The Effect of Special Treatment Designation on Information Transmission in the Chinese Stock Market

Enoch Cheng, Fan Xia, and George Yungchih Wang

***Abstract*—**We study the short-term price effects for a Special Treatment designation, the first step by a Chinese stock exchange in delisting a stock, and conclude that it serves a useful purpose in transmitting information to investors. We find that that being designated as Special Treatment (ST) negatively affected stock returns. Investors differentiated between certain ST categories, resulting in significant differences in cumulative negative returns. There is evidence of information leakage prior to the announcement and the impact is reflected in prices within 10 days. For some ST categories, investors distinguish between stocks that are able to successfully remove their designation.

***Keywords*—**China, Special Treatment, event study, information.

I. Introduction

IN the 1980s, reforms initiated by Deng Xiaoping began the transition by China to a market economy. During this transition, the process of converting state-owned enterprises (SOEs) into publically-traded companies and the development of private capital markets was started. Today, China is home to two stock exchanges, the Shanghai Securities Exchange and the Shenzhen Stock Exchange.

Due to China's institutional development, much of the regulatory framework for listing of equity issues is administrative, instead of market based, on the part of the stock exchanges. This study will focus on the administrative delisting process of both exchanges. Under this process, stocks in danger of being delisted are put in a "special treatment" or "ST" category, and undergo administrative review over a certain time period. We determine if the ST process serves a useful purpose in the Chinese equity market, by examining if the designation impacts prices, and whether investors differentiate between different categories of the designation.

The process of delisting begins with an administrative review by the Chinese Securities Regulation Commission (CSRC). The number of public listings is restricted every year and their allocation is controlled by the government. Many of the companies listed began life as, or as part of, state-owned enterprises (SOEs) and receive preferential listing preferences. Under this regulatory environment, parent companies often spin off best-performing subsidiaries as candidates which compete for the opportunity to access capital markets through the IPO process.

After becoming publically traded companies, many of these former SOEs retain their parent SOE or other government entities as majority shareholders holding untradeable shares, resulting in poor corporate governance and minority shareholder protection. For example, Bai *et al.* (2004) and Lv *et al*. (2012) find evidence of tactics more detrimental to individual public shareholders, including the hidden expropriation of firm assets through tunneling and loans to the controlling shareholder. These shareholders are unable to take advantage of any capital gains in their holdings, and seek other ways to take advantage of their position.

In order to preserve the quality of firms for smaller investors whom hold positions in the traded shares, the CSRC and stock exchanges created several major requirements for firms to preserve their listing status. The primary instrument is the special treatment (ST) delisting procedure. Once designated as a "special treatment" firm by the stock exchange, a company needs to place a special designation on its ticker symbol as a warning to investors. The firm is on probationary status for 1 year after the designation, designated as "particular-transfer" or PT, and trading is suspended in the second year if the firm has not taken steps to rectify the conditions leading to the designation. Finally, if the firm is still in trouble, it is delisted.

There are several reasons for the ST designation, which differ in financial complexity. For example, some quantitative reasons occur from measurable financial statement problems, whereas others arise from auditor decisions. In order to study these issues, we conduct an event study of the different ST designations. Since event-studies were designed to examine the impact of an event (i.e. news of earnings or regulatory change) upon the price of a stock, we gain insight from the actions of traders regarding how the different types of ST criteria affect a firm's future profitability.

Events post-ST designation have been previously studied (Bai *et al*. 2004; Green *et al*. 2009), but have focused on ST firms as a group, and over a longer post-designation period. Our

Enoch Cheng is an Instructor in Economics with both International College Beijing, China Agricultural University, China and Department of Economics, University of Colorado-Denver, CO, USA (e-mail: enoch.cheng@ucdenver.edu).

Fan Xia is Associate Professor, Strategic Management Academic Area, ESC Rennes School of Business, Rennes Cedex, France (corresponding author, email: frankxia@gmail.com).

George Yungchih Wang is Associate Professor in Finance and Economics with both International College Beijing, China Agricultural University, China and Department of Economics, University of Colorado-Denver, CO, USA (e-mail: yungchih.wang@ucdenver.edu).

paper is the first attempt to solely examine the short-term (less than 20 days) information impact of different ST categories on stock returns and to use those results to determine the usefulness of the ST designation in conveying information to investors. Our paper is organized as follows: In section two, we summarize the previous literature and the details of the ST procedure. Section three will examine the methodological issues involved with our analysis. Section four will review our data and results, and section five concludes.

II. Literature Review

A. Regulatory Setting

The ST procedure is a defining feature of the Chinese financial market, and its usefulness is debated. Several authors (Liu, 2006; Xu and Wang, 1999) note that China's transition to a market economy is occurring without much of the institutional infrastructure common in the West, with the previous institutions of a planned economy. They characterize Chinese corporate governance as an ownership "control-based" system, whereupon the majority shareholder, usually the State, exerts control over listed firms. This position, combined with the State's inability to trade their owned shares, may place them in conflict with other minority shareholders.

The legal infrastructure to resolve conflicts between the majority shareholder, who is often the State, and other shareholders, is weak. In the absence of legal repercussions to misbehavior, Pistor and Xu (2005) argue that administrative governance, such as the ST delisting mechanism used by stock exchanges, can be used as a substitute to restrain mismanagement of companies. When a company is delisted from an exchange, no other company can issue shares in its place. A history of delistings from an administrative region may be used to lower the quota for future IPO's from that region, reflecting poorly on that region's administration.

Additionally, short-selling, and the required margin that investors require, is relatively new in the Chinese equity market. Short sellers act to align stock prices with fundamentals, actively searching for information to determine which stocks are mispriced - these types of traders are missing in the Chinese market. A trial program was introduced in 2010, where a limited number of large brokers could allow their clients to trade on margin, and to short sell stocks. This program was extended in 2012, when a centralized-securities lending facility was introduced that allowed brokers to borrow stocks from each other. Since our study ends in 2011, the impact of short-sellers on stock trading is limited. In the absence of short-sellers, the ST mechanism can also serve as a way to channel information to investors, allowing them to make informed decisions about stock prices.

In contrast, Jiang and Wang (2008) argue that the ST delisting mechanism is flawed because it incentivizes firms to engage in earnings manipulation to avoid accounting losses, and may also cause the delisting of viable firms temporarily experiencing poor performance. Furthermore, they argue that the ST designation does not provide any new accounting information that investors do not know. Their study is strictly based on the earnings criteria for an ST designation.

Another view about the ST mechanism is that it allows a contest for corporate control that is sanctioned by the regulatory authorities. In the Chinese market where mergers and acquisitions are rare, and nearly impossible because of large government shareholders, the ST announcement is a signal to private parties looking for reverse merger opportunities, allowing them to skip the IPO line.

Bai *et al*. (2004) find that during the period between 1998 – 2000, out of 66 firms that were designated ST, more than 50% experienced changes in their largest shareholder and 36% changed their core business. The 66 ST firms eventually outperformed the market by 31.8%, from 3 months before their designation, to 24 months after. They conclude that this mechanism helped protect the interests of smaller minority shareholders in an adverse institutional environment.

However, whereas ST firms may outperform in the long-run, our study finds that in the short-run, the ST designation helps transmit adverse information to the public. Investors react to the news by selling shares, pushing down the price of the firm's stock to reflect their new firm valuation. Thus, in the short-run, small shareholders holding tradeable shares incorporate the newly realized historic information into stock prices and discount the possibility of future firm reorganization.

There are currently two types of special treatment designations. According to current rules, the Shanghai stock exchange will designate a firm as a special treatment (ST) company, in danger of being delisted within one year, for several reasons. We summarize the more common reasons below. The more serious type of ST, with a designation of *ST placed before the ticker symbol, is imposed by the reasons of:

a. The firm has negative net earnings for two consecutive years

b. Shareholder equity is lowered than registered capital in the last fiscal year

c. Firm auditors issue negative opinions or are unable to issue an opinion

The other type of special treatment, with a designation of ST placed before the ticker symbol, is imposed commonly when:

d. Firm operations or business activities have stopped or will stop for at least three months.

The company is required to announce the designation on the trading day immediately preceding the date when its stock is placed under the treatment. The Shenzhen Stock Exchange has similar criteria to the Shanghai Stock Exchange.

Since many of the criteria depend on the annual financial statement, there is a cluster of ST/*ST decisions made in April and May, before companies release their annual reports. Classifications also arise sporadically during the year, when negative news about companies is released. A company may become ST or *ST if one or multiple regulatory criteria are concurrently met. Classifications are revised between ST and *ST, within the one year window, depending on whether more serious news is discovered and at regulatory discretion. Finally, there is a catch-all classification category, where a firm is classified as ST or *ST if deemed "abnormal" by the stock exchange.

B. Relationship to Previous Studies

Theoretically, if Chinese investors have access to all information, the actual ST event should not matter, as prices will already incorporate any adverse information. Since the ST designation is backward looking – conditioning on past events – it only serves as an affirmation of what has occurred. A price reaction to the news announcement indicates that the news was a surprise to investors and indicates the usefulness of the mechanism in providing hidden information.

Previous event studies have documented the impact of information on stock returns, and we review the studies related to the various ST categorizations studied. Using monthly returns, Ball and Brown (1968) show that investors correctly anticipated reported income in the months before the annual report. In the short-run, Ball and Kothari (1991) find evidence for abnormal returns in a 20 day window centered around the announcement date. Since the ST1 category is an earnings-based category, we expect to see similar results.

The ST reason of a negative audit opinion, or auditor unable to express an opinion, has a close analogy to when an U.S. firm is required to file a Form 8-K as a result of an auditor change. The literature shows that when this occurs because of auditor issues with the firm, it results in negative abnormal returns when disclosed to the public in a 8-K. Smith and Nichols (1982) find that the information is absorbed immediately within a week after the filing, resulting in a cumulative abnormal return of -5.8%. Whisenant *et al*. (2003) also find that firm disclosures of auditor issues with internal controls and financial statement reliability on the 8-K result in abnormal returns of -5.52% over a three day period and -12.67% over a seven day period. These studies indicate that information content is quickly absorbed into stock prices.

There has not been much written about the effects of the registered capital status on Chinese firm value. Legally, the registered capital of a Chinese firm is the capital required by regulators for investors to initially capitalize a firm. There are several tiers of capital requirements for different industries, reflecting the government-estimated capital needed to start up and conduct operations before it becomes self-sustaining. In China, the size of registered capital, and whether the firm has that amount, dictates its access to credit. A close analogy to registered capital is the accounting definition of working capital, but in China, it also serves as collateral for firm lenders, and as an indicator of credit quality.

The ST category of shareholder equity less than registered capital means that a firm is estimated by authorities to have insufficient capital to meet its daily operations and short-term liabilities. For example, bank credit restrictions in the aftermath of the Worldcom bankruptcy increased the volatility of cash flows to their client borrowers, making large negative realizations more likely (Lin and Paravisini, 2012). A potential conflict then rises between the short-term lenders and shareholders of the firm. Designating the firm as ST may act as a stop-gate measure to ensure that the interests of the lenders are protected, without resorting to a bankruptcy court and undeveloped legal institutions. Lamont *et al*. (2001) also find that financially constrained firms (those unable to fund all desired investments) earn lower returns compared to unconstrained firms.

In summary, previous research on earnings announcements and audit disagreements show that these events affect stock returns, and are quickly reflected in prices. We conjecture that the ST designation caused by insufficient shareholder equity motivates authorities wishing to avoid a conflict between firm lenders and shareholders, by warning both lenders and shareholders. Credit constraints been shown to negatively affect stock returns. Finally, we consider the ST designation caused by a firm halting operations a general "bad news" signal to investors, again negatively impacting stock returns.

III. Procedure

The event study method has been widely used in the financial, accounting and management literature. Event studies have been used to study earnings forecasts (Patell, 1976), proxy contests (Dodd and Warner, 1983), and stock price behavior associated with public offerings of common stock and convertible (Mikkelson and Partch, 1988). McWilliams and Siegel (1997) summarize several event studies used in management research. We briefly review the event-study aspects which are relevant in our study.

In order to determine if the ST/*ST classification causes abnormal returns, we use a two-step procedure. We first select an estimation window and estimate the parameters of a market model using OLS, assuming that this is the normal behavior of the stock price. In the second part of the procedure, we use our estimated market model to predict the returns of the stock in the event window. The difference between our prediction and the actual return is considered abnormal.

The estimation period was chosen to be 240 days (approximately one trading year), beginning from -260 days to -20 days before the ST event, which was set to be day 0. For each company i, we assume that normal stock returns follow the market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it} \quad (1)$$

The parameters α_i and β_i in the market model are estimated using daily returns from the estimation period. This market model controls for the risk of company i using β_i and also for movements of the market index.

The event window is where the ST event occurs. We choose the event period to be 41 days (approximately 2 trading months), beginning from -20 days to 20 days after the news event. Although the period which a firm could be categorized as ST is one year, we pick a short event period to study the immediate effects of the designation. As a ST/*ST firm approaches the one year deadline for further review, it becomes apparent to investors whether it will successfully remove the designation, prices will reflect this new secondary event, and the effect of the designation will be diluted. Conversely, we also wanted to pick a long enough event period to see if prices

are able to adjust to a new equilibrium after the designation. As will be seen from our results, 20 days is a sufficiently long enough period for prices to reach equilibrium.

We also choose the event period to begin 20 days before the news event because we want to capture any potential information leakage in the market. If there is leakage, traded prices will exhibit abnormal behavior prior to the announcement. We also expect that different ST designations have different potential for information leakage.

Using the estimated market model, we predict the normal stock return for company i for the event period. The predicted normal stock return during this period is:

$$\widehat{R_{it}} = \widehat{\alpha_i} + \widehat{\beta_i} R_{mt} \quad (2)$$

Any effects of the ST/*ST event is assumed to manifest as abnormal returns, defined as the difference between predicted returns from our model, and actual returns from the event period:

(3)

AR_{it} is defined as the abnormal return for firm i, at time t. Finally, we find the cumulative abnormal return of each firm as the sum of the daily abnormal returns:

$$CAR_{it} = \sum_{t_1}^{t_2} AR_{it} \quad (4)$$

We aggregate the firms into portfolios representing each ST category, and find the average AR and CAR for each portfolio and date, testing to see whether they are significantly different from zero and whether the CAR differ between categories. In order to see how the information impact changes over time, we examine the returns at times t=0 (the event date), t= 10 (ten days after the event date), and t = 20 (approximately a month after the event date).

In the second part of the study, we examine how investors evaluate the seriousness of the company's circumstances and difficulty in removing the ST/*ST designation. For each reason, we examine news stories to see what happened to the companies post-ST/*ST designation. We placed companies into two groups: a "normal" group – where the company had its designation removed and returned to normal listing status and a "worse" group – where the company had an additional designation placed on it. This later designation could have been an *ST designation, PT status, or trading could have temporarily been suspended. While these are different gradations of becoming "worse", the main effect is that the firm will take a longer period to return to normal, while facing ultimate delisting.

For each ST/*ST reason, we calculate the average CAR for each group and test to see if they differ from each other. If we find that worse companies have a lower cumulative abnormal return, this indicates that investors have correctly predicted the ST/*ST designation not being removed, given the current information they have on the company.

In the case of event-studies, the variance of returns is often underestimated, leading a t-test to reject the null hypothesis too often, and mistakenly finding statistical significance. The main problems of concern in our study are non-normally distributed returns, caused by a small sample size, and heteroskedasticity between stocks and across time, caused by event-date clustering and differing event effects between stocks. Corrado (2010), Kothari and Warner (2006), MacKinlay (1997), and McWilliams and Siegel (1997) review the event study literature and summarize these potential problems.

Since many of the criteria depend on the annual financial statement, the greater number of ST/*ST decisions made in April and May leads to heteroskedasticity. Dodd and Warner (1983) and Patell (1976) provide an adjustment to the t-statistic by using standardized abnormal returns in calculating the variance. Boehmer *et al*. (1991) later provide an additional adjustment to standardized returns, for event-induced variance increases, which allows for appropriate rejection rates when the null hypothesis is true and is equally powerful when it is not. Their method is unaffected by event-date clustering.

Additionally, small sample sizes may cause problems. For the ST designation of firm operations halting, our sample size is eight firms. However, Brown and Warner (1985) and Dyckman *et al*. (1984), using a simulation approach on daily returns, find that, for sample sizes as small as 5 firms, the market model is still well specified and that even though daily returns depart from normality, it does not affect the use of standard parametric t-tests for inference.

Finally, non-parametric tests have been used as an alternative to testing abnormal performance without the requirement of normality in the data. These tests are thus robust to any departures from normality that may be exhibited by abnormal returns. Specific to our study, Corrado and Truong (2008) find that parametric tests on Asia-Pacific data will be usually misspecified because of non-normality in returns. Their findings support using the non-parametric rank statistic developed by Boehmer *et al*. (1991) for event-induced variance increases.

For testing cumulative abnormal returns, McWilliams and McWilliams (2000) recommend the use of a standardized test statistic proposed by McWilliams and Siegel (1997), and similar to Dodd and Warner (1983) and Patell (1976). However, this method assumes independence of abnormal returns. In the event of serial correlation between abnormal returns, they recommend modifying the test statistic as by Meznar *et al*. (1998) and Mikkelson and Partch (1988). Finally, Boehmer *et al*. (1991) again provides a modification of the test-statistic for cumulative abnormal returns, to account for event-induced variance.

To test the significance of abnormal returns, we use the standardized t-statistic, the Boehmer *et al*. modified statistic, and the rank statistic proposed by Corrado and Truong (2008).

To test the significance of cumulative abnormal returns, we follow McWilliams and McWilliams (2000) and also Boehmer *et al*. (1991). Our results are consistent across the different t-statistics.

IV. Results

A. Data

We use the CSMAR database for stock and market returns from 1998-2011. Stock returns are arithmetic and the market is an equal-weighted index. We use the RESSET database for a listing of ST and *ST events and their dates. Although the CSMAR data also compiles the ST designation, a comparison to Bai *et al*. (2004), who listed the sample of companies they studied from the WIND dataset, showed cases where the ST designation was incomplete. The dataset from RESSET was more comprehensive, including dates from both CSMAR and WIND.

According to the RESSET database, there were a total of 542 original ST and *ST designations (where the stock was normal before the designation) from 1998 through 2011 in the A-share Shanghai and Shenzhen stock markets. Since RESSET did not indicate the reason for the ST designation, we examined news stories of each specific event date in order to categorize the company, and to verify the accuracy of the RESSET database with regards to the date of the event. We dropped any company where we were unable to verify the date or clearly determine the reason for the designation.

Finally, since we wanted to examine the direct effect of a particular category, we dropped all the companies which were designated ST/*ST because of multiple criterion and, since we were concerned about sample size, we dropped any criteria that had less than 5 companies classified under it. We were left with 445 event dates under the 4 different categories previously listed. After dropping firms that did not have the required number of daily returns in the estimation and event windows, we were finally left with 403 event dates.

Our sample included firms which experienced multiple instances of the ST/*ST designation over their listing career. However, if the dates were far enough in time so as to not conflict between the event study's estimation and event windows, we kept them in our sample.

Finally, since we want to examine the different reasons for the ST classification, we created dummy variables for each firm, depending on their reason for being categorized as ST/*ST. These categories are:

- ST1: Negative net earnings for two consecutive years
- ST2: Shareholder equity lower than registered capital
- ST3: Firm auditors issue negative opinions or are unable to issue an opinion
- ST4: Firm operations have stopped, or will stop, for at least three months

We find that the primary cause of the ST designation was negative net earnings for two consecutive years (ST1) with 324 instances, followed by shareholder equity being lower than registered capital – what we will call as "unmet shareholder equity requirements " (ST2) with 43 instances. Problems with the firm auditors (ST3) was the third leading cause of the ST designation with 28 instances, and finally firm operations being stopped for at least 3 months (ST4) was the fourth leading cause of the designation with 8 instances. This pattern, detailed in Table 1, generally holds throughout our entire sample period, 1998-2011.

Table 1. Sole ST Designations, 1998-2011

Year	ST1	ST2	ST3	ST4	Total
1998	7	4	5	-	16
1999	13	7	2	-	22
2000	9	5	1	-	15
2001	9	3	-	-	12
2002	21	11	5	1	38
2003	34	6	4	-	44
2004	28	2	4	-	34
2005	26	1	2	2	31
2006	48	-	2	-	50
2007	43	1	1	1	46
2008	19	-	-	-	19
2009	20	2	-	2	24
2010	35	-	1	1	37
2011	12	1	1	1	15
Total	**324**	**43**	**28**	**8**	**403**

Summary return statistics in Table 2 are given for the estimation period, the period before the news announcement (-20, -1) and the period after the announcement (+1, +20). During the period when a stock is in ST/*ST status (+1,+20), price changes are restricted to a 5% daily range. The average of post-event returns is lower, and the return distribution becomes positively skewed, with more negative returns, after the news announcement. This can be seen by examining the 5%-ile and 95%-ile.

Table 2. Returns, Summary Statistics

	Period	Mean	Std. Dev.	Skewness	Kurtosis	5%-ile	95%-ile
ST1	Estim.	0.001	0.034	0.891	23.008	-0.053	0.056
	(-20,-1)	-0.001	0.035	0.318	7.505	-0.060	0.054
	(+1,+20)	0.001	0.033	0.513	16.093	-0.050	0.050
ST2	Estim.	0.000	0.032	0.123	4.839	-0.050	0.052
	(-20,-1)	-0.001	0.034	0.428	4.189	-0.056	0.064
	(+1,+20)	-0.002	0.029	0.140	3.083	-0.050	0.050
ST3	Estim.	0.000	0.031	0.135	4.820	-0.049	0.051
	(-20,-1)	-0.004	0.031	-0.024	4.395	-0.059	0.045
	(+1,+20)	-0.006	0.028	0.088	2.210	-0.050	0.048
ST4	Estim.	0.000	0.038	0.025	4.098	-0.068	0.063
	(-20,-1)	0.002	0.045	0.145	3.287	-0.085	0.100
	(+1,+20)	-0.007	0.032	0.198	1.916	-0.051	0.050
Total	Estim.	0.001	0.034	0.760	20.092	-0.053	0.055
	(-20,-1)	-0.001	0.035	0.312	6.901	-0.060	0.054
	(+1,+20)	0.000	0.032	0.469	14.380	-0.050	0.050

Summary return statistics in Table 2 are given for the estimation period, the period before the news announcement (-20, -1) and the period after the announcement (+1, +20). During the period when a stock is in ST/*ST status (+1,+20), price changes are restricted to a 5% daily range. The average of

post-event returns is lower, and the return distribution becomes positively skewed, with more negative returns, after the news announcement. This can be seen by examining the 5%-ile and 95%-ile.

B. Abnormal and cumulative abnormal returns

After the news announcement, the return distribution also becomes more compact because of trading restrictions, decreasing the variance of returns. By examining a scatter plot of estimated abnormal returns in Fig. 1, we see how they change before, and after the news announcement.

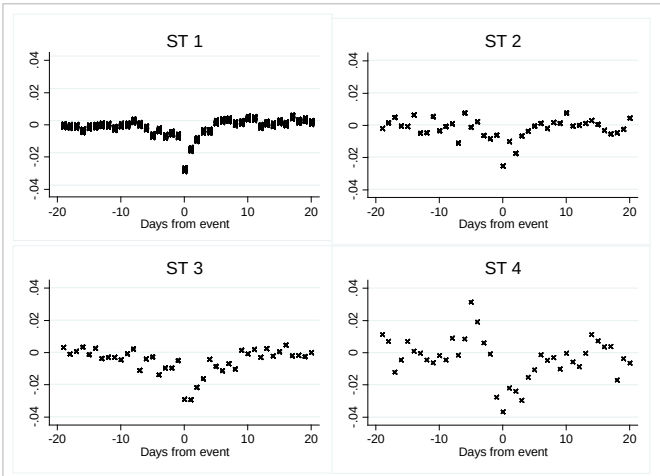

Figure 1. Average Abnormal Returns by ST Category

Fig. 1 shows that abnormal returns form a "V" shape, with the tip centered at on the announcement date. However, the "V" is skewed –on average, the return on the event date actually gaps down from the day before the event, whereas subsequent days show increasing abnormal returns (although still negative). The returns of category ST1 exhibit the least amount of spread and ST4 exhibits the most spread, probably due to the sample size for each category.

Table 3 shows evidence to support that stocks experience negative abnormal returns after an ST designation. We show the calculated standardized t-statistic, accounting for heteroskedasticity, the t-statistic proposed by Boehmer *et al.* (1991) (BMP), accounting for event induced variance changes and clustering effects, and the modified rank statistic of Corrado (1992), a non-parametric test statistic that does not assume normality nor constant variance. We see that the standardized t-statistic has the most instances of significant abnormal returns, followed by BMP, and then the rank statistic. The rank statistic has been shown to be robust and to perform well under less ideal conditions, and thus we refer to it for a conservative interpretation of the results.

Abnormal returns are significantly different from zero at the 5% level for the ST announcement caused by firm operations being stopped for three months (ST4). All other categories were found to be significantly different from zero at the 2% significance level on the announcement date. We also notice that returns continue to be abnormal for up to 2 days after the announcement for negative earnings for two years, unmet shareholder equity requirements, and problems with firm auditors (ST1, ST2, and ST3). The drop on the announcement date was approximately 2.5% to 3.7%, followed by a smaller drop of 1% to 2% in the following days.

Finally the ST announcement caused by negative earnings for two years show evidence at the 5% level that returns were significantly negative, although smaller in absolute size, at least two days before the announcement. When the average abnormal return is taken for the entire sample, the results are similar to ST1, because the majority of the events are from that category.

Table 3. Daily Abnormal Return and Test-Statistics

	ALL (n=403)								ST1 (n=324)							
Days	AR	Stand.		BMP		Rank			AR	Stand.		BMP		Rank		
-20	-0.002	-1.54		-1.46		0.61			-0.003	-1.81		-1.80		0.85		
-18	-0.002	-1.44		-1.47		0.54			-0.002	-1.55		-1.62		0.34		
-16	-0.004	-3.30	**	-3.29	**	1.54			-0.005	-3.86	**	-4.24	**	1.86		
-14	-0.001	-0.44		-0.39		0.46			-0.002	-1.25		-1.19		0.85		
-12	-0.002	-1.20		-1.21		0.17			-0.002	-0.76		-0.79		0.12		
-10	-0.002	-1.80		-1.44		0.95			-0.002	-1.21		-0.97		0.77		
-8	0.001	0.74		0.64		-0.15			0.001	0.38		0.35		-0.05		
-6	-0.002	-1.15		-0.72		0.90			-0.003	-1.92		-1.16		1.24		
-4	-0.005	-3.12	**	-2.22	*	1.09			-0.005	-3.08	**	-2.22	*	1.12		
-2	-0.007	-5.97	**	-4.79	**	2.55	**		-0.007	-5.18	**	-4.15	**	2.31	*	
0	-0.028	-24.12	**	-14.82	**	9.37	**		-0.029	-21.40	**	-13.03	**	8.96	**	
2	-0.012	-10.49	**	-7.33	**	4.03	**		-0.010	-8.07	**	-5.63	**	3.37	**	
4	-0.005	-3.90	**	-3.09	**	1.62			-0.005	-3.53	**	-2.77	**	1.59		
6	0.001	1.31		0.73		0.33			0.001	1.75		0.91		0.04		
8	-0.001	-0.55		-0.44		0.24			-0.001	0.06		0.05		0.07		
10	0.003	2.28	*	1.76		-1.02			0.003	1.86		1.39		-0.92		
12	-0.002	-0.54		-0.47		0.23			-0.002	-0.55		-0.49		0.17		
14	-0.001	-1.05		-0.95		-0.08			-0.001	-1.12		-1.01		-0.11		
16	-0.001	-0.26		-0.24		0.02			-0.001	-0.31		-0.28		0.15		
18	0.000	0.16		0.12		-0.36			0.001	1.16		0.95		-0.75		
20	0.001	0.47		0.34		-0.87			0.000	-0.01		-0.04		-0.61		

ST2 (n=43)								ST3 (n=28)							
AR	Stand.		BMP		Rank			AR	Stand.		BMP		Rank		
0.002	0.55		0.53		-0.77			0.001	0.39		0.25		-0.21		
0.001	0.00		0.00		0.46			-0.001	-0.68		-0.61		1.36		
-0.001	-0.43		-0.39		0.25			0.003	1.44		0.83		-0.48		
0.006	1.21		0.90		-0.68			0.003	1.00		0.59		-0.49		
-0.005	-0.76		-0.70		0.39			-0.003	-0.88		-0.68		0.07		
-0.004	-1.59		-1.36		0.92			-0.005	-0.62		-0.48		0.89		
0.001	0.47		0.31		0.68			0.002	0.36		0.32		-0.88		
0.008	2.26	*	1.56		-0.89			-0.004	-1.08		-0.89		0.48		
0.002	0.05		0.03		0.01			-0.014	-2.87	**	-2.09	*	1.56		
-0.008	-1.90		-1.45		1.99			-0.010	-2.41	*	-2.44	*	1.89		
-0.025	-7.59	**	-4.66	**	5.87	**		-0.029	-6.96	**	-4.39	**	4.81	**	
-0.017	-5.12	**	-3.74	**	3.89	**		-0.022	-4.40	**	-3.08	**	2.54	**	
-0.004	-0.96		-0.78		0.92			-0.004	-0.64		-0.48		0.11		
0.001	1.00		0.89		-0.54			-0.011	-1.96		-1.82		2.44	*	
0.002	0.78		0.67		-0.86			-0.010	-2.82	**	-2.65	**	2.07	*	
0.008	2.10	*	1.78		-1.56			-0.001	0.06		0.05		0.16		
0.000	0.91		0.72		-0.11			-0.003	-0.49		-0.46		0.24		
0.003	0.29		0.24		0.05			-0.002	-1.28		-1.33		0.95		
-0.003	-1.00		-0.90		0.69			0.005	0.77		1.00		-1.13		
-0.005	-1.03		-1.09		0.55			-0.002	-0.83		-0.86		0.36		
0.004	1.49		1.68		-2.04	*		0.000	0.46		0.37		-0.29		

* = 5% significance level, ** = 2% significance level, two-sided t-test.

The ST announcement affects firm returns, with returns being abnormally negative up to two days after the event, but less than the drop on the announcement date. The announcement date sees a negative return that is larger than the previous two days. This is in line with the "V" pattern we observed earlier.

Investors may take into consideration past performance of earnings when judging current year earnings, selling and negatively impacting firm returns before the news of negative earnings, and a consequent ST classification. However, the other three major ST reasons did not show evidence of abnormal returns (according to the Rank test) before the news announcement. This implies that ST announcements caused by

events related to the balance sheet, the auditor, or firm operations may be unexpected for investors. While these negative abnormal returns are all significantly different from zero using a two-sided t-test, a test of differences found that abnormal returns did not significantly differ between ST categories.

Fig. 2 graphically represents the average cumulative abnormal returns (CAR) for each ST category. Auditor issues (ST3) seems to have the worse price impact on stocks, followed by negative earnings for two years (ST1) and firm operations halting (ST4). The stocks least impacted by the ST announcement are those that have unmet shareholder equity requirements (ST2).

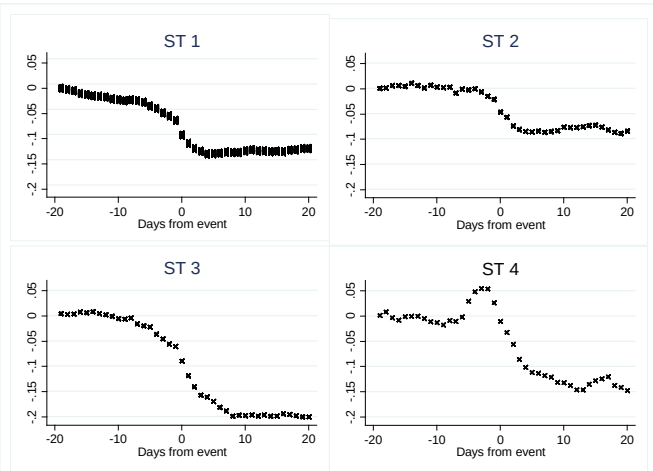

Figure 2. Average Cumulative Abnormal Returns by ST Category

ST1 and ST3 show a slight drift downward prior to the ST announcement date. All reasons show a large negative CAR a few days prior to the announcement date. The CAR for firm operations being halted, ST4, shows a large positive CAR prior to the announcement date. Checking the firm returns, we find that it is solely due to a single company which had released good news in the month before the ST event. Since the sample was so small for this category (8 firms), that firm was able to affect the average CAR for the category. However, the positive average CAR is not statistically significant.

Table 4 documents the average CAR by category over time and the standardized and BMP test-statistic. Using the BMP t-statistic as a guide, we find that negative earnings two years in a row (ST1) shows evidence of a negative downward drift 20 days before the event announcement. Auditor issues (ST3) show evidence of a negative drift 2 days before the event announcement. This implies that there was some information leakage in these two categories and investors were already selling shares prior to the release of the annual report.

The reason of unmet shareholder equity requirements (ST2) and halted firm operations (ST4) did not statistically impact prices until the day of, and 2 days after the announcement. All CARs stay significant through the end of the event window, at a 2% significance level, except for the ST2 category, which becomes marginally significant.

In general, the adjustment to a new price level is quick, occurring within 5 days for ST1 and ST2, and within 10 days for ST3 and ST4. The difference between the adjustment speeds may be because ST1 and ST2 are clear financial criteria, where investors do not have to make additional inferences about future performance or search for other information about the firm. However, when confronted with auditor issues (ST3) or halted firm operations (ST4), investors will need time to search and analyze information to draw conclusions about the firm. For example, auditor issues may imply fraud, requiring financial restatements, for an unknown number of years.

Table 4. Daily CAR and Test-Statistic

	All (n=403)						ST1 (n=324)					
Days	CAR	Stand.		BMP			CAR	Stand.		BMP		
-20	-0.002	-1.52		-1.46			-0.003	-1.79		-1.80		
-18	-0.006	-2.29	*	-2.25	*		-0.007	-2.78	**	-2.78	**	
-16	-0.011	-3.77	**	-3.76	**		-0.014	-4.54	**	-4.82	**	
-14	-0.014	-3.94	**	-3.91	**		-0.019	-4.93	**	-5.13	**	
-12	-0.018	-4.53	**	-4.48	**		-0.022	-5.07	**	-5.25	**	
-10	-0.023	-5.30	**	-5.08	**		-0.027	-5.79	**	-5.82	**	
-8	-0.023	-4.75	**	-4.56	**		-0.027	-5.25	**	-5.28	**	
-6	-0.028	-5.24	**	-4.79	**		-0.032	-5.47	**	-5.29	**	
-4	-0.039	-6.64	**	-5.74	**		-0.044	-7.12	**	-6.43	**	
-2	-0.054	-9.12	**	-7.69	**		-0.060	-9.31	**	-8.15	**	
0	-0.091	-15.38	**	-11.61	**		-0.097	-14.79	**	-11.57	**	
2	-0.119	-19.77	**	-14.54	**		-0.124	-18.31	**	-13.93	**	
4	-0.131	-20.75	**	-15.34	**		-0.134	-18.97	**	-14.45	**	
6	-0.131	-19.72	**	-14.61	**		-0.133	-17.77	**	-13.61	**	
8	-0.132	-18.89	**	-13.98	**		-0.131	-16.80	**	-12.84	**	
10	-0.129	-17.83	**	-13.17	**		-0.129	-15.93	**	-12.18	**	
12	-0.130	-16.98	**	-12.51	**		-0.128	-15.08	**	-11.52	**	
14	-0.131	-16.60	**	-12.26	**		-0.130	-14.82	**	-11.35	**	
16	-0.131	-16.03	**	-11.83	**		-0.130	-14.32	**	-10.96	**	
18	-0.129	-15.31	**	-11.28	**		-0.126	-13.37	**	-10.20	**	
20	-0.128	-14.85	**	-10.93	**		-0.124	-12.91	**	-9.84	**	

ST2 (n=43)						ST3 (n=28)					
CAR	Stand.		BMP			CAR	Stand.		BMP		
0.002	0.55		0.53			0.001	0.38		0.25		
0.001	0.05		0.01			0.003	0.37		0.33		
0.006	0.33		0.18			0.007	0.99		0.69		
0.011	0.63		0.41			0.008	1.11		0.68		
0.001	-0.22		-0.30			0.002	0.43		0.10		
0.003	-0.03		-0.25			-0.006	-0.14		-0.45		
0.002	0.13		-0.12			-0.005	-0.19		-0.45		
-0.001	-0.11		-0.24			-0.020	-1.07		-1.06		
-0.001	-0.10		-0.23			-0.036	-1.64		-1.47		
-0.015	-0.85		-0.76			-0.056	-2.57	**	-2.48	**	
-0.047	-2.85	**	-2.02	*		-0.090	-4.28	**	-3.48	**	
-0.075	-4.50	**	-3.15	**		-0.141	-6.33	**	-4.70	**	
-0.085	-4.92	**	-3.50	**		-0.161	-6.77	**	-5.10	**	
-0.085	-4.48	**	-3.15	**		-0.181	-7.33	**	-5.60	**	
-0.085	-4.13	**	-2.87	**		-0.199	-7.86	**	-6.17	**	
-0.076	-3.42	**	-2.27	*		-0.198	-7.51	**	-5.88	**	
-0.077	-3.18	**	-2.10	*		-0.199	-7.29	**	-5.70	**	
-0.073	-3.01	**	-1.98			-0.199	-7.18	**	-5.65	**	
-0.076	-3.15	**	-2.12	*		-0.194	-6.79	**	-5.27	**	
-0.086	-3.43	**	-2.38	*		-0.198	-6.86	**	-5.39	**	
-0.085	-3.31	**	-2.26	*		-0.201	-6.76	**	-5.33	**	

* = 5% significance level, ** = 2% significance level, two-sided t-test.

In general, the adjustment to a new price level is quick, occurring within 5 days for ST1 and ST2, and within 10 days for ST3 and ST4. The difference between the adjustment speeds may be because ST1 and ST2 are clear financial criteria, where investors do not have to make additional inferences about future performance or search for other information about

the firm. However, when confronted with auditor issues (ST3) or halted firm operations (ST4), investors will need time to search and analyze information to draw conclusions about the firm. For example, auditor issues may imply fraud, requiring financial restatements, for an unknown number of years.

We find that an ST reason of negative earnings two years in a row (ST1) will result in a stock price drop of approximately 13% and that an ST reason of unmet shareholder equity requirements (ST2) will result in a drop of approximately 8% by the 5th day. The ST reasons of auditor issues (ST3) results in a drop of approximately 20% and halted firm operations (ST4) resulted in a drop of approximately 13% within 10 days. These CARs were statistically different from zero, but are they different from each other? Can we say that the news impact of ST criteria is different?

Table 5. Tests for Equality of CAR between ST Categories

Announcement Day

Ho:	CAR(st1) = CAR(st2)		CAR(st1) = CAR(st3)		CAR(st1) = CAR(st4)	
Difference	-0.05		-0.01		-0.09	
Joint se	0.02		0.03		0.01	
t-stat	-2.02	*	-0.27		-7.40	**
Adj. df	54		33		29	

Ho:	CAR(st2) = CAR(st3)	CAR(st2) = CAR(st4)
Difference	0.04	-0.04
Joint se	0.03	0.02
t-stat	1.23	-1.49
Adj. df	62	49

Ho:	CAR(st3) = CAR(st4)	
Difference	-0.08	
Joint se	0.03	
t-stat	-2.94	**
Adj. df	31	

+10

CAR(st1) = CAR(st2)	CAR(st1) = CAR(st3)		CAR(st1) = CAR(st4)
-0.05	0.07		0.00
0.04	0.04		0.04
-1.48	1.96	o	0.08
51	33		8

CAR(st2) = CAR(st3)		CAR(st2) = CAR(st4)
0.12		0.06
0.05		0.05
2.55	**	1.12
66		22

CAR(st3) = CAR(st4)
-0.07
0.05
-1.34
20

+20

CAR(st1) = CAR(st2)	CAR(st1) = CAR(st3)		CAR
-0.04	0.08		
0.04	0.04		
-0.99	1.94	o	
52	33		

CAR(st2) = CAR(st3)		CAR
0.12		
0.05		
2.18	*	
66		

CAR

o = 10% significance level, * = 5% significance level, ** = 2% significance level, two-sided t-test.

To determine if the average CAR is different between ST categories, we conduct two-sided hypothesis tests for differences in the average, between pairs of each ST category on the announcement date, the 10th day after the announcement (+10) and the 20th day after the announcement (+20). We use the BMP adjusted standard deviation and assume that the samples are independent with unequal population variances. The results are shown in Table 5.

On the announcement date, we can reject the null hypothesis that the CAR for ST1 (-9.7%) and ST2 (-4.7%) are equal at the 5% significance level. We can also reject the null hypothesis that the CAR for ST1 (-9.7%) and ST4 (-1%), and the CAR for ST3 (-9%) and ST4 (-1%) are equal at the 2% significance level. This reinforces the conclusion that traders were already selling firms in the ST1 and ST3 categories prior to the announcement, compared to the other categories.

We examine the differences between the average CAR at times +10 and +20 to see if average returns from each ST category fall to different equilibrium levels. We can reject the null that the CAR for ST1 is equal to the CAR for ST3 (auditor issues) at the 10% significance level for both days. We can also reject the null that the CAR for ST2 (unmet shareholder equity requirements) and ST3 (auditor issues) are equal at the 2% and 5% significance level respectively for times +10 and +20. Thus, bad news about auditor issues have a different price impact on stocks compared to bad news about negative earnings (ST1) or unmet shareholder equity requirements (ST2).

C. Normal and Worse Stocks

The previous sections examined the difference in returns between ST categories. We found that ST1 and ST3 categories showed evidence of selling even before the ST announcement and hypothesized that this may be caused by investors using past company performance to forecast the results of the annual report. However, we want to examine whether investors successfully differentiate between what we define as “Normal” stocks, those that are able to successfully remove their ST designation and return to normal trading, and “Worse” stocks, those that will have their designations later changed for the worse.

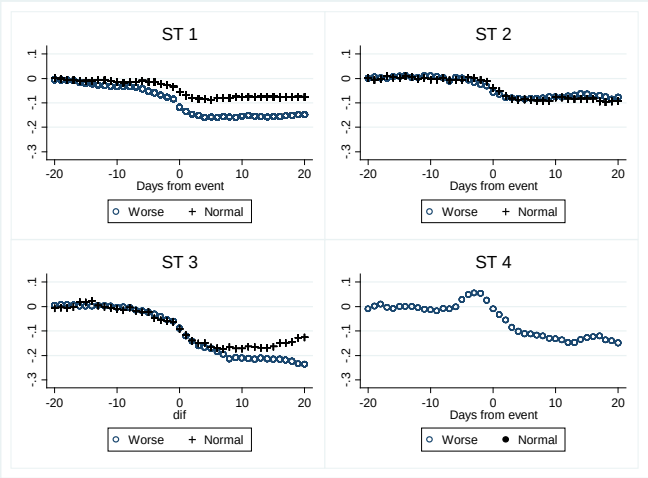

Figure 3. Average CAR of Normal and Worse Stocks

If investors are conditioning on individual firm news, then we should see a difference between the CAR's of normal and worse stocks. If investors are unable to evaluate individual firms, they may merely be conditioning on the ST news announcement. In this case, there wouldn't be a difference between the CARs of normal and worse stocks.

In Fig. 3, we plot the average CAR of each group "Normal" and "Worse" by ST category. There is some differentiation between the two groups for the ST1 and ST3 category and no difference in the ST2 category. For the ST1 and ST3 categories, it appears that stocks that return to normal trading, experience a smaller price drop, than stocks that became worse. All stocks that are categorized as ST4 in our sample had their designation changed for the worse.

However, a statistical test only supports a difference between the returns of Normal and Worse stocks for stocks that had two years of negative earnings (ST1). Table 6 summarizes the result of our hypothesis tests. We are able to reject the null hypothesis that the CAR of worse stocks equals that of normal stocks at the 2% significance level on all the tested dates (0, +10, +20). Although both Normal and Worse stock prices drop after the ST announcement, Normal stocks outperform Worse stocks by at least 6%. While there is a CAR differential between Normal and Worse stocks with auditor problems (ST3) of 11%, it is not statistically significant.

Table 6. Tests for equality of CAR. Normal vs. Worse Stocks

	Ho: CAR(normal) = CAR(worse)						
	Announcement Day						
	All		ST1		ST2		ST3
Difference	-0.05		-0.06		-0.02		0.00
Joint se	0.01		0.02		0.04		0.05
t-stat	-4.44	**	-3.41	**	-0.37		0.04
Adj. df	373		216		38		15
	+10						
	All		ST1		ST2		ST3
Difference	-0.07		-0.08		0.00		-0.04
Joint se	0.01		0.02		0.06		0.07
t-stat	-4.80	**	-3.52	**	0.05		-0.58
Adj. df	377		212		40		17
	+20						
	All		ST1		ST2		ST3
Difference	-0.07		-0.07		0.01		-0.11
Joint se	0.02		0.03		0.07		0.08
t-stat	-3.97	**	-2.68	**	0.21		-1.31
Adj. df	377		202		39		14

* = 5% significance level, ** = 2% significance level, two-sided t-test

In Table A.1 and A.2, we report that the returns of Worse companies fall faster. For the ST1 category, the CAR of Worse stocks becomes significantly negative 20 days before the announcement date (-20), compared to two days before the announcement date (-2) for Normal stocks. For the ST2 category, the CAR of Worse stocks becomes significantly negative on the announcement date (0), compared to four days after the announcement (+4) for Normal stocks. For the ST3 category, the CAR of Worse stocks becomes significantly negative two days before the announcement (-2) compared to Normal stocks at two days after the announcement (+2).

From our analysis, we conclude that investors do not have the information to differentiate between good and worse stocks in the ST2 and ST3 categories. Instead, investors treat all stocks in these categories the same, conditioning only on the ST designation, although there is evidence that worse stocks get sold off earlier. This is in contrast to the ST1 category, where stocks that will have their ST status removed perform better.

V. Conclusion

Publicized excess returns of ST companies have caused many investors and investment funds to purchase these types of stock, with the hope of realizing capital gains. However, in the short-run, we find evidence, using a market return model, that stocks underperform the market after a ST news announcement. There is also evidence of information leakage before the news announcement for the ST categories of negative two years earnings and auditor issues. It implies that investors, even if able to create short portfolios, are unable to take advantage of the news announcement.

For example, an average investor would not have information on whether a stock would become ST before the news announcement, nor would he know which ST stocks would successfully remove their designations. The investor who sold short a portfolio of different category ST stocks

immediately after the news announcement, and held for 20 days, would realize a 3% and 4% return for the ST1 and ST2 categories. If he sold five days too late, his returns would be 1% and 0% respectively (Table 7).

Table 7. Abnormal Returns by Time Periods

		Period (Days)				
		(-20,+20)	(0,+20)	(+1,+20)	(+5,+20)	(+10,+20)
ST1	Total	-0.12	-0.03	-0.01	0.01	0.00
	Normal	-0.07	-0.02	-0.01	0.01	0.00
	Worse	-0.15	-0.03	-0.01	0.01	0.01
ST2	Total	-0.08	-0.04	-0.03	0.00	-0.01
	Normal	-0.09	-0.05	-0.04	-0.01	-0.01
	Worse	-0.08	-0.02	-0.01	0.01	0.00
ST3	Total	-0.20	-0.11	-0.08	-0.03	0.00
	Normal	-0.13	-0.03	-0.01	0.04	0.05
	Worse	-0.24	-0.15	-0.12	-0.06	-0.03
ST4	Total	-0.15	-0.14	-0.12	-0.04	-0.02
	Normal	-	-	-	-	-
	Worse	-0.15	-0.14	-0.12	-0.04	-0.02
All	Total	-0.13	-0.04	-0.02	0.00	0.00
	Normal	-0.08	-0.02	-0.01	0.01	0.00
	Worse	-0.15	-0.04	-0.02	0.00	0.00

The average investor who sells short a portfolio of ST3 and ST4 stocks would realize a return of 11%, and 14%. By the fifth day, this return would only be 3% and 4% respectively. In fact, the majority of the price move occurs before the announcement for all ST categories, except for ST4. Only halted firm operations (ST4) are a surprise for investors and stock returns are impacted only after the announcement.

Similar to other studies, we find evidence that bad news regarding earnings reports, unmet equity requirements, and auditor issues negatively affect returns within 10 days after the announcement, with CAR's of -13%, -8%, and -20% respectively. Halted firm operations also caused a drop in stock prices of -10%. We can say that auditor problems (ST3) are statistically worse than the ST1 and ST2 designations, but we cannot show a difference between the other designations.

The evidence of whether investors are evaluating the specific news affecting stocks or the news of the ST announcement is mixed. We find that, for stocks which have two years of negative earnings (ST1), investors are able to differentiate between those which return to normal trading status and those which fall into further difficulty. Since troubled stocks have successively worse classifications placed on them, moving them closer to delisting, investors are correctly forecasting future performance based on stock-specific news. For the ST2 and ST3 categories, investors seem to condition only on the general ST announcement.

What do these results indicate about the ST process? We conclude that the ST announcement does convey information to Chinese investors because there is a reaction to the announcement and a subsequent adjustment to a new level. In the case of the ST2 and ST3 categories, the announcement itself is important, because investors need additional time to find and interpret specific company information. For the ST1 category, investors can additionally infer information about the company from its previous financial statements – and correctly predict which companies recover from the designation.

We also find evidence that information is being priced into the market before the announcement. This shows that markets are already semi-efficiently pricing in future bad news. Stocks in all categories, except for halted firm operations (ST4), show evidence of cumulative negative returns before the announcement. Halted firm operations do surprise investors. For unpredictable events like these, the ST process may protect investors by making it mandatory for firms to immediately disclose serious events which impact operations.

The ST procedure governing the delisting of stocks from the Chinese stock markets is an unique feature reflecting Chinese institutions and governance. Our study implies that the designation has a useful effect, complementing a semi-efficient market, for investors in publically conveying bad news. Our results additionally offer support for previous studies about the price impact of various financial events, using the different categories of the ST designation. Finally, we find that stock prices quickly reflect news, even in a market with little margin trading and short-selling. Further research can focus on studying the long-term price impact of ST-designations on stocks over the entire regulatory time frame.

APPENDIX

Table A.1. Daily CAR and test-statistic (Normal Stocks)

	All (n=140)					ST1 (n=109)				
Days	CAR	Stand.		BMP		CAR	Stand.		BMP	
-20	0.001	0.78		-1.44		0.002	0.93		1.05	
-18	-0.005	-1.16		-2.24	*	-0.006	-1.19		-1.19	
-16	-0.006	-1.10		-3.71	**	-0.011	-1.91		-2.01	*
-14	-0.004	-0.69		-3.85	**	-0.009	-1.51		-1.56	
-12	-0.006	-0.86		-4.43	**	-0.008	-0.94		-1.00	
-10	-0.012	-1.57		-5.02	**	-0.013	-1.53		-1.64	
-8	-0.010	-1.18		-4.50	**	-0.013	-1.36		-1.39	
-6	-0.010	-0.83		-4.74	**	-0.010	-0.72		-1.03	
-4	-0.015	-1.14		-5.67	**	-0.016	-1.21		-1.50	
-2	-0.025	-2.10	*	-7.50	**	-0.026	-2.12	*	-2.22	*
0	-0.056	-5.03	**	-10.51	**	-0.057	-4.62	**	-3.90	**
2	-0.081	-7.28	**	-13.08	**	-0.079	-6.31	**	-5.14	**
4	-0.089	-7.52	**	-13.90	**	-0.084	-6.38	**	-5.19	**
6	-0.086	-6.79	**	-13.23	**	-0.079	-5.51	**	-4.79	**
8	-0.086	-6.41	**	-12.65	**	-0.078	-5.15	**	-4.47	**
10	-0.082	-5.80	**	-11.88	**	-0.076	-4.74	**	-4.10	**
12	-0.083	-5.50	**	-11.26	**	-0.076	-4.54	**	-3.93	**
14	-0.081	-5.29	**	-11.05	**	-0.074	-4.30	**	-3.71	**
16	-0.082	-5.10	**	-10.66	**	-0.076	-4.18	**	-3.61	**
18	-0.083	-4.92	**	-10.13	**	-0.075	-3.90	**	-3.35	**
20	-0.081	-4.67	**	-9.81	**	-0.075	-3.79	**	-3.25	**

ST2 (n=22)					ST3 (n=9)				
CAR	Stand.		BMP		CAR	Stand.		BMP	
0.002	0.36		0.29		-0.006	-0.88		-0.74	
0.000	-0.15		-0.28		-0.006	-0.26		-0.28	
0.004	0.25		-0.12		0.019	2.34	*	1.11	
0.010	0.38		0.00		0.023	2.40	*	0.96	
-0.002	-0.44		-0.69		0.000	0.69		-0.52	
-0.005	-0.55		-0.79		-0.011	-0.02		-0.96	
0.002	0.01		-0.40		-0.003	0.07		-0.73	
-0.006	-0.13		-0.49		-0.023	-0.70		-1.39	
0.004	0.40		-0.08		-0.047	-1.11		-1.47	
-0.005	0.24		-0.20		-0.060	-1.55		-1.81	
-0.039	-1.09		-1.07		-0.091	-2.50	*	-2.13	
-0.071	-2.36	*	-1.92		-0.139	-3.75	**	-2.80	
-0.087	-2.85	**	-2.35	*	-0.148	-3.69	**	-2.74	
-0.087	-2.71	**	-2.26	*	-0.170	-4.11	**	-3.26	
-0.090	-2.62	**	-2.16	*	-0.165	-3.98	**	-3.17	
-0.078	-2.00		-1.67		-0.171	-3.99	**	-3.19	
-0.081	-1.90		-1.56		-0.164	-3.56	**	-2.71	
-0.083	-1.86		-1.54		-0.168	-3.66	**	-2.79	
-0.082	-1.82		-1.51		-0.149	-3.33	**	-2.47	
-0.096	-2.13	*	-1.80		-0.143	-3.08	**	-2.16	
-0.092	-2.01		-1.69		-0.126	-2.54	*	-1.73	

* = 5% significance level, ** = 2% significance level, two-sided t-test

Table A.2. Daily CAR and Test-Statistic (Worse Stocks)

	All (n=263)					ST1 (n=215)				
Days	CAR	Stand.		BMP		CAR	Stand.		BMP	
-20	-0.004	-2.45	**	-1.44		-0.005	-2.86	**	-2.75	**
-18	-0.005	-1.98	*	-2.24	*	-0.008	-2.56	**	-2.46	**
-16	-0.013	-3.86	**	-3.71	**	-0.016	-4.22	**	-4.40	**
-14	-0.019	-4.38	**	-3.86	**	-0.024	-4.98	**	-5.05	**
-12	-0.024	-4.97	**	-4.43	**	-0.029	-5.56	**	-5.62	**
-10	-0.028	-5.42	**	-5.03	**	-0.034	-6.02	**	-5.91	**
-8	-0.029	-5.02	**	-4.51	**	-0.035	-5.48	**	-5.40	**
-6	-0.036	-5.88	**	-4.74	**	-0.043	-6.21	**	-5.85	**
-4	-0.049	-7.39	**	-5.67	**	-0.059	-7.88	**	-6.86	**
-2	-0.067	-9.75	**	-7.51	**	-0.076	-9.91	**	-8.43	**
0	-0.107	-15.36	**	-10.52	**	-0.117	-14.86	**	-11.42	**
2	-0.138	-19.16	**	-13.11	**	-0.147	-17.98	**	-13.43	**
4	-0.152	-20.20	**	-13.92	**	-0.160	-18.75	**	-13.98	**
6	-0.154	-19.46	**	-13.25	**	-0.160	-17.89	**	-13.36	**
8	-0.155	-18.71	**	-12.67	**	-0.158	-16.95	**	-12.65	**
10	-0.152	-17.84	**	-11.90	**	-0.155	-16.18	**	-12.11	**
12	-0.152	-17.00	**	-11.28	**	-0.155	-15.28	**	-11.44	**
14	-0.154	-16.69	**	-11.07	**	-0.158	-15.13	**	-11.35	**
16	-0.154	-16.13	**	-10.68	**	-0.157	-14.61	**	-10.96	**
18	-0.150	-15.36	**	-10.15	**	-0.152	-13.64	**	-10.21	**
20	-0.149	-14.97	**	-9.83	**	-0.149	-13.15	**	-9.84	**

ST2 (n=21)					ST3 (n=19)				
CAR	Stand.		BMP		CAR	Stand.		BMP	
0.002	0.41		0.53		0.004	0.96		0.55	
0.003	0.21		0.24		0.007	0.59		0.40	
0.007	0.21		0.24		0.002	-0.11		-0.19	
0.012	0.52		0.49		0.001	0.00		-0.04	
0.004	0.13		-0.02		0.002	0.13		0.09	
0.010	0.52		0.18		-0.004	-0.17		-0.22	
0.003	0.18		-0.12		-0.005	-0.27		-0.32	
0.004	-0.03		-0.09		-0.018	-0.91		-0.70	
-0.005	-0.56		-0.54		-0.031	-1.37		-1.21	
-0.026	-1.47		-1.19		-0.054	-2.25	*	-2.17	
-0.055	-2.96	**	-2.11	*	-0.089	-3.79	**	-3.18	
-0.079	-4.03	**	-2.86	**	-0.141	-5.58	**	-4.16	
-0.083	-4.11	**	-2.94	**	-0.167	-6.14	**	-4.65	
-0.082	-3.64	**	-2.60	**	-0.186	-6.59	**	-4.99	
-0.080	-3.22	**	-2.30	*	-0.214	-7.30	**	-5.76	
-0.075	-2.84	**	-1.95		-0.210	-6.87	**	-5.39	
-0.073	-2.61	**	-1.80		-0.215	-6.86	**	-5.41	
-0.063	-2.40	*	-1.65		-0.214	-6.66	**	-5.26	
-0.070	-2.64	**	-1.88		-0.215	-6.36	**	-5.02	
-0.076	-2.72	**	-2.01		-0.224	-6.60	**	-5.27	
-0.078	-2.67	**	-1.88		-0.236	-6.78	**	-5.56	

* = 5% significance level, ** = 2% significance level, two-sided t-test.

REFERENCES

[1] R. Ball and P. Brown, "An Empirical Evaluation of Accounting Income Numbers," *Journal of Accounting Research*, Vol. 6. No. 2, pp. 159-178, Autumn 1968.

[2] R. Ball and S.P. Kothari, "Security Returns around Earnings Announcements," *The Accounting Review*, Vol. 66, No. 4, pp. 718-738, Oct. 1991.

[3] S. J. Brown, and J. B. Warner, "Using Daily Stock Returns, The Case of Event Studies," *Journal of Financial Economics* 14, pp. 3-31, 1985.

[4] C. E. Bai, Q. Liu, and F. M. Song, "Bad News is Good News: Propping and Tunnelling Evidence from China," 2004, Unpublished.

[5] E. Boehmer, J. Musumeci, and A. B. Poulsen, "Event-study methodology under conditions of event-induced variance", *Journal of Financial Economics* 30(2), pp. 253-272, 1991.

[6] C. J. Corrado, "Event Studies: A Methodology Review", 2010, unpublished. Available at SSRN: http://ssrn.com/abstract=1441581 or http://dx.doi.org/10.2139/ssrn.1441581

[7] C. J. Corrado and C. Truong, "Conducting event studies with Asia-Pacific security market data," *Pacific-Basin Finance Journal* 16, pp. 493-521, 2008.

[8] C. J. Corrado and T. L. Zivney, "The Specification and Power of the Sign Test in Event Study Hypothesis Tests Using Daily Stock Returns," *The Journal of Financial and Quantitative Analysis*, Vol. 27, No. 3, pp. 465-478, 1992

[9] D. Peter and J. B. Warner, "On Corporate Governance, A Study of Proxy Contests," *Journal of Financial Economics* 11, pp. 401-438, 1983.

[10] T. Dyckman, D. Philbrick, and J. Stephan, "A Comparison of Event Study Methodologies Using Daily Stock Returns: A Simulation Approach," *Journal of Accounting Research*, Vol. 22 Supplement, 1984.

[11] W. Green, R. Czernkowski, and Y. Wang, "Special treatment regulation in China: potential unintended consequences," *Asian Review of Accounting*, Vol. 17 Iss: 3 pp. 198-211, 2009.

[12] E. J. Higgins and D. R. Peterson, "The Power of One and Two Sample t-Statistics Given Event-Induced Variance Increases and Nonnormal Stock Returns: A Comparative Study," *Quarterly Journal of Business and Economics*, Vol. 37, No. 1, pp. 27-49, 1998.

[13] G. H. Jiang, and H. S. Wang, "Should earnings thresholds be used as delisting criteria in stock market?" *Journal of Accounting and Public Policy* 27, pp 409-419, 2008.

[14] S. P. Kothari and J. B. Warner, Econometrics of Event Studies, in Espen Eckbo, Ed., Handbook of Empirical Corporate Finance, Elsevier-North-Holland, 2006.

[15] O. Lamont, C. Polk and J. Saa-Requejo, "Financial Constraints and Stock Returns," *The Review of Financial Studies*, Vol. 14, No. 2, pp. 529-554, Summer 2001.

[16] H. Lin and D. Paravisini, "The Effect of Financing Constraints on Risk," *Review of Finance* 0, pp. 1-31, 2011.

[17] Q. Liu, "Corporate Governance in China: Current Practices, Economic Effects and Institutional Determinants," *CESifo Economic Studies*, Vol. 52, pp. 415-453, 2006.

[18] Q. Liu and Z. Lu, "Corporate governance and earnings management in the Chinese listed companies: A tunneling perspective," *Journal of Corporate Finance* 13, pp. 881-906, 2007.

[19] H. Lv, W. Li, and S. Gao, "Dividend tunneling and joint expropriation: empirical evidence from China's capital market," *The European Journal of Finance* 18:3-4, pp. 369-392, 2012.

[20] A. C. MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, Vol. 35, No. 1. pp. 13-39, 1997.

[21] T. P. McWilliams and V. B. McWilliams, "Another Look At Theoretical and Empirical Issues in Event Study Methodology," *Journal of Applied Business Research*, Vol. 16, Issue 3, pp. 1, 2000.

[22] A. McWilliams and D. Siegel, "Event Studies in Management Research: Theoretical and Empirical Issues," *Academy of Management Journal*, Vol. 40, No. 3, pp. 626-657, 1997.

[23] M. B. Meznar, D. Nigh and C.Y. Kwok, "Effect of Announcements of Withdrawal from South Africa on Stockholder Wealth," *Academy of Management Journal*, Vol. 37, No. 6, pp. 1633-1648, 1994.

[24] M. B. Meznar, D. Nigh and C.Y. Kwok, "Announcements of Withdrawal from South Africa Revisited: Making Sense of Contradictory Event Study Findings," *Academy of Management Journal*, Vol. 41, No. 6, pp. 715-730, 1998.

[25] W. H. Mikkelson, and M. M. Partch, "Withdrawn Security Offerings", *Journal of Financial and Quantitative Analysis*, Vol.23, No.2, 1988.

[26] J. M. Patell, "Corporate Forecasts of Earnings Per Share and Stock Price Behavior: Empirical Test", *Journal of Accounting Research*, Vol. 14, No. 2, pp. 246-276, 1976.

[27] K. Pistor and C. G. Xu, "Governing Stock Markets in Transition Economies: Lessons from China," American Law and Economics Review, Vol. 7 No. 1, 2005.

[28] Shanghai Stock Exchange 2008, "Rules Governing the Listing of Stocks on Shanghai Stock Exchange," Sections 13.2.1 and 13.3.1. Available at: www.sse.com.cn/sseportal/en_us/ps/support/en_sserule20090408.pdf

[29] Shenzhen Stock Exchange 2007, "Special Regulations on Suspending and Terminating the Listing of Stocks on SME Board", Chapter II, Article 3. Available at: www.szse.cn/main/en/RulesandRegulations/SZSERules/SMEBoardRules/9727.shtml

[30] D. B. Smith and D. R. Nichols, "A Market Test of Investor Reaction to Disagreements," *Journal of Accounting and Economics* 4, pp. 109-120, 1982.

[31] J. Wan and A. Yuce, "Listing regulations in China and their effect on the performance of IPOs and SOEs," *Research in International Business and Finance* 21, pp. 366-378, 2007.

[32] J. Whisenant, S. Sankaraguruswamy, and K. Raghunandan, "Market reactions to disclosure of reportable events," *Auditing: A Journal of Practice and Theory*, 22, pp. 181-194, March 2003.

[33] X. Xu and Y. Wang, "Ownership structure and corporate governance in Chinese stock companies," *China Economic Review* 10, pp. 75-98, 1999.

Dr. Enoch Cheng received his PhD in Economics from University of California, Los Angeles, USA. He is currently an instructor in economics with both International College Beijing, China Agricultural University and University of Colorado-Denver, CO, USA.

Dr. Fan Xia received his PhD in Economics from University of California, Los Angeles, USA. He is currently an assistant professor in Guanghua School of Management, Peking University, China.

Dr. George Yungchih Wang received his PhD in Finance and Economics from Imperial College London, UK. He is currently an associate professor in finance and economics with both International College Beijing, China Agricultural University and University of Colorado-Denver, CO, USA.