

Stock Split Revisited: Evidence from U.S. and China

Sheridan Titman¹

University of Texas at Austin

Chishen Wei²

Nanyang Technological University

Bin Zhao³

Shanghai Advanced Institute of Finance

Shanghai Jiao Tong University

1 February 2016

¹ Department of Finance, University of Texas at Austin (email: Sheridan.Titman@mcombs.utexas.edu)

² Nanyang Business School, Nanyang Technological University (email: cswei@ntu.edu.sg)

³ Shanghai Advanced Institute of Finance, Shanghai Jiao Tong University (email: bzhao@saif.sjtu.edu.cn)

Stock Split Revisited: Evidence from U.S. and China

Abstract

This study compares stock price reactions around stock splits in China and the U.S. We find similar patterns of stock price reactions around split announcements, as well as post-announcement positive returns in the six months following the announcement. The post-announcement drift in the U.S. continues for 12 months after the announcement, and continues to hold after 2000, i.e., after the anomaly was identified in the academic literature. In contrast, the initial price run-up in China stops after six months and in some cases reverses in the subsequent six months. Using detailed trading data from the Shanghai Stock Exchange and information on State Owned Enterprise (SOE) privatizations, we find that individual investors are net buyers after split announcements while mutual funds and institutional investors tend to be net sellers. Furthermore, splits related with SOE or privatization have higher price run up and no reversal six month after the announcement. This evidence suggests more information might be related or signalled with stock split announcement. Our paper also provides benchmark test for cross-sectional return patterns in China market where short-term technical signals and split events consistently predict future stock returns.

Stock splits are interesting events because they have no direct effect on corporate cash flows, yet convey information to market participants. Perhaps, based on this motivation, Fama, Fisher, Jensen, and Roll (1969) chose stock split events as the original experiment to study informational efficiency, and launched a growing literature. This paper continues along this path and uses stock split announcements to explore differences in the transmission of financial information in the United States and China. Specifically, we update the U.S. evidence by examining the more recent post-1999 data and examine Chinese data over this same time period.

There are a number of reasons why the out-of-sample evidence in the United States may be of independent interest. In the recent period, the U.S. market experienced a change in the minimum tick size from eighth to pennies. As Brennan and Copeland (1988) and others have discussed, the change in the per-share stock price due to splits changes in the minimum tick size, potentially affecting liquidity. This effect is likely to be less important after decimalization. Second, McLean and Pontiff (2015) observe that the returns associated with most anomalies uncovered in the academic literature tend to deteriorate out of sample. Hence, we expect the post-split abnormal returns to also diminish. Finally, in the pre-2000 period, it may have been difficult to distinguish the post-split price run up from the price momentum effect since recent good return performance tends to trigger stock splits. Hence, if the post-split abnormal returns are simply a manifestation of the Jegadeesh and Titman (1993) momentum effect, we expect to observe much weaker post-split abnormal returns in the more recent period in which the abnormal returns from the momentum strategy is weak.

While our analysis of the U.S. is an important benchmark, our primary interest is in learning more about the transmission of information in the Chinese stock market. In comparison with the U.S. market, the Chinese market is dominated by individual investors who tend to be viewed as

less sophisticated than their counterparts in more developed markets (Mei, Scheinkman, and Xiong, 2009; Neftci, and Menager-Xu, 2006). According to the 2014 China Household Finance Survey, approximately one third of the investors lack a high school education and more than half of the new investors who opened an account in 2014 do not have high school education.⁴

In China, it is a commonly held view that stock splits are an opportunity for insiders to exploit less sophisticated retail investors. The Chinese media has referred to stock splits as the ‘*pass the parcel*’ game.⁵ Specifically, splits are allegedly used to attract retail investors when insiders seek to exit their positions. This more sinister view of splits will also generate positive returns around the announcement and ex dates of stock splits, but to the extent that the splits boost prices above fundamentals, there should be evidence of subsequent reversals. Using proprietary trading data from the Shanghai Stock Exchange, we study these dynamics in more detail.

The post-2000 evidence on stock split announcement returns in the United States are similar to the pre-2000 returns. We find announcement returns of 3.32% which compares to the 3.31% abnormal return reported in the 1967-1976 sample examined by Grinblatt, Masulis, and Titman (1984). Using DGTW benchmarks, stocks that announce splits experience about a 4.20% abnormal return over the next 12 months, which is less than the abnormal return of 9% reported during the

⁴ The 2014 China Household Finance Survey covers approximately 4,000 households across the country. <http://www.bloomberg.com/news/articles/2015-03-31/china-s-big-stock-market-rally-is-being-fueled-by-high-school-dropouts>

⁵ Popular media website (i.e. CNstock.com, Tencent’s news) often warn individual investors of the possibility that stock splits are used to attract new investors to bid up the stock price for the benefit of existing investors. See: “*The hidden secrete of high stock split for public companies: be aware of being the last person in pass the parcel’s game*” by Xiangshu on *Tencent* (<http://finance.qq.com/a/20130711/001123.htm>); “*The game of stock split on the financial market*” by Yu Mao and Changwu Ke on *Xinmin News* (http://xinmin.news365.com.cn/ljzjrc/201503/t20150327_1792873.html); “*Overwhelming high stock split event arriving, maybe to help out for the lock-up period ending for restricted shares*” by Xueqing Wang on *China Stock Net* (http://www.cnstock.com/v_company/scp_dsy/tcsy_gszx/201307/2649702.htm)

1988-1997 sample in Ikenberry and Ramnath (2002). This is consistent with the findings in McLean and Pontiff (2015) that anomaly returns have weakened in recent years.

The stock return evidence in China shares some similarities to the United States evidence, but also exhibits important differences. Similar to the U.S. evidence, there is a positive unconditional average size-adjusted⁶ return around the announcement of a stock split (1.73%) during the sample period 1999-2015. In the 6 months following the split announcement month, we find a significant unconditional average size-adjusted return of 2.47%. However, unlike the U.S. evidence, the drift pattern stops after the initial 6 months and in some cases exhibits a reversal in the subsequent 6 months.

Evidence in China suggests that individual investors tend to trade small stocks (Hong, Jiang, Wang, and Zhao (2014)). Stocks with high turnover may also attract the attention of individual investors. Our evidence suggests that stock splits of small stocks or high turnover stocks experience size-adjusted returns in the initial 6 months that are around 40% higher (small/high turnover stocks = 2.99%, others=2.14%) compared to other splits. However, the returns of these types of stock splits reverse after the initial 6 month, and the one year size-adjusted returns are insignificant.

Since researchers are still in the process of understanding the cross-sectional return patterns in China, we estimate cross-sectional Fama-MacBeth regression that includes a stock split indicator (that equals 1 if a split occurs in the prior 6 months) and other characteristics that reliably predict returns in the United States. Specifically, we consider regressions that include the log of market capitalization, log of book-to-market, asset growth, gross profitability, idiosyncratic

⁶ Since risk benchmarks are not yet well-established in the China market, we adjust returns based on size deciles for our sort analysis. We estimate cross-sectional regressions in our subsequent analysis which include the full set of stock characteristics.

volatility, turnover and the past one month and 12 month returns. We find that the more technical signals (e.g., short-term reversal, abnormal turnover, idiosyncratic risk) robustly predict future returns in China across different sample periods and sub-samples. However, fundamental signals have limited predictive power (e.g., book-to-market, gross profitability, asset growth) and are not robust across sub-samples. After controlling for these signals, the split indicator predicts future returns and is robust across all subsamples, particularly in the latter half of our sample (2006 to 2015).

Next, we focus on firms that potentially have more insiders looking to exit their positions. We hypothesize that insiders at state owned enterprises (SOE) and firms with forthcoming privatization lockup expirations may be motivated to exit their positions.⁷ While the initial announcement reactions are similar to the unconditional average, we find these ‘insider-exit’ firms experience much higher subsequent abnormal returns. During the first six months, firms with forthcoming privatization lockup expirations earn 4.11% compared to 2.72% for other firms. While these other firms tend to experience return reversals over the next 6 months, ‘insider-exit’ firms continue to experience higher returns. Firms with forthcoming privatization lockup expirations experience abnormal returns of 8.11% in the 12 months following their initial split announcements with other firms earn an insignificant cumulative abnormal return of 1.35%.

To better understand the trading behaviour of different groups of investors, we use trading data from Shanghai Stock Exchange to study the trading pattern for different types of investor

⁷ Privatization lockups are restricted shares held by institutional investors, employees, and other large shareholders. A split share structure was established in China’s stock market from the beginning, where approximately two-thirds of A-shares were not tradable. The split share structure reform started in 2005. Non-tradable shares became tradable one year after the completing of the reform and the number of newly tradable shares cannot exceed 5% of the A-market float shares. The number of newly tradable shares cannot exceed 10% of the A-market float shares two years after the completion of the reform. All shares that were not tradable prior to the reform become fully tradable three years after the completion of the reform. (China Securities Regulation Committee (2005), Li, Wang, Cheung, and Jiang (2011))

around split announcement. We focus on the largest investor trading groups: small individual accounts, large individual accounts, mutual funds, and other institutional investors.⁸

Our evidence indicates that in the 10 trading days before the split announcement, both small and large individual investors are net buyers of split-announcing stocks. Mutual funds and institutional investors are net sellers. After split announcement, small individuals continue to aggressively purchase shares, with mutual funds and institutions selling shares. For example, from $t=-10$ to $t=-1$, small individuals investors are net buyers totalling 0.08% net turnover. This increase to 2.14% during the 60 days after announcement ($t=0$ to $t=+60$).

We find interesting patterns when partitioning the sample on small-cap or high turnover splits. Small individual investors are more likely to accumulate positions in these stocks. During the 60 days after announcement ($t=0$ to $t=+60$), net turnover is an additional 3.03% and accumulates to 4.57% after 120 days. However, large individual investors are not attracted to these types of splits. Their net purchase is close to zero in the 120 days after announcement. As mentioned earlier, this types of splits have insignificant size-adjusted returns in one year after announcement.

Our study contributes to a literature on the growing China stock market. We add to a debate regarding size and value effects in the cross-section of stock returns in the Chinese market. Using the CSMAR database, we find strong size effects but weak value effects in the Chinese market, similar to the analysis in Chen, Hu, Shao, and Wang (2015) based on the WIND database.⁹ In a

⁸ We examine nine types of investors: individual investors with account wealth less than five million Chinese Yuan; big individual investors with account wealth above five million Chinese Yuan; broker self account which is the account that brokerage houses use to trade for themselves; broker asset management account, domestic mutual fund, social security, insurance companies, other domestic institutional investors, and qualified foreign institutional investors (QFII).

⁹ Chen, Kim, Yao, and Yu (2010), Cakici, Chan, and Topyan (2011), and Carpenter, Lu, and Whitelaw (2014) document strong value effects in the China market. Chen, Hu, Shao, and Wang (2015) find that the value effects are only concentrated during 1995 and 1996 years, and are non-existent outside that period.

concurrent paper, Fang, Xu, and Wang (2015) document short-term market reactions to dividends in the China market. Our paper focus on stock splits and investor trading behaviour.

We proceed as follows. Section 1 presents our data sources and sample construction. In section 2, we analyse the market reaction to stock split announcements in both the Chinese and U.S. markets. Section 3 presents trading analysis around stock split announcements from the Shanghai Stock Exchange. Section 4 examines cross-sectional return patterns. Section 5 concludes.

1 Data

A. Sample

We obtain daily stock return and firms split announcement data from CSMAR. We start the sample in 1999 and end in 2014, so there is one additional year of data (2015) to examine post-announcement returns. We screen out stocks splits that fail to report trading in the three day window around split announcement date. This is to eliminate confounding events as trading halts occur around information sensitive events, which may bias the estimates. However, our main results are similar when we include these additional splits. We have a sample of 3387 stock splits after implementing this screen. We additionally obtain restricted shares lock up ending information from WIND. The sample covers from 2006 to 2014.

We require that stocks have non-missing accounting information and at least one year of stock returns to be included in our sample. The stock must have a market capitalization at the end of December in the prior year. The stock must also not have ST, ST-plus, or PT status at the end of December in the prior year.

United States stock market data are collected from CRSP. We only include common stock with CRSP share code 10 or 11. Stock splits are identified using CRSP distribution code 5523.

From the header file, we collect both announcement date and payment date. To be included in the split sample, each stock must have market capitalization, book value, and past 12 months return at the previous June end. We require this screen in order to appropriately benchmark using DGTW adjusted returns. In total, there are 2381 U.S. based splits that are in our sample.

Chinese firms normally issue two types of split, “stock dividend” and “stock transfer.” Funds for “stock dividend” are from earnings, whereas funds for “stock transfer” are from capital reserve fund. Both types of stock splits are technically the same, which has no impact on firms’ earning or operation, although stock transfer are the preferred method of splitting shares in the China market.

Table 1 presents the summary statistics of characteristics of firms that announce stock splits. More than half of the announcements were made during the first quarter, second by the second quarter, then the third quarter. There is very limited split announcement in the last quarter of the year. Firms that announces stock split are generally smaller, with higher past stock return, higher profitability, and higher asset growth than firms without split announcement.

B. Shanghai Stock Exchange Trading Data

We obtain account level trading data from the Shanghai Stock Exchange. The trading data is recorded by trade, with security code, encrypted account identifier, trade price, trade volume, trade direction, date and time of the trade. The record also shows whether it is a limit order or market order, where more than 99% of the trades are market order. The account is classified into thirteen types in total: tiny individuals with account level wealth less than 100,000 RMB; small individuals with account level wealth between 100,000RMB to 1,000,000 RMB; medium individuals with account level wealth between 1,000,000 to 5,000,000 RMB; big individuals with account level wealth between 5,000,000 to 10,000,000 RMB; super big individuals with account level wealth over 10,000,000RMB; mutual fund; Qualified Foreign Investors (QFII); broker self account which

the brokers use to trade for themselves; insurance company; social security; broker asset management account, and other general institutional investors. To aid the analysis and pick the meaningful account for our project, we grouped tiny, small, and medium account into a new group called “small individual investors”; we grouped big and super big investors into a new group called “large individual investors”.

2 Market Reactions Around Split Announcements

This section presents evidence on market reactions around split announcements. We first present evidence for the China and U.S. market during the 1999 to 2015 sample period. Then we examine potential motives for stock splits in the China market which include (1.) attracting the attention of individual investors, and (2.) potential insider exits from government linkages.

A. China and U.S. Market

We start by reporting returns around stock splits announcements in the China and United States market during the 1999 to 2015 sample period. We compute for each stock the cumulative abnormal return for the announcement window (days [-1, 0, 1]) and several periods around the announcement date, correcting for the possible effects of return clustering during each calendar month using White standard errors. For longer horizons, we report cumulative abnormal returns using monthly data.

For the Chinese market, we calculate the abnormal return as the difference between each stock’ buy and hold return minus its corresponding size-decile value-weighted benchmark portfolio matched at the prior December end. Benchmarks are based on size deciles because momentum and value effects are not robust throughout our sample period in the China market (Fang, Xu, and Wang, 2015). Later, we verify this finding in our cross-sectional return analysis. We calculate abnormal daily returns in the U.S. market by subtracting buy and hold return from

its corresponding size-momentum 5 x 5 portfolio from Ken French's website. For monthly returns in the U.S. market, we calculate DGTW adjusted returns by subtracting a firm's buy and hold return from its DGTW benchmark.

We start by plotting event time daily returns in Figure 1 for the U.S. and China market during the sample years 1999 to 2015. The two market exhibit similar pre-announcement trend patterns. In the [t-10 to t-2] pre- and [t-5 to t-2] post- announcement periods, both markets exhibit similar positive abnormal returns. However, differences arise around the 3-day announcement window and post-announcement. The U.S. market exhibits greater return response to split announcements. For the next 60 days, stocks splits in the U.S. market also exhibits greater return continuation compared to the China market. We analyse these patterns in more detail below.

Table 2 reports daily (Panel A) and monthly (Panel B) average returns and corresponding White corrected t-statistics. Panel A reports positive abnormal daily returns around the split-announcement. Consistent with the pre-announcement trends in Figure 1, the [-10,-2] cumulative abnormal return is positive and statistically significant in both the China market (2.53%, t=10.77) and United States market (2.95%, t=8.92). However, there are pronounced differences when we extend the pre-announcement window to include the prior three month period. Panel B shows that the cumulative abnormal return from month t-3 to t-1 is large in the U.S. market, nearing 20% on average (19.99%, t=7.85). The China market three month abnormal return of 5.02% (t=6.24) is considerably smaller in comparison.

It is worth discussing that the small pre-split announcement returns may suggest that liquidity effects are an unlikely motive for stock splits in the China market. In unreported tests, we find that the cumulative raw returns are on average only 12.53% (18.69%) during the previous three and six month periods, respectively. In the U.S. market, the cumulative raw returns are on average

29.93% (55.11%) during the previous three and six month periods, respectively. Unlike the returns in the U.S., the returns experienced by Chinese firms are not materially affecting price levels, suggesting that liquidity considerations are likely to be minor.

At announcement, stock splits in the U.S. market experience a 3 day announcement return $[t=-1, t=+1]$ that is nearly twice as large as the China market (3.32% vs. 1.73%). This difference captures the majority of the differences in levels across the two markets seen in Figure 1. Panel B shows similar patterns using monthly returns. Firms that announce stock-splits exhibit 4.18% ($t=14.03$) abnormal returns during the announcement month in the China market compared to 7.86% ($t=10.07$) in the U.S. market.

Figure 1 shows evidence of post-split drift patterns in both markets in the initial 60 days. Visual inspection suggests that the U.S. market has slight greater drift during this period. Panel A in Table 2 shows that for the post 1998 sample period, during the first 60 days, the stock splits in the China market experience on average a 1.76% return ($t=2.43$) while the average return in U.S. market is 3.21% ($t=4.71$). It is interesting to note that for the initial post-announcement period $[t=+2, t=+10]$, the abnormal returns for stock splits are insignificant in the China market (0.01%, $t= 0.05$). The monthly returns over a similar period $[+1, +3]$ show similar patterns.

We also examine long periods after split announcement. Panel B shows that the cumulative abnormal return over the next six months $[+1,+6]$ remains positive and statistically significant in both markets. For comparison with prior studies, we calculate the one year abnormal return using monthly data. In the U.S. market, the cumulative abnormal 12 month return is 4.20% ($t=3.16$) which is less than half the magnitude of the drift effect reported in Ikenberry and Ramanth

(2002).¹⁰ On average, the cumulative abnormal 12 month return is 2.08% ($t=2.34$) in the China market. This implies a slight return reversal after the initial 6 month post-split drift.

The longer horizon return analysis shows differences in market reactions to stock splits between the U.S. and China market. In the U.S. market, stock splits on average exhibit continued abnormal returns up to one year after announcement. However, the post announcement returns in the China market peak around $t=+6$ months, and then reverse slightly over the subsequent 6 months.

Next we analyze market reactions in China around split announcements for different types of split announcements. We are interested in the potential effects of cash dividends because cash dividends tend to be concurrently announced with splits and also directly affect the firm's balance sheet. To address this concern, we provide sub-sample analysis based on a sample of pure stock splits and a sample of stock splits + cash dividends. We also sub-sample our data by standard stock splits ('share transfers'), share dividends, and instances of both share transfer and share dividend.

Panel C shows that there is little difference in market reactions to these various forms of stock split announcements. The market reactions for pure splits (1.79%, $t=8.04$) is comparable to those splits with accompanying cash dividends (1.70%, $t=12.49$). The pre- and post-announcement reactions also exhibit similar patterns. Standard stock splits ('share transfers'), share dividends, and share transfer + dividend events experience similar market reactions. The three day announcement return for standard transfer splits is 1.80% ($t= 11.80$) which is comparable to the reaction to share dividends 1.98% ($t= 7.08$). These findings suggest that the market does not distinguish between share transfer and dividend.

¹⁰ In unreported results, we find similar magnitudes to Ikenberry and Ramanth (2002) using DGTW adjusted returns.

In sum, we find new out-of-sample evidence on the market reactions to stock splits. First, we report positive market reactions to stock splits in China. We find that the U.S. market also reacts positively to stock split announcements in the post-1998 sample. Second, our pre-announcement returns evidence suggests that the effect of recent stock return performance on the decision to announce stock splits may be different across the two markets. Stock splits are triggered after relatively modest past returns in the China market, whereas firms tend to announce stock splits only after substantial returns in the U.S. market. Third, we find that the post-split drift is substantially smaller than in earlier samples. In the China market, the post-split drift is around 2% after one year. For the U.S. market, the approximate 4% one year drift is half the size of earlier samples.

B. Attracting the Attention of Individual Investors

Anecdotal evidence from the Chinese financial press suggests that managers use stock splits to attract individual investors to purchase their stock. The Chinese media has referred to stock splits as the ‘*pass the parcel*’ game, which implies a pyramid type scheme.¹¹ Managers may split shares in an attempt to boost stock valuations if they believe that expanding the shareholder base can push up prices. Also, individual investor trading may provide liquidity for insiders to exit. In this section, we explore these motives by examining the market reaction to the types of stock splits that are likely to fall into this category.

¹¹ Popular media website (i.e. CNstock.com, Tencent’s news) often warn individual investors of the possibility that stock splits are used to attract new investors to bid up the stock price for the benefit of existing investors. See: “*The hidden secret of high stock split for public companies: be aware of being the last person in pass the parcel’s game*” by Xiangshu on *Tencent* (<http://finance.qq.com/a/20130711/001123.htm>); “*The game of stock split on the financial market*” by Yu Mao and Changwu Ke on *Xinmin News* (http://xinmin.news365.com.cn/ljzjrc/201503/t20150327_1792873.html); “*Overwhelming high stock split event arriving, maybe to help out for the lock-up period ending for restricted shares*” by Xueqing Wang on *China Stock Net* (http://www.cnstock.com/v_company/sep_dsy/tcsy_gszx/201307/2649702.htm)

We start by examining two stock split characteristics that may attract individual trading activity. First, individuals tend to trade stocks with low market capitalizations (Hong et. al., 2014). Second, stocks with high past turnover may attract news coverage and individual investors' attention. We start our analysis by plotting daily abnormal returns in event time for 1.) splits for firms with market capitalizations (Dec t-1)/ turnover (quarterly) in the bottom/top three deciles of China market 2.) remaining firms.

Panel A in Figure 2 shows that *small/high turnover* splits exhibit greater abnormal returns around split announcement throughout the t-10 to t+60 window. Table 3 reports that *small/high turnover* splits earn similar 3-day abnormal announcement returns (1.81%) compared to other splits (1.69%). In the 60 day post-announcement period, small/high turnover splits earn cumulative abnormal announcement returns of 2.44% (t=2.53), while other split firms earn an insignificant 1.33% (t=1.96).

The monthly return analysis shows that the initial 6 month abnormal drift patterns reverse over the subsequent 6 months. After the initial 3.24% six month run-up, the total cumulative one year post-split announcement performance of *small/high turnover* splits is an insignificant 1.58% (t=1.44). A potential interpretation of this finding is that much of the information in the stock split is incorporated at announcement. While investors may bid up shares initially, the price eventually reverts back near announcement levels.

C. Potential Insider Exits

Since the stock split return patterns in the China market differ from previous evidence in the U.S. market, we explore potential motives behind the decision to split shares. One potential motive is that firm insiders may wish to sell their existing shares. While all firms may have insider looking to sell shares at any point in time, we focus our attention on firms that have a stronger motive to

exit their position. In particular, we examine firms that have current or prior government linkages because they tend to have share restrictions limiting the sale of insider shares. Examples of these firms are state owned enterprises (SOEs) and firms that carry government debt. Also, firms which were recently privatized have lockup periods requiring insiders to hold shares for a certain amount of time.

Since the expiration of these lockup periods are public record starting in 2006, we can also examine firms that privatization lockup periods that are about to expire. The group of split announcing firms with these government linkages – which we call ‘*insiders*’ - are a small fraction of the split sample, representing less than 15% of splits during this period (312 / 2269).¹² We note that this sample represents *potential* insider exits, as we do not have actual records of insider trades.

Panel B in Figure 2 shows that *insider* splits tend to have higher returns throughout the split announcement window, during both the pre- and post- announcement windows. Panel B of Table 3 shows similar evidence. The three day window announcement returns are 1.92% compared to 1.69 for non-insiders. The returns over the first sixty days is 4.19% although not statistically significant. This is larger than the 2.10% average return of the non-insider sample.

Over the next six months, the average returns of the insider split sample continue to increase over the t+1 to t+6 monthly trading window. The 4.11% average return is higher than the 2.72% of non-insider sample during this period. However, the continuation return patterns from t+7 to t+12 for insider splits are different than the patterns for *small/high turnover* splits in the previous section. The insider split sample continues to earn higher returns with a 1 year return of 8.11%, whereas the average return of the non-insider sample reverses. A possible reason for this is follow-

¹² For this analysis, the sample starts in 2006 since the data on privatization lockups begins then.

on additional good news for insider splits. This would be consistent with the rational attention explanation for stock splits proposed in Grinblatt, Masulis, and Titman (1984).

3 Trading Analysis

In this section, we use trading data from the Shanghai stock exchange to examine trading patterns around split announcements. We examine nine types of investors: small individual investors with account wealth less than five million Chinese Yuan; large individual investors with account wealth above five million Chinese Yuan; broker self account which is the account that brokerage houses use to trade for themselves; broker asset management account, domestic mutual fund, qualified foreign institutional investors (QFII), insurance, social security, and other institutional investors. However, our analysis mainly focuses on the four largest investor groups: small individuals, large individuals, mutual funds, and other institutional investors.

Panel A of Figure 3 tracks the cumulative net turnover measured as the net buy minus net sell divided by total shares outstanding for each investor group. It includes all splits during the sample from $t-10$ to $t+120$. The patterns in our analysis are similar scaling by tradable A shares. Individual investors (both small and large) are net buyers while mutual funds and other institutional investors tend to be primary net sellers. Individuals tend to cumulate shares even before split announcement, although their net buying significantly picks up after announcement.

Panel B shows stronger net purchase patterns for small-cap /high turnover stocks, particularly during the first two months after announcement. For small individual investors, the cumulative net turnover at $t=+40$ is 3.5% for small-cap/high turnover splits versus an unconditional average of 2.0%.

Panel C examines insider exits. For small individual investors, we find that the cumulative turnover at $t=+120$ is 43% for insider exits splits versus 46% for non-insider exits splits. The

patterns are similar for large individual investors: the cumulative turnover at $t=+120$ is 11.8% for insider exits splits versus 4% for non-insider exit splits.

4 Benchmarking: Cross-section Return Analysis

The analysis in the previous sections suggest that stocks tend to perform well in the initial six month period after split announcement in the China market. Our sorting results use a simple benchmark adjustment based on the returns of matched size portfolios. While sorts are easy to interpret, they cannot provide a comprehensive benchmark of all information on average returns. It is possible that information in split announcements may capture the average returns of other explanatory variables. For example, stock splits tend to follow periods of high returns raising the issue that stocks splits may capture a specific form of the momentum pattern.

To address this concern, we study the cross-sectional return patterns in the China market using Fama-MacBeth regressions. Additionally, this analysis provides additional evidence on the cross-sectional return patterns in China market given there is less literature on this topic. We create a stock split dummy (that equals 1 if a split occurs in the prior 6 months) and include other characteristics that reliably predict returns in the United States. For example, we include: past one month return (Jegadeesh, 1990), past twelve month return (Jegadeesh and Titman, 1993), log of the book-to-market ratio (Fama and French, 1992), asset growth (Titman, Wei, and Xie, 2004; Cooper, Gulen, and Schill, 2008), gross profitability (Novy-Marx, 2013), idiosyncratic volatility (Ang, Hodrick, Xing, and Zhang, 2006), and turnover (Kaniel, Gervais, and Mingelgrin, 2001).

Our cross-section regressions also include additional variables specific to the China market. We also include a B-share dummy if the firm has B-shares, a SOE dummy if the firm has state ownership greater than 50%, and a government debt dummy if the firm has debt financing from a

government entity. Our Fama-Macbeth regressions start in January 1999 and end in June 2015. Standard errors are calculated following Newey and West (1988) with 6 lags.

Table 4 presents the cross-section regression results. Panel A shows that the split dummy is positive and statistically significant across all four specifications. Column (1) presents a simple specification that includes the split dummy and a cash dividend dummy, which is created in a similar manner as the split dummy. The coefficient estimate on the split dummy is 0.670 ($t=3.70$) during our sample period, while the coefficient estimate on the cash dividend dummy is an insignificant -0.11 ($t=-0.64$). This is consistent with the results from our sorts which find no significant differences between splits with and without cash dividends. It also suggests that post-split return effects are not a cash dividend effect.

Next, we include technical indicators based on stock trading information (i.e. size, turnover, idiosyncratic volatility, reversal) into the regression. Column (2) shows that the coefficient estimate on the stock split indicator increases by over 20% (0.832, $t=5.09$) in this specification. This increase may be due to the power of technical indicators to explain cross-sectional returns. The loading on size (market capitalization at Dec $t-1$) is negative and statistically significant (-0.562, $t=-3.39$). This finding is consistent with our benchmarking approach in the sorts. Monthly reversals, measured as the loading on past month return, generate large slope coefficients (-4.15, $t=-5.36$). However, 12-month momentum is insignificant in this analysis. Additionally, in unreported tests, we find that Jegadeesh and Titman (1993) momentum portfolios do not generate abnormal returns during our sample period in the China market. Turnover is negative and statistically significant (-0.858, $t=-3.87$) as is idiosyncratic volatility (-4.221, $t=-5.41$). Beta is insignificant.

These results suggests that the technical trading signal discovered in the U.S. market are also predictors of cross-sectional returns in the China market, with the exception of momentum. Column (3) includes fundamental indicators that have been shown to work in the U.S. market including book-to-market, asset growth, and gross profitability. B/M loads positively and significantly while asset growth and gross profitability are insignificant. Chen, Hu, Shao, and Wang (2015) find that the ability of B/M to predict returns in the China market is sample specific. We find similar results in this regard. In Column (4), we begin the analysis in 2004 and find that B/M is insignificant in this specification.

Column (4) also includes additional variables relating to government affiliation specific to the China market. The presence of government debt is positive and statistically significant. This suggests that firms that have the financial backing of the central government tend to have high future returns. The coefficient estimate on the SOE indicator is not significant. This implies that firms that are controlled by government do not exhibit returns any better or worse than average. B-share dummy is negative and significant. In sum, these results suggests that privately controlled firms with state backing tend to exhibit higher future returns.

In Panel B, we study various sub-samples of our data. In the first three columns, we split our sample based on size. Small-cap/mid-cap/large-cap companies are firms in the bottom 3/middle 4/top 3 size deciles as of previous December end. The split indicator is positive and significant predictor of returns in all three sub-samples. The slope coefficient is larger among small-cap stocks compared to large cap stocks consistent with the idea that small cap stocks attract individual investors. The technical indicators discussed above continue to predict future returns in all three subsamples. Notably size and reversals have small slope coefficients among large cap stocks.

However, B/M is only marginally significant in the mid-cap sample and insignificant in the other size samples.

In the next two columns, we split our sample into before and after June 2007 time periods. The split indicator is positive and significant in both sample periods. Consistent with Chen, Hu, Shao, and Wang (2015), trading signals appear to be sample specific. Only the split indicator, idiosyncratic volatility, and reversal generate significant slope coefficients in both sample periods. The other predictor variables are not robust. Both book-to-market and momentum are predictors of future average returns in the pre June 2007 sample, but not in the post-June 2007 sample.

5 Conclusions

Stock splits are interesting events because they have no direct effect on corporate cash flows, yet convey information to market participants. By studying stock splits using out-of-sample evidence and new evidence from China, we find that stock splits in China and U.S. have similarities, yet the price run-up in China will reverse six months after the announcement, yet this reversal does not exist for stocks related with SOE or privatization. Furthermore, splits related with SOE or privatization will have higher price run up and no reversal six month after the announcement. The trading data from Shanghai Stock Exchange and information on corporate insider selling and State Owned Enterprise (SOE) privatization in China shows that individual investors are the major buyers for these stocks while mutual fund are the major sellers for these stocks after the announcement. These evidence suggests more information might be related or signalled with stock split announcement. Our paper also provides bench mark test for cross-sectional return patterns in China market where fundamental factors do not work but short-term technical signal and split event consistently predict future stock returns. More work could be done

in the future to study insider trading and the link between insider trading and stock market announcement.

Reference

- Ang, Andrew, RJ Hodrick, Y Xing, and X. Zhang, 2006, The cross-section of volatility and expected returns, *The Journal of Finance* 61(1), 259-299
- Banz, Rolf W., 1981, The relationship between return and market value of common stocks, *Journal of Financial Economics* 9, 3–18.
- Brennan, Michael J. and T. E. Copeland, 1988, Stock Splits, Stock Prices, and Transaction Costs, *Journal of Financial Economics* 22, 83-101.
- Brennan, Michael J. and T. E. Copeland, 1988, Beta Changes Around Stock Splits: A Note, *The Journal of Finance* 43, 1009-1013.
- Cakici, Nusret, Kalok Chan, and Kudret Topyan, 2011, Cross-sectional Stock Return Predictability in China, Working Paper, Fordham University.
- Carpenter, J. N., F. Lu, and R. F. Whitelaw (2014). The Real Value of Chinas Stock Market. Working Paper, New York University.
- Chen, X., K. A. Kim, T. Yao, and T. Yu (2010). On the Predictability of Chinese Stock Returns. *Pacific-Basin Finance Journal* 18 (4), 403–425.
- Chen, Can, Xing Hu, Yuan Shao, and Jiang Wang, 2015, Fama-French in China: Size and Value Factors in the Chinese Stock Market, Shanghai Jiao Tong University Working Paper
- China Securities Regulatory Commission. 2005. The Administrative Methods to Implement the Split Share Structure Reform.
- Choi, James J., Lin Jin, and Hongjun Yan, 2012, What Does Stock Ownership Breadth Measure, *Review of Finance* 1-40.
- Cooper, Michael, H. Gulen, and M.J. Schill, 2008, Asset Growth and the Cross-Section of Stock Returns, *The Journal of Finance*, 63(4), 1609-1651
- Copeland, Thomas E., 1979, Liquidity Changes Following Stock Splits, *The Journal of Finance* 34, 115-141.
- Fama, Eugene F., Lawrence Fisher, Michael C. Jensen, and Richard Roll, 1969, The Adjustment of Stock Prices to New Information, *International Economic Review* 10, 1-21.
- Fama, Eugene F., and Kenneth R. French, 1992, The cross-section of expected stock returns, *Journal of Finance* 47, 427–465.
- Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in the returns on stocks and bonds, *Journal of Financial Economics* 33, 3–56.
- Fang, Chenjun, Xing Hu, and Jiang Wang, 2015, Dividends and Market Reactions in China, Shanghai Jiao Tong University Working Paper.
- Grinblatt, Mark S, Ronald W. Masulis, and Sheridan Titman, 1984, The Valuation Effects of Stock Splits and Stock Dividends, *The Journal of Financial Economics* 13, 461-490.
- Hong, Harrison, Wenxi Jiang, Na Wang, and Bin Zhao, 2014, Trading for Status, *Review of Financial Studies*, 27, 11:3171-3212

- Ikenberry, D. L. and S. Ramnath, 2002, Underreaction to Self-Selected News Events: The Case of Stock Splits, *Review of Financial Studies* 15, 489-526.
- Jegadeesh, N., 1990, Evidence of Predictable Behavior of Security Returns, *The Journal of Finance*, 45(3), 881-898
- Jegadeesh, N., and S. Titman, 1993, Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency, *Journal of Finance* 48, 65-91.
- Kaniel, R., S. Gervaise, and D. Mingelgrin, 2001, The High-Volume Return Premium, *Journal of Finance* 56, 877-920.
- Kaniel, R., G. Saar, and S. Titman, 2008, Individual Investor Trading and Stock Returns, *Journal of Finance* 63, 273-310.
- Li, G. 2014, *China Household Finance Survey*
- Li, K., T. Wang, Y.-L. Cheung, and P. Jiang, 2011, Privatization and Risk Sharing: Evidence from the Split Share Structure Reform in China, *Review of Financial Studies* 24, 2499-2525.
- McLean, D. R. and J. Pontiff, 2015, Does Academic Publication Destroy Stock Return Predictability?, *Journal of Finance* Forthcoming.
- Mei, J., J. A. Scheinkman, and W. Xiong, 2009, Speculative Trading and Stock Prices: Evidence from Chinese A-B Share Premia, *Annals of Economics and Finance* 10-2, 225-255
- Novy-Marx, R., 2013, The other side of value: The gross profitability premium, *Journal of Financial Economics* 108, 1-28.
- Neftci, S. N., M. Yuan, Menager-Xu, 2006, *China's Financial Markets: An Insider's Guide to How the Markets Work*, Academic Press
- Newey, W.K. and K.D. West, 1987, A simple, positive semi-definite, heteroscedasticity and autocorrelation consistent covariance matrix, *Econometrica* 55, 703-708.
- Novy-Marx, R., 2013, The other side of value: The gross profitability premium, *Journal of Financial Economics* 108, 1-28.
- Titman, S., K. C. J. Wei and F. Xie. "Capital Investments And Stock Returns," *Journal of Financial and Quantitative Analysis*, 2004, v39(4,Dec), 677-700

Appendix. Variable Definitions

Name	Definition
Split Indicator (t-1, t-6)	Equals 1 if a stock split (i.e. share transfer or share dividend) occurred anytime during month (t-6) to (t-1), zero otherwise
Dividend Indicator (t-1, t-6)	Equals 1 if a cash dividend occurred anytime during month (t-6) to (t-1), zero otherwise
Market Cap (Dec t-1)	Market capitalization at December of year t-1
Ret (t-1)	Monthly stock return at t-1
Ret (t-2, t-12)	Cumulative return from month t-12 to t-2
Turnover (t-1)	Share turnover the prior quarter
Idiosyncratic Vol (t-1)	Idiosyncratic Risk measured from a market model of daily returns during prior year
Beta (t-1)	Market model beta estimated on daily data over the past year
log B/M (t-1)	log(Book-to-market) at Dec of year t-1 for July (t) to June (t+1)
B Shares Indicator (t-1)	Equals 1 if stock has a B-share, zero otherwise
Asset Growth (t-1)	Change in total assets from Dec of year t-2 to Dec of year t-1/ total assets (t-1)
Gross Profitability (t-1)	(Total Revenue - Cost of Goods Sold)/Total Assets (t-1)
Government Debt Indicator	Equals 1 if the firm has government issued debt
SOE Dummy	Equals 1 if state ownership greater than 50%, zero otherwise (data starts in 2003, set to 0 if < 2003)

Figure 1.
Market Reactions Around Split Announcements

This figure presents cumulative abnormal returns from $t-10$ to $t+60$ days around split announcement ($t=0$) in the China and U.S. market. The sample period is from 199901–201506. In China (U.S.), the cumulative abnormal return is the buy and hold return minus the size-decile (size-momentum) benchmark.

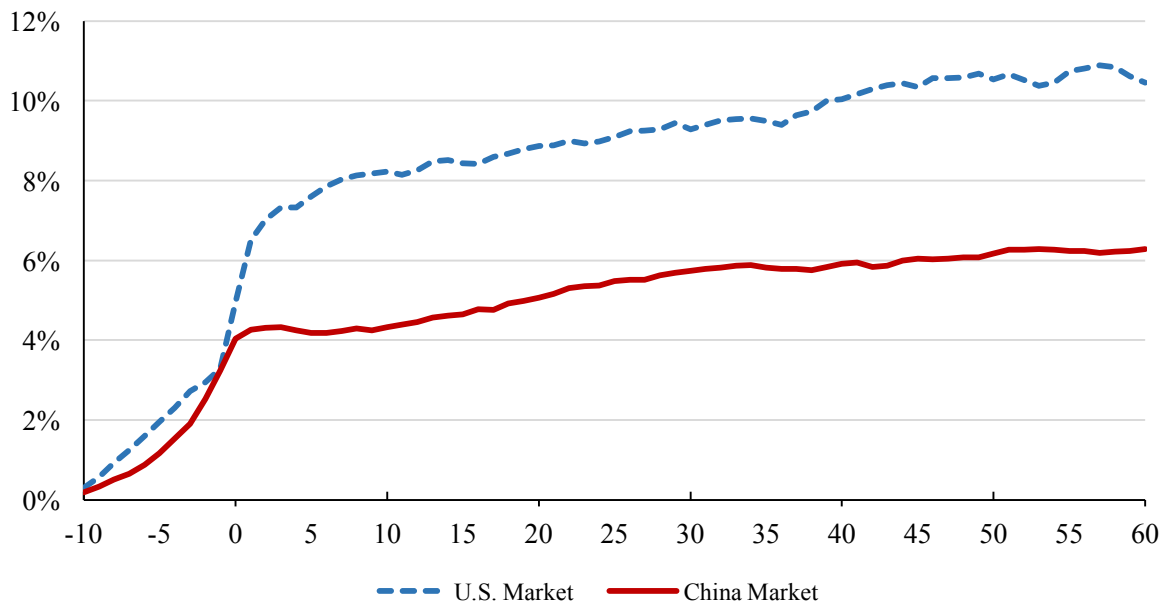
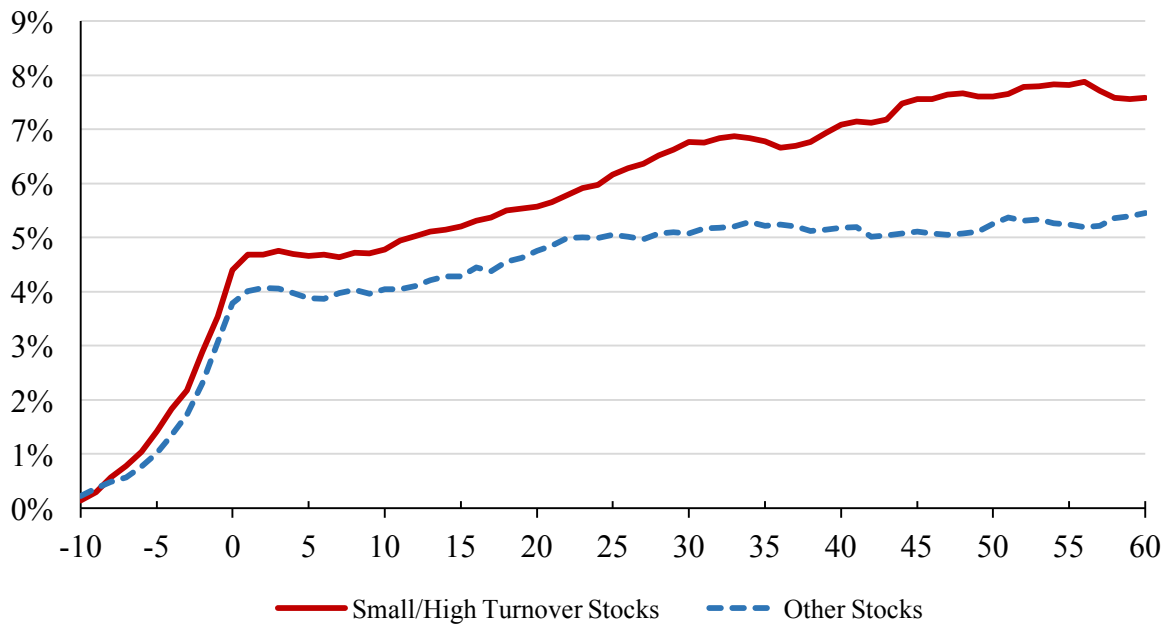


Figure 2.
Market Reactions Around Split Announcements: China Market

This figure presents cumulative abnormal returns from t-10 to t+60 days around split announcement (t=0) in the China market. Panel A presents subsamples based on splits that tend to attract individual investors that are splits with high turnover or splits of small stocks. The sample period is 1999-2015. Panel B presents subsamples based on splits for stocks that are likely to have insider exits: state owned enterprises (SOE), firms with B-shares, and firms with privatization lockups in the 1 month period around split announcement. Since the data for lockups begins in 2006, the sample period is from 2006-2015.

Panel A. Attracting Individual Investors: Small Stock or High Share Turnover Splits 1999-2015



Panel B. Potential Insider Exits 2006-2015

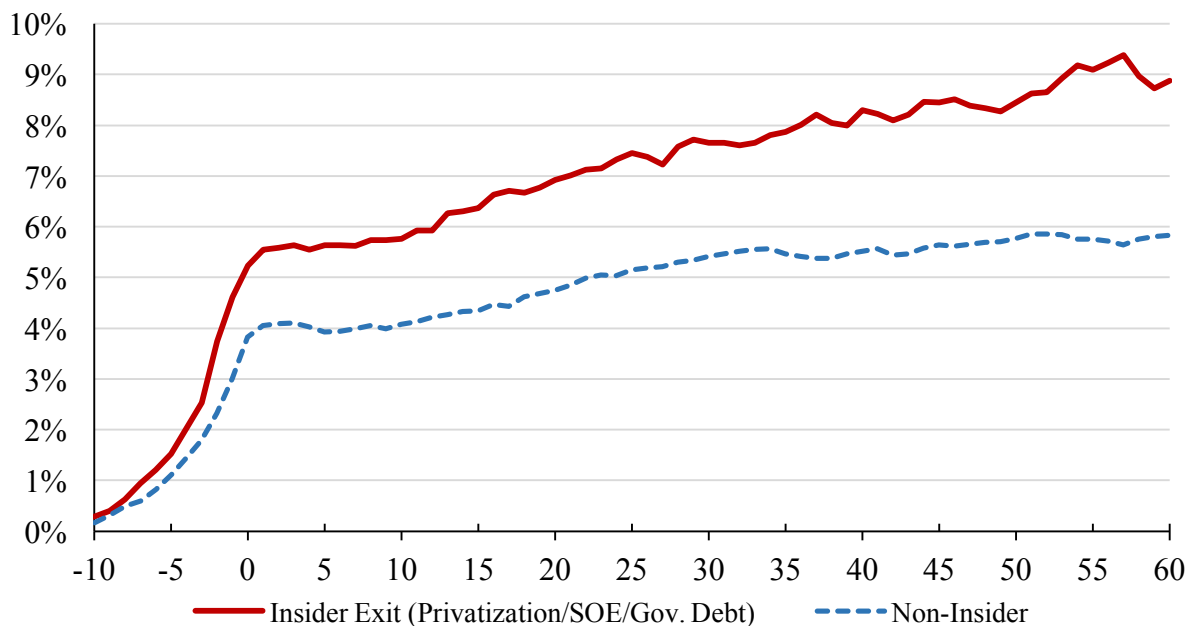
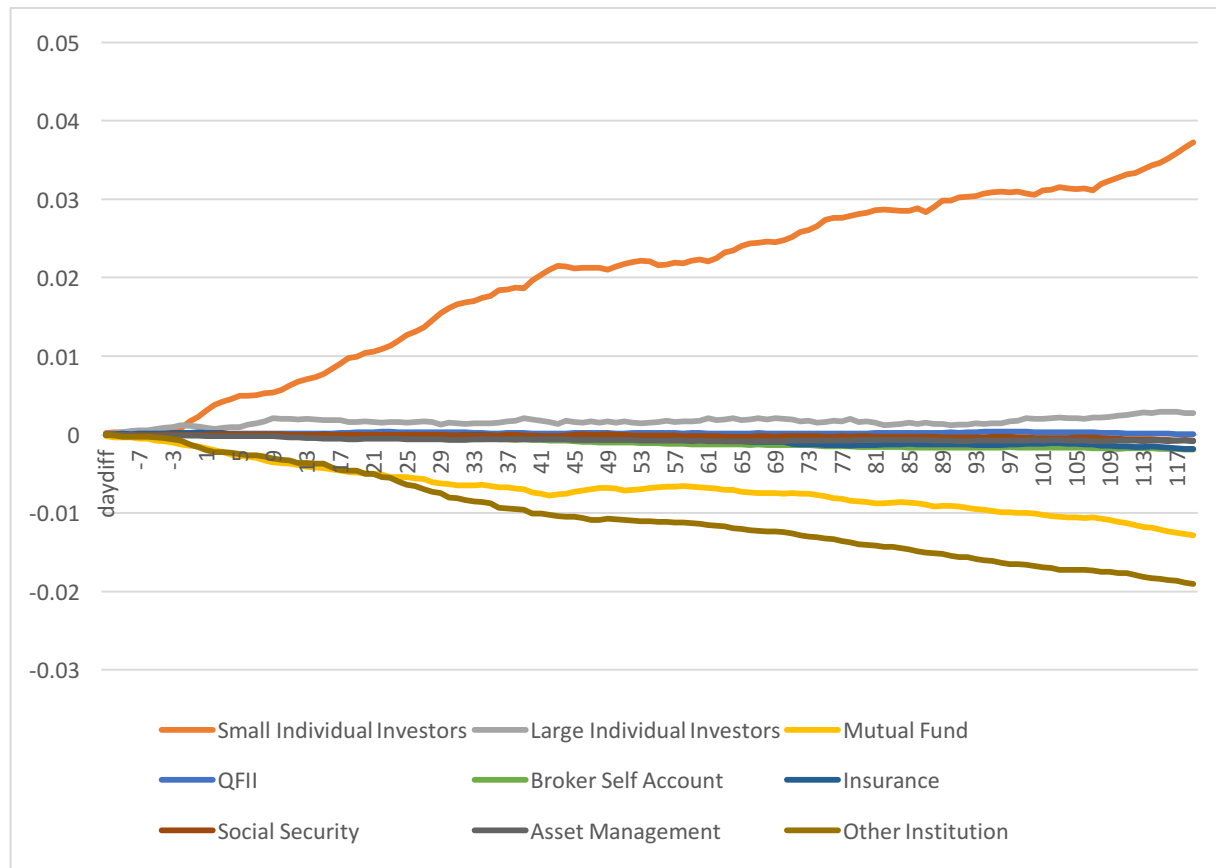


Figure 3. Trading

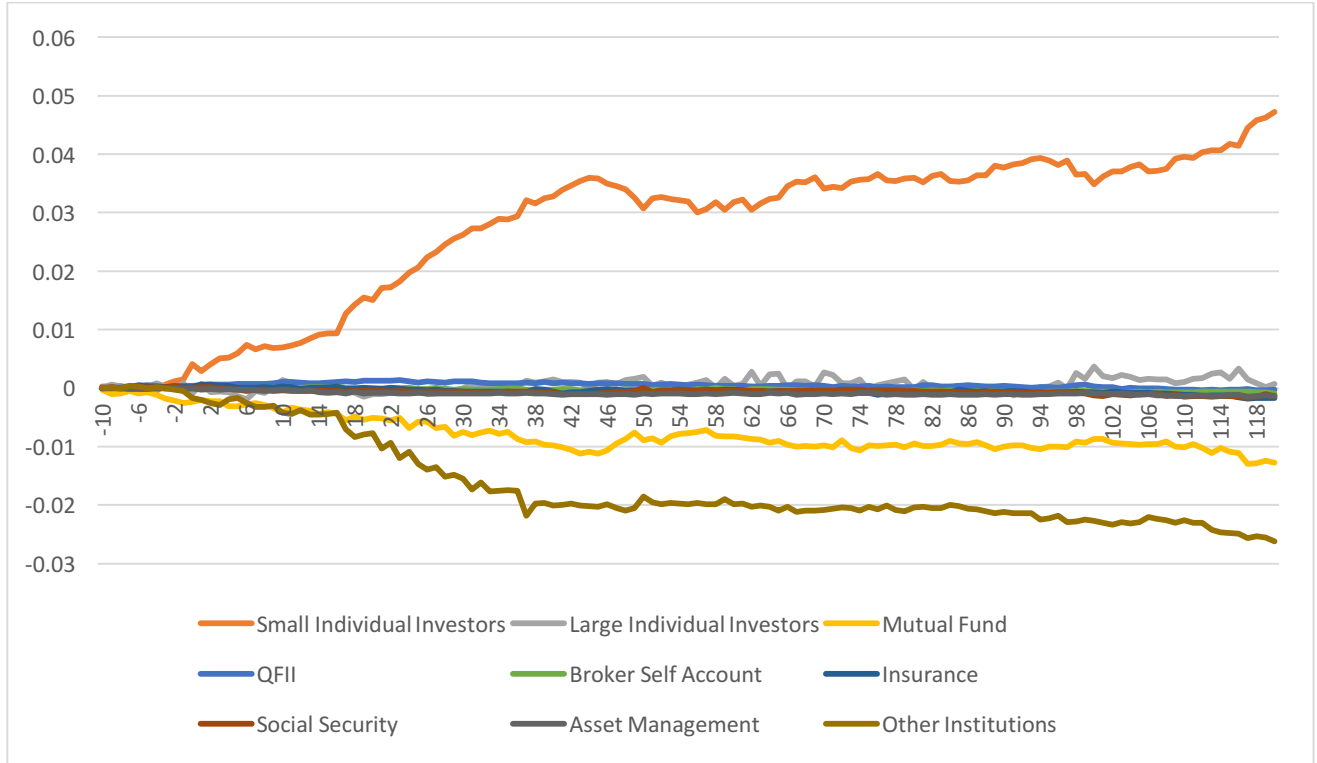
This figure presents accumulation of net trading turnover (buy minus sell turnover) by investor type around announcement of a stock split. The sample is 2013-2014. We examine nine types of investors: individual investors with account wealth less than five million Chinese Yuan; big individual investors with account wealth above five million Chinese Yuan; broker self account which is the account that brokerage houses use to trade for themselves; broker asset management account, domestic mutual fund, and qualified foreign institutional investors (QFII).

Panel A. Accumulation of Net Turnover by Investor Type



**Figure 3.
Continued**

Panel B. Small Capitalization/High Turnover Splits: Accumulation of Net Turnover by Investor Type



Panel C. Potential Insider Exits: Accumulation of Net Turnover by Investor Type

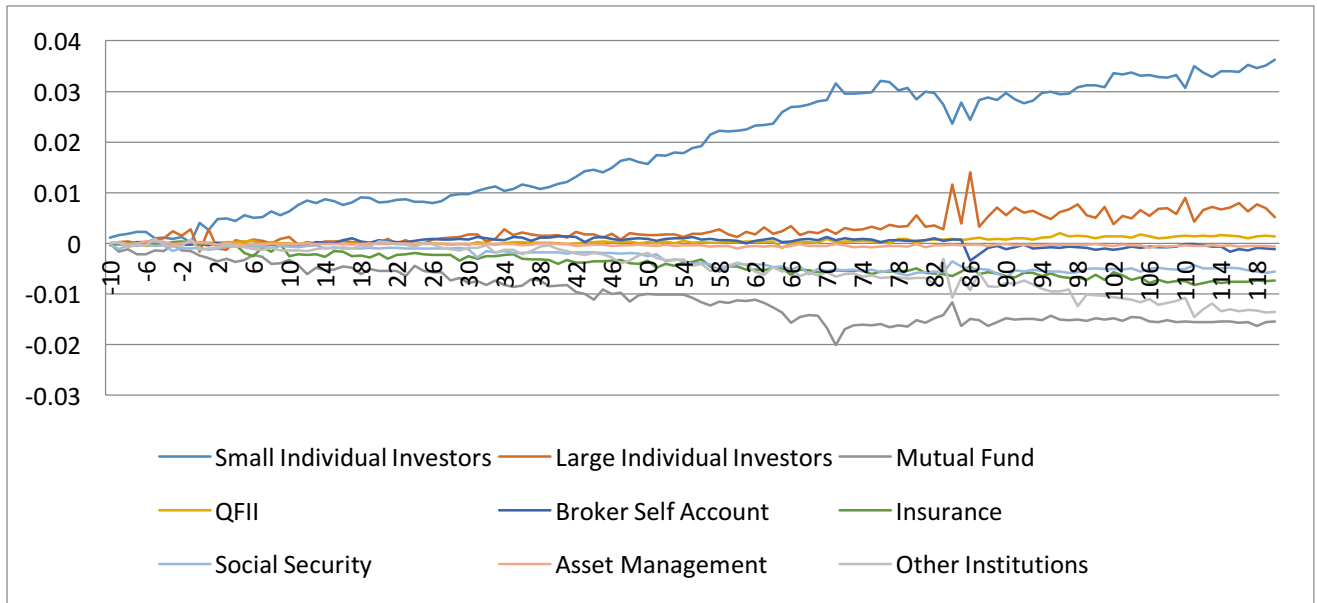


Table 1.
Summary Statistics

This table presents summary statistics of the key variables in the paper. Panel A reports the number of splits each calendar quarter in the China market from Q1 1999 to Q3 2014. Due to the prevalence of trading halts, the stock must trade in the three day period (t-1 to t+1) around split announcement to be included in the main sample. Panel B reports firm characteristics of stocks that announce splits and those that do not. All variable definitions are in the Appendix.

Panel A. Number of Stock Splits in China Market

	Q1	Q2	Q3	Q4
1999	91	44	46	0
2000	75	40	41	0
2001	101	39	23	0
2002	70	44	32	0
2003	67	40	22	0
2004	114	61	35	1
2005	84	38	10	0
2006	69	43	27	1
2007	75	66	31	0
2008	184	102	28	0
2009	102	82	13	1
2010	162	91	25	0
2011	189	107	27	0
2012	194	108	17	1
2013	144	104	17	2
2014	130	105	22	-

Panel B. Firm Characteristics of Stocks that Announce/ Do not announce Splits in the China Market

	Split firms	Non-Split Firms
Size	\$7,606,846	\$8,693,796
Ret (t-2, t-12)	35.51%	11.12%
Ret (t-1)	4.94%	2.84%
B/M	0.31	0.43
Profitability	5.9%	3.0%
Asset Growth	26.8%	16.4%
Beta	0.97	1.04
SOE Dummy	17.4%	22.9%
B-Share Dummy	3.7%	5.6%
Idiosyncratic Volatility	33.8%	35.6%
Turnover (qtr)	41.1%	46.6%
Observations	3387	17785

Table 2.
Abnormal Returns Around Split Announcement for China and U.S. Market

This table presents cumulative abnormal returns around split announcements for both the United States and China market using daily and month return data for the sample period 199901–201506. Panel A reports daily cumulative abnormal returns around announcement date ($t=0$) for the China and U.S. market. For the China market (U.S.), the cumulative abnormal return is calculated as the buy and hold return minus the size-decile (size-momentum decile) benchmark. Panel B reports cumulative abnormal monthly returns around announcement date ($t=0$) for the China and U.S. market. For the China market (U.S.), the cumulative abnormal return is calculated as the buy and hold return minus the size-decile (DGTW) benchmark. Panel C reports daily cumulative abnormal returns around announcement date ($t=0$) for different types of stock splits in the China market. Pure split is a split with zero cash dividend. With Dividend is a cash dividend that accompanies a stock split announcement. Share transfer/dividend is a stock split using only share transfer/dividend. Share transfer + dividend is a stock split with both a share transfer and share dividend. t-statistics are calculated using White standard errors to correct for clustering each calendar month. We report the mean estimates and t-statistics in parentheses, testing the hypothesis of zero cumulative abnormal return.

Panel A. Abnormal Daily Returns

	N		[-10,-2]	[-5,-2]	[-1,+1]	[+2,+10]	[+2,+60]
China	3387	mean	2.53	1.64	1.73	0.01	1.76
		t-stat	(10.77)	(13.00)	(14.06)	(0.05)	(2.43)
United States	2381	mean	2.95	1.32	3.32	1.59	3.21
		t-stat	(8.92)	(8.42)	(13.48)	(6.88)	(4.71)

Panel B. Abnormal Monthly Returns

	N		[-3 to -1]	[month 0]	[+1 to +3]	[+1 to +6]	[+1 to +12]
China	3387	mean	5.02	4.18	1.91	2.47	2.08
		t-stat	(6.24)	(14.03)	(3.13)	(4.16)	(2.34)
United States	2381	mean	19.99	7.86	2.95	3.26	4.20
		t-stat	(7.85)	(10.07)	(3.68)	(4.08)	(3.16)

Panel C. China Abnormal Daily Returns: Split Types

	N		[-10,-2]	[-5,-2]	[-1,+1]	[+2,+10]	[+2,+60]
Pure Split	1155	mean	3.06	1.85	1.79	-0.20	1.78
		t-stat	(8.69)	(10.80)	(8.04)	(-0.92)	(2.00)
With Dividend	2232	mean	2.25	1.54	1.70	0.12	1.75
		t-stat	(8.98)	(9.62)	(12.49)	(0.55)	(2.13)
Share Transfer	2088	mean	2.39	1.58	1.80	0.12	1.60
		t-stat	(8.51)	(10.26)	(11.80)	(0.58)	(2.21)
Share Dividend	728	mean	3.86	2.34	1.98	0.07	2.31
		t-stat	(9.62)	(9.97)	(7.08)	(0.22)	(2.36)
Share Transfer + Dividend	571	mean	3.86	2.34	1.98	0.07	2.31
		t-stat	(9.62)	(9.97)	(7.08)	(0.22)	(2.36)

Table 3.
Size-adjusted Returns around Split Announcement: Attracting Individual Investors

This table presents cumulative abnormal returns around split announcements for different subsamples of split announcements in the China market. The cumulative abnormal return is calculated as the buy and hold return minus the size-decile benchmark, where $t=0$ is the calendar day of the split announcement. We report holding periods from $t-10$ to $t-2$, $t-5$ to $t-2$, $t-1$ to $t+1$, $t+2$ to $t+10$, and $t+2$ to $t+60$. t -statistics are calculated using White standard errors to correct for clustering each calendar month. We report the mean estimates and t -statistics in parentheses, testing the hypothesis of zero cumulative abnormal return. Panel A presents split announcement subsamples of splits by stocks with high turnover or small firms. Small firms are firms in the bottom 3 size deciles at the end of Dec $t-1$. High turnover firms are firms in the top 3 turnover deciles in the previous 3 months. Panel B presents split announcements subsamples of on State Owned Enterprise and impending privatizations lockups in the 6 months after split announcement. The sample period is from 200601-201506 because reporting on privatizations begins in 2006.

Panel A. Small-Cap/High Turnover Splits: 1999-2015

Daily Cumulative Size-adjusted Return Windows

	N		[-10,-2]	[-5,-2]	[-1,+1]	[+2,+10]	[+2,+60]
Small-cap/ High Turnover	1310	mean	2.88	1.82	1.81	0.05	2.44
		t-stat	(7.97)	(8.91)	(9.47)	(0.20)	(2.53)
Others	2077	mean	2.31	1.54	1.69	-0.02	1.33
		t-stat	(10.13)	(10.93)	(10.47)	(-0.10)	(1.96)

Monthly Cumulative Size-adjusted Return Windows

	N		[-3 to -1]	[month 0]	[+1 to +3]	[+1 to +6]	[+1 to +12]
Small-cap/ High Turnover	1310	mean	8.02	4.32	2.75	2.99	2.33
		t-stat	(7.56)	(9.89)	(3.27)	(3.20)	(1.37)
Others	2077	mean	3.12	4.09	1.38	2.14	1.92
		t-stat	(3.98)	(12.85)	(2.21)	(3.30)	(1.54)

Panel B. Potential Insider Exits: 2006-2015

Daily Cumulative Size-adjusted Return Windows

	N		[-10,-2]	[-5,-2]	[-1,+1]	[+2,+10]	[+2,+60]
Insiders	312	mean	4.34	2.90	1.92	0.23	4.19
		t-stat	(5.95)	(6.11)	(6.21)	(0.54)	(1.43)
Non-insider	1957	mean	2.20	1.41	1.69	0.17	2.10
		t-stat	(7.76)	(9.35)	(10.40)	(0.63)	(2.60)

Monthly Cumulative Size-adjusted Return Windows

	N		[-3 to -1]	[month 0]	[+1 to +3]	[+1 to +6]	[+1 to +12]
Insiders	312	mean	8.92	6.05	2.84	4.11	8.11
		t-stat	(4.96)	(8.87)	(1.58)	(1.94)	(2.34)
Non-insider	1957	mean	2.62	3.91	2.42	2.72	1.35
		t-stat	(3.40)	(9.58)	(3.22)	(3.39)	(1.13)

Table 4.
Monthly Cross-sectional Fama-MacBeth Regression

This table presents monthly cross-sectional Fama-MacBeth regressions of stock returns on characteristics in the prior period for the China market. The sample period is from 199901 to 201506 except for Panel A, column 4 where the sample starts in 200401. Split indicator = 1 if a split announcement occurred in the past 6 months. Dividend indicator= 1 if a cash dividend was announced in the past 6 months. To be included in the sample, all stocks must be listed and free of ST status as of the prior December year end. Variable definitions are available in the appendix. Panel A presents full sample (199901-201506) results. Panel B presents subsample results. Standard errors are calculated following Newey-West (1987) with 6 lags.

Table 4. (Continued)
Panel A. Full Sample

	[1]	[2]	[3]	[4]
Split Indicator	0.670***	0.832***	0.874***	1.031***
Dummy (t-1, t-6)	[3.70]	[5.09]	[5.36]	[4.98]
Dividend Indicator	-0.11	-0.114	-0.112	-0.096
Dummy (t-1, t-6)	[-0.64]	[-0.69]	[-0.71]	[-0.50]
Market Cap (Dec t-1)		-0.592***	-0.565***	-0.648***
		[-3.50]	[-3.61]	[-4.34]
Turnover (t-1)		-0.569**	-0.583**	-0.687***
		[-2.45]	[-2.49]	[-4.45]
Idiosyncratic Vol (t-1)		-5.018***	-5.023***	-4.179***
		[-7.04]	[-6.73]	[-5.34]
Ret (t-1)		-3.858***	-4.175***	-4.839***
		[-5.14]	[-5.87]	[-6.03]
Ret (t-2, t-12)		0.511	0.607	0.359
		[1.14]	[1.41]	[0.63]
Beta (t-1)		0.044	-0.029	0.003
		[0.13]	[-0.09]	[0.01]
B/M (t-1)			0.247**	0.215
			[2.04]	[1.53]
Gross Profitability (t-1)			-0.487	0.384
			[-0.44]	[0.32]
Asset Growth (t-1)			-0.13	-0.081
			[-1.26]	[-0.66]
Government Debt Indicator				0.865**
(t-1)				[2.47]
Government Majority Owner				-0.001
(t-1)				[-0.01]
B-Share Indicator				-0.408**
(t-1)				[-2.03]
start	199901	199901	199901	200401
end	201506	201506	201506	201506
number of months	198	198	198	138
avg firms per month	1245	1245	1245	1432
total firm-months	246557	246557	246557	197642

Table 4. (Continued)
Monthly Cross-sectional Fama-MacBeth Regression

Panel B. Sub-Samples

	Small-Cap	Mid-Cap	Large-Cap	1999-2007	2007-2015
Split Indicator	1.225***	0.978***	0.645***	0.917***	0.828***
Dummy (t-1, t-6)	[2.96]	[4.12]	[3.18]	[3.23]	[4.26]
Dividend Indicator	-0.29	-0.061	-0.011	-0.247	0.031
Dummy (t-1, t-6)	[-0.87]	[-0.32]	[-0.06]	[-1.03]	[0.16]
Market Cap (Dec t-1)	-0.985***	-0.702***	-0.250*	-0.299	-0.848***
	[-3.30]	[-3.41]	[-1.75]	[-1.26]	[-4.88]
Turnover (t-1)	-0.472*	-0.483*	-0.817***	-0.544	-0.624***
	[-1.73]	[-1.70]	[-2.98]	[-1.25]	[-4.21]
Idiosyncratic Vol (t-1)	-6.715***	-4.987***	-3.924***	-5.804***	-4.194***
	[-4.87]	[-6.27]	[-4.02]	[-5.77]	[-4.13]
Ret (t-1)	-6.518***	-4.971***	-1.603*	-3.413***	-4.984***
	[-6.21]	[-6.53]	[-1.81]	[-3.56]	[-4.95]
Ret (t-2, t-12)	-0.219	0.575	0.846	1.567***	-0.412
	[-0.42]	[1.55]	[1.63]	[3.77]	[-0.63]
Beta (t-1)	-0.423	0.321	-0.186	0.158	-0.227
	[-0.87]	[0.97]	[-0.42]	[0.40]	[-0.42]
B/M (t-1)	0.204	0.217*	0.27	0.364**	0.123
	[1.20]	[1.95]	[1.64]	[2.09]	[0.76]
Gross Profitability (t-1)	0.405	0.779	-1.363	-0.614	-0.353
	[0.29]	[0.70]	[-1.01]	[-0.34]	[-0.28]
Asset Growth (t-1)	-0.259	-0.037	-0.114	-0.127	-0.133
	[-1.04]	[-0.29]	[-1.21]	[-0.76]	[-1.05]
start	199901	199901	199901	199901	200707
end	201506	201506	201506	200706	201506
number of months	198	198	198	102	96
avg firms per month	312	520	414	939	1570
total firm-months	61718	102889	81950	95794	150763