trading behavior. On the contrary, the BM, the BSH, SIZE, and SOEs display a positive and significant relationship with abnormal trading behavior. It may be worth pointing out that D_{SH} and D_A exhibit a negative relationship with abnormal trading behavior. This is consistent with our previous finding that the share types and listing market display different effects on abnormal trading behaviors.

CONCLUSIONS

This study conducts an investigation into investment regulations that took place on November 7, 2002 - namely, the China Securities Regulatory Commission's (CSRC) limited opening of the A-share market to foreign investors initiated via the Qualified Foreign Institute Investors (QFII) scheme. We examine the impacts of the QFII scheme announcement on China's stock markets. The results show that the announcement of the QFII scheme did cause a rapid drop on stock prices and trading volumes in both stock markets. It is obvious that the abnormal return in the SHA was influenced by the QFII scheme the most. Another striking point is that we only see the constantly significant CAARs via the panel of prior to the event in the SHA. This result implies that the CAARs in the SHA play a leading role among these four markets. In other words, the release of the QFII scheme may have been known to some informed investors and traders well ahead of the public announcement date in the SHA.

We find abnormal trading volume that exhibits a sustained decline among the four markets. One notices that when using different pre- and post-event windows, almost each event window is significantly negative, which is different from the return volatilities. It is surprising that there are not high return volatilities in reaction to the high volume volatilities in both A- and B-share markets. The best possible explanation might be that the stock price limits

affected the return volatilities in both A- and B-share markets.

Our results also confirm that there are strong associations between the abnormal trading behaviors and firm-specific characteristics. The results of cross-sectional variation reveal that the number of board members, shareholding ratio of block shareholders, market capitalization of firm equity, and SOEs are positively related to the abnormal trading behavior, while the years since establishment is negatively related to it. It may be worth pointing out that the stock listing in the Shanghai stock markets and A-share markets exhibit a negative relationship with abnormal trading behavior. This is consistent with our previous finding that the share types and listing market display different effects on abnormal trading behaviors. The most likely explanation might be that the A-share stocks were overvalued after the opening of the B-share market.

REFERENCES

Alexander, J. C., S. W. Barnhart, and S. Rosenstein, 2007. Do investor perceptions of corporate governance initiatives affect firm value: The Case of TIAA-CREF. Quarterly Review of Economics and Finance 47(2), 198-214.

Asiamoney, Queuing for QFII. London, Mar p1, 2005.

Bailey, W., 1994. Risk and Return on China's New Stock Market: Some Preliminary Evidence. Pacific-Basin Finance Journal 2(1), 243-260.

Bailey, W. and J. Jagtiani, 1994. Foreign Ownership Restrictions and Stock Prices in the Thai Capital Market. Journal of Financial Economics 36(1), 57-87.

Bailey, W., P. Chung, and J. Kang, 1999. Foreign Ownership Restrictions and Equity Price Premiums: What Drives the Demand for Cross-border Investments? Journal of Financial and Quantitative Analysis 34(4), 489-511.

Bosch, J. C. and M. Hirschey, 1989. The Valuation Effects of Corporate Name Changes. Financial Management 18(4), 64–73.

Brooks, R. D. and V. Ragunathan, 2003. Returns and Volatility on the Chinese Stock Markets. Applied Financial Economics 13(10), 747-752.

Campbell, C. and C. E. Wasley, 1996. Measuring Abnormal Daily Trading Volume for Samples of NYSE/ASE and NASDAQ Securities Using Parametric and Nonparametric Test Statistic. Review of Quantitative Finance and Accounting 6(3), 309-326.

Cao, C. Q. and R. S. Tsay, 1992. Nonlinear Time-Series Analysis of Stock Volatilities. Journal of Applied Econometrics 7(Suppl. Dec.), S165-185.

Cao, Q., K. B. Leggio, and M .J. Schniederjans, 2005. A Comparison Between Fama and French's model and Artificial Neural Networks in Predicting the Chinese Stock Market. Computers & Operations research 32(10), 2499-2512.

Chan, Y. C., A. C. W. Chui, and C. C. Y. Kwok, 2001. The Impact of Salient Political and Economic News on the Trading Activity. Pacific-Basin Finance Journal 9(3), 195-217.

Chen, C.-D., 2007. The Effects of Investment Deregulation of B-shares on Chinese Stock Markets: Perspectives of Dual-Issue Firms and Investors. Working paper.

Chen, A. H., K. J. Robinson, and T. F. Siems, 2004. The Wealth Effects from a Subordinated Debt Policy: Evidence from Passage of the Gramm-Leach-Bliley Act. Review of Financial Economics 13(1&2), 103-119.

Chen, G. M., B. S. Lee, and O. M. Rui, 2001. Foreign Ownership Restrictions and Market Segmentation in China's Stock Markets. Journal of Financial Research 24(1), 133-151.

Chiu, C.-L., M. Lee, and C.-D. Chen, 2005. Removal of an Investment Restriction: The 'B' Share Experience from China's Stock Markets. Applied Financial Economics 15(4), 273-285.

Chui, A. and C. Kwok, 1998. Cross-Autocorrelation Between A shares and B shares in the Chinese Stock Market. Journal of Financial Research 21(3), 333-353.

Choi, J. S. and C. Choe, 1998. Explanatory Factors for Trading Volume Responses to Annual Earning Announcements: Evidence from the Korean stock market. Pacific-Basin Finance Journal 6(1&2), 193-212.

Chordia, T. and B. Swaminathan, 2000. Trading Volume and Cross-Autocorrelations in Stock Returns. Journal of

Finance 55(2), 913-915.

Chotigeat, T. and D. J. Kim, 1994. Financial Globalization By South Korea and Its Policy Implications. Multinational Business Review Fall 2(2), 53-58.

Corhay, A. and T. A. Rad, 1996. Conditional Heteroskedasticity Adjusted Market Model and an Event Study. Quarterly Review of Economics and Finance 36(4), 529-538.

Cowan, A. R., 1992. Nonparametric Event Study Tests. Review of Quantitative Finance and Accounting 2(4), 343-358.

Domowitz, I., J. Glen, and A. Madhavan, 1997. Market Segmentation and Stock Prices: Evidence from Emerging Markets. Journal of Finance 52(3), 1059-1085.

Fama, E., L. Fisher, M. Jensen, and R. Roll, 1969. The adjustment of stock prices to new information. International Economics Review 10(1), 1-21.

Fernald, J. and J. H. Rogers, 2002. Puzzles in the Chinese stock market. The Review of Economics and Statistics 84(3), 416-432.

Froot, K. A., P. G. A. O'Connell, and M. S. Seasholes, 2001. The Portfolio Flows of International Investors. Journal of Financial Economics 59(2), 151-193.

Fung, H. G., W. Lee, and W. K. Leung, 2000. Segmentation of the A- and B-share Chinese Equity Markets. Journal of Financial Research 23(2), 179-195.

Gao, Y. and Y. K. Tse, 2004. Market Segmentation and Information Values of Earnings Announcements: Some Empirical Evidence from an Event Study on the Chinese Stock Market. International Review of Economics and Finance 13(4), 455-474.

Gonzalez, V. M. and F. Gonzalez, 2004. Stock Repurchases with Legal Restrictions: Evidence from Spain. European Journal of Finance 10(6), 526-260.

Guo S. K. and Y. Z. Zhang, 2006. A preliminary discussion on the QFII system in China. Humanities & Social Sciences Journal of Hainan University 24(3), 371-375.

Huang, X., 2004. China Stock Price Reactions to Financial Announcements: Evidence from Segmented Markets. Managerial Finance 30(3), 62-73.

He, H. and J. Wang, 1995. Differential Information and Dynamic Behavior of Stock Trading Volume. Review of Financial Studies 8(4), 919-972.

Karpoff, J. M., and G. Rankine, 1994. In Search of a Signaling Effect: The Wealth Effects of Corporate Name Changes. Journal of Banking and Finance 18(6), 1027–1045.

Kim, O. and R. E. Verrecchia, 2001. The Relation Among Disclosure, Returns, and Trading Volume Information. The Accounting Review 76(4), 633-654.

Li, Y., D. Yan, and J. Greco, 2006. Market Segmentation and Price Differentials Between A shares and H shares in the Chinese Stock Markets. Journal of Multinational Financial Management 16(3), 232-248.

Li, K. and W. McNally, 2007. The Information Content of Canadian Open Market Repurchase Announcements. Managerial Finance 33(1), 65-80.

Long, D. M, J. D. Payne, and C. Feng, 1999. Information Transmission in the Shanghai Equity Market 22(1), 29-45.

Ma, J., 2006. Double "Q" Mechanism: Inevitably Choice of China's Capital Market Internationalization. Finance and Economics 2006(7), 22-27.

Ma, X., 1996. Capital Controls, Market Segmentation and Stock Prices: Evidence from the Chinese Stock Market. Pacific-Basin Finance Journal 4(2&3), 219-239.

McKenzie, A. M., M. R. Thomsen, and B. L. Dixon, 2004. The Performance of Event Study Approaches Using Daily Commodity Future Returns. Journal of Futures Markets 24(6), 533-555.

Pan, M., K. C. Chan, and D. J. Wright, 2001. Divergent Expectations and the Asian Financial Crisis of 1997. Journal of Financial Research 24(2), 219-238.

Reburn, J. P., 1994. A Note on Firm Size, Information Availability and Market Reactions to US Stock Ownership Reporting Announcements. Journal of Business Finance & Accounting 21(3), 445-455.

Reyes, M. G., 1999. Size, Time-Varying Beta, and Conditional Heteroscedasticity in UK Stock Returns. Review of Financial Economics 8(1), 1-10.

Rosa, R. D. S., N. Saverimuttu, and T. Walter, 2005. Do Informed Traders Win? An Analysis of Changes in Corporate Ownership around Substantial Shareholder Notices. International Review of Finance 5(3&4), 113-147.

Solibakke, P. B., 2002. Calculating Abnormal Returns in Event Studies: Controlling for Non-Synchronous Trading and Volatility Clustering in Thinly Traded Markets. Managerial Finance 28(8), 66-86.

Song, F., H. Tang, and Y. Wu, 2005. Trade Size, Trade Frequency, and the Volatility-Volume Relation. Journal of Risk Finance 6(5), 424-437.

Sprent, P. Applied Nonparametric Statistical Methods. Chapman and Hall, London, 1989.

Stulz, R. M. and W. Wasserfallen, 1995. Foreign Equity Investment Restrictions, Capital Flight and Shareholder Wealth Maximization: Theory and Evidence. Review of Financial Studies 8(4), 1019-1057.

Su, D., 1999. Market Segmentation and Foreign Share Discount in China. Asia-Pacific Financial Markets 6(4), 283-309.

Su, D., 2003. Stock Price Reactions to Earnings Announcements: Evidence from Chinese Markets. Review of Financial Economics 12(3), 271-286.

Su, D. and B. Fleisher, 1998. Risk, Return and Regulation in Chinese Stock Markets. Journal of Economics and Business 50(3), 239-256.

Su, D. and B. Fleisher, 1999. Why Does Return Volatility Differ in Chinese Stock Market? Pacific-Basin Finance Journal 7(5), 557-586.

Sun, Q. and W. Tong, 2000. The Effect of Market Segmentation on Stock Prices: the Chinese Stock Markets. Journal of Banking & Finance 24(12), 1875-1902.

Su, C. M., 2001. "How Could Taiwan Have been Insulated from the 1997 Financial Crisis?", The Asian Exchange, Asian Regional Exchange for New Alternatives 17(1), 53-63.

Tan, O. G. and G. L. Gannon, 2002. Information Effect of Economic News: SPI Futures. International Review of Financial Analysis 11(4), 467-489.

Wang, F. and Y. Wu, 2004. What Determines Chinese Stock Returns? Financial Analysts Journal 60(6), 65-77.

Wang, S. S. and M. Firth, 2004. Do Bears and Bulls Swim Across Oceans? Market Information Transmission between Greater China and the Rest of the World. Journal of International Financial Markets, Institutions & Money 14(3), 235-254.

Wang, Y. and A. D. Iorio, 2007a. Are the China-Related Stock Markets Segmented with both World and Regional Stock Markets? Journal of International Financial Markets, Institutions & Money 17(3), 277-290.

Wang, Y. and A. D. Iorio, 2007b. The Cross Section of Expected Stock Returns in the Chinese A-share market. Global Finance Journal 17(3), 335-349.

Wei, Z., F. Xie, and S. Zhang, 2005. Ownership Structure and Firm Value in China's Privatized Firms: 1991-2001. Journal of Financial and Quantitative Analysis 40(1), 87-108.

Yang, J. J. W., 2002. The Information Spillover Between Stock Returns and Institutional Investors' Trading Behavior in Taiwan. International Review of Financial Analysis 11(4), 533-547.

Yang, J., 2003. Market Segmentation and Information Asymmetry in Chinese Stock Market: A VAR Analysis. Financial Review 38(4), 591-609.

Yang, T. and S. T. Lau, 2005. U.S. Cross-Listing and China's B-share Discount. Journal of Multinational Financial Management 15(4&5), 334-353.

Yu, W. Y., 1996. Hong Kong at the Crossroads: Will Reversion to China Spell the End of Entrepeneurship? S.A.M. Advanced Management Journal 61(3), 16-22.

Zahid, L. and S. Shekar, 2002. An Investigation of Causality between Insider Transactions and Stock Returns. Quarterly Review of Economics and Finance 42(1), 41-57.

Table 1. Market Size, December 2002

Stock Exchange	Type of Shares	No. of Companies Listed	Market Capitalization
Shanghai	A	705	RMB254 billion (or US$32.31 billion)
	B	54	RMB57 billion US$7.25 billion
Shenzhen	A	494	RMB126 billion (or US$16.03 billion)
	B	57	RMB3.6 billion (or US$0.46 billion)

Note: The total companies listed on the SHSE and the SZSE are 715 and 508, respectively. There are 44 companies that have issued both A- and B-shares on the SHSE at the same time and 43 companies that did the same on the SZSE. The combined capitalization of the markets reached US$500 billion in 2000, making up 50% of China's GDP.

Table 2. Return Performance Surrounding the QFII Scheme Announcement Periods on the Shanghai and Shenzhen Stock Markets

	Shanghai A-shares				Shanghai B-shares				Shenzhen A-shares				Shenzhen B-shares			
Day	AAR (%)		CAAR (%)		AAR (%)		CAAR (%)		AAR (%)		CAAR (%)		AAR (%)		CAAR (%)	
-20	0.00	(2.55) **	0.00	(2.56) **	-0.07	(1.22)	-0.07	(1.22)	0.07	(4.78) ***	0.07	(4.78) ***	0.54	(3.34) ***	0.54	(3.34) ***
-19	-0.07	(3.59) ***	-0.07	(1.12)	0.04	(1.50)	-0.03	(1.22)	0.01	(3.51) ***	0.07	(3.33) ***	-0.01	(1.47)	0.53	(3.07) ***
-18	-0.21	(-3.20) ***	-0.28	(-2.24) **	-0.15	(-0.47)	-0.18	(0.38)	-0.03	(0.59)	0.04	(0.77)	0.19	(0.40)	0.72	(1.74) *
-17	0.07	(3.11) ***	-0.21	(-1.60)	0.04	(0.10)	-0.14	(0.38)	-0.04	(-0.41)	0.00	(1.59)	-0.04	(0.94)	0.69	(2.54) **
-16	-0.06	(-1.52)	-0.26	(-1.68) *	0.01	(-0.75)	-0.13	(0.38)	-0.06	(-1.60)	-0.06	(1.14)	-0.06	(-0.67)	0.62	(1.74) *
-15	0.01	(3.75) ***	-0.25	(-0.88)	-0.04	(1.22)	-0.16	(0.10)	-0.04	(2.32) **	-0.10	(0.59)	0.57	(3.88) ***	1.19	(3.61) ***
-14	-0.28	(-4.24) ***	-0.53	(-3.44) ***	-0.12	(-0.47)	-0.29	(-0.75)	-0.10	(-0.41)	-0.20	(0.13)	0.00	(0.94)	1.19	(3.88) ***
-13	-0.11	(-0.88)	-0.64	(-4.00) ***	0.02	(0.66)	-0.27	(-0.47)	-0.09	(-0.51)	-0.28	(-0.60)	0.23	(2.81) ***	1.43	(4.68) ***
-12	-0.01	(-0.16)	-0.64	(-4.56) ***	0.01	(0.66)	-0.26	(0.38)	0.11	(1.68) *	-0.17	(0.50)	0.02	(0.67)	1.45	(3.88) ***
-11	0.10	(-1.36)	-0.55	(-5.04) ***	-0.01	(1.22)	-0.28	(-0.47)	0.08	(-0.32)	-0.09	(-0.23)	-0.10	(-0.40)	1.35	(3.61) ***
-10	0.03	(0.32)	-0.52	(-4.00) ***	0.02	(0.66)	-0.25	(0.38)	0.02	(-0.14)	-0.07	(0.13)	0.05	(0.67)	1.39	(3.07) ***
-9	-0.17	(-2.24) **	-0.69	(-4.64) ***	-0.13	(0.94)	-0.38	(0.66)	-0.10	(1.14)	-0.17	(0.60)	0.06	(-0.13)	1.45	(3.88) ***
-8	-0.11	(1.60)	-0.80	(-3.44) ***	-0.24	(0.10)	-0.62	(-0.19)	0.03	(3.69) ***	-0.14	(1.23)	-0.07	(1.47)	1.38	(3.34) ***
-7	-0.01	(-0.24)	-0.80	(-3.84) ***	-0.03	(-0.19)	-0.65	(0.38)	-0.08	(0.50)	-0.21	(0.13)	-0.39	(-1.20)	0.99	(2.54) **
-6	-0.19	(-4.96) ***	-1.00	(-4.48) ***	0.02	(-0.19)	-0.64	(0.38)	-0.08	(-2.33) **	-0.29	(-0.69)	-0.17	(0.13)	0.82	(2.27) **
-5	-0.02	(1.04)	-1.02	(-4.40) ***	-0.03	(0.10)	-0.66	(0.10)	0.05	(1.05)	-0.24	(0.13)	0.25	(1.47)	1.07	(2.54) **
-4	-0.33	(-6.08) ***	-1.35	(-5.52) ***	-0.05	(1.22)	-0.71	(0.66)	-0.17	(-1.60)	-0.42	(-0.78)	-0.09	(1.20)	0.97	(1.74) *
-3	0.02	(0.80)	-1.33	(-5.36) ***	-0.05	(-1.31)	-0.76	(0.10)	-0.10	(-1.87) *	-0.52	(-0.60)	-0.23	(-1.47)	0.74	(2.01) **
-2	0.08	(-0.24)	-1.24	(-5.36) ***	0.04	(-0.75)	-0.72	(-0.47)	0.09	(-0.23)	-0.43	(-0.32)	0.01	(0.40)	0.75	(2.54) **
-1	0.07	(-1.28)	-1.17	(-5.36) ***	0.02	(-0.19)	-0.70	(-0.75)	0.10	(0.41)	-0.33	(-0.69)	0.10	(0.40)	0.85	(2.27) **
0	-0.34	(-9.91) ***	-1.51	(-6.48) ***	0.01	(0.10)	-0.69	(-0.47)	-0.08	(-2.88) ***	-0.41	(-0.23)	0.22	(1.74) *	1.07	(2.54) **
1	0.44	(-8.39) ***	-1.95	(-7.20) ***	-0.06	(-1.03)	-0.75	(-0.19)	-0.01	(0.68)	-0.42	(-0.32)	-0.26	(-0.67)	0.81	(2.27) **
2	0.10	(4.79) ***	-1.86	(-6.48) ***	-0.09	(0.38)	-0.85	(0.10)	-0.07	(2.23) **	-0.49	(-0.41)	-0.11	(0.40)	0.70	(2.27) **
3	0.90	(-9.99) ***	-2.76	(-8.87) ***	-0.07	(-0.19)	-0.92	(-0.75)	-0.32	(-0.87)	-0.80	(-0.69)	-0.62	(-1.74) *	0.08	(1.20)
4	0.18	(-3.76) ***	-2.94	(-9.59) ***	-0.04	(-0.47)	-0.96	(-0.47)	-0.07	(-2.51) **	-0.88	(-1.97) **	-0.36	(-2.01) **	-0.28	(0.94)
5	0.18	(-0.40)	-3.12	(-9.35) ***	-0.04	(0.38)	-1.00	(-0.75)	-0.20	(-1.05)	-1.08	(-2.42) **	-0.47	(-1.47)	-0.75	(-0.40)
6	0.08	(1.20)	-3.04	(-9.43) ***	-0.09	(-2.71) ***	-1.09	(-1.03)	0.03	(-0.23)	-1.04	(-3.15) ***	-0.14	(-0.13)	-0.89	(-0.40)
7	0.01	(2.16) **	-3.05	(-9.35) ***	0.02	(0.10)	-1.08	(-1.03)	0.01	(3.33) ***	-1.03	(-2.24) **	-0.40	(-0.94)	-1.29	(-1.74) *
8	0.34	(7.83) ***	-2.70	(-8.15) ***	0.12	(0.94)	-0.95	(-0.19)	0.21	(5.06) ***	-0.82	(-1.42)	0.10	(0.13)	-1.20	(-1.74) *
9	-0.40	(-3.68) ***	-3.11	(-8.63) ***	-0.06	(0.66)	-1.01	(0.10)	-0.18	(-0.05)	-0.99	(-2.24) **	-0.12	(0.40)	-1.32	(-2.01) **
10	-0.29	(-1.44)	-3.40	(-9.19) ***	0.00	(1.50)	-1.01	(-0.47)	-0.07	(0.04)	-1.06	(-1.69) *	-0.35	(-0.94)	-1.67	(-1.74) *
11	0.03	(2.08) **	-3.37	(-8.47) ***	0.19	(1.22)	-0.83	(0.38)	0.11	(4.97) ***	-0.95	(-0.87)	0.03	(0.40)	-1.64	(-1.74) *
12	0.13	(1.68) *	-3.24	(-8.39) ***	0.20	(2.62) ***	-0.63	(-0.19)	0.04	(-0.60)	-0.91	(-1.51)	0.09	(0.13)	-1.54	(-1.74) *
13	-0.27	(-1.12)	-3.52	(-9.19) ***	-0.19	(0.94)	-0.82	(0.10)	-0.15	(0.32)	-1.05	(-0.96)	-0.09	(0.67)	-1.63	(-1.47)
14	-0.15	(-2.80) ***	-3.67	(-8.47) ***	0.20	(1.22)	-0.62	(0.10)	0.03	(-0.69)	-1.03	(-0.69)	0.03	(0.13)	-1.60	(-1.20)
15	0.25	(-0.08)	-3.42	(-9.03) ***	-0.14	(-1.03)	-0.76	(-0.19)	0.14	(-0.05)	-0.89	(-1.24)	0.25	(0.40)	-1.35	(-0.94)
16	0.38	(3.99) ***	-3.03	(-8.15) ***	-0.03	(-1.59)	-0.78	(-0.47)	0.03	(-1.69) *	-0.86	(-1.42)	0.30	(1.47)	-1.05	(-0.67)
17	-0.46	(-7.83) ***	-3.49	(-8.79) ***	-0.29	(-1.59)	-1.07	(-0.75)	-0.25	(-4.06) ***	-1.10	(-1.42)	-0.31	(-2.27) **	-1.37	(-1.20)
18	0.37	(7.67) ***	-3.13	(-8.31) ***	-0.01	(-0.75)	-1.09	(-1.59)	0.23	(2.60) ***	-0.88	(-0.87)	0.15	(-0.40)	-1.22	(-0.94)
19	0.18	(2.40) **	-2.94	(-7.99) ***	0.00	(0.10)	-1.08	(-1.31)	0.08	(1.32)	-0.80	(-0.69)	0.08	(1.20)	-1.13	(-0.94)
20	0.00	(-1.04)	-2.94	(-8.23) ***	0.02	(-0.19)	-1.06	(-1.31)	0.02	(-1.33)	-0.78	(-1.05)	-0.24	(-0.94)	-1.37	(-0.94)

Note: Abnormal return is computed as the difference between the observed and expected returns. Expected return is generated from the standard market model regression. The generalized sign Z-statistics

test the null hypothesis that the average abnormal returns or the cumulative average abnormal returns are equal to zero and are in parentheses. ***, **, and * mean statistically significant at 1%, 5%, and 10%, respectively.

Table 3. Cumulative Average Abnormal Returns (%) for Various Event Windows

Event Window	SHA	SHB	SZA	SZB
		Across to the Event		
(-20,+20)	-2.94	-1.06	-0.78	-1.37
	(-8.23)***	(-1.31)	(-1.05)	(-0.94)
(-10,+10)	-2.86	-0.74	-0.97	-3.01
	(-8.23)***	(-0.19)	(-2.33)**	(-3.07)***
(-5,+5)	-2.12	-0.36	-0.78	-1.57
	(-10.07)***	(-0.75)	(-3.06)***	(-1.74)*
(-3,+3)	-1.41	-0.21	-0.39	-0.89
	(-10.15)***	(-0.47)	(-1.78)*	(-1.20)
(-1,+1)	-0.71	-0.03	0.01	0.05
	(-10.63)***	(0.10)	(-0.41)	(0.67)
		Prior to the Event		
(-1,0)	-0.27	0.03	0.02	0.32
	(-7.67)***	(0.10)	(-1.05)	(0.94)
(-3,0)	-0.16	0.02	0.01	0.10
	(-3.12)***	(-0.75)	(0.41)	(0.13)
(-5,0)	-0.52	-0.06	-0.12	0.25
	(-5.84)***	(-1.03)	(-0.14)	(1.20)
(-10,-1)	-0.63	-0.43	-0.24	-0.49
	(-3.28)***	(-0.47)	(0.68)	(-0.13)
(-20,-11)	-0.55	-0.28	-0.09	1.35
	(-5.04)***	(-0.47)	(-0.23)	(3.61)***
		After the Event		
(0,+1)	-0.78	-0.05	-0.09	-0.05
	(-11.43)***	(0.66)	(-1.69)*	(0.67)
(0,+3)	-1.58	-0.22	-0.48	-0.77
	(-11.67)***	(0.66)	(-1.87)*	(-0.13)
(0,+5)	-1.95	-0.30	-0.75	-1.61
	(-10.55)***	(-0.47)	(-2.97)***	(-2.01)**
(+1,+10)	-1.89	-0.32	-0.65	-2.74
	(-6.72)***	(-0.19)	(-2.06)**	(-2.54)**
(+11,+20)	0.46	-0.05	0.28	0.29
	(2.63)***	(-0.47)	(2.87)***	(0.13)

Note: This table represents the cumulative abnormal returns surrounding the deregulation date t = 0. Abnormal return is computed as the difference between the observed and expected returns. Expected return is generated from the standard market model regression. The z-statistics test the null hypothesis that the cumulative average abnormal returns are equal to zero. *Z*-statistics are in parentheses. *** Statistically significant at 1%. ** Statistically significant at 5%. * Statistically significant at 10%.

Table 4. Abnormal Trading Volume Surrounding the QFII Scheme Announcement Periods on the Shanghai and Shenzhen Stock Markets

	Shanghai A-shares				Shanghai B-shares				Shenzhen A-shares				Shenzhen B-shares			
Day	ATV (%)		CATV (%)		ATV (%)		CATV (%)		ATV (%)		CATV (%)		ATV (%)		CATV (%)	
-20	-0.57	(-18.43) ***	-0.57	(-18.43) ***	-0.43	(-8.05) ***	-0.43	(-8.05) ***	-0.59	(-28.44) ***	-0.59	(-28.44) ***	-0.55	(-10.97) ***	-0.55	(-10.97) ***
-19	-0.55	(-22.51) ***	-1.12	(-22.02) ***	-0.52	(-8.94) ***	-0.95	(-9.10) ***	-0.59	(-21.59) ***	-1.19	(-28.21) ***	-0.53	(-7.68) ***	-1.08	(-10.57) ***
-18	-0.49	(-18.76) ***	-1.61	(-23.00) ***	-0.59	(-17.88) ***	-1.54	(-12.77) ***	-0.51	(-23.98) ***	-1.70	(-30.47) ***	-0.60	(-14.19) ***	-1.69	(-12.83) ***
-17	-0.58	(-23.77) ***	-2.19	(-25.15) ***	-0.69	(-18.24) ***	-2.23	(-15.72) ***	-0.58	(-23.57) ***	-2.28	(-31.81) ***	-0.74	(-22.86) ***	-2.43	(-16.51) ***
-16	-0.47	(-18.76) ***	-2.66	(-25.37) ***	-0.62	(-24.59) ***	-2.86	(-18.46) ***	-0.48	(-21.34) ***	-2.76	(-31.95) ***	-0.61	(-19.24) ***	-3.04	(-19.06) ***
-15	-0.53	(-26.15) ***	-3.20	(-27.02) ***	-0.51	(-17.01) ***	-3.37	(-19.62) ***	-0.54	(-19.11) ***	-3.30	(-32.30) ***	-0.31	(-2.23) **	-3.35	(-14.38) ***
-14	-0.49	(-20.91) ***	-3.69	(-27.50) ***	-0.53	(-15.47) ***	-3.90	(-20.70) ***	-0.50	(-20.72) ***	-3.80	(-32.49) ***	-0.47	(-10.38) ***	-3.82	(-14.62) ***
-13	-0.57	(-22.34) ***	-4.26	(-28.84) ***	-0.74	(-27.23) ***	-4.64	(-23.40) ***	-0.59	(-23.38) ***	-4.39	(-34.06) ***	-0.70	(-18.14) ***	-4.52	(-16.04) ***
-12	-0.19	(-4.28) ***	-4.46	(-24.33) ***	-0.47	(-7.28) ***	-5.11	(-23.20) ***	-0.26	(-7.25) ***	-4.65	(-30.56) ***	-0.41	(-6.72) ***	-4.93	(-15.79) ***
-11	-0.38	(-9.69) ***	-4.83	(-22.91) ***	-0.67	(-17.23) ***	-5.78	(-24.03) ***	-0.38	(-7.73) ***	-5.04	(-26.98) ***	-0.72	(-17.45) ***	-5.64	(-16.78) ***
-10	-0.40	(-11.14) ***	-5.24	(-22.32) ***	-0.76	(-24.38) ***	-6.54	(-25.14) ***	-0.35	(-4.63) ***	-5.39	(-22.71) ***	-0.69	(-14.99) ***	-6.33	(-17.23) ***
-9	-0.36	(-8.13) ***	-5.59	(-21.45) ***	-0.03	(-0.24)	-6.57	(-20.09) ***	-0.39	(-6.49) ***	-5.78	(-21.05) ***	-0.58	(-15.51) ***	-6.91	(-17.67) ***
-8	-0.39	(-10.17) ***	-5.99	(-21.23) ***	0.21	(2.52) **	-6.36	(-16.43) ***	-0.39	(-7.91) ***	-6.17	(-19.97) ***	-0.41	(-7.06) ***	-7.32	(-17.38) ***
-7	-0.35	(-10.12) ***	-6.34	(-20.85) ***	-0.12	(-1.76) *	-6.48	(-15.13) ***	-0.37	(-7.30) ***	-6.54	(-18.60) ***	-0.41	(-6.84) ***	-7.73	(-17.49) ***
-6	-0.49	(-17.10) ***	-6.83	(-21.37) ***	-0.58	(-14.08) ***	-7.06	(-15.48) ***	-0.41	(-8.17) ***	-6.95	(-18.12) ***	-0.54	(-9.40) ***	-8.27	(-17.68) ***
-5	-0.57	(-27.53) ***	-7.40	(-22.27) ***	-0.60	(-24.78) ***	-7.66	(-16.41) ***	-0.46	(-13.01) ***	-7.41	(-18.29) ***	-0.59	(-12.31) ***	-8.86	(-17.87) ***
-4	-0.57	(-25.83) ***	-7.97	(-23.21) ***	-0.59	(-12.24) ***	-8.25	(-16.88) ***	-0.52	(-14.93) ***	-7.93	(-18.34) ***	-0.60	(-13.12) ***	-9.46	(-17.93) ***
-3	-0.33	(-4.88) ***	-8.30	(-22.63) ***	-0.42	(-7.02) ***	-8.67	(-16.64) ***	-0.35	(-8.89) ***	-8.29	(-18.13) ***	-0.42	(-6.67) ***	-9.88	(-17.22) ***
-2	0.35	(5.98) ***	-7.95	(-19.60) ***	0.36	(4.48) ***	-8.31	(-14.66) ***	0.31	(4.11) ***	-7.97	(-15.91) ***	0.40	(1.75) *	-9.48	(-14.43) ***
-1	-0.18	(-3.98) ***	-8.13	(-18.77) ***	-0.43	(-10.57) ***	-8.74	(-14.82) ***	-0.22	(-3.81) ***	-8.19	(-15.42) ***	-0.49	(-7.84) ***	-9.97	(-14.50) ***
0	-0.25	(-5.85) ***	-8.38	(-18.30) ***	-0.48	(-16.60) ***	-9.22	(-15.21) ***	-0.29	(-6.30) ***	-8.49	(-15.19) ***	-0.62	(-14.45) ***	-10.59	(-14.81) ***
1	-0.06	(-1.38)	-8.44	(-17.58) ***	0.02	(0.43)	-9.21	(-14.69) ***	-0.13	(-2.93) ***	-8.62	(-14.57) ***	-0.16	(-1.83) *	-10.75	(-14.01) ***
2	-0.46	(-19.54) ***	-8.90	(-18.05) ***	-0.49	(-19.51) ***	-9.70	(-15.20) ***	-0.43	(-10.24) ***	-9.05	(-14.66) ***	-0.41	(-4.57) ***	-11.17	(-13.83) ***
3	-0.14	(-5.19) ***	-9.04	(-17.70) ***	0.15	(3.18) ***	-9.55	(-14.81) ***	-0.14	(-4.02) ***	-9.19	(-14.24) ***	-0.18	(-2.66) ***	-11.34	(-13.34) ***
4	-0.25	(-8.89) ***	-9.28	(-17.58) ***	-0.06	(-1.55)	-9.60	(-14.63) ***	-0.19	(-3.53) ***	-9.38	(-13.74) ***	-0.36	(-5.13) ***	-11.71	(-13.11) ***
5	-0.34	(-7.81) ***	-9.62	(-17.47) ***	-0.49	(-16.63) ***	-10.09	(-15.14) ***	-0.29	(-4.69) ***	-9.67	(-13.24) ***	-0.39	(-6.99) ***	-12.10	(-12.97) ***
6	-0.27	(-6.80) ***	-9.89	(-17.34) ***	-0.07	(-1.27)	-10.16	(-14.89) ***	-0.17	(-1.42)	-9.84	(-12.46) ***	-0.33	(-5.66) ***	-12.43	(-12.74) ***
7	-0.40	(-9.87) ***	-10.29	(-17.41) ***	-0.61	(-15.25) ***	-10.78	(-15.63) ***	-0.42	(-8.01) ***	-10.26	(-12.50) ***	-0.65	(-15.34) ***	-13.08	(-13.05) ***
8	-0.40	(-12.17) ***	-10.69	(-17.61) ***	-0.20	(-2.18) **	-10.98	(-15.44) ***	-0.38	(-9.95) ***	-10.64	(-12.58) ***	-0.42	(-6.52) ***	-13.50	(-12.95) ***
9	-0.27	(-7.44) ***	-10.95	(-17.52) ***	-0.17	(-1.87) *	-11.15	(-15.32) ***	-0.31	(-7.57) ***	-10.95	(-12.50) ***	-0.42	(-5.12) ***	-13.92	(-12.72) ***
10	-0.11	(-3.12) ***	-11.07	(-17.14) ***	0.12	(1.59)	-11.03	(-14.66) ***	-0.13	(-3.50) ***	-11.09	(-12.29) ***	-0.30	(-4.39) ***	-14.22	(-12.45) ***
11	-0.09	(-1.06)	-11.16	(-16.70) ***	-0.01	(-0.06)	-11.03	(-14.17) ***	-0.06	(-0.91)	-11.15	(-11.80) ***	-0.42	(-5.57) ***	-14.63	(-12.34) ***
12	-0.40	(-8.39) ***	-11.56	(-16.85) ***	-0.42	(-5.31) ***	-11.45	(-14.21) ***	-0.40	(-9.14) ***	-11.55	(-11.91) ***	-0.60	(-11.09) ***	-15.24	(-12.59) ***
13	-0.29	(-6.28) ***	-11.85	(-16.70) ***	-0.23	(-3.27) ***	-11.69	(-13.88) ***	-0.28	(-5.05) ***	-11.83	(-11.81) ***	-0.52	(-9.36) ***	-15.75	(-12.59) ***
14	-0.17	(-3.55) ***	-12.02	(-16.42) ***	0.18	(2.50) **	-11.51	(-13.09) ***	-0.16	(-2.84) ***	-11.99	(-11.58) ***	-0.36	(-5.57) ***	-16.11	(-12.59) ***
15	0.06	(1.11)	-11.96	(-15.68) ***	0.18	(1.64)	-11.33	(-12.00) ***	0.05	(0.83)	-11.94	(-11.15) ***	-0.36	(-7.84) ***	-16.47	(-12.66) ***

16	0.98	(10.11) ***	-10.98	(-13.31) ***	1.17	(8.16) ***	-10.15	(-9.88) ***	0.75	(8.61) ***	-11.20	(-9.90) ***	0.40	(2.71) ***	-16.08	(-11.74) ***
17	-0.06	(-0.80)	-11.03	(-12.75) ***	-0.20	(-3.79) ***	-10.36	(-9.73) ***	-0.21	(-4.25) ***	-11.41	(-9.80) ***	-0.48	(-8.39) ***	-16.56	(-11.80) ***
18	-0.23	(-4.76) ***	-11.27	(-12.63) ***	-0.35	(-7.08) ***	-10.70	(-9.78) ***	-0.36	(-9.20) ***	-11.77	(-9.88) ***	-0.65	(-12.42) ***	-17.21	(-12.01) ***
19	0.14	(2.06) **	-11.13	(-12.02) ***	-0.09	(-0.93)	-10.79	(-9.41) ***	-0.21	(-4.23) ***	-11.98	(-9.76) ***	-0.48	(-9.69) ***	-17.69	(-12.09) ***
20	-0.32	(-7.52) ***	-11.44	(-12.04) ***	-0.59	(-14.37) ***	-11.38	(-9.76) ***	-0.25	(-3.66) ***	-12.23	(-9.77) ***	-0.66	(-17.35) ***	-18.35	(-12.37) ***

Note: See Table 2.

Table 5. Cumulative Abnormal Trading Volumes (%) for Various Event Windows

Event Window	SHA	SHB	SZA	SZB
		Across to the Event		
[-20, 20]	-11.44	-11.38	-12.23	-18.35
	(-12.04)***	(-9.76)***	(-9.77)***	(-12.37)***
[-10, 10]	-6.23	-5.24	-6.05	-8.57
	(-12.24)***	(-8.54)***	(-7.66)***	(-8.86)***
[-5, 5]	-2.79	-3.03	-2.72	-3.83
	(-9.23)***	(-10.65)***	(-6.49)***	(-6.09)***
[-3, 3]	-1.07	-1.29	-1.26	-1.88
	(-4.55)***	(-5.91)***	(-4.45)***	(-3.93)***
[-1, 1]	-0.49	-0.90	-0.64	-1.27
	(-4.52)***	(-10.73)***	(-4.82)***	(-7.56)***
		Prior to the Event		
[-1, 0]	-0.43	-0.91	-0.51	-1.10
	(-5.47)***	(-15.30)***	(-5.33)***	(-11.35)***
[-3, 0]	-0.41	-0.97	-0.55	-1.13
	(-2.35)**	(-5.85)***	(-2.94)***	(-3.32)***
[-5, 0]	-1.55	-2.16	-1.54	-2.32
	(-7.73)***	(-10.32)***	(-6.54)***	(-5.97)***
[-10, -1]	-3.30	-2.96	-3.16	-4.33
	(-11.62)***	(-6.77)***	(-7.90)***	(-9.19)***
[-20, -11]	-4.83	-5.78	-5.04	-5.64
	(-22.91)***	(-24.03)***	(-26.98)***	(-16.78)***
		After the Event		
[0, 1]	-0.31	-0.46	-0.43	-0.78
	(-4.13)***	(-8.04)***	(-4.97)***	(-6.41)***
[0, 3]	-0.91	-0.80	-1.00	-1.37
	(-8.22)***	(-8.58)***	(-6.72)***	(-5.73)***
[0, 5]	-1.49	-1.35	-1.48	-2.13
	(-9.65)***	(-10.31)***	(-6.16)***	(-6.10)***
[1, 10]	-2.69	-1.80	-2.60	-3.63
	(-10.59)***	(-5.75)***	(-6.01)***	(-6.43)***
[11, 20]	-0.37	-0.36	-1.14	-4.13
	(-0.76)	(-0.60)	(-2.56)***	(-9.39)***

Note: This table represents the cumulative abnormal volumes surrounding the announcement date t = 0. Abnormal volume is computed as the difference between the observed and average volumes. Average volume is generated from the standard market model regression. The z-statistics test the null hypothesis that the cumulative average abnormal volumes are equal to zero. *Z*-statistics are in parentheses. *** Statistically significant at 1%. ** Statistically significant at 5%. * Statistically significant at 10%.

Table 6. Cross-sectional Regression Abnormal Returns for All Companies

	AR[0]	CAR[-5 +5]	ATV[0]	CATV[-5,+5]
Constant	-0.2605	-9.6748	-0.8821	-2.6327
	(-0.9882)	(-7.2292) ***	(-4.5432) ***	(-1.3288)
AGE	-0.0277	-0.1600	-0.0004	-0.3031
	(-2.7701) ***	(-3.1577) ***	(-0.0597)	(-4.0393) ***
BM	-0.0068	0.1502	-0.0122	0.0998
	(-0.6603)	(2.8932) ***	(-1.6206)	(1.2982)
BSH	-0.0149	0.0296	0.2918	1.1790
	(-0.0654)	(0.0257)	(1.7426) *	(0.6901)
TO	0.3579	0.5464	0.1148	6.3473
	(11.1467) ***	(3.3517) ***	(4.8540) ***	(26.2989) ***
Log(SIZE)	0.2824	3.6020	0.1337	-0.2893
	(3.2289) ***	(8.1128) ***	(2.0751) **	(-0.4402)
SOEs	0.3884	0.8021	-0.1335	-0.9046
	(2.2701) **	(0.9234)	(-1.0589)	(-0.7034)
D_{SOEs}	-0.2413	-0.1645	-0.0622	-0.6785
	(-2.7792) ***	(-0.3731)	(-0.9729)	(-1.0397)
D_{SH}	-0.2409	-1.1507	0.0426	0.1734
	(-4.9020) ***	(-4.6123) ***	(1.1767)	(0.4695)
D_A	-0.8124	-4.6880	-0.2200	-2.0154
	(-6.4478) ***	(-7.3284) ***	(-2.3703) **	(-2.1281) **
R^2	0.1386	0.1094	0.0327	0.3746

Note: The t-statistics are in parentheses. *, **, and *** statistically significant at 10%, 5%, and 1%, respectively.

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