Information Acquisition in Dealer Markets: Evidence from Chinese Block Trades

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Abstract

Using proprietary account data from the Shanghai Stock Exchange, we study the intermediation of blocks sold by insiders. Our evidence suggests that during negotiations, dealers acquire private information from insiders, then subsequently exploit this advantage when selling shares on the exchange. Before a 2017 regulatory change, dealers optimized the liquidation of shares by quickly unwinding their positions and selling shares to retail investors when future stock returns were less favorable. Intermediating insider blocks was lucrative, earning dealers an additional +2.35% relative to earnings on non-insider block transactions. New regulation reduced excess dealer profits on insider blocks and curtailed the exploitation of retail investors.

Keywords: Block trading, insider trading, information chasing, retail investors

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1. Introduction

Stocks listed on major equity markets typically trade on a hybrid system. Most shares trade on an anonymous exchange, sometimes referred to as the 'downstairs' market, while larger blocks are often executed 'upstairs' in an over-the-counter (OTC) dealer market. An important distinction between exchange and dealer markets is that exchange markets are anonymous, whereas in dealer markets, transactions are negotiated between known counterparties. Although block trades are sometimes sold directly to large investors hold the shares for an extended period, block buyers generally act as an intermediary, subsequently offloading the shares on the exchange market.

This paper uses public and proprietary trade information from the Shanghai Stock Exchange (SSE) to study the intermediation process of block trades. In addition to examining block pricing and the extent to which block transactions contain information and influence secondary market prices, we investigate the possibility that dealers utilize information acquired in the process of obtaining blocks to exploit retail investors when the shares are subsequently sold downstairs on the exchange. Although negotiations are confidential and unobserved by external parties, the possibility of collusion between sellers and buyers for financial gain has raised concerns. Authorities in several stock markets, including the United States, Japan, Hong Kong, and China, have recently fined, disbarred, and imprisoned dealers for market manipulation activities related to block trades.

The Chinese stock market provides an ideal setting for studying these issues.[1] The block market is very active—from 2008 to 2022, there were more than 100,000 block sales—and post-trade transparency is available to all market participants. At 5:00PM each trading day, the stock

[1] Although these issues could also be studied in the US market, it is a more fragmented market, with several alternative trading venues, like dark pools, which would complicate the analysis. Also, as we discuss later, we have access to proprietary data from the Shanghai Stock Exchange that allow us to study issues that cannot be studied with public data.

exchange publicly discloses detailed information on all block sales, including the quantity and price at which the block is sold. From this public data, we observe the block discount relative to the closing price of the stock, and from the closing price the following day, we observe the market response to block sale announcements.

Our 2008 to 2022 sample period is particularly interesting because it includes the introduction of new regulation by the China Securities and Regulatory Commission (CSRC) in May 2017. The policy change was motivated by the perceived misbehavior of corporate insiders and dealers. Six months prior to the introduction of this regulation, the CSRC fined a prominent hedge fund for market manipulation involving intermediating block trades. An important rule in the new regultaion is that buyers of insider-sold shares must hold their positions for at least six months (2017 CSRC #9).[2] Our data allow us to evaluate the effectiveness of these rules in curtailing misbehavior.

We start by examining block discounts. In theory, the pricing of discounts should vary cross-sectionally in ways that reflect the costs that the block buyers expect to bear when they unwind the trades. For example, the adverse selection risk of transacting with a more informed counterparty (e.g., Kyle, 1985) would predict larger discounts for blocks sold by insiders relative to blocks sold by non-insiders. However, because block trades are negotiated between known counterparties, insider sellers could transmit private information to block buyers to offset the risk of adverse selection, which Naik, Neuberger, and Viswanathan (1999) model theoretically as *information-chasing*. In return, buyers will not charge larger discounts for these shares because they can utilize this private information when liquidating shares on the secondary market.

[2] 2017 CSRC #9 introduced additional stipulations such as 15-day advance notice for insider stock sales and restrictions on stock sales within a 90-day timeframe. The regulation was part of a wide-sweeping financial system reforms aimed at overhauling the China equity markets, asset management industry, and banking sector (Geng and Pan, 2024).

Prior to the 2017 regulation, discounts averaged 5.6%. We find that insider blocks, which we identify by matching block records with public insider trade records, sell for similar discounts as non-insider blocks, which supports the view that the gains from information acquisition offset adverse selection losses. We also examine and find evidence that dealers require compensation for inventory costs. Specifically, we observe larger discounts for positions that are expected to take longer to liquidate and an additional 0.67% discount for blocks sold to multiple buyers.

We build on these findings by examining how stock prices react to block trade announcements. In the presence of adverse selection risk, we expect a negative reaction on t+1 and a stronger negative reaction to the announcement of insider block sales. As expected, the t+1 return is negative, but the incremental difference between insider blocks (−0.34%) and non-insider blocks (−0.15%) is surprisingly small, suggesting that the market may not pay sufficient attention to such information. Indeed, stock prices appear to underreact to the unfavorable information conveyed by insider block sales based on our analysis of future returns. Prior to the 2017 regulation, insider block sales experience abnormal buy-and-hold returns over the next year (t+2 to +250) of −4.49% (t=−2.99), which increases to −7.73% (t=−4.46) for the trades most likely to be insider-initiated.[3] In contrast, non-insider trades show no significant abnormal returns. Our return results suggest that insider block trades are informationally-motivated and reflect the presence of adverse selection although the market is slow to impound this information.

After the 2017 regulation, we find significant changes in the block discounts and market reactions. The difference in the discount between insider and non-insider blocks widens to 120 basis points post-regulation, which likely reflects greater inventory costs and the dealers' inability

[3] The abnormal buy-and-hold return is the buy-and-hold return of the stock minus the buy-and-hold return of a characteristics-based benchmark portfolio matched on market capitalization and the earnings-to-price ratio because Liu, Stambaugh, and Yuan (2019) identify these as the most important characteristics that explain the cross-section of stock returns in the China equities market.

to exploit acquired information when unwinding trades due to the six month holding requirement for blocks sold by insiders. In addition, both the initial market reaction and one-year abnormal return of insider blocks is not significantly different from zero after May 2017, suggesting the policy successfully curtailed the alleged pre-policy misbehavior. Although block trades initially declined post-regulation, block volumes had nearly recovered to pre-regulation levels by 2019.

To summarize the findings up to this point, our analysis of the public data indicates that insiders are informationally-motivated to sell blocks and that market prices tend to underreact to the information content of these sales. The fact that block discounts are not greater for insider blocks pre-regulation suggests that dealers likely acquired information during negotiations that offsets adverse selection costs. In the next half of the study, we provide more direct evidence of information transmission by examining granular SSE account data, which contain masked identifiers of all block trades from 2013 to 2017. Our analysis generates four key results:

1. **Before the 2017 regulation, dealers unwound insider-initiated blocks 27% to 32% faster than non-insider blocks**, **controlling for block and firm characteristics.** After the rule change, they sold them 25% slower, reflecting the six-month holding period requirement. The difference in speed of sale is suggestive evidence that dealers had knowledge of unfavorable information.
2. **Before the 2017 regulation, the speed of sale negatively predicts future returns.** Stocks from 'fast sold' insider blocks (90% liquidated within 10 days) had significant negative abnormal returns over the next 80 days (-5.96%, t=-4.88). Stocks from slowly sold blocks did not (0.98%, t=0.70). The divergence in returns provides stronger evidence that dealers possess knowledge that informed their strategic decision to sell quickly before subsequent price declines.

3. **Intermediating block traders was highly lucrative for insider-initiated blocks before the 2017 regulation.** Insider-initiated trades earned an incremental +2.35% above the unconditional average market-adjusted round-trip return of +4.26%. After the rule change, returns on insider blocks are no longer significantly different from non-insider blocks. [4] This evidence further supports the view that information acquired upstairs allowed skilled traders to optimize their liquidation downstairs.
4. **Small retail investors were the primary counterparties.** Using a second proprietary database of anonymized daily trades (2013-2020), we show that small retail investors (<= CN¥ 5M) were the primary buyers of shares after insider block announcements before the 2017 rule change. In contrast, large retail (>CN¥ 5M) and institutional investors were net sellers. After 2017, these patterns disappeared.[5] The results suggest that retail investors were likely exploited by dealers and insiders.

On balance, the evidence suggests that pre-regulation, block dealers used private information obtained in the acquisition process to profitably time their secondary market sales. One interpretation is that insiders and dealers opportunistically exploit exogenous fluctuations in retail sentiment by selling when retail investors are overly optimistic. A more nefarious possibility, suggested in the prosecution of a hedge fund[6], is that investor sentiment was actively manipulated.

Our final set of tests attempts to distinguish between opportunistic and manipulative behavior by examining stock message board activity around block transactions. To do this, we use

[4] It is difficult to evaluate whether dealers were earning competitive returns on intermediating insider blocks before the May 2017 CSRC block regulations. Anecdotally, our private conversations with a dealer who was active in this market suggests that intermediating insider blocks was lucrative during this period.

[5] Differences in the behaviour of small and large retail accounts is also documented in Chen, Gao, He, Jiang, and Xiong (2019) and Titman, Wei, and Zhao (2022).

[6] The CSRC fined hedge fund manager Liangcheng Ren in 2016 for using wash sales and spoofing to attract retail investors to purchase shares acquired from block trades that he was attempting to unload. Internet Appendix provides an excerpt from the court case.

Qwen 2.5, which is a (Alibaba) Chinese large language model (LLM). This is an open-source release with freely downloadable weights, which allows researchers to exactly replicate our analysis. In contrast, the widely used Chat-GPT models from OpenAI are closed-weight and constantly evolve, thereby producing output that changes over time. Before the block announcement, we observe an increase in bullish activity for both insider and non-insider blocks trades. Consistent with the opportunistic view, these patterns suggest block sales are timed to coincide with high investor sentiment. After the announcement, the patterns diverge. The informationally-sensitive fast-sold insider blocks experience a spike in bullish posts, but we observe no such increase for slow-sold insider blocks and non-insider blocks. The post-announcement evidence is suggestive of the manipulation view. Although not definitive proof of causality, the evidence suggests that for the informationally-sensitive insider blocks, manipulation of investor sentiment was likely.

Our paper contributes to the block trade literature started by Scholes (1972). Subsequent studies by Holthausen, Leftwich, and Mayers (1987) and Seppi (1992) shows that block trades can convey negative information, but Seppi (1990) and Madhavan and Cheng (1997) find that blocks can also facilitate large, information-less liquidity trades.[7] Keim (1999) documents how a passive fund, Dimensional Fund Advisors (DFA), used block trades to obtain shares in relatively illiquid small cap stocks. Cohen (2003) describes how DFA carefully vetted sellers to avoid adverse selection. Despite the relevance and continued existence of the hybrid system in most major stock exchanges, we are not aware of empirical studies examining U.S. block trades in the last 25 years. Recent literature on the Chinese block market confirms our findings of 5-6% discounts using data

[7] See Smith, Turnbull, and White (2001), Booth, Lin, Martikainen, and Tse (2002), Bessembinder and Venkataraman (2004), Rose (2014), and Białkowski, Hong, and Wagner (2022).

from before 2008 but, lacking trading data, cannot address the issues we raise (Bian, Wang, and Zhang, 2009, Lin and Qu, 2010, Zhang, Yang, Xia, and Zhao, 2010).

Our findings relate to the literature on information exchange in bilateral negotiations in OTC markets. Our observation that insider-initiated blocks do not require higher discounts despite inherent adverse selection risk is consistent with the model in Naik, Neuberger, and Viswanathan (1999), where dealers benefit from information acquired in such trades. Recent evidence suggests that buyers chase private information in various markets.[8] For example, Jacobsen and Venkataraman (2025) find information chasing in corporate bonds. Similarly, we connect information transmission from insiders to dealers, estimate intermediary profits, and document resulting strategic trade behavior. We also study regulation designed to limit these exploitative trades that significantly reduced the extent to which retail investors were exploited.

Finally, like Titman, Wei, and Zhao (2022), we analyze how sophisticated actors may exploit less sophisticated retail investors in China.[9] They find persistent mispricing after suspicious stock splits. The mispricing persisted because small retail investors propped up the price of stocks that initiated suspicious splits. Similarly, we find predictable declines and increased small retail participation following insider block sales. However, we provide evidence of an effective policy response in this setting. Although block trades initially dropped post-regulation, the market had recovered by 2019. Importantly, the exploitation of retail investors diminishes after the 2017 block regulation designed to curtail misbehavior by insiders and dealers.

2. Institutional background

[8] See, for example, Ramadorai (2008), Bilan, Ongena, and Pancaro (2018), Kacperczyk and Pagnotta (2019), Pinter, Wang, and Zou (2022), and Monroe and Czech (2024).

[9] For studies on retail trading behavior in China, see Hong, Jiang, Wang, and Zhao (2014), Liao, Peng, and Zhu (2021), An, Lou, and Shi (2022), Bian, Da, He, Lou, Shue, and Zhou (2025), Gao, Jiang, Xiong, and Xiong (2025), and Jones, Shi, Zhang, and Zhang (2025).

The modern Chinese block market, and the data we study, was initiated on April 19, 2008 when the CSRC relaxed restrictions and opened trading to a broader group of market participants. The CSRC encouraged, but did not require, sellers of privately acquired shares to utilize the upstairs market for transactions that exceeded 1% of the total outstanding shares in a month.[10] The opening of the block market substantially increased volume. We summarize the rules that were most relevant to the block market and corporate insiders in this section and provide additional details in the Internet Appendix.

2.1 Overview of the Chinese block market

A block transaction occurs when the seller and buyer negotiate an off-exchange transaction for a large number of shares. The key difference relative to trades on the exchange, aside from the size of the transaction, is that the trades are not anonymous and are negotiated between known counterparties. Therefore, dealers could acquire valuable information from their counterparties in the course of negotiating a block trade.

Sellers of blocks are often corporate insiders, which are officially classified into three types: (1) corporate executives (董監高) including directors, supervisors, and senior executives, (2) important shareholders including large shareholders (大股東), who own >5% of total shares, and controlling shareholders (控股股東), who own >50% of total shares or have super-voting rights, and (3) shareholders with privately-acquired shares (存量股份) obtained before the IPO, from private secondary offerings, or from the share-trading reform. Insider types are non-mutually

[10] Prior to the split-share reform, the majority of shares in most Chinese public companies were restricted and could not be traded on the exchanges, with only a small fraction being tradeable. These restricted shares were generally held by government entities, parent companies, or other large institutional investors. The reform aimed to transform these restricted shares into publicly tradeable ones. The conversion process typically involved compensating current tradeable shareholders with warrants or stock dividends and establishing a timeline for the restricted shares to become publicly tradeable. Li, Wang, Cheung, and Jiang (2011) analyze the split share reform.

exclusive. For example, an individual could hold a director seat, own >5% of total shares, and obtain shares before the IPO.

The minimum transaction size for a block trade is 300,000 shares or 2,000,000 CN¥. The transaction is included in the official daily volume total, but does not affect the closing price calculation. The transaction price must be within the daily trading limit of the stock, which is typically set at ±10% of the previous close. All block transactions are processed after the market close at 3:00PM. The exchange acts as the clearinghouse and transfers ownership.[11]

2.2 Disclosure requirements for block trades

Every block transaction is announced at 5:00 pm on the day of the trade on the Shanghai Stock Exchange or the Shenzhen Stock Exchange (SZE) public website. The public data include the stock, the transaction price, the shares sold, and the branch offices of the buyer and seller brokerage firms. The identities of the buyer and the seller are not disclosed. These disclosure rules are motivated by the hope that by encouraging dealers to intermediate the share sales from insiders, the extent to which informed investors exploit their uninformed counterparties on the secondary exchange is minimized.

2.3 Disclosure requirements for insider trades

Insider sales have the following disclosure requirements. Corporate executives, large shareholders, and controlling shareholders must disclose changes in their share position within two days after trade (2002 CSRC #11, 2007 CSRC #56), but do not report whether the trades were executed on the block market or the secondary exchange. Pre-trade announcements were only

[11] Mergers and acquisitions (M&As) are typically executed using "negotiated transfer" or "transfer by agreement" transactions designed for share transfers greater than 5% of shares outstanding. M&As performed through block trades and other channels (e.g., secondary market orders) are not permitted.

encouraged for secondary market sales and were not required until 2010.[12] Block trades, per se, do not require filing a report of intention to sell, but these trades will be reported in insider sale filings. Appendix 1 provides details of these regulations.

2.4 Regulations on insider trading

Corporate executives are prohibited from trading on the block or on the secondary market around material news events, such as earnings and merger announcements (2007 CSRC #56). This blackout period includes 1) the 30 days before the quarter, mid-year, and annual report, 2) 10 days before guidance or pre-reports of firm performance including update and corrections, and 3) two trading days after any significant corporate events.

2.5 Mandatory use of the block market

During certain periods, insiders must conduct all sales through the block market. We summarize these periods and conditions below.

Period	Insider types	Conditions
2015/07/01 to 2016/01/09	Large shareholders Controlling shareholders Company executives	Any trade. *Source: 2015 CSRC #18, 2016 CSRC #1.*
2017/05/27 onwards	Large shareholders	Sales of more than 1% of shares outstanding within a three-month period. *Source: 2017 CSRC#9.*

2.6 2017 CSRC #9: Issued on May 26, 2017

2017 CSRC #9 was an important regulation of the block market intended to "*promote stability and the long-term development of the securities market*" by increasing oversight, improving disclosure, and imposing trading restrictions on share sales by corporate executives,

[12] The CSRC had voiced their desires for voluntarily pre-trade announcements to improve market function. For example, the CSRC has opined that voluntary pre-trade announcements would help "*strengthen the good faith obligations of the issuer, its controlling shareholders, and other responsible parties*". (2013 CSRC #42). But these statements serve as suggestions and voluntary acts.

controlling shareholders, and large shareholders. The regulatory change was part of a broader set of reforms described in Geng and Pan (2024). Some of the reforms are likely to have been motivated by allegations of misconduct in the block trade market because the CSRC had recently prosecuted a high-profile hedge fund manager, Liangcheng Ren, who acquired blocks and allegedly manipulated the prices of16 stocks.

2017 CSRC #9 announced increased scrutiny of corporate insider transactions and block transactions. The SSE and SZE both separately issued guidelines detailing the implementation of the rules, which went into effect immediately. The most notable is a mandatory six-month holding period for shares obtained through the block market sold by 1) large shareholders, 2) controlling shareholders, and 3) shareholders with privately acquired shares. The regulation also requires large shareholders to use the block facility if they sell more than 1% of the total outstanding shares of the company within a period of three months. The regulation does not exclude buyers of blocks from selling shares that were acquired prior to the block transactions, so a mutual fund with previously acquired shares could purchase a block and sell its original shares without effectively increasing its exposure to the stock.

3. Data and Summary Statistics

3.1 Data

We collect publicly available data from the CSMAR database and two sets of proprietary account data from the SSE. The CSMAR data include the universe of block trades from 2008 to 2022 conducted on the SSE and SSZ. The first SSE dataset contains trade and account-level data on more than 20,000 block trades conducted on SSE from 2013 to 2017. The block account data contain masked identifiers on both sides of the trade and information on the trade price, lot size,

and subsequent daily account positions of the shares. The second dataset contains the universe of daily trades of all SSE stocks aggregated by investor type from 2013 to 2020.

We process the CSMAR block sample using the following procedure. We take raw data containing 204,199 transactions and aggregate the data in two steps to create a panel where the unit of observation is at the stock-by-day level. Based on buyer account disclosures, we observe that transactions for blocks are sometimes broken into multiple smaller transactions. In some cases, a single buyer allocates the purchase of the block to different accounts, and in other cases, a consortium of buyers collectively purchases the block. Our first step is to aggregate transactions that occur for the same stock on the same day at the same transaction price. We assume that these transactions are "sub-trades" and are part of the same block trade because they transact at the same price. In step two, we aggregate all trades for the same stock on the same day, regardless of whether the transaction price is the same. We define this aggregated trade as a "block trade" and use this measure as our primary unit of analysis. Our third step follows the classification in Scholes (1972) to limit our sample to seller-initiated transactions, eliminating transactions where the block price exceeds the closing price of the stock. The idea is that seller-initiated transactions require price concessions in the form of a discount to compensate the buyer (Stoll, 1978). About 10% of our original sample (11,956 block trades) are buyer-initiated transactions, which occur at a premium. Finally, we follow Liu, Shu, and Wei (2017)'s methodology to remove stocks that are on the stock exchange delisting watchlist due to weak financial conditions.[13] This procedure results in a sample of 105,486 block trades.

3.2 Summary statistics

[13] These stocks are designated as "special treatment" (code ST or ST-PLUS) or "particular transfer" (code PT). The stock exchange audits the financials of these companies and imposes trading restrictions on these stocks.

Figure 1 presents the annual frequency of block trades on the left axis and the percentage of listed firms that had a block trade on the right axis. In the initial years, the frequency of block trades was relatively low, but starting in 2011, block trade frequency increases sharply to 3,382 per year and steadily increases to 11,130 transactions in 2016. Block trade frequency slows with the above-mentioned regulations in 2017, but recovers by 2019, and reaches a peak of 15,043 trades in 2020.

Table 1 reports summary statistics of the main variables used in the study. The mean (median) discount is 5.60% (4.97%), which is similar to the 6% discount reported in an earlier period (1/1/2003 to 9/30/2009) in Bian, Wang, and Zhang (2009). 16.98% of the blocks transact at no discount such that the block transacts at exactly the closing price on the transaction day. The mean (median) block trade size is CN¥47.75 million (CN¥17.38 million), which is approximately USD$8 million (USD$2.8 million). We create a variable, *expected days-to-sell*, which is the estimated number of days it would take to sell the position on the secondary market assuming that each day the seller liquidates 10% of daily average volume in the past 30 trading days. On average, *expected days-to-sell* is 4.67 days. More than a quarter (26%) of the blocks are acquired using more than one buyer account. Finally, we observe a strong association of the timing of block trades and share lockup expirations, which are expiration of restrictions on non-tradeable shares; 63% of block trades occur in the 30 days following a share lockup expiration.

Block transactions are typically initiated when the stock performed well (increasing on average 4.76% in the prior 30 days) and when the overall market performed well (increasing on average 2.22% in the prior 30 days). On average, CN¥42.57 billion is sold on the block market each month.

3.3 Insider-initiated block trades

We use three criteria to define insider-initiated block trades: 1) *Executive*, 2) *Key shareholder*, and 3) *Large sale*. We identify *executive* block sales by first matching block trades that coincide with stock sales by corporate executives based on the timing and volume of a block transaction with publicly disclosed insider sales records. Specifically, we link block trades that are within a two-day period around the reported sale by the corporate executive to account for noise in reporting dates. We verify that our results and inferences are similar using exact-day matching. We identify *key shareholder* block trades using a similar procedure to link publicly disclosed trading records of large shareholders (>5% of shares outstanding) and controlling shareholders to block trades.

Large sale insider block trades are defined as block sales that are greater than 2% of tradable shares. These sales reflect ownership by a party with substantial shares, which may or may not be publicly disclosed. Based on these criteria, approximately 25% of block trades are characterized as being insider initiated; 14% (11%) occurred before (after) the May 2017 regulatory change. Focusing on the period before the regulatory change, the criteria for insider trades are relatively evenly distributed among the three types, with 7% from executive sales, 6% from key shareholders, and 6% from large shareholders. The separate types do not sum up to 14% because approximately 31% of insider trades satisfy more than one criterion.

Table 2 compares insider to non-insider block trades. Insider block trades tend to have larger discounts than non-insider trades (6.83% vs. 5.18%), larger total amount (CN¥83.20M vs CN¥35.81M), longer expected days-to-sell (9.14 vs. 2.83 days), and are more likely to have recently experienced a share lockup expiration (70% vs. 61%) in the prior 30 days. Insider block trades are more likely to come from smaller firms, non-state owned enterprises (SOEs), and firms with negative earnings (9% vs. 7%). Insider block trades tend to be initiated after stronger

individual stock performance (7.42% vs. 3.87%) and market performance (3.62% vs. 1.74%). There is no evidence of information leakage in insider block trades as the raw return on the day of the announcements is larger for insider-initiated trades (1.17% vs 0.80%). In contrast to the US market, where news of block sales can drive down the closing price on the day of the trade (Reuters, 2023), we observe large positive returns on the day of the announcements, which suggests that sellers likely time their block sales.

4. Block pricing and stock returns

This section analyzes the factors that determine the block discount and the returns associated with their announcements.

4.1 Block discount

The block discount is the price negotiated relative to the closing price of the stock on the day of the transaction. From microstructure theory, we expect the discount to be determined by the following factors: (1) adverse selection, (2) inventory considerations, and 3) competitive effects.[14] To examine the importance of these factors, we estimate ordinary least squares (OLS) panel regressions as described in equation (1).

$$Discount_{i,j,t} = \alpha + \beta \times \mathbb{1}(\text{Insider}_{i,j,t}) + \rho \times \Theta_{i,t} + \gamma \times X_{j,t} + \omega \times \Psi_t + e_{i,j,t} \quad (1)$$

where i represents the block trade, j represents the firm, and t represents the day. $Discount_{i,j,t}$ is the discount of block trade i measured as the percentage discount of the transaction price relative to the closing price on day t. $\mathbb{1}$(Insider) is an indicator variable equal to one if the sale is by an insider, and zero otherwise. Θ is a vector of transaction-level characteristics, which include

[14] Other factors include search costs and bargaining power (Duffie, Garleanu, and Pedersen, 2005). Search costs are embodied in competitive effects as the process of shopping the block can increase search costs. We provide evidence on bargain power in Section 5.4 on trading profits.

log(*expected days-to-sell*), 𝟙(*multi-trade block*), *log*(*block volume of stock j prior 30 days*), and 𝟙(*lockup*). X is a vector of firm characteristics, which include *log*(*market capitalization*), 𝟙(*SOE*), *idiosyncratic volatility*, and the *return prior 30 days*. Ψ is a vector of market-level characteristics that include the *market index return prior 30 days* and the *log*(*market-wide block volume prior 30 days*). Complete variable definitions are available in Appendix 1. All regressions include month fixed effects and industry-fixed effects to capture macroeconomic trends. We estimate robust standard errors that are clustered by firm and month.

Table 3 presents the estimates. Column 1 reports a statistically insignificant coefficient estimate (0.159, t=1.44) on 𝟙(*Insider pre 5/2017*), indicating that after controlling for firm and block characteristics, the difference in discounts between insider and non-insider blocks is small and not significantly different from zero pre-regulation. In other words, dealers did not require incremental compensation for the adverse selection risk associated with trading with insiders in the pre-regulation period. In contrast, the regression estimates on 𝟙(*Insider post 5/2017*) of 1.498 (t=14.03) indicates that the discount for insider blocks is 150 basis points higher than the discount for noninsider blocks after the regulatory change. The substantially higher discount likely reflects the requirement to hold insider shares for at least six months, which increases inventory costs and the risk of adverse selection.[15]

The estimates of the coefficients of block characteristics are consistent with dealers requiring compensation for inventory costs. For example, *expected days-to-sell* is positively associated with higher discounts. Our estimates are also consistent with the view that competition decreases revenues from unwinding the block positions because block sales with multiple buyers

[15] Our point estimate of 7.09% (1.49+5.60) for a six-month holding is in the ballpark of Silber (1991), who estimates a 33.75% discount for restricted stock that have a two year lock up period in his sample (i.e., per six-month period, assuming a linear relation, Silber's estimate is 33.75%÷4=8.43%)

require larger discounts. Larger discounts are also associated with recently sold blocks and lock-up expiration of shares in the same stock. These patterns are consistent with dealers requiring larger discounts when other blocks in the same stock have recently sold and when shares are likely to be sold soon. In both cases, the competition for liquidating shares is likely to be greater.

Column 2 shows that the coefficient estimate on 𝟙(*Insider pre 5/2017*) remains statistically insignificant (−0.176, t=−1.60) after the inclusion of firm characteristics. The coefficient estimates on the firm characteristics are generally consistent with adverse selection concerns. Stocks that are larger or are state-owned enterprises require smaller discounts, and more volatile stocks require larger discounts. Discounts are also larger when the recent stock return has been high, which could have two non-mutually exclusive interpretations. Dealers are likely aware that sellers time their block sales when the price has run up. As such, they may require higher discounts to account for adverse selection concerns. They may also use this opportunity to negotiate large discounts if sellers are more willing to give a price concession after the stock has performed well recently. The results are similar after including market conditions in column 3.

4.2 Initial stock price reaction

Up to this point, we evaluate the importance of adverse selection associated with insider sales by examining the differences in the discounts of insider and non-insider blocks. The resulting estimates indicate that we cannot reject the null hypothesis that insider and non-insider blocks have the same discounts after controlling for characteristics of the blocks and the firms.

In this section, we gauge the importance of adverse selection by evaluating the differences in the announcement returns of insider and non-insider blocks. Our hypothesis is that in the presence of adverse selection, stock prices should react negatively to the sale of insider blocks. As

block trades are publicly announced each trading day after the market closes at 5:00pm, we assess the information content of the block sales from the return on the following trading day.

We revisit the result in Table 2 that the unconditional average return on day t+1 to the announcement of the block trade is economically small. The average returns of −0.34% versus −0.15% for insider versus non-insider block announcements, respectively, implies a difference of only −0.19%. To formally assess the initial stock price reaction to the news of an insider block trade, we estimate a daily return cross-sectional Fama-Macbeth regression using equation (2):

$$Return_{i,j,t+1} = \alpha + \beta \times \mathbb{1}(\text{Insider}) + \gamma \times X_{j,t} + e_{i,j,t} \quad (2)$$

where i represents the block trade, j represents the firm, and t represents the day. $Return_{i,j,t+1}$ is the return on the subsequent trading day t+1 after the announcement of the block trade i on t=0. 𝟙(Insider) is an indicator variable equal to one if the sale is by an insider, and zero otherwise. X is a vector of the firm characteristics that include *log*(*market capitalization*), 𝟙(*SOE*), *idiosyncratic volatility*, *return t=0,* and *prior month return.* To execute the Fama-Macbeth regression, we first estimate cross-sectional regressions each day, then compute the average cross-sectional coefficient estimates. Standard errors are estimated using Newey and West (1987) with 20 lags to capture serial dependence over the prior four weeks.

The results in Table 4 show an economically small first-day reaction to insider-initiated block trades before the 2017 CSRC block regulation. Column 1 reports a coefficient estimate of −0.405 (t=−10.59) on 𝟙(*Insider pre 5/2017*) and a coefficient estimate of −0.226 (t=−10.48) on 𝟙(*Noninsider*). The implied difference is approximately 0.17%, which is similar to the average difference reported in Table 2. The negative −0.405% estimate is surprisingly small considering that block trades are triggered after strong stock performance (see Table 1 for the unconditional raw return on the day of trade t=0 of +0.89%). After the 2017 rule change, the coefficient estimate

of −0.056 (t=−2.60) on 𝟙(*Insider post 5/2017*) suggests that the market reaction to the block trade is less than 6 basis points and thus not economically meaningful. Column 2 and 3 include controls for firm and stock characteristics known to explain the cross-section of stock returns. We observe similar coefficient estimates on 𝟙(*Insider pre 5/2017*) of −0.399 (t=−10.45) and −0.421 (t=−11.06), respectively, and −0.186 (t=−9.01) and −0.211 (t=−10.39) on 𝟙(*Noninsider*), respectively. Therefore, the difference in the first day reaction to insider-initiated block trades between insider and noninsider blocks before the 2017 rule change are not due to differences in firm characteristics.

Overall, the negative first-day return observed for 𝟙(*Insider pre 5/2017*) blocks suggests that the market views these transactions unfavorably, although the magnitudes are modest. First day returns, however, are confounded by temporary selling pressure or liquidity demand of dealers who are in the process of liquidating the position they recently acquired. In the next section, we examine the long-run returns following insider block announcements.

4.3 Do stock prices under-react to block trade announcements?

The previous section reports a modest negative stock price response to block trade announcements on average. We examine longer-term stock returns to assess whether the initial market response efficiently incorporates the information in the block announcement.

Figure 2 plots the event-time abnormal buy-and-hold returns of insider and non-insider trades around the block trade announcement. We compute the abnormal buy-and-hold return as the buy-and-hold stock return minus the corresponding buy-and-hold benchmark return of a portfolio matched on market capitalization and the earnings-to-price ratio of the stocks we evaluate in the prior month.[16] We separate the sample into the period before and after the 2017 rule change.

[16] We adopt the characteristics-adjusted benchmark buy and hold approach developed in Daniel, Grinblatt, Titman and Wermers (1997) to the Chinese stock market setting using the size and value characteristics identified in Liu,

The left panel shows that both insider-initiated (blue dashed line) and non-insider-initiated (black solid line) block trades experience a price run-up in the two weeks before the announcement. We also plot the returns of 'more certain' insider block trades (red dotted line), which are trades that consist of two or more insider types. For the insider trades, we observe a steady decrease in the abnormal buy-and-hold return over the subsequent 250 trading days (approximately one year) compared to the non-insider sample. The abnormal buy-and-hold return starting from day t+2 until t+250 is −4.49% (t=−2.99) for the full sample of insider-initiated trades and −7.73% (t=−4.46) for the more certain sample. In contrast, the buy-and-hold abnormal return of non-insider-initiated blocks over the subsequent year are not significantly different from zero (−1.15%, t=−1.12).

The right panel shows that after the 2017 CSRC block regulation, there is no statistically significant decrease in abnormal stock returns for insider (−1.24%, t=−1.37) and non-insider-initiated block trades (−1.73%, t=−1.31). The implication is that the market no longer under reacts to the information contained in the announcement of insider-initiated block trades after the 2017 CSRC regulation. The likely reason is that the CSRC regulation affected the types of blocks that dealers were willing to purchase due to the 180 day holding period restriction. Moreover, the rule change may have increased investor attention and scrutiny of block trades.

To formally test the statistical significance of these long-run returns, we estimate monthly Fama-MacBeth regressions. We create the following three indicator variables. $\mathbb{1}$(*Insider pre 5/2017*) is an indicator equal to one if a block transaction in stock *j* by an insider occurred before the 2017 CSRC block regulation in the prior 12 months (month−1 to month−12). $\mathbb{1}$(*Insider post 5/2017*) is an indicator equal to one if a block transaction in stock *j* by an insider occurred after the

Stambaugh, and Yuan (2019). In the month before the block announcement, stocks are independently sorted into three groups based on 30/40/30 breakpoints of market capitalization and on earnings-to-price ratio (value). Then, we create a value-weighted benchmark portfolio for each of 3 x 3 group of stocks.

2017 rule change in the prior 12 months. 𝟙(*Noninsider*) is an indicator equal to one if a block transaction in stock *j* by a non-insider occurred in the prior 12 months. We follow Liu, Stambaugh, and Yuan (2019) by including the natural logarithm of the market capitalization, the earnings-to-price ratio, and the prior month stock return.

The results in Table 5 suggest that the market underreacted to the news of insider block trades before the 2017 CSRC block regulation. Column 1 shows a significantly negative loading −0.339 (t=−3.74) on 𝟙(*Insider pre 5/2017*). The estimate implies that the one-year return for insider-initiated blocks exceeds −4% (−0.339 ×12=−4.07%). In contrast, the loadings on 𝟙(*Insider post 5/2017*) and 𝟙(*Noninsider*) are positive, but not statistically different from zero, suggesting that the market reacts efficiently to the announcement of these trades. Column 2 identifies the insider blocks that occurred before the 2017 CSRC rule change that we are more confident are insiders 𝟙(*Insider: multi-type*). We observe a large coefficient estimate of −0.478 (t=−3.74) on 𝟙(*Insider: multi-type*) compared to −0.260 (t=−3.07) on 𝟙 (*Insider: single-type*). Column 3 estimates the future returns for each insider type. We observe negative future returns for all three types, with the 𝟙(*Insider pre 5/2017: large sale*) generating the largest negative future returns (−0.235, t=−2.80).

In sum, the analysis suggests that the market under-reacts to the news of insider-initiated block trades before the 2017 CSRC regulatory change. On average, these stocks have negative future returns for the next 12 months.

5. Evidence of information acquisition

The results in Section 4.1 show similar discounts on insider-initiated and non-insider-initiated blocks. This result may seem surprising because transacting with insiders involves inherent adverse selection risks. However, acquiring information during the negotiation process

could partly offset adverse selection risk. Our return analysis verifies that insider block trades are informationally-motivated and contain adverse selection risk. A skillful trader in possession of such valuable information could optimize the liquidation of shares at more favorable prices.

Using proprietary SSE block data, we test a set of hypotheses to investigate the possibility of information acquisition during the negotiation process. The first hypothesis is that insider blocks are sold faster because these trades have higher adverse selection risk. Our second hypothesis is that the speed of sale of insider blocks predicts future returns. If dealers acquired private information, it is in their best interest to liquidate their positions more quickly before the stock price drops. Third, if dealers acquired private information, we expect dealers to earn higher returns on these trades. To test this hypothesis, we estimate the round-trip returns of the block purchase and secondary market sales. Finally, we expect that these hypothesized patterns will disappear post-regulation.

5.1 The SSE block data

Table 6 summarizes the SSE block data. We obtain a complete record of daily account holdings of all purchasers of block trades conducted on SSE listed stocks from January 2013 to December 2017. The block transactions in this sub-period exhibit comparable characteristics as the full sample in Table 1. For example, the average discount during this period is 5.26% compared to 5.60% for the entire sample. One difference is that the average block size is larger in the sub-period. The average block size is CN¥162.9 million during this period compared to CN¥47.75 million for the entire sample. From the daily positions, we determine how many days it took the dealer to liquidate the position and estimate the dealer profits from buying the block and subsequently selling the shares.

We create the measure *days-to-sell* defined as the number of days to sell 90% of the position. We use 90% of the position in case the seller retains odd lots or small amounts of unsold shares, but our inferences are similar using 100% of shares sold. We right-censor the variable by setting *days-to-sell* at a maximum of 250 trading days to approximate one calendar year. The median *days-to-sell* is 12 days. As a benchmark, we define the measure *expected days-to-sell* as the expected number of days-to-sell the entire position if the seller liquidates up to 10% of daily volume per day. The median *expected days-to-sell* is 2.38 days, which is substantially less than the median *days-to-sell* of 12 days, indicating that dealers tend to sell much less than 10% of daily volume on most days. We compare the median values because the mean number of days to liquidate 90% of the position (81.53 days) is affected by the right tail. On average, the market-adjusted return from this activity is +4.26%, but 31% of the deals experience a round-trip dollar loss. We describe the computation of round-trip trading returns in Section 5.4.

5.2 Information acquisition: Insider blocks and speed of sale

To formally test whether insider positions are sold faster, we estimate equation (3) using a Poisson regression.

$$Days\text{-}to\text{-}sell_{i,j,t} = \alpha + \beta \times \mathbb{1}(\text{Insider}_{i,j,t}) + \rho \times \Phi_{i,t} + \gamma \times X_{j,t} + \omega \times \Psi_t + e_{i,j,t} \quad (3)$$

where i represents the block trade, j represents the firm, and t represents the trading day. $Days\text{-}to\text{-}sell_{i,j,t}$ is the # of days to sell 90% of the position. $\mathbb{1}$(Insider) is an indicator variable equal to one if the sale is by an insider, and zero otherwise. Φ is a vector of transaction-level block characteristics, which includes *log*(*expected days-to-sell*), $\mathbb{1}$(*multi-trade block*), *log*(*block volume of stock j prior 30 days*), $\mathbb{1}$(*lockup*), and *discount*. X is a vector of the firm characteristics including *log*(market capitalization), $\mathbb{1}$(*SOE*), *idiosyncratic volatility, E/P*, and the *return prior 30 days*. Ψ

is a vector of market-level characteristics that includes the *market index return prior 30 days* and the *log*(*market-wide block volume CN¥ prior 30 days*). All regressions include industry-fixed effects and month fixed effects to capture macroeconomic trends. We estimate robust standard errors that are clustered by firm and month.

Table 7 shows that insider-initiated blocks are sold significantly faster before the 2017 regulation. Column 1 reports a coefficient estimate on 𝟙(*Insider pre 5/2017*) of −0.324 (t=−3.70), which indicates that the positions acquired from insiders are sold 32.4% faster. The coefficient estimate on 𝟙(*Insider post 5/2017*) of +0.237 (t=4.12) suggests that after the 2017 rule change, insider blocks are sold 23.7% slower. The resulting increase in *days-to-sell* is likely due to the restriction that buyers must hold shares obtained from insiders for at least six months.

The coefficient estimates on the block characteristics are consistent with our expectations. We observe a significantly positive relation (0.058, t=2.79) between the realized time to sell and positions that are expected to take longer to sell (*expected days-to-sell*). Dealers are also quick to unload positions when there is competition to sell shares. Blocks with multiple transactions, 𝟙(*multi-trade block*), are sold 21.4% faster, and blocks with recent lockup expirations, 𝟙(*lockup*), are sold 17.3% faster. Per 100bps increase in the discount, the position is sold slower by 2.3%, supporting the view that the discount is associated with the time to sell. Column 2 shows that the loadings on the firm characteristics are also consistent with our expectations. Large stocks are sold slower, suggesting that dealers are not rushed to sell these shares perhaps because they have less information asymmetry. Conversely, firms with higher idiosyncratic risk are sold faster. Including market conditions in column 3 does not change our main inferences. As a robustness test, we repeat our analysis and find similar point estimates using the Cox proportional hazard model. The results are available in the Internet Appendix.

Overall, the results support our hypothesis that dealers sell insider blocks significantly faster. Selling fast does not necessarily imply that dealers acquired private information during the negotiation process. Selling quickly could reflect the risk of adverse selection or the need to reduce inventory holding costs. To better infer information acquisition, we examine the future returns of these blocks in the next section.

5.3 Information acquisition: Predicting future stock returns from the speed of sale

If dealers learn of unfavorable information during the negotiation, it is in their best interest to unwind positions more quickly when the market is not yet aware of the impending bad news about the firm. Conversely, if dealers learn that no material information will be revealed in the near future, they can sell shares at a slower pace and patiently wait for opportunities to liquidate shares at higher prices.

To operationalize this prediction, we categorize insider-initiated trades before the 2017 regulation into two groups: $\mathbb{1}$(*Insider pre 5/2017: fast*) is defined as an insider block position that is at least 90% sold within 10 trading days. $\mathbb{1}$(*Insider pre 5/2017: not fast*) is defined as the complement of selling fast positions (those that are less than 90% sold within 10 days). For this analysis, we exclude positions where less than 10% are sold after a year because these positions are likely acquired for the purpose of long-term holdings, not for the intention of selling into the market. However, our inferences remain unchanged if we include these positions. We track the abnormal buy-and-hold stock return of these two groups over the subsequent 90 days after the block announcement.

Figure 3 reports the abnormal buy-and-hold returns of those stocks that experienced insider-initiated block sales before the 2017 regulation. We separately consider subsamples classified as 'selling fast' and 'not fast', where the 'selling fast' ('not fast') are defined by whether

the dealer sells at least (less than) 90% within the first 10 days. To visualize the return dynamics around the block announcement t=0, we compute the abnormal buy-and-hold returns starting from t−10 until t+90.

The left figure presents the return patterns for insider-initiated sales. We observe a strong stock price increase in the 10 day run-up to the block announcement for both groups, at which point the patterns diverge. Positions sold quickly ('selling fast') exhibit a sharp decline in future returns. To evaluate the size of the reversal, we track the buy-and-hold return over the subsequent 80 days after the initial 10 days when most of the position is sold. The future return is statistically significant and economically large (−5.96%, t=−4.88). In contrast, the positions sold slowly ('not fast') do not experience a reversal. These stocks maintain the price increase experienced in the pre-announcement run-up as the abnormal returns in the subsequent 80 days increase modestly (+0.98%, t=0.70). The right figure reports the return patterns for non-insider-initiated sales. We observe similar, but less dramatic patterns for these block trades. The share price increases for both groups in the run-up to the block announcement. Shares sold quickly exhibit negative abnormal returns in the next 80 days (−1.95%, t=−2.62) although the decline is less dramatic compared to the insider-initiated counterparts. Shares sold more slowly experience abnormal returns that are not significantly different than zero (+1.04%, t=0.85). These patterns are consistent with the view that dealers may also acquire information when negotiating with counterparties that were not classified as non-insiders. The result is not surprising because our categorization of insiders omits insider share sales that are not required to be publicly disclosed. Therefore, some corporate insider sales will be included in the $\mathbb{1}(Noninsider)$ group, such that we should expect to observe similar but less dramatic patterns for these sales.

Combining the results from the speed of sale and future returns analysis provides evidence to suggest that dealers acquired information during the negotiation process, particularly from insiders. Dealers acquire private information during the negotiation of the block trade and exploit this information when liquidating shares on the secondary exchange.

5.4 Information acquisition: Insider blocks and trading profits

Next, we evaluate the third hypothesis that intermediating insider blocks was more profit pre-regulation. We assess trading profits by estimating a market-adjusted round-trip return for each acquired block *i* as follows. At the end of each day, we track the block position in each buyer's account. If shares are sold on a particular day, we assume a sale event *k* occurred and that the seller liquidated the shares at the closing price. For each sale event *k*, we compute the difference between the selling price and the market adjusted price, which is defined as the purchase price multiplied by one plus the return on the value-weighted CSMAR market return from the day after the block transaction until day of the sale event. We multiply this difference by the shares sold to compute the market-adjusted value of each sale event. To compute the market-adjusted round-trip return, we sum all the market-adjusted values and divide by the value of the original block transaction. We express the computation in equation (4).

$$Round\text{-}trip\ return\ \%_i = \frac{\sum_{k=1}^{K}\left(Selling\ price_k - Market\ adjusted\ price_k\right) \times shares_k}{Purchase\ price_i \times shares_i} \tag{4}$$

We estimate OLS panel regressions that account for differences in block and stock characteristics between insider- and non-insider-initiated blocks. The dependent variable *Profit* is either the *round-trip return* or $\mathbb{1}(loss)$, which is an indicator variable equal to one if the trade incurred a market-adjusted dollar-weighted net loss. For this analysis, we exclude positions that

are never sold in the following year. The regression specifications include month and industry fixed effects. Standard errors are clustered by firm and month. We estimate equation (5) as follows.

$$Profit_{i,j,t} = \alpha + \beta \times \mathbb{1}(\text{Insider}_{i,j,t}) + \rho \times \Phi_{i,t} + \gamma \times X_{j,t} + \omega \times \Psi_t + e_{i,j,t} \quad (5)$$

Table 8 shows that dealers earned higher trading returns before the 2017 regulation. Column 1 shows that the incremental round-trip return is more than two percentage points higher for intermediating insider-initiated blocks as the coefficient estimate on 𝟙(*Insider pre 5/2017*) is 2.354 (t=2.96). After the rule change, the incremental difference is smaller and not statistically significant (0.800, t=0.22). Column 2 shows that the incremental round-trip returns among insider-initiated positions that are sold quickly (2.348, t=2.20) and those that were not (2.374%, t=1.48) are similar. Our round-trip returns are likely an upper-bound estimate because dealers incur trading costs and may pay interest on funds used to acquire the block position. In the 2016 court filing of hedge fund manager Mr. Ren, the defendant claims that fees were also paid to handling agents who introduced the sellers, but our private conversations with another hedge fund manager who was also an active trader in this market indicate that the amounts, if any, were modest. The result is consistent with the idea that dealers obtain valuable information during the block negotiation and use this information to optimize their selling strategies.

It is worth noting that the coefficient estimate on *discount %* of 1.154 (t=11.87) indicates a close to one-to-one mapping between discount and round-trip return. We observe that most block and stock characteristics are not significantly related to the market-adjusted trading returns. The exception is idiosyncratic volatility; when idiosyncratic volatility is higher, the round-trip return is reduced. Columns 3 and 4 show that insider-initiated trades are 9.4% (t=−5.63) less likely to incur a loss prior to the 2017 CSRC regulatory change, which is due to 𝟙(*Insider pre 5/2017: fast*) trades and not by 𝟙(*Insider pre 5/2017: not fast*) trades. However, after the May 2017 rule change,

insider blocks are more likely to experience a net loss, although the effect is significant only at the 10% level. The latter result could likely reflect the requirement that buyers of blocks from insiders must hold shares for at least six months.

5.5 Exploiting retail investors

To document the likely buyers of these block shares on the secondary market, we examine a proprietary eight-year sample (2013-2020) of anonymized SSE trading records. The data contain trade orders by the following account types: small retail investors (<CN¥5 million), large retail investors (>=CN¥5 million), and institutional investors. Our analysis of the revealed trading behavior identifies investors whose purchases support the stock price when dealers unwind their insider shares on the secondary market. For each block trade and each investor type, we construct a daily measure of net imbalance (NI) by computing the total value of shares purchased minus the total value of shares sold divided by the average daily trading volume in the prior year. We accumulate these daily imbalances from day t=−10 to day t=+90. The *cumulative NI* of stock i for investor type j is expressed in equation (6):

$$Cumulative\ NI_{i,j} = \sum_{t=-10}^{+90} \frac{Buy\ Value_{i,j,t} - Sell\ Value_{i,j,t}}{Average\ Daily\ Value\ of\ Shares\ Traded_{i,\ Year(t)-1}} \quad (6)$$

Figure 4 reports the results. Panel A reports the cumulative net imbalance totals before the 2017 regulation for small retail accounts (left panel), large retail accounts (center panel), and institutional investors (right panel) around the block trade announcements. Each figure separately plots insider and non-insider blocks. The left panel shows that small retail investors increased their purchases of shares of both insider and noninsider blocks before the 2017 rule change. However, their net buying of shares in insider blocks is much greater than for noninsider blocks. We also observe a sharp increase in the purchase activity of shares in insider blocks after the block

announcement. In contrast, large retail accounts (>CN¥ 5M) were net sellers of shares after insider block sales, but not for noninsider block sales. Such nuanced behavior suggests that large retail accounts are informed because they can distinguish between insider block, whose share price will tend to decrease in post-announcement period, and non-insider block, whose share price will not significantly change after the block announcement.[17]

Panel B shows that after the 2017 rule change, there is no difference in the purchase patterns between insider and non-insider block sales among small retail investors. We observe economically small differences in the cumulative net trading imbalance between insider and non-insider blocks in large retail accounts and institutional investors.

Overall, prior to the 2017 regulation, insiders appear to have used block trades to sell over-priced shares in ways that ultimately exploited small retail investors. Small retail accounts were more likely to accelerate their buying of shares in stocks of insider block sales relative to non-insider blocks, while more sophisticated investors concurrently sold these shares. These trading patterns ended after the passage of 2017 CSRC #9. The policy changes largely corrected for the flaw in the regulation of insider-initiated block sales.

6. Opportunism or manipulation?

An innocuous explanation of these trading patterns is that small retail investors were overly exuberant and insiders opportunistically sold shares at times when investors were too optimistic. However, there were rumors, described in the prosecution of the hedge fund manager Liangcheng Ren, that retail investor optimism was not exogenous. Rather, the selling parties manipulated retail investors into buying shares to enable dealers to unload their position at favorable prices.

[17] Differences in the behaviour of small and large retail accounts is also documented in Chen, Gao, He, Jiang, and Xiong (2019) and Titman, Wei, and Zhao (2022).

To assess the opportunism and manipulation views, we analyze fast-sold insider blocks because these are the most informationally-sensitive trades. Unwinding large positions in a relatively short window requires available buyers to take the other side of the transactions. The two views are not mutually exclusive, but have distinct predictions. If investor optimism is exogenous, we expect to observe heightened sentiment in the period before the block announcement as sellers time their sales during this window of opportunity. The manipulation view is more nefarious. Sellers who wish to quickly unload their position in favorable terms can attempt to manipulate investor sentiment by posting bullish messages after the block is announced.

We quantify investor optimism by analyzing data from the Guba Eastmoney (股吧) stock forum.[18] We begin by reading randomly selected posts around block trade announcements to understand the nature of message board activity. The context of these messages suggests that block trades were controversial. Some users expressed bullish views that the stock price would increase, but other users posted cautionary messages, warning that future returns would not be favorable. Some messages were suspicious because the posts were made by new registered accounts or by the same account post nearly identical content multiple times on the same day (i.e., spam posting).

To classify the topic of each post, we use the Qwen (通义千问) 2.5 open-weight LLM.[19] Developed by Alibaba and released in September 2024, the model encompasses up to 18 trillion tokens and was pre-trained on Alibaba's latest large-scale dataset (as of February 2025, when the analysis was performed). We use Qwen for four reasons. First, the model can be operated locally because it is a free-for-download model. As of February 2025, it had 4.9 million downloads.

[18] The Guba Eastmoney (股吧) stock forum website is the most active stock forum for Chinese equities. Each stock has its own forum page. Forum managers update the page with officially disclosed information such as earnings announcements, stock splits, and block trades. We download the entire history of message board posts.

[19] We downloaded the Qwen 2.5 LLM 7B through the following website: https://ollama.com/library/qwen2.5.

Second, because the LLM is open-weight, our classification data can be replicated by future researchers. Closed models such as Chat GPT-4o change weights such that it generates different outputs over time and is not suitable for our research. Third, Qwen 2.5 is designed to interpret Chinese text because it is trained on Chinese and English data. Fourth, it is among the best performing models at the time of our analysis (Yang et al., 2024). To verify performance, we instruct Chat GPT-4o, the leading available frontier model at the time of analysis, to perform the same classification on a random sample of 5,000 posts. We obtain a 99% correlation between the Qwen 2.5 and Chat GPT-4o classifications.

We instruct Qwen 2.5 to classify each post into one of three categories: bullish, cautionary, or others.[20] Bullish posts express enthusiastic and positive views on the company's prospects and encourage investment. Cautionary posts warn investors of an impending price drop. We classify the remaining posts as 'others.' We assess accuracy by instructing two research assistants to verify the Qwen 2.5 classification of 20,000 randomly selected message board posts. Our manual check of the accuracy of the Qwen 2.5 LLM classification is 97.8%. The accuracy rate exceeds the performance of the popular bidirectional encoder representations from transformers (BERT) approach, which has accuracy rates ranging from 80% to 92% in classification tasks of Chinese finance-related text (Lee and Zhong, 2022, Gao, Li, Tan, Zhao, 2024, Tan, Wu, and Zhang, 2024).

Figure 5 displays the bullish message board activity of insider block trades (t=−10 to +10) around the block transaction announcement. For each day in the event window, we compute the percentage increase in bullish posts relative to the level of baseline activity defined as the daily

[20] The prompt in Chinese: '请你分类这个发在股吧的帖子，它的内容可以被分为：1.看涨；2.警告；3.其他。如果你不确定是否是看涨或者警告，请将其分为其他；你只用回答这个属于这个分类的数字，如果是空帖子就不用分类，如果不确定也是分为 3.其他.' English translation: "Please classify this post on the stock forum. Its content can be divided into: 1. Bullish; 2. Cautionary; 3. Others. If you are not sure whether it is bullish or cautionary, please classify it into other; you only need to answer the number that belongs to this category. If it is an empty post, there is no need to classify it. If you are not sure, classify it into 3. Others."

average bullish posts in the prior ten trading days (t=−20 to −11). We separate block transactions into three groups: 1) 𝟙(*Insider pre 5/2017: fast*) are insider blocks where 90%+ of the position is sold within the subsequent ten trading days, 2) 𝟙(*Insider pre 5/2017: not fast*) are insider blocks where < 90% of the position is sold within the following ten trading days, and 3) 𝟙(*Noninsider*) are non-insider block trades.

The left chart shows increasing bullish activity in the pre-announcement period for all three types. Fast-sold insider blocks exhibit a greater increase than the other two groups. At the announcement date, we observe an upwards spike in activity for 𝟙(*Insider pre 5/2017: fast*) that persists into the post-announcement period. The other two groups do not experience this sharp increase. These patterns are consistent with both the opportunism and manipulation views. Consistent with the opportunism view, block sales are triggered when investor sentiment is high for all types of block trades. Consistent with the opportunism view, message board activity then accelerates upon the announcement of 𝟙(*Insider pre 5/2017: fast*), when dealers have strong incentives to manipulate investor sentiment to facilitate the urgent sale of shares on the secondary market.

To further assess the manipulation view, we examine suspicious posts, define based on two criteria. First, we classify a post as suspicious if the post where the user account was registered less than 30 days prior to the post. These accounts have no history and are anonymous because the registration of Guba users did not require identity verification during this period. Second, we define a post as suspicious if the user account engages in spam posting, defined as 10 or more posts on the stock-specific message board on that day. For each day in the event window, we compute the percentage increase in suspicious message board activity relative to the level of baseline suspicious activity defined as the daily average activity in the prior ten trading days (t=−20 to −11). In the

Internet Appendix, we estimate Poisson regressions to verify that these patterns are statistically significant.

The right chart shows a sharper divergence in suspicious bullish posts between fast-sold and not fast-sold blocks. For not-fast-sold insider blocks, sellers are not motivated to sell shares on the secondary market, therefore, there is no incentive to generate suspicious bullish activity. Consistent with this view, we observe no changes in suspicious bullish posts throughout the event window. On the other hand, dealers of fast-sold insider blocks have strong incentives for investor sentiment to be high to facilitate the selling of shares on the secondary market. The evidence is consistent with the manipulation view because suspicious bullish activity increases throughout the event window for fast-sold insider blocks.

Figure 6 completes our analysis by revisiting the trading data on secondary market counterparties. Considering the evidence that investor sentiment markedly increases around fast-sold insider blocks, we expect that small retail investors will näively increase purchases of these shares. Consistent with this view, small retail investors accumulated ownership in the $\mathbb{1}$(*Insider pre 5/2017: fast*) blocks even more than in shares of $\mathbb{1}$(*Insider pre 5/2017: not fast*) blocks. Net buying activity in fast-sold insider blocks also spikes after the announcement of the block trade, mirroring the increase in message board activity. In contrast, the revealed trading behavior of large retail investors suggests that they are much more sophisticated. As a group, they were quick to sell shares in fast-sold blocks, which will experience a sharp future price decline, as we showed earlier. On net, their positions do not change in shares of not fast-sold blocks, which will maintain their price run-up after the block announcement. Their ability to distinguish between shares that will experience future price declines (fast-sold insider blocks) and those that will not (not fast-sold insider blocks) is consistent with evidence in prior studies that large retail investors are informed

(Chen et al., 2019, Titman, Wei, and Zhao, 2022). Institutions were not capable of distinguishing between these two types of insider blocks as they are net sellers of both fast-sold and not fast-sold blocks.

Overall, these patterns are consistent with the view that increased activity on the message board may have allowed dealers to quickly unload these insider shares to small retail investors before the stock price subsequently fell.

7. Conclusion

Block trades are large, negotiated OTC transactions that occur in practically all stock markets. They involves the sale of shares by corporate executives and large shareholders to intermediaries who subsequently sell the shares on the secondary exchange to mostly smaller and less sophisticated retail investors. We analyze more than 100,000 seller-initiated block trades in China during the 2008 to 2022 period, along with proprietary trade- and account-level data of block purchases conducted the SSE from 2013 to 2017.

We find that these transactions generally occur at a discount determined by factors such as inventory costs and recent transaction conditions. However, in contrast to the implications of simple adverse selection models, we do not observe meaningful differences in block discounts between insider and non-insider blocks prior to the 2017 block regulation. Similarly, the initial price responses to the block announcements are not meaningfully different. We conclude that the buyers of insider-initiated blocks appear to have obtained valuable information that 1) offset the effects of adverse selection, 2) allowed them to profitably unwind their position, and 3) profit at the expense of small retail investors, who were the primary buyers on the days that the dealers were selling.

Return patterns associated with insider block trades following the 2017 rule are quite different. Insider block trades no longer predict negative future returns, and small retail investors are no longer attracted to buying these shares. Consequently, discounts for insider-initiated blocks increased, reflecting higher inventory costs and the inability of dealers to utilize information they acquired during the negotiation. Our interpretation of this evidence is that the regulatory changes that were put in place successfully protected small retail investors from the exploitive trades of insiders and block traders.

Finally, our evidence indicates that insiders and their accomplices exploit the fluctuating sentiment of small retail investors. We also attempt to detect the possibility that these actors were manipulating sentiment. Although the evidence is not definitive, our analysis of postings on message boards is consistent with manipulation of investor sentiment prior to, but not after, the 2017 CSRC block regulations.

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Appendix 1. Variable definitions

Variable name	Description
Discount %	Price of the block sale minus the closing stock price on announcement day divided by the closing stock price on announcement day.
𝟙(No discount)	Indicator equal to one if the price of the block transaction equals the closing stock price on the day of the block trade announcement, and zero otherwise.
Block size CN¥ (M)	Block amount sold CN¥ (millions).
Block/float %	Number of shares of the block transaction divided by total tradable shares
Expected days-to-sell	Expected number of days-to-sell the entire block position assuming the seller sells up to 10% of daily volume each trading day, based on the average daily volume in the prior 30 days.
# of transactions	# of transactions in the iceberg block trade.
𝟙(Multi-trade block)	Indicator equal to one if the block transaction involves using buyer accounts, and zero otherwise.
𝟙(Lockup)	Indicator equal to one if the underlying stock has experienced a lockup expiration of shares in the prior 30 days, and zero otherwise.
Block volume of stock *j* prior 30 days CN¥ (M)	Total block sales (CN¥ millions) of stock *j* in the prior 30 days.
Insider characteristics	
𝟙(Insider)	Indicator equal to one if the block sale meets one or more of the following criteria: executive, key shareholder, or large sale, and zero otherwise.
𝟙(Insider pre 5/2017)	Indicator equal to one if the block sale is an insider block and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider post 5/2017)	Indicator equal to one if the block sale is an insider block and occurs on or after the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider pre 5/2017: executive)	Indicator equal to one if an executive in the company reports a sale within a two-day window and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider pre 5/2017: key shareholder)	Indicator equal to one if a key shareholder in the company reports a sale within a two-day window and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider pre 5/2017: large sale)	Indicator equal to one if the block sale is greater than 2% of tradable shares and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider pre 5/2017: fast)	Indicator equal to one if the insider block is 90% sold within 10 trading days and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
𝟙(Insider pre 5/2017: not fast)	Indicator equal to one if the insider block is < 90% sold within 10 trading days and occurs before the issuance of 2017 CSRC #9 on May 26, 2017, and zero otherwise.
Firm characteristics	
Market capitalization CN¥ (B)	Market capitalization CN¥ (billions) at month end *t*-1 from the block trade date.
𝟙(SOE)	Indicator equal to one if the ultimate controller of the company is the government, and zero otherwise.
𝟙(SSE)	Indicator equal to one if the ultimate controller of the company is listed on the Shanghai Stock Exchange, and zero otherwise.
E/P %	Earnings to price ratio (Liu, Stambaugh, and Yuan, 2018).
Stock characteristics	
Return t=0 %	Stock return on block announcement day (t=0).
Return t+1 %	Stock return on the day following the block announcement (*t*+1).
Return prior 30 days %	Stock return total over the prior 30 days from block announcement.
Prior month return %	Stock return in the month prior to the block trade.
Idiosyncratic volatility %	Average daily idiosyncratic volatility of daily stock returns in the 30 days prior to the block trade announcement.

Continued

Appendix 1. Variable definitions (continued)

Variable name	Description
Market characteristics	
Market index return prior 30 days %	Total CSMAR daily market return with cash dividend reinvested (Total-value-weighted) during the prior 30 days.
Market-wide block volume CN¥ (B) prior 30 days	Total block sales of all stocks (CN¥ billions) during the prior 30 days.
Trading characteristics	
Days-to-sell	# of days to sell 90% of the position.
Round-trip return %	Round-trip return is calculated as the market-adjusted (from the time of purchase) amount of each sell order minus the purchase amount of those shares divided by the sum of the purchase amount. To estimate the sell amount, profit, and return for positions still held after one year, we sell the position at the closing price at the end of the year.
𝟙(Loss)	Indicator equal to one if the round-trip return is negative for the block trade, and zero otherwise.

Figure 1. Block trade frequency

The figure plots the yearly total number of block trades (bar chart, left axis) and annual percentage of firms with a block trade (line chart, right axis). The sample consists of all block trades on the SSE or SZE from April 1, 2008 to December 31, 2022. Data source: CSMAR.

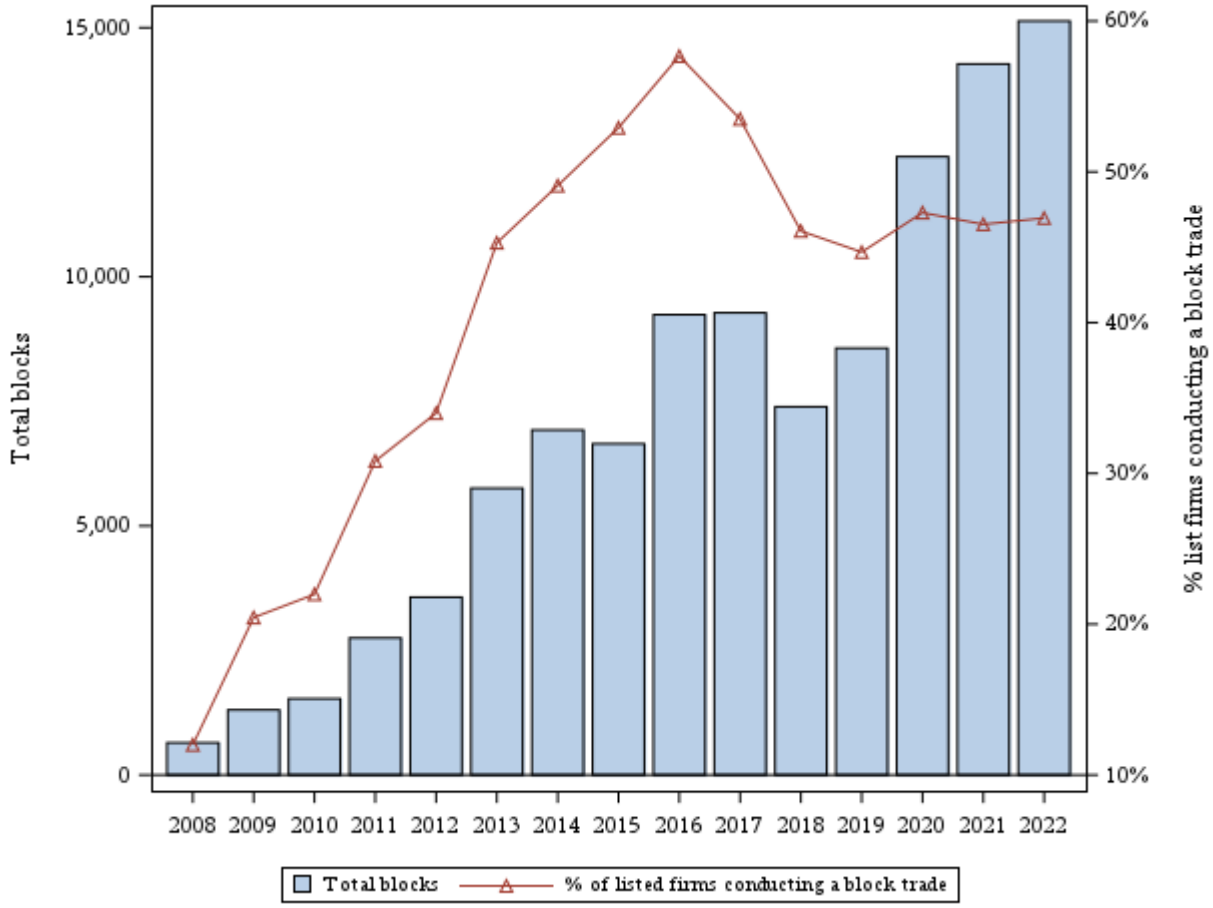


Figure 2. Buy-and-hold abnormal returns: Insider versus non-insider block trades

This figure plots buy-and-hold abnormal returns in event time for insider and non-insider block trades. The holding period starts at t=-10 and ends approximately one year after at t=+250. t=0 is the event day of the block trade announcement. Abnormal return is calculated as the buy-and-hold return minus the corresponding buy-and-hold benchmark return of a portfolio matched on market capitalization and the earnings-to-price ratio in the prior month. A block trade is classified as insider-initiated if the trade concords with one or more of the following criteria. Executives are defined as a block trade that occurs within a two-day window of a reported corporate executive stock sales. Key shareholders are defined as a block trade that occurs within a two-day window of a reported key shareholder sale. Large sales are defined as a block trade that exceeds 2% of float. Panel A contains block trades before the 2017 CSRC #9 announcement on May 26, 2017 (April 1, 2008 to May 25, 2017). Panel B contains block trades from May 26, 2017 to December 31, 2022. Data source: CSMAR.

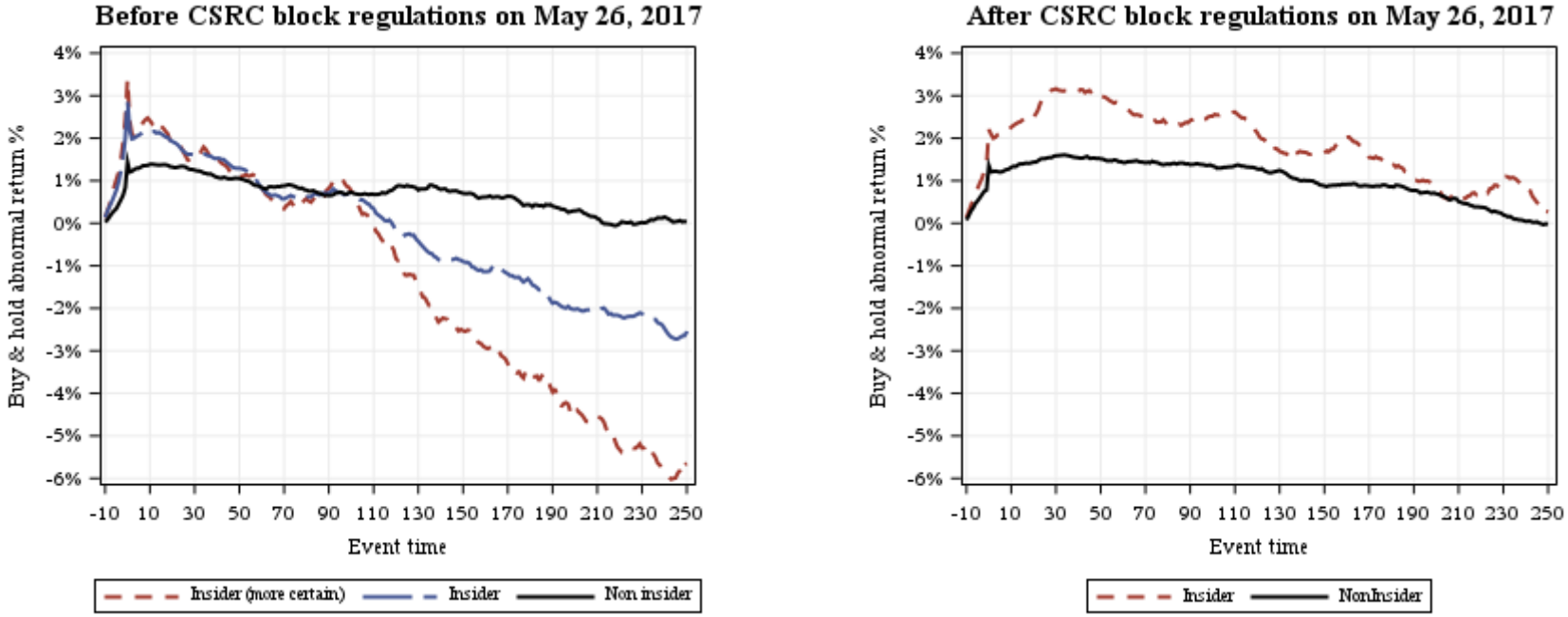


Figure 3. Selling fast versus selling slow: Buy & hold abnormal returns

This figure plots the average buy-and-hold abnormal return of insider trades grouped by selling fast and not fast in event time. Selling fast is defined as an insider block where 90% of the position is sold within 10 trading days. Not fast is defined as an insider block where 90% of the position is still head within 10 trading days. t=0 is the day of the block trade announcement. The abnormal return is calculated as the buy-and-hold return of the underlying stock starting at t=−10 minus the corresponding buy-and-hold benchmark portfolio return where the benchmark is formed based on the matched size and earnings-to-price ratio tercile (3X3) form in the month prior to t=−10. A block trade is classified as insider-initiated if it concords with one or more of the following criteria. Executives are defined as a block trade that occurs within a two-day window of a reported corporate executive stock sale. Key shareholders are defined as a block trade that occurs within a two-day window of a reported key shareholder sale. Large sales are defined as a block trade that exceeds 2% of float. The sample consists of block trades conducted on the SSE from January 1, 2013 to May 25, 2017 before the change in the 2017 CSRC #9 issued on May 26, 2017. Data source: CSMAR, SSE proprietary account data.

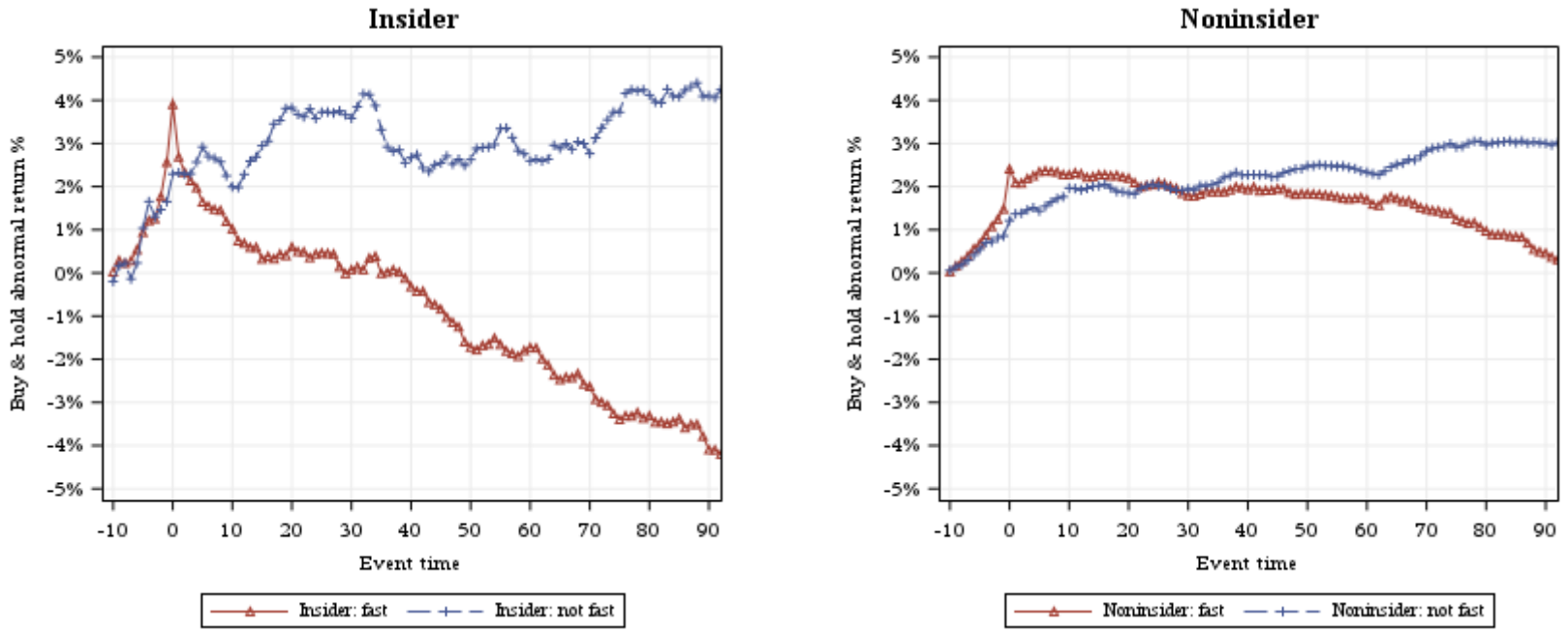
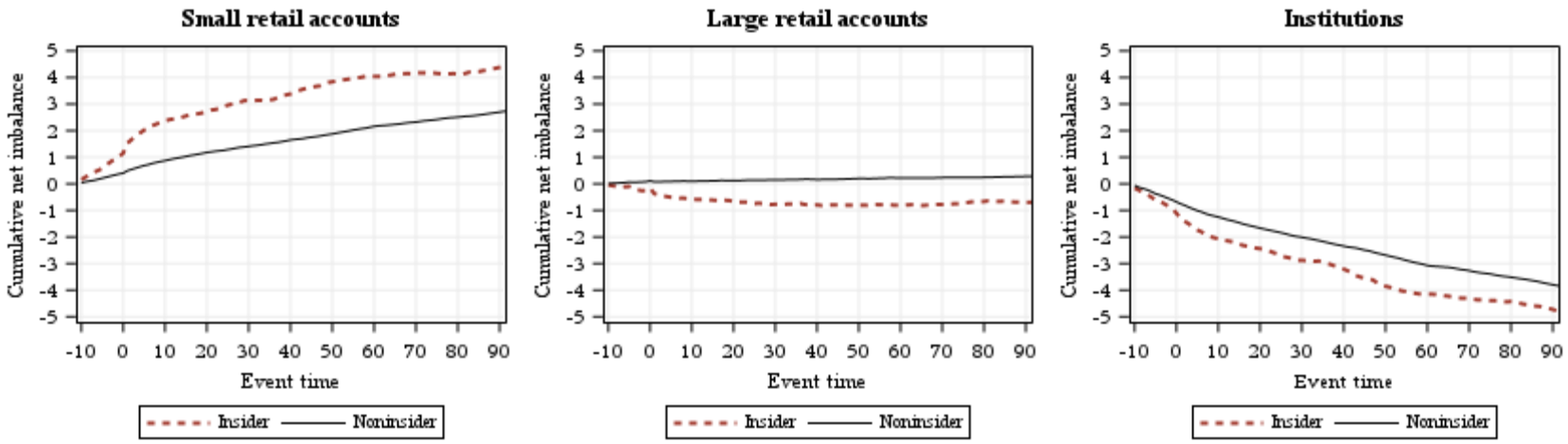


Figure 4. Net buying around announcement of insider versus noninsider blocks

The figure presents cumulative net buying of secondary market shares in event time centered on the announcement of insider and non-insider block trades for the following investor types: small retail investors (<CN¥5 million), large retail investors (>=CN¥5 million), and institutional investors. Panel A reports the cumulative net imbalance totals before the 2017 CSRC #9 issued on May 26, 2017. Panel B reports the cumulative net imbalance totals on and after May 26, 2017. A block trade is classified as insider-initiated if it concords with one or more of the following criteria. Executives are defined as a block trade that occurs within a two-day window of a reported corporate executive stock sales. Key shareholders are defined as a block trade that occurs within a two-day window of a reported key shareholder sale. Large sales are defined as a block trade that exceeds 2% of float. The sample consists of all seller-initiated block trades conducted on the SSE from January 1, 2013 to June 30, 2020. Data source: CSMAR, SSE proprietary account data.

Figure 4. Continued.

Panel A. Before 2017 CSRC #9 issued on May 26, 2017



Panel B. After 2017 CSRC #9 issued on May 26, 2017

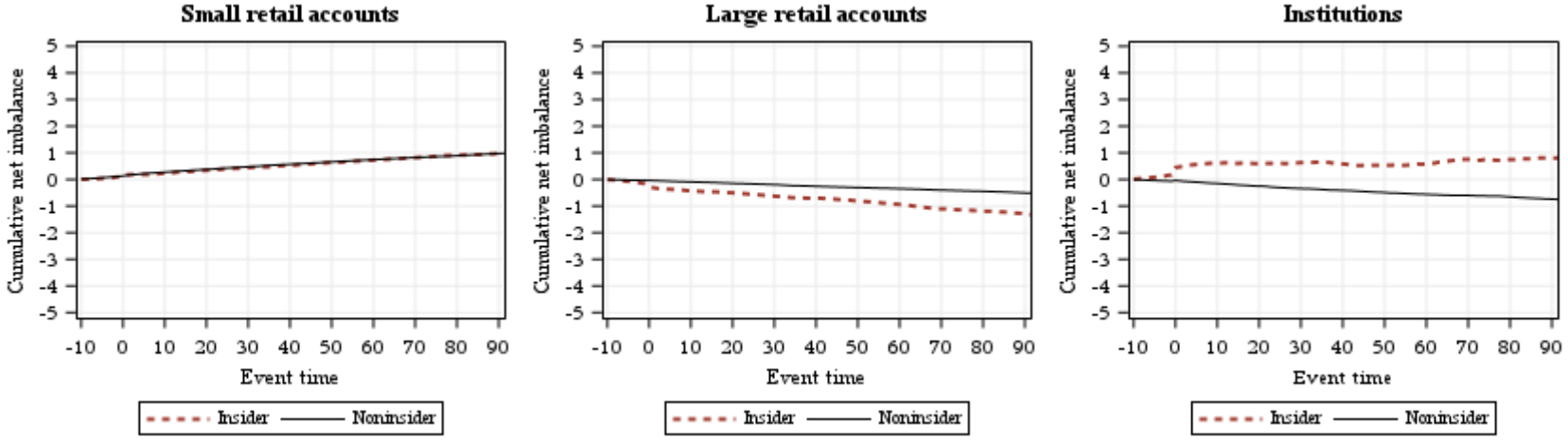


Figure 5. Message board activity around insider block transaction announcements

The figure presents message board activity in event time centered on the announcement of insider block trades before the 2017 CSRC #9 regulation on May 26, 2017. The left panel presents the percentage increase in message board activity of bullish posts starting at t-10 relative to the average daily total activity during prior 10 trading days (t-20 to t-11). Insider: fast are insider block sales that are 90% sold within 10 trading days. Insider: not fast are insider block sales that are < 90% within 10 trading days. The right panel presents the percentage increase in suspicious posts of bullish posts relative to the average daily suspicious bullish posts in the prior 10 trading days (t-20 to t-11). Suspicious posts are posted by user accounts that 1) registered less than 30 days before the date of the posting or 2) made 10+ posts on the stock-specific message board on the day. The sample consists of all block trades conducted on the SSE from January 1, 2013 to May 26, 2017, before the announcement of 2017 CSRC #9. Data source: CSMAR, SSE proprietary account data.

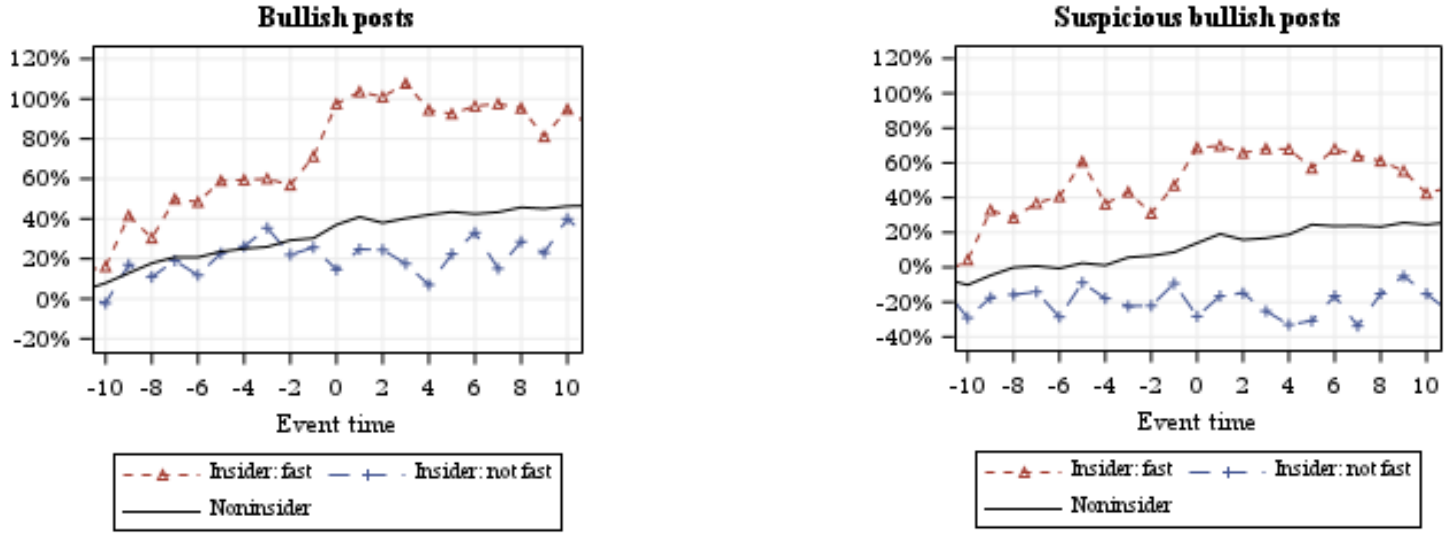


Figure 6. Selling fast: Net buying around insider block transaction announcements

The figure presents cumulative net buying of secondary market shares in event time centered on the announcement of insider block trades before the 2017 CSRC regulatory change that are sold fast and not fast for the following investor types: small retail investors (<CN¥5 million), large retail investors (>=CN¥5 million), and institutional investors. A block trade is categorized as insider-initiated if it concords with one or more of the following criteria. Executives are defined as a block trade that occurs within a two-day window of a reported corporate executive stock sales. Key shareholders are defined as a block trade that occurs within a two-day window of a reported key shareholder sale. Large sales are defined as a block trade that exceeds 2% of float. The sample consists of all block trades conducted on the SSE from January 1, 2013 to May 26, 2017, before the announcement of 2017 CSRC #9. Data source: CSMAR, SSE proprietary account data.

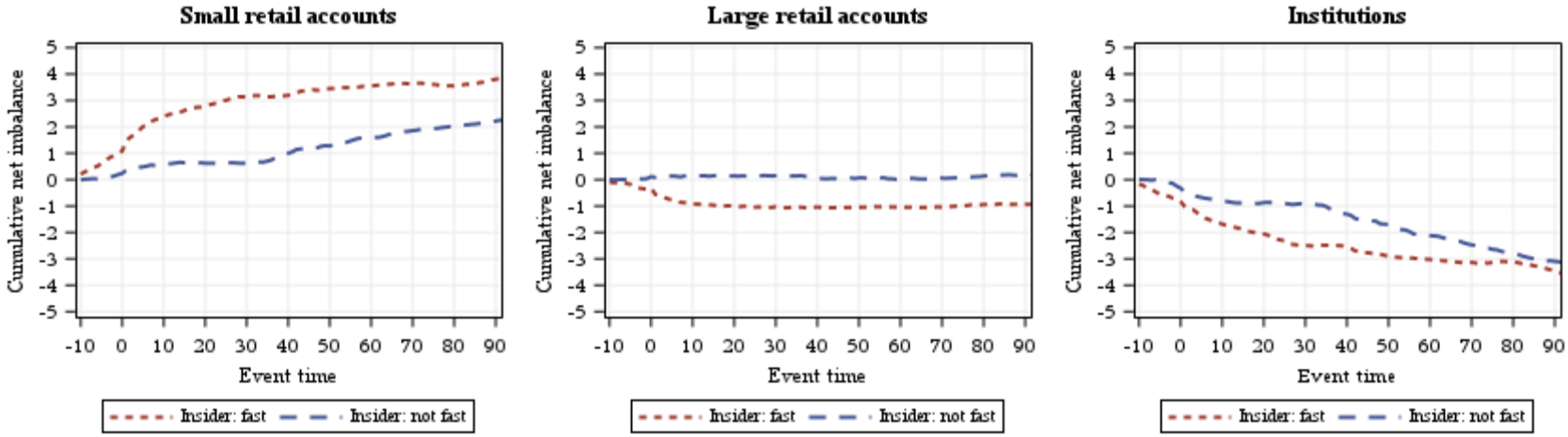


Table 1. Summary statistics

The table reports summary statistics of the variables used in this study. Variable definitions are available in Appendix 1. The sample consists of block transactions for trade *i* in stock *j* conducted on the SSE or SZE from April 1, 2008 to December 31, 2022. Data source: CSMAR.

	N	Mean	Std	p10	Median	p90
Block characteristics						
Discount %	105,486	5.60	4.53	0.00	4.97	11.69
𝟙(No discount)	105,486	16.98	37.55			
Block size CN¥ (M)	105,486	47.75	163.39	3.08	17.38	103.09
Block size/float %	105,486	0.66	1.13	0.01	0.25	1.73
Expected days-to-sell	105,486	4.42	21.36	0.10	1.47	9.89
# of transactions	105,486	1.60	1.42	1.00	1.00	3.00
𝟙(Multi-trade block)	105,486	0.26	0.44			
𝟙(Lockup)	105,486	0.63	0.48			
Block volume of stock *j* prior 30 days CN¥ (M)	105,486	117.27	376.07	0.00	18.49	276.92
Firm and stock characteristics						
Market capitalization CN¥ (B)	105,486	57.76	187.48	2.68	10.18	123.20
𝟙(SOE)	105,486	0.24	0.43			
𝟙(SSE)	105,486	0.38	0.49			
E/P %	105,486	3.57	18.82	-0.18	2.23	8.61
Idiosyncratic volatility %	105,486	2.39	1.21	1.12	2.19	3.92
Stock returns						
Return prior 30 days %	105,486	4.76	17.62	-12.56	2.46	23.80
Return *t*=0 %	105,486	0.89	3.13	-2.36	0.49	4.74
Return *t*+1 %	105,486	-0.19	3.17	-3.67	-0.26	3.35
Market conditions						
Market index return prior 30 days %	105,486	2.22	8.19	-6.54	1.83	11.33
Market-wide block volume prior 30 days CN¥ (B)	105,486	42.57	24.83	13.94	39.74	75.31
Insiders characteristics						
𝟙(Insider)	105,486	0.25	0.43			
𝟙(Insider pre 5/2017)	105,486	0.14	0.35			
𝟙(Insider post 5/2017)	105,486	0.11	0.32			
𝟙(Insider pre 5/2017: executive)	105,486	0.07	0.25			
𝟙(Insider pre 5/2017: key shareholder)	105,486	0.06	0.24			
𝟙(Insider pre 5/2017: large sale)	105,486	0.06	0.24			

Table 2. Insider versus non-insider block trades

The table reports the average characteristics of insider-initiated compared to non-insider-initiated block trades. Columns 1 and 2 report the sample means of each characteristic. Columns 3 reports the difference of the means of each characteristic. A block trade is classified as insider-initiated if it concords with one or more of the following criteria. Executives are defined as a block trade that occurs within a two-day window of a reported corporate executive stock sales. Key shareholders are defined as a block trade that occurs within a two-day window of a reported key shareholder sale. Large sales are defined as a block trade that exceeds 2% of float. Variable definitions are available in Appendix 1. The sample consists of seller-initiated block transactions for trade *i* in stock *j* conducted on the SSE or SZE from April 1, 2008 to December 31, 2022. Data source: CSMAR.

	Insider	Non-insider	Difference
Block characteristics			
Discount %	6.83	5.18	1.65
𝟙(No discount)	0.04	0.21	-0.17
Block size CN¥ (M)	83.20	35.81	47.39
Block/float %	1.58	0.34	1.24
Expected days-to-sell	9.14	2.83	6.32
# of transactions	1.96	1.48	0.48
𝟙(Multi-trade block)	0.39	0.22	0.17
𝟙(Lockup)	0.70	0.61	0.09
Block volume of stock *j* prior 30 days CN¥ (M)	113.14	118.66	-5.52
Firm characteristics			
Market capitalization CN¥ (B)	15.31	72.06	-56.75
𝟙(SOE)	0.12	0.28	-0.15
𝟙(SSE)	0.23	0.44	-0.21
E/P %	1.72	4.19	-2.47
Idiosyncratic volatility %	2.58	2.33	0.25
Stock returns			
Return prior 30 days %	7.42	3.87	3.55
Return *t*=0 %	1.17	0.80	0.38
Return *t*+1 %	-0.34	-0.15	-0.19
Market conditions			
Market index return prior 30 days %	3.62	1.74	1.88
Market-wide block volume prior 30 days CN¥ (B)	41.44	42.95	-1.51
# observations	26,580	78,906	

Table 3. Insider block trade discount

The table presents analysis on the relation between insider-initiated block trades and the block discount. Regressions are estimated using OLS and include two-way fixed effects at the month and industry level. The dependent variable is the discount % of block trade *i* of stock *j* on day *t*. Variable definitions are available in Appendix 1. The sample consists of seller-initiated block transactions conducted on the SSE or SZE from April 1, 2008 to December 31, 2022. *t*-statistics (presented in parentheses) are computed based on heteroskedasticity-consistent standard errors clustered by firm and by month. Data source: CSMAR.

	(1)	(2)	(3)
𝟙(Insider pre 5/2017)	0.159	-0.175	-0.176
	(1.44)	(-1.60)	(-1.61)
𝟙(Insider post 5/2017)	1.498	1.197	1.197
	(14.03)	(11.97)	(11.95)
Block characteristics			
log (Expected days-to-sell)	0.302	0.090	0.089
	(8.23)	(2.32)	(2.30)
𝟙(Multi-trade block)	0.345	0.666	0.667
	(3.51)	(7.24)	(7.26)
log (Block volume of stock *j* prior 30 days)	0.012	0.022	0.022
	(3.05)	(6.65)	(6.77)
𝟙(Lockup)	0.363	0.215	0.215
	(2.81)	(1.93)	(1.93)
Firm & stock characteristics			
log (Market capitalization)		-0.597	-0.598
		(-9.80)	(-9.81)
𝟙(SOE)		-0.786	-0.784
		(-6.44)	(-6.42)
E/P %		-0.098	-0.098
		(-0.46)	(-0.46)
Idiosyncratic volatility %		0.181	0.180
		(4.44)	(4.42)
Return prior 30 days %		0.015	0.015
		(7.87)	(7.83)
Market conditions			
Market index return prior 30 days %			0.263
			(0.48)
log (Market-wide block volume prior 30 days)			-0.305
			(-2.17)
Month fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Adjusted r-squared	0.090	0.125	0.127
# of observations	105,486	105,486	105,486

Table 4. Fama-MacBeth regression: Initial stock price reaction

The table reports average coefficient estimates from cross-sectional daily Fama-MacBeth regressions. The dependent variable is the daily stock return of stock *j* for block trade *i* on day *t*+1, which is the subsequent trading day after the announcement of the block trade. Variable definitions are available in Appendix 1. The sample consists of seller-initiated block trades conducted on the SSE or SZE from April 1, 2008 to December 31, 2022. *t*-statistics (presented in parentheses) are computed based on Newey and West (1987) standard errors with 20 lags. Data source: CSMAR.

	(1)	(2)	(3)
𝟙(Insider pre 5/2017)	-0.405	-0.399	-0.421
	(-10.59)	(-10.45)	(-11.06)
𝟙(Insider post 5/2017)	-0.056	-0.043	-0.059
	(-2.60)	(-2.09)	(-2.97)
𝟙(Noninsider)	-0.226	-0.186	-0.211
	(-10.48)	(-9.01)	(-10.39)
Firm & stock characteristics			
log (Market capitalization CN¥)		-0.034	-0.030
		(-4.93)	(-4.84)
𝟙(SOE)		-0.007	-0.007
		(-0.83)	(-0.90)
E/P %		0.009	0.009
		(4.17)	(4.03)
Idiosyncratic volatility %		-2.426	-2.648
		(-3.90)	(-4.91)
Return *t*=0 %			0.054
			(17.10)
Prior month return %			-0.002
			(-5.05)
# of days	3,541	3,541	3,541
Average # firms	2,398	2,398	2,398

Table 5. Fama-MacBeth regression: Future monthly returns

The table reports the average coefficient estimates from cross-sectional monthly Fama-MacBeth regressions. The dependent variable is the monthly return of stock *j* at month *t*. The independent variables are measured at month *t*-1. Each block-related indicator variable is equal to one if the type of block transaction occurred in the prior 12 months. The sample consists of all stocks on the SSE or SZE. The sample period is from May 2008 to December 2022. Variable definitions are available in Appendix 1. *t*-statistics (presented in parentheses) are calculated using Newey and West (1987) standard errors with 12 lags. Data source: CSMAR.

	(1)	(2)	(3)
𝟙(Insider pre 5/2017)	-0.329		
	(-3.74)		
𝟙(Insider pre 5/2017: multi-type)		-0.478	
		(-3.74)	
𝟙(Insider pre 5/2017: single-type)		-0.260	
		(-3.07)	
𝟙(Insider pre 5/2017: executive)			-0.130
			(-0.77)
𝟙(Insider pre 5/2017: key shareholders)			-0.217
			(-1.90)
𝟙(Insider pre 5/2017: large sale)			-0.235
			(-2.80)
𝟙(Insider post 5/2017)	0.056	0.056	0.056
	(1.07)	(1.07)	(1.06)
𝟙(Noninsider)	0.103	0.103	0.103
	(1.74)	(1.74)	(1.74)
Firm & stock characteristics			
log (Market capitalization CN¥)	-0.663	-0.663	-0.664
	(-3.19)	(-3.19)	(-3.19)
𝟙(SOE)	-0.180	-0.183	-0.182
	(-0.91)	(-0.92)	(-0.92)
E/P %	1.545	1.545	1.543
	(3.86)	(3.86)	(3.85)
Idiosyncratic volatility %	-0.512	-0.511	-0.513
	(-5.62)	(-5.61)	(-5.61)
Prior month return %	-0.033	-0.033	-0.033
	(-4.21)	(-4.21)	(-4.21)
# of months	176	176	176
Average # firms	2,393	2,393	2,393

Table 6. Summary statistics of the SSE sample

The table reports summary statistics of the SSE block sample. Variable definitions are available in Appendix 1. *t*-statistics (presented in parentheses) are calculated using robust (White) standard errors that are clustered by calendar month. Sample period: January 1, 2013 to December 31, 2017. Data source: CSMAR, SSE proprietary account data.

	N	Mean	Std	p10	Median	p90
Block characteristics						
Discount %	18,783	5.26	4.18	0.00	4.36	11.03
𝟙(No discount)	18,783	0.14	0.34			
Block size CN¥ (M)	18,783	162.91	575.49	4.39	39.31	320.36
Expected days-to-sell	18,783	7.38	24.22	0.13	2.38	17.42
# of transactions	18,783	2.69	2.55	1.00	1.00	8.00
𝟙(Multi-trade block)	18,783	0.50	0.50			
𝟙(Lockup)	18,783	0.72	0.45			
Block volume of stock *j* prior 30 days CN¥ (M)	18,783	269.32	809.54	0	0	614.71
Market conditions						
Market index return prior 30 days %	18,783	3.25	7.54	-3.93	2.65	12.27
Market-wide block volume prior 30 days CN¥ (B)	18,783	47.67	29.03	16.96	42.07	82.22
Trading characteristics						
Days-to-sell	18,783	81.59	103.49	1	12	250
Round-trip return %	18,783	4.26	23.73	-17.89	3.11	22.92
𝟙(Loss)	18,783	0.31	0.46			

Table 7. Speed of sale of block positions

The table reports coefficient estimates from a Poisson regression on the relation between the speed of sale of shares in the secondary market and insider-initiated blocks. The dependent variable is *days-to-sell* defined as the number of days-to-sell 90% or more of the position acquired in block *i* of stock *j* on day *t*. Variable definitions are available in Appendix 1. *t*-statistics (presented in parentheses) are calculated using robust (White) standard errors that are clustered by firm and month. The sample consists of seller-initiated block transactions conducted on the SSE. Sample period: January 1, 2013 to December 31, 2017. Data source: CSMAR, SSE proprietary account data.

	(1)	(2)	(3)
𝟙(Insider pre 5/2017)	-0.324	-0.272	-0.275
	(-3.27)	(-2.72)	(-2.75)
𝟙(Insider post 5/2017)	0.237	0.256	0.251
	(3.06)	(3.34)	(3.26)
Block characteristics			
log(Expected days-to-sell)	0.058	0.064	0.065
	(2.79)	(3.80)	(3.86)
𝟙(Multi-trade block)	-0.214	-0.228	-0.227
	(-3.10)	(-3.83)	(-3.87)
log (Block volume of stock *j* prior 30 days)	-0.006	-0.007	-0.007
	(-2.43)	(-3.40)	(-3.41)
𝟙(Lockup)	-0.173	-0.134	-0.132
	(-2.02)	(-1.66)	(-1.65)
Discount %	0.023	0.028	0.028
	(3.30)	(3.96)	(4.00)
Firm & stock characteristics			
log (Market capitalization)		0.083	0.083
		(2.16)	(2.17)
𝟙(SOE)		-0.059	-0.059
		(-0.81)	(-0.81)
E/P %		0.042	0.041
		(1.88)	(1.87)
Idiosyncratic volatility %		-0.090	-0.093
		(-3.83)	(-3.91)
Return prior 30 days %		-0.002	-0.001
		(-0.95)	(-0.41)
Market conditions			
Market index return prior 30 days %			-1.268
			(-1.96)
log (Market-wide block volume prior 30 days)			-0.052
			(-0.36)
Month fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Pseudo R-squared	0.147	0.156	0.157
# of observations	18,783	18,783	18,783

Table 8. Intermediary profits to block trades

The table presents analysis on the profitability for intermediating insider block trades. The sample consists of seller-initiated block transactions conducted on the SSE between January 1, 2013 to December 31, 2017. Regressions are estimated using OLS and include two-way fixed effects at the industry and month level. In columns 1 and 2, the dependent variable is the dollar-weighted market-adjusted round-trip return (%) earned by the dealer for block *i* of stock *j* on date *t*. The round-trip return is calculated as the sum of the market-adjusted selling amount of each sell order minus the purchase amount of those shares divided by the total purchase amount. For shares still held after one calendar year, we sell the position at the closing price at the end of the year. In columns 3 and 4, the dependent variable is 𝟙(loss), which is an indicator equal to one if the market-adjusted round-trip profit was negative for the block trade, and zero otherwise. The sample removes long-held block trades, defined as positions that are never sold within the calendar year. Variable definitions are available in Appendix 1. *t*-statistics (presented in parentheses) are calculated using robust (White) standard errors that are clustered by firm and calendar month. Data source: CSMAR, SSE account data.

Table 8. Continued.

	(1) Round-trip return %	(2) Round-trip return %	(3) 𝟙(Loss)	(4) 𝟙(Loss)
𝟙(Insider pre 5/2017)	2.354		-0.094	
	(2.96)		(-5.63)	
𝟙(Insider pre 5/2017: fast)		2.348		-0.150
		(2.20)		(-6.21)
𝟙(Insider pre 5/2017: not fast)		2.374		0.083
		(1.48)		(2.09)
𝟙(Insider post 5/2017)	0.800	0.800	0.087	0.088
	(0.22)	(0.22)	(1.64)	(1.68)
Block characteristics				
log (Expected days-to-sell)	-0.609	-0.609	-0.002	-0.003
	(-1.45)	(-1.44)	(-0.51)	(-0.86)
𝟙(Multi-trade block)	1.493	1.493	-0.041	-0.038
	(0.92)	(0.92)	(-1.65)	(-1.59)
log (Block volume of stock *j* prior 30 days)	-0.019	-0.019	-0.002	-0.002
	(-0.44)	(-0.44)	(-3.43)	(-3.74)
𝟙(Lockup)	-0.836	-0.836	-0.021	-0.023
	(-0.52)	(-0.52)	(-0.94)	(-1.03)
Discount %	1.154	1.154	-0.022	-0.023
	(11.87)	(12.31)	(-8.23)	(-9.19)
Firm & stock characteristics				
log (Market capitalization CN¥)	2.067	2.067	-0.026	-0.028
	(1.74)	(1.74)	(-1.81)	(-1.92)
𝟙(SOE)	0.725	0.725	0.008	0.010
	(0.65)	(0.65)	(0.30)	(0.37)
E/P %	0.244	0.244	0.009	0.009
	(0.42)	(0.40)	(0.93)	(0.83)
Idiosyncratic volatility %	-1.599	-1.598	0.027	0.028
	(-2.60)	(-2.62)	(3.36)	(3.45)
Return prior 30 days %	0.076	0.076	0.000	0.000
	(1.87)	(1.87)	(0.19)	(0.17)
Market conditions				
Market index return prior 30 days %	1.764	1.767	-0.355	-0.325
	(0.19)	(0.20)	(-3.47)	(-2.98)
log (Market-wide block volume prior 30 days)	-2.068	-2.068	0.016	0.015
	(-0.84)	(-0.84)	(0.37)	(0.33)
Month fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Adjusted R-squared	0.121	0.121	0.117	0.126
# of observations	18,251	18,251	18,251	18,251

INTERNET APPENDIX

for

Information Acquisition in Dealer Markets: Evidence from China Block Trades

NOT INTENDED FOR PUBLICATION

Appendix A. Regulatory rules regarding block trading and insider sales

Panel A. Pre-trade announcement disclosure rules by insider type

	Insider types		
Timing	Corporate executives	Controlling shareholders	Large shareholders
At least 2 days before	Enacted on 2010/09/01 *Criteria*: Cumulative sale 5% or more of shares outstanding in next 6 months *Market:* Secondary only *Source:* Shenzhen Stock Exchange Main Board Guidelines, 2010/07/02	Enacted on 2010/09/01 *Criteria*: Cumulative sale 5% or more of shares outstanding in next 6 months *Market:* Secondary only *Source:* Shenzhen Stock Exchange Main Board Guidelines, 2010/07/02	
At least 3 days before		Enacted on 2013/11/30 *Criteria:* Any amount *Source:* 2013 CSRC #42 Article 2.2	
At least 15 days before	Enacted on 2017/05/26 *Criteria:* Any amount *Market:* Secondary only *Source:* 2017CSRC #9 Article 8		Enacted on 2016/01/09 *Criteria:* Any amount *Market:* Secondary only *Source:* 2016 CSRC #1 Article 8 Enacted on 2017/05/26 *Criteria:* Any amount *Market:* Secondary only *Source:* 2017 CSRC #9 Article 8

Appendix A. (Continued)

Panel B. Important regulatory announcements regarding insider sales and block trading

1. April 2007. CSRC #56.
   - Prohibition of share sales of more than 25% of shares outstanding in a year by company executives, controlling shareholders, and large shareholders in any form (e.g., the secondary market, block transactions, agreement transfers, etc.).
   - Disclosure of changes in share position within two trading days for company executives. This rule applies for both block and secondary market sales.
2. April 2008 CSRC #15
   - Mandatory use of block facility to conduct trades for shareholders of unrestricted shares (those shares obtained through the share-trading reform and pre-IPO shares that are available for trading) who intend to sell more than 1% of the company's total shares in the following month.
   - Abolished rule in 2014 February CSRC #41.
3. July 2010, SZSE Announcement
   - Mandatory disclosure of the intention to sell shares two trading days in advance of the first sale if the intended cumulative sale in the next six months reaches or exceeds 5% of total shares outstanding for controlling shareholders and real control person.
   - Starting September 1, 2010.
4. November 2013. CSRC #42.
   - Voluntary disclosure of the intention to sell shares three trading days in advance for large shareholders (those holding more than 5% of total shares outstanding). This suggestion applies for both block and secondary market sales. This opinion is intended to "*Strengthen the good faith obligations of the issuer, its controlling shareholders and other responsible parties*", in order to reform the IPO market in China.
8. July 2015. CSRC #18.
   - Prohibition of share sales on the secondary market for company executives (directors, supervisors and senior managers), controlling shareholders, and shareholders who own more than 5% of shares outstanding. These shareholders must use the block facility to trade.
9. January 2016. CSRC #1.
   - Abolished prohibition of share sales on the secondary market as stated in the previous (8) 2015 CSRC #18.
   - Mandatory disclosure of the intention to sell on the secondary market 15 trading days in advance for shareholders holding more than 5% of shares outstanding.
   - Prohibition of share sales of more than 1% of total shares outstanding within a three month period for shareholders owning more than 5% of shares outstanding in any form.
10. May 2017. CSRC #9.
    - Mandatory six month holding period for shares obtained through block trade market for shares sold by key shareholders. (Announcement: Shanghai Stock Exchange Shenzhen Stock Exchange).
    - Mandatory public disclosure of the intention to sell shares on the secondary market at least 15 trading days before the share sale for company executives, relatives, and large shareholders.
    - Prohibition on share sales of through the secondary market of more than 1% of the company's total company shares within a three-month period for shareholders owning more than 5% of shares. These shareholders must use the block facility to trade.

Appendix B. CSRC ruling (November 11, 2016) on Liangcheng Ren

The CSRC accused Mr. Liangcheng Ren of manipulating the stock price of 16 stocks in which he acquired positions from block trades. He controlled 'group accounts,' which consisted of 53 security accounts belonging to 32 individuals. Mr. Ren used the group accounts to manipulate the underlying stock price before and after the block trade for the purpose of capturing the share price and then selling shares the next day or the next few days after the block trade.

Example of Juli Suoju: Time of stock manipulation

On September 3, 2014

- Registered accounts bought 30,770,000 shares of Juli Suoju at 5.95/share in the block transaction.

On September 4, 2014

- *Propping Activities:* Buy orders amounting to 10,690,000 shares (12.32% of total buy order). Among all the bids, 72.87% of the bid offers were at the top of the order book and exceeded the highest asking price. 87.84% of the buyer orders were greater than the total volume of the top 5 bids.
- In total, purchases amounted to 4,958,529 shares (27.75% of the total trading volume of the group account) using group accounts through the secondary market. The lowest price is 6.87 per share.
- 500,798 shares were cross-trades were matched within the group accounts.
- Sold 30,770,000 shares from the block account.

On September 5, 2014

- Sold 4,958,529 shares, highest price 7.08 per share.

The estimated total net profit is CN¥ +29,653,884.33, which comprises CN¥ +30,187,411.71 from the block account and CN¥ -533,527.38 from the group account propping activities.

Mr. Ren used similar methods to manipulate 15 other stocks. Mr. Ren claims that he paid higher prices for certain block trades because he made additional payments to acquire these blocks, including paid fees to handling agents who introduced the sellers and borrowing costs to acquire funds for purchasing the blocks.

Appendix C.

Table AI.1. Speed of sale: Duration model

As a supplementary test, we conduct Cox regressions to quantify the difference in the speed of sale between insider- and non-insider-initiated blocks. We define $h(t)=-\frac{\delta}{\delta t} log\, S(t)$ as the expected hazard that denotes the rate of selling conditional on survival (has not sold more than 90% of the position) up to time *t*, and $h_0(t)$ as the baseline hazard when all covariates equal zero. We estimate the following equation:

$$h_i(t)= h_0(t)\, exp\left(\beta_1 l(Insider\text{-}initiated_i>0) + X_i^{T\beta}\right) + \epsilon_i$$

The vectors X and β represent the vector of control variables and their corresponding estimated coefficients, respectively. We use the same set of control variables used in equation (2). For ease of interpretation, we express estimated coefficients as hazard ratios. A hazard ratio of one implies that an increase in the covariate has no effect on the hazard of selling shares. If the hazard ratio is above (below) one, then the covariate is associated with an increase (decrease) in the hazard of liquidating shares.

Table AI.1. Speed of sale: Duration model (continued)

The table presents analysis on the speed of sale on the secondary market of positions acquired through block trades. The sample consists of seller-initiated block transactions conducted on the SSE. We report the estimates from Cox-proportional hazard regressions on the relation between the speed of sale of shares in the secondary market and insider-initiated blocks. The dependent variable is the number of days-to-sell 90% or more of the position in block *i* of stock *j* on day *t*. Variable definitions are available in Appendix 1. *t*-statistics (presented in parentheses) are calculated using robust (White) standard errors that are clustered by month. Sample period: January 1, 2013 to December 31, 2017. Data source: CSMAR, SSE proprietary account data.

	(1)	(2)	(3)
𝟙(Insider pre 5/2017)	1.302	1.264	1.266
	(9.48)	(8.33)	(8.38)
𝟙(Insider post 5/2017)	0.749	0.731	0.729
	(-3.07)	(-3.33)	(-3.35)
Block characteristics			
log (Expected days-to-sell)	0.940	0.932	0.932
	(-8.86)	(-9.28)	(-9.33)
𝟙(Multi-trade block)	1.266	1.273	1.273
	(10.47)	(10.43)	(10.43)
log (Block volume of stock *j* prior 30 days)	1.006	1.008	1.008
	(5.67)	(6.84)	(6.80)
𝟙(Lockup)	1.151	1.123	1.123
	(6.02)	(4.97)	(4.95)
Discount %	0.984	0.974	0.974
	(-7.05)	(-10.52)	(-10.56)
Firm & stock characteristics			
log (Market capitalization CN¥)		0.925	0.925
		(-7.38)	(-7.40)
𝟙(SOE)		1.038	1.038
		(1.68)	(1.69)
Idiosyncratic volatility %		1.050	1.050
		(4.50)	(4.55)
Return prior 30 days %		1.031	1.030
		(9.49)	(9.31)
Market conditions			
Market index return prior 30 days %			2.381
			(3.04)
log (Market-wide block volume prior 30 days)			0.973
			(-0.47)
Month strata	Yes	Yes	Yes
Industry strata	Yes	Yes	Yes
Observations	18,783	18,783	18,783

Table AI.2. Message board activity: Poisson model

We conduct Poisson regressions with two-way fixed effects to quantify the patterns of message board activity for insider fast sold and insider not fast sold blocks. Each observation is a block trade *i*, of stock *j*, on trading day *t*, where the trading day is from *t*=−20 to *t*=+10, where *t*=0 is the day of the block announcement. We estimate the following regression:

$$\textit{Message board activity}_{j,t} = \alpha + \beta_1 \times \mathbb{1}(\text{Block type}_{i,j,t=-10\ to\ -1}) + \beta_2 \times \mathbb{1}(\text{Block type}_{i,j,t=0\ to\ +10}) + \Phi_i + \Psi_m + e_{i,j,t}$$

The vector Φ represents a block trade *i* fixed effect and Ψ represents a month *m* fixed effect corresponding to the month of the block trade. The dependent variable is all posts, bullish posts, suspicious posts, and suspicious bullish posts. Bullish posts are categorized using the Qwen 2.5 LLM. Suspicious posts are defined as 1) a post by a user account that was registered within the previous 30 days or 2) a likely spam post, defined as a post from a user account that made 10+ posts on day *t* on the stock message board of stock *j*. We require each block trade to have a minimum of 10 trading days in the pre-announcement window and winsorize the dependent variable at the 95% level to reduce the influence of outliers.

Table AI.2. Message board activity: Poisson model (continued)

The table presents estimates from Poisson regressions with two-way fixed effects of daily message board activity around the block trade announcement for various block trade types. Each observation is a block trade *i* of stock *j* on trading day *t*, where the trading window is from *t*=−20 to *t*=+10. *t*=0 is the day of the block announcement. The specification includes a block trade *i* fixed effect and month *m* fixed effect corresponding to the month of the block trade. The dependent variable is *all posts*, *bullish posts*, *suspicious posts*, or *suspicious bullish posts*. *Bullish posts* are categorized using the Qwen 2.5 LLM. *Suspicious posts* are defined as 1) a post by a user account that was registered within the previous 30 days or 2) a likely spam post, defined as a post from a user account that made 10+ posts on day *t* on the stock *j* message board. Sample period: January 1, 2013 to December 31, 2017. Data source: CSMAR, SSE proprietary account data.

	(1) All posts	(2) Bullish posts	(3) Suspicious posts	(4) Suspicious bullish posts
𝟙(Insider pre 5/2017: fast)$_{t=-10 \text{ to } -1}$	0.39	0.42	0.42	0.47
	(9.54)	(10.71)	(7.87)	(9.20)
𝟙(Insider pre 5/2017: fast)$_{t=0 \text{ to } +10}$	0.67	0.64	0.72	0.71
	(15.98)	(14.85)	(12.96)	(12.37)
𝟙(Insider pre 5/2017: not fast)$_{t=-10 \text{ to } -1}$	0.12	0.15	0.08	0.13
	(2.14)	(2.32)	(1.30)	(1.77)
𝟙(Insider pre 5/2017: not fast)$_{t=0 \text{ to } +10}$	0.09	0.06	-0.01	-0.03
	(1.51)	(0.83)	(-0.15)	(-0.37)
𝟙(Noninsider)$_{t=-10 \text{ to } -1}$	0.08	0.08	0.09	0.09
	(10.07)	(9.35)	(9.89)	(8.89)
𝟙(Noninsider)$_{t=0 \text{ to } +10}$	0.13	0.13	0.15	0.15
	(12.40)	(11.91)	(12.20)	(11.36)
𝟙(Insider post 5/2017)$_{t=-10 \text{ to } -1}$	-0.08	-0.21	-0.07	-0.11
	(-1.44)	(-2.37)	(-0.72)	(-0.74)
𝟙(Insider post 5/2017)$_{t=0 \text{ to } +10}$	0.01	-0.01	-0.08	-0.07
	(0.09)	(-0.10)	(-0.91)	(-0.47)
Block trade fixed effects	Yes	Yes	Yes	Yes
Month fixed effects	Yes	Yes	Yes	Yes
Pseudo R-squared	0.872	0.787	0.873	0.804
Observations	479,764	479,764	478,477	462,388