

The Behavior of China's Stock Prices in Response to the Proposal and Approval of Bonus Issues

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Abstract: *Event study* analysis is applied to investigate stock price reaction to the announcement of bonus issues for the emerging stock markets of China. Results show that the issues with a high bonus ratio (number of bonus shares in the issue/number of existing shares) usually attract positive returns for both Chinese (A-share traders) and foreign (B-share traders) residents. Issues with a low bonus ratio are rewarded with negative returns for A-share traders and do not stimulate significant activity by B-share traders. The hypothesis of semi-strong form market efficiency is rejected only for small-bonus issues traded on the A-share market; the B-share market displays stronger evidence of semi-strong form market efficiency than the A-share market. Finally, there appears to be additional informational content in the approvals of bonus issues above and beyond that of the proposals, even though most bonus schedules proceed as proposed.

Key Words: Chinese Stock Markets; Efficient Market Hypothesis (EMH); Semi-Strong Form Efficiency; Event Study; Announcements of Proposal or Approval; Underreaction and Overreaction.

JEL Classification: G14; G18; O16.

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1. Introduction

According to the Efficient Market Hypothesis, if the stock prices reflect the announcement of public information instantaneously and without bias, the market should be classified as semi-strong form efficient (Fama 1970). Generally, the investigation of semi-strong form market efficiency has been limited to the study of well-developed stock markets. In this paper, we use the event study methodology (Dolley 1933; Fama et al. 1969; and Brown and Warner 1980, 1985) to examine this issue for the stock market of a transition economy: China.

China's Stock Market (CSM) is an emerging market with two stock exchanges. The Shanghai Stock Exchange was established in December 1990, and the Shenzhen Stock Exchange was established in April 1991. A-shares and B-shares trade on both of these exchanges. Officially, A-shares are accessible by Chinese residents with Chinese currency, while B-shares are limited to foreign investors with U.S. dollars on the Shanghai market and Hong Kong yuan on the Shenzhen market. Before April 2001, however, many Chinese residents traded B-shares by using foreigners' accounts or opened B-share accounts by using foreigners' passports. No exact number is officially reported, but it has been estimated that about half of the B-share market's transactions involved Chinese residents.¹ CSM has developed rapidly for the past ten years. By July 2000, there were 1,004 listed companies with market capitalization of 4,000 billion renminbi (RMB).²

Event study analyses are typically used for two different purposes: as a test of semi-strong form market efficiency; and assuming that the market efficiency hypothesis holds, as a tool for examining the impact of some event on the wealth of firms' shareholders. This paper provides an initial investigation of the Chinese stock price behavior in reaction to the announcement of bonus issues using event study techniques.^{3, 4} Although the analysis focuses on the issue of whether or not the hypothesis of semi-strong form efficiency holds, it also demonstrates the differing price and hence shareholders' wealth responses to the announcements of large-bonus and small-bonus issues' proposals and approvals respectively. Also, it is possible to evaluate

¹ In April 2001, the Chinese B-share market was opened to Chinese residents, who had foreign currency, U.S. dollar or Hong Kong yuan.

² In July 2000, 1 U.S. dollar was equal to about 8.3 renminbi.

³ To the best of the authors' knowledge, no similar study has been performed on the Chinese stock markets.

⁴ The authors have related papers on the announcements of zero-dividend issues, cash-dividend issues, and rights issues.

whether or not the bonus approval has additional informational content above and beyond that of the proposal. Bonus stock is usually issued upon approval according to the schedule advertised in the proposal.

The peculiar A-share/B-share structure of the CSM enables examination of whether public information is incorporated into prices differently across these two markets and groups of traders. Although B-share traders are not composed entirely of foreign traders, we refer to traders who trade in this market as “foreign.” The public information considered here is both the proposal and, separately, the approval of bonus issues of common stock to existing shareholders. In principle, this public information could be incorporated into prices differently across the A-share and B-share markets given that the B-share market consists of a large proportion of foreign traders and the A-share market consists entirely of Chinese residents. Different residency may affect how the market participants incorporate information into share prices. The informational import of the bonus announcements and approvals may differ depending on the shareholder’s country of residence due to different tax and other institutional arrangements.

A bonus issue is a “free” issue of shares, without a subscription price, made to existing shareholders in proportion to their current investment. A firm can distribute bonus shares by using retained earnings (also known as stock dividends) or accumulated capital reserves. In China, the majority of companies prefer to issue the bonus from accumulated capital reserves, or from a combination of both capital reserves and retained earnings.

Miller and Modigliani (1961) demonstrated theoretically that bonus issues, along with other types of dividends, do not alter shareholder wealth. If a company plans to finance a bonus issue from retained earnings, it makes a book entry to allocate retained earnings into paid-up capital in the shareholders’ equity section of the company balance sheet. Alternatively, a company that decides to realize a bonus issue by using accumulated capital reserves adjusts the accumulated capital reserves into paid-up capital. The company does not receive any cash and its financial position remains the same. The modification triggered by the bonus issue is that the number of outstanding shares is adjusted by the bonus issue ratio, therefore, the price of the shares declines according to the same bonus issue ratio.⁵ The total market value of the shares or the value of the

⁵ Bonus ratio is the number of bonus shares in the issue/number of existing shares applicable for the bonus issue.

shares that are held by each investor should remain unchanged. Sloan (1987) provided Australian evidence that bonus issues do not affect shareholders' wealth.

In practice, however, there may be an increase in share price following the announcement of a bonus issue. Such an increase can occur because the announcement of a bonus issue may have beneficial informational content (Peterson 1971). Shareholders are aware that, after the bonus issue, companies usually increase total dividend payout. This, in turn, indicates the confidence of management in the company's future. Consequently, the share price may increase in response to this information and affect shareholders' wealth. The informational link between dividends and earnings is supported empirically by Healy and Palepu (1988). They show that firms that initiate dividends have significant increases in earnings for at least one year after the announcement.

Grinblatt, Masulis, and Titman (1984) provide evidence of significantly positive announcement returns for both stock splits and large "stock dividend" announcements for the American share markets. One potential hypothesis they provide for this evidence is the so-called "retained earnings hypothesis." With stock dividends, the value of the newly issued shares is subtracted from retained earnings and added to the firm's capital account. If the firm meets constraints that are a function of retained earnings such as legal restrictions, stock exchange rules, or bond covenants, the bonus shares can inhibit the firm's ability to pay cash dividends. Firms expecting positive future performance will not expect these constraints to be binding, so they do not mind reducing retained earnings. Firms that do not expect to do well would find these constraints binding and hence would choose not to issue more shares. They argue that for American companies, for which generally accepted accounting principles dictate that stock distributions of 20% or less are taken out of retained earnings while stock dividends in excess of 25% are treated as stock splits, this signaling argument is inappropriate. This accounting convention does apply to Chinese companies, though, so this may remain a viable hypothesis for the CSM.⁶

Also, management may believe that reducing the market price per share to a reasonable level facilitates trade in the company's shares and that this in turn may increase the demand (the so-called "trading range hypothesis"). If this were true, the market value of the company's

⁶ Grinblatt, Masulis, and Titman (1984) provide a nice discussion of the alternative hypotheses consistent with this observed empirical phenomenon, such as the "trading range hypothesis" discussed below. They also detail disadvantages to all of the hypotheses they survey.

equities and hence shareholders' wealth again would increase. An alternative way to reduce market price per share is a stock split, which represents a reduction in the par value.⁷ The essential difference between a bonus issue and a stock split is that a stock split need not be accompanied by a book entry to relocate the retained earnings or accumulated reserves into paid-up capital in the shareholders' funds section of the company balance sheet.⁸

According to Chinese regulations, shareholders must pay tax for a cash dividend but not for a stock dividend, in other words, they need not pay tax on the bonus, which makes the bonus more favorable than a cash dividend. In addition to this institutional advantage and to the retained earnings hypothesis, there is some anecdotal evidence pertaining to China that suggests large-bonus issues signal that management is confident about the company's future growth opportunities.⁹

However, this may not mean that the Chinese shareholders (A-share traders) welcome all bonus issues. In fact, our results demonstrate that Chinese shareholders' preference is for a high bonus ratio rather than a low bonus ratio. Apparently, the low bonus ratio does not convey the same informational content as the high bonus ratio to these traders. In contrast, foreign shareholders of Chinese shares (B-share traders) do not react significantly to the announcement of small-bonus issue approvals. These two groups of traders view the informational content of small-bonus issue approvals differently. However, both groups of traders respond positively and significantly to the announcements of large-bonus issues, lending support to the retained-earnings-type hypothesis. A-share traders respond more dramatically to this information though.

The only evidence we find of semi-strong form market inefficiency is for the A-share market's response to the announcement of small-bonus issue proposals. Otherwise, the evidence suggests that both the A-share and B-share markets respond to the announcement of bonus issues by efficiently incorporating this information into the share price. Under the maintained hypothesis of semi-strong form market efficiency, large-bonus proposals and approvals tend to

⁷ However, as pointed out by Grinblatt, Masulis, and Titman (1984) managers of overvalued firms with no favorable inside information might split simply in order to get a temporary price increase.

⁸ Fama et al. (1969) in their classic study examined 940 stock splits on the NYSE between 1927 and 1959. In their study, returns are higher immediately following the announcement of the splits. There is no evidence that abnormal returns are available due to price overreaction or underreaction to the announcement.

increase shareholder wealth for both groups of traders. In addition, small-bonus issues tend to decrease A-share holders' shareholder wealth, and have no impact on shareholder wealth for B-share traders.

The paper is organized as follows. The next section describes the methodology employed in this paper and the CSM data. Section 3 discusses the results of the strong-form market efficiency tests on the announcement of bonus proposals for A-shares, and their import for shareholder wealth. Section 4 similarly analyzes the announcement of bonus approvals for A-shares. Section 5 examines the outcomes of the tests on the announcement of bonus approvals for B-shares, and Section 6 concludes this paper.

2. Methodology and Data

2.1 Event Study and the Models

The standard methodology used to evaluate the reaction of share prices to public announcements is an *event study*, which was employed as early as 1933 by Dolley. Over the past half century, event studies have been employed in much research and their sophistication has been greatly improved by authors such as Fama et al. (1969) and Brown and Warner (1980, 1985).¹⁰ To construct an event study, the *event*, *event window*, *estimation window*, *estimation model*, and *investigation window* should be determined.

The *event* is what the investigators would like to study, and it conveys information that potentially influences the stock prices. The events defined for this study are the announcements of bonus proposals or bonus approvals. An *event window* is the period in which an event occurs. Strictly speaking, an event window should be a period when the occurrence of the event is publicly announced. In the case that the event is announced after trading hours and then impacts on the next day's prices, or that there is a time difference in the announcements in different news media, the event window is expanded to three days. Thus, the event window in this study is combined with the day of the announcement and the days preceding and succeeding the announcement day, which are numerically expressed as $-1, 0, +1$. The period of data used in

⁹ The research director of one of China's largest fund companies affirmed this is indeed the case and that high bonus issues signal potential expansion of the company, whereas small-bonus issues do not.

¹⁰ Please refer to MacKinlay (1997) and Binder (1998) for excellent surveys of the event study methodology.

the estimation of parameters is known as an *estimation window*. The *estimation window* in this study is defined from the day –150 to the day –21 before the announcement date 0. In an event study, both the abnormal returns occurring during the time of the event window and the abnormal returns occurring in the periods around the event window must be investigated. The abnormal returns occurring in an interval before the event window reveal whether the market has anticipated the information contained in the event (or there has been trading on inside information). The abnormal returns in an interval after the event window can tell us whether the market overreacts or underreacts to the announcement of the event. The *investigation window* in this study is an extension of the event window, from day –20 through day +20.

The selected *examination models* for this study are the market-adjusted model and the market model. The market-adjusted model is

$$r_{i,t} = r_{m,t} + \varepsilon_{i,t},$$

where $r_{i,t}$ is the return of stock i at day t , $r_{m,t}$ is the market return at time t , as calculated from a market portfolio or a market index,¹¹ and $\varepsilon_{i,t}$ is the abnormal return of stock i at day t . Thus, the market-adjusted model assumes that the normal returns are equal across all stocks at time t , but not necessarily constant for a given security at different times. The abnormal return on any stock i is determined by the difference between its return and that on the market portfolio simultaneously,

$$\varepsilon_{i,t} = r_{i,t} - r_{m,t}.$$

The market model is

$$r_{i,t} = \alpha_i + \beta_i r_{m,t} + \varepsilon_{i,t},$$

where α_i is the intercept term, and β_i measures the marginal effect of the market return on the return of stock i . Here, the parameters of the market model are estimated from a regression of the

¹¹ Since there is not an index across both the Shanghai and Shenzhen markets and there is segmentation of the A-share and B-share markets, the SSE-A, SZS-A, SSE-B and SZS-B will be employed as market indices when we test Shanghai A-shares, Shenzhen A-shares, Shanghai B-shares and Shenzhen B-shares respectively.

returns on a stock and the market portfolio in the estimation window, days -150 through -21 .¹² The abnormal return (residual) on any stock i in the event window (or investigation window) is measured by the difference between its actual return and the predicted return. Hence:

$$\varepsilon_{i,t} = r_{i,t} - \hat{\alpha}_i + \hat{\beta}_i r_{m,t},$$

where $\hat{\alpha}_i$, $\hat{\beta}_i$ are the estimates of α_i , β_i . The t -statistic for abnormal returns on an event date, in this case, $t = -1, 0, +1$, is

$$t_* = \bar{\varepsilon}_t / \hat{s}(\bar{\varepsilon}_t),$$

where $\bar{\varepsilon}_t$ is average abnormal return of stocks involved in the test at day t , and $\hat{s}(\bar{\varepsilon}_t)$ is the corresponding standard deviation. Mathematically, we have:

$$\bar{\varepsilon}_t = \frac{1}{N_t} \sum_{i=1}^{N_t} \varepsilon_{i,t}, \text{ and } \hat{s}(\bar{\varepsilon}_t) = \sqrt{\left[\frac{\sum_{t=-150}^{-21} (\bar{\varepsilon}_t - \bar{\bar{\varepsilon}})^2}{N_t} \right] / 129},$$

where N_t is the number of stocks involved in the test at day t , $\bar{\bar{\varepsilon}}$ is the average abnormal return of N_t stocks from day -150 to day -21 , such that

$$\bar{\bar{\varepsilon}} = \frac{1}{130} \sum_{t=-150}^{-21} \bar{\varepsilon}_t.$$

Masulis (1980), Brown and Warner (1985), and Corrado and Zivney (1992) have used these statistics. The t -statistic for abnormal returns in an interval is

$$t_{a,b} = \frac{\sum_{t=a}^b \bar{\varepsilon}_t}{\left[\sum_{t=a}^b \hat{s}^2(\bar{\varepsilon}_t) \right]^{1/2}}.$$

The first and last days of the interval are a and b , which are selected as -10 to 0 , -10 to $+10$, 0 to $+10$, and so forth in this study. $\bar{\varepsilon}_t$ and $\hat{s}(\bar{\varepsilon}_t)$ are the same as before.¹³

In case of a skewed distribution of abnormal returns, we also apply a nonparametric rank test on the event date. The t -statistic (Corrado 1989) is

¹² Binder (1998) suggests that the market model estimator of the average abnormal return is usually unbiased and efficient when either a large sample of unrelated securities is studied or event dates are not clustered in calendar time, as would be the case in the present study.

¹³ Campbell, Lo, and MacKinlay (1997) also formulate this t -statistic, in matrix notation.

$$t_k = \frac{1}{N_t} \sum_{i=1}^{N_t} \left(k_{i,t} - \frac{l+1}{2} \right) / s(k_t),$$

where $k_{i,t}$ denotes the rank of an abnormal return $\varepsilon_{i,t}$ in an abnormal return time series. l is the number of abnormal returns in the time series. In this paper, the time series is constructed by 170 abnormal returns in the estimation window plus the investigation window (including the event window). Therefore the expected rank of an abnormal return should be $(l+1)/2 = 85.5$ in this rank test. Thus

$$s(k_t) = \sqrt{\frac{1}{171} \sum_{t=-150}^{+20} \left[\frac{1}{N_t} \sum_{i=1}^{N_t} (k_{i,t} - 85.5) \right]^2}.$$

All of the tests in the event studies are conducted at the 5% or 1% significance level. Corrado and Zivney (1992) show that the t -test is dominated by the performance of the rank test in the case of nonsymmetric distribution of security excess returns.

2.2 Daily Stock Return Data and Portfolio Construction

Previous literature exhibits the use of both monthly and daily stock return data employed in event studies. For example, Fama et al. (1969), and Brown and Warner (1980) used monthly stock return data, whereas Scholes (1972), Corrado (1989), and Frankfurter and Schneider (1995) used daily stock return data. Theoretically, daily and monthly data may differ in potentially important respects. Firstly, daily returns depart more from normality than monthly returns (Fama 1976). Too, the estimation of parameters from daily returns is complicated due to nonsynchronous trading (Scholes and Williams 1977). Finally, daily returns have a smaller standard deviation than monthly returns (Brown and Warner 1985).

However, Brown and Warner (1985) showed in their simulation that the nonnormality of daily returns has no obvious impact on event study methodologies. They provided evidence that the mean abnormal returns in a cross section of securities converge to normality as the number of securities in the sample increases. Their study argued that standard parametric tests are well-specified using daily abnormal returns computed using either the market model or the market-adjusted model, and, as expected, the power of each test is greater with daily returns than with monthly returns. In addition, the use of daily returns is potentially effective in that it permits the

researcher to take advantage of precise information about the specific day of the month on which an event takes place.

Using daily data in this study is most appropriate due to the special characteristics of CSM. By September 2000, CSM had been open for only nine years and the majority of companies were listed after 1995. Thus, the sample size for monthly observations of a stock and the numbers of stocks with sufficient observations are both too small to satisfy the requirements of the statistical tests. Further, an assumed estimation window of 36 monthly observations covers three years in which the same event, such as the announcement of a dividend issue, may happen at least three times. Although 36 observations are sufficient for generating abnormal returns for a study on dividend issues, in the present application this estimation would be biased because of the influences of other economically significant events which can occur during this estimation window. An additional argument for using daily over monthly data is that the response of stock prices to new information is rapid. All of the stock prices in this study have been adjusted for changes in currency of denomination, stock splits, dividend issues, bonus issues, and rights issues before the returns were calculated.

The bonus issues analyzed in this study are limited to the period from 1994 to 1998 for the following reasons. Firstly, because neither the Shanghai nor the Shenzhen stock market operated regularly in the period before 1993, the bonus issues of the two markets had not been determined by formal regulation. Secondly, the legislation negotiated by each market had not been unified prior to 1993, so that the same event on the two markets may have had different characteristics. Thirdly, the professional financial newspapers, which are authorized by the China Security Regulation Commission to publish information about stock markets, were first issued around the end of 1993. The official annual yearbooks of the stock exchanges, which contain the records of relevant events, were regularly published only after 1993. Therefore, consistent references to events occurring prior to 1993 cannot be obtained.

In China, the bonus (and other important) issues are scheduled, and the related information is released as follows. The manager puts forward the suggestion of a proposal to the Board of Directors. If it is accepted, following the negotiation between the directors on the Board, a scheme of the proposal is filed and will be announced in two days. About three months later, the proposal is voted on by the Conference of the Representatives of Shareholders. In general, the

scheme of the proposal can be approved by the representatives of the shareholders, and will be announced in two days immediately after the vote. The announcements are usually published on the notice board of the stock exchange via the transaction system and in authorized financial newspapers.

Construction of the portfolios used in this study takes into consideration several unique aspects of the CSM. Firstly, stock prices may react to the announcements of proposals and approvals in different ways. Share traders may have different preferences for the various bonus issues schemes. Secondly, traders in different countries may value the information differently due to institutional differences in tax code and the like. For these reasons, we perform tests on portfolios categorized in the following fashion. Portfolios are classified on the basis of bonus ratio size (small, medium or middle, and large), whether the announcement was a proposal or an approval, and whether the market trades A-shares or B-shares.¹⁴

3. Tests on the Announcement of Bonus Proposals for A-Shares

A total of 196 bonus proposals of A-shares are constructed into three portfolios. The small-bonus portfolio includes 103 proposals. The middle-bonus portfolio includes 37 proposals. The large-bonus portfolio includes 56 proposals. This study considers the different effects of the announcement of bonus proposals for each classification of bonus issues.

3.1 A-Shares Return Behavior around the Announcement of Bonus Proposals

The results of the tests on the announcement of bonus proposals are summarized in Table-1. Table-1, Panel (a) presents the Cumulative Abnormal Returns (CARs) of each portfolio around the announcement date of the bonus proposals. Figure-1(1) graphs the CARs measured by the market-adjusted model and Figure-1(2) graphs the CARs measured by the market model. From these figures it can be seen that the CARs of all bonus proposals (“Overall” portfolio) at date +20 are positive and the relevant lines are above the zero return axis. Therefore, on average, the bonus proposals raise positive CARs around the announcement date. That the announcement of bonus proposals, on average, has a positive effect on China’s stock prices coincides with the

¹⁴ Small-bonus portfolios are those that include issues with bonus ratios less than or equal to 2 for 10. Medium-bonus or middle-bonus portfolios include issues with bonus ratios larger than 2 for 10, but less than or equal to 4 for 10. Large-bonus portfolios consist of issues with bonus ratios larger than 4 for 10.

evidence of Ball, Brown, and Finn (1977) for Australian stock prices. The CARs of an “Overall” portfolio are by construction an aggregate of different sizes of bonus issues. For deeper understanding, the analysis is decomposed into the small-bonus, middle-bonus, and large-bonus portfolios.

Table-1. Results of the Tests on the Announcement of Bonus Proposals for A-Shares in China's Stock Market

(a). Cumulative Abnormal Returns (CARs)

<i>Date</i>	<i>Market-Adjusted Model</i>				<i>Market Model</i>			
	<i>Small</i>	<i>Middle</i>	<i>Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle</i>	<i>Large</i>	<i>Overall</i>
-20	-0.0025	0.0086	0.0030	0.0010	-0.0025	0.0087	0.0033	0.0011
-18	-0.0033	0.0227	0.0068	0.0042	-0.0044	0.0237	0.0044	0.0030
-16	-0.0043	0.0282	0.0118	0.0060	-0.0050	0.0296	0.0081	0.0048
-14	-0.0079	0.0289	0.0162	0.0054	-0.0091	0.0323	0.0107	0.0038
-12	-0.0069	0.0298	0.0326	0.0107	-0.0073	0.0331	0.0238	0.0086
-10	-0.0070	0.0408	0.0426	0.0154	-0.0070	0.0442	0.0312	0.0128
-8	-0.0067	0.0490	0.0499	0.0191	-0.0069	0.0532	0.0365	0.0159
-6	-0.0032	0.0521	0.0606	0.0246	-0.0024	0.0573	0.0456	0.0217
-4	-0.0016	0.0589	0.0791	0.0318	-0.0014	0.0655	0.0616	0.0282
-3	-0.0045	0.0682	0.0922	0.0356	-0.0044	0.0756	0.0739	0.0318
-2	-0.0064	0.0835	0.1101	0.0424	-0.0053	0.0917	0.0913	0.0391
-1	-0.0099	0.0844	0.1315	0.0466	-0.0083	0.0921	0.1129	0.0436
0	-0.0163	0.0961	0.1352	0.0462	-0.0156	0.1034	0.1156	0.0424
+1	-0.0253	0.0943	0.1329	0.0404	-0.0240	0.1011	0.1120	0.0364
+2	-0.0279	0.0864	0.1300	0.0368	-0.0266	0.0929	0.1087	0.0327
+3	-0.0342	0.0861	0.1301	0.0334	-0.0328	0.0941	0.1087	0.0295
+4	-0.0390	0.0744	0.1359	0.0304	-0.0364	0.0829	0.1134	0.0269
+6	-0.0469	0.0808	0.1383	0.0279	-0.0444	0.0898	0.1141	0.0240
+8	-0.0543	0.0760	0.1370	0.0227	-0.0527	0.0867	0.1108	0.0180
+10	-0.0584	0.0693	0.1382	0.0196	-0.0569	0.0820	0.1115	0.0151
+12	-0.0612	0.0734	0.1416	0.0197	-0.0602	0.0869	0.1131	0.0146
+14	-0.0611	0.0725	0.1378	0.0186	-0.0609	0.0864	0.1084	0.0128
+16	-0.0677	0.0696	0.1435	0.0161	-0.0665	0.0839	0.1107	0.0100
+18	-0.0758	0.0604	0.1424	0.0098	-0.0738	0.0749	0.1073	0.0035
+20	-0.0768	0.0701	0.1501	0.0131	-0.0747	0.0852	0.1129	0.0064

- Notes: 1. Small: the sample of 103 proposals with bonus ratios less than or equal to 2 for 10.
2. Middle: the sample of 37 proposals with bonus ratios larger than 2 for 10, but less than or equal to 4 for 10.
3. Large: the sample of 56 proposals with bonus ratios larger than 4 for 10.
4. Overall: the sample of all 196 bonus proposals.
5. Date 0: the date of the announcement.
6. Date -1 to -20: the dates before the announcement.
7. Date +1 to +20: the dates after the announcement.

(b). Parametric and Nonparametric t-test Statistics on the Abnormal Returns for the Specific Event Date

Parametric t-test Statistics								
Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
-1	-1.4686	0.2271	4.8274	2.2861	-1.2333	0.1016	4.9716	2.4483
0	-2.6774	2.9840	0.8314	-0.1984	-3.0585	2.9005	0.6280	-0.6539
+1	-3.7246	-0.4711	-0.5208	-3.1188	-3.4846	-0.5993	-0.8397	-3.2213

Nonparametric (rank) t-test Statistics								
Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
-1	-0.9857	-0.3233	3.7402	2.1075	-0.8704	-0.6090	3.8881	2.1882
0	-2.4690	2.1945	0.1371	-1.4443	-2.9917	2.1627	0.2012	-1.8196
+1	-3.0469	-0.3267	-1.1088	-3.1281	-2.6191	-0.3737	-1.0362	-2.7443

- Notes: 1. Date 0: event date, the date of the announcement.
2. Date -1: alternative event date, the announcement may occur one day in advance of that on record.
3. Date +1: alternative event date, the announcement may occur one day later than that on record.
4. If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant abnormal return is statistically nonzero at the 5% or 1% significance level, respectively.

(c). Parametric t-test Statistics on the Cumulative Abnormal Returns (CARs) in Intervals around the Event Date

Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
11 Days Around Event Day								
-5 to -1	-1.2563	3.6775	7.1753	5.2882	-1.0922	3.9797	6.9302	5.2798
+1 to +5	-5.3707	-1.8524	0.1694	-4.3195	-4.8561	-1.7378	-0.2943	-4.2475
-5 to +5	-5.2752	2.1302	5.2025	0.5933	-4.9325	2.3860	4.6633	0.4988
21 Days Around Event Day								
-10 to -1	-0.2522	4.0716	6.4773	5.6685	-0.0294	4.4296	6.0100	5.5865
+1 to +10	-5.5380	-2.1574	0.2154	-4.5190	-5.4226	-1.7356	-0.3036	-4.6505
10 to +10	-4.5798	1.9720	4.7999	0.7499	-4.4297	2.4920	4.0748	0.5033
41 Days Around Event Day								
-20 to -1	-0.9225	4.8026	6.6504	5.5894	-0.7688	5.2740	5.8162	5.2539
+1 to +20	-5.6350	-1.4802	0.7536	-3.9747	-5.4880	-1.0414	-0.1409	-4.3310
20 to +20	-4.9981	2.7865	5.3010	1.0968	-4.8476	3.4091	4.0619	0.5424

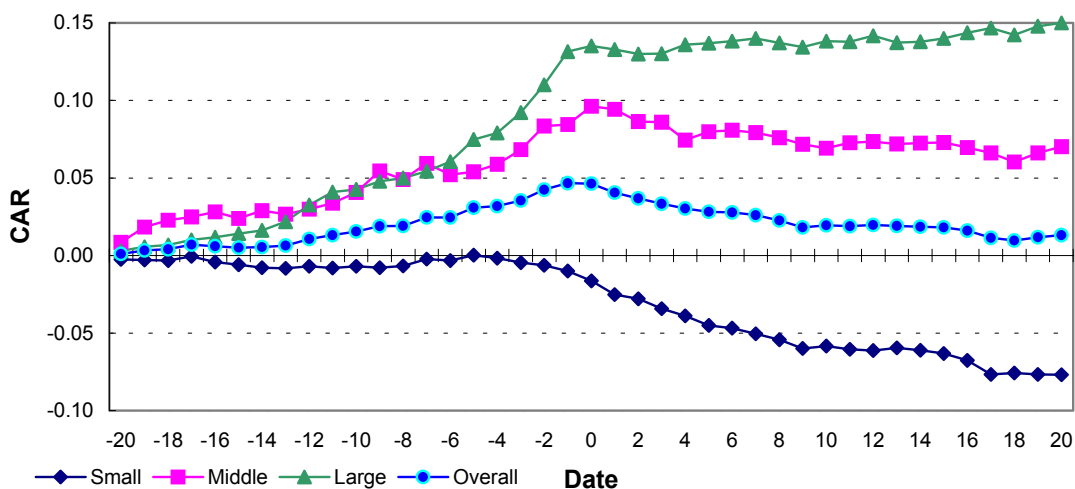
Note: If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant CARs of the intervals are statistically nonzero at the 5% or 1% significance level, respectively.

Categorizing the portfolios by size demonstrates that the shareholders discriminate against the small-bonus stocks by responding to the small-bonus proposals with negative returns. The CARs of small-bonus stocks are negative at the start of the investigation period and drop markedly after the announcement date. At the date of +20, the CARs of small-bonus stocks decline below -7.0%. Conversely, the shareholders respond favorably to the middle-bonus and large-bonus proposals, resulting in positive returns. The CARs of middle-bonus and large-bonus

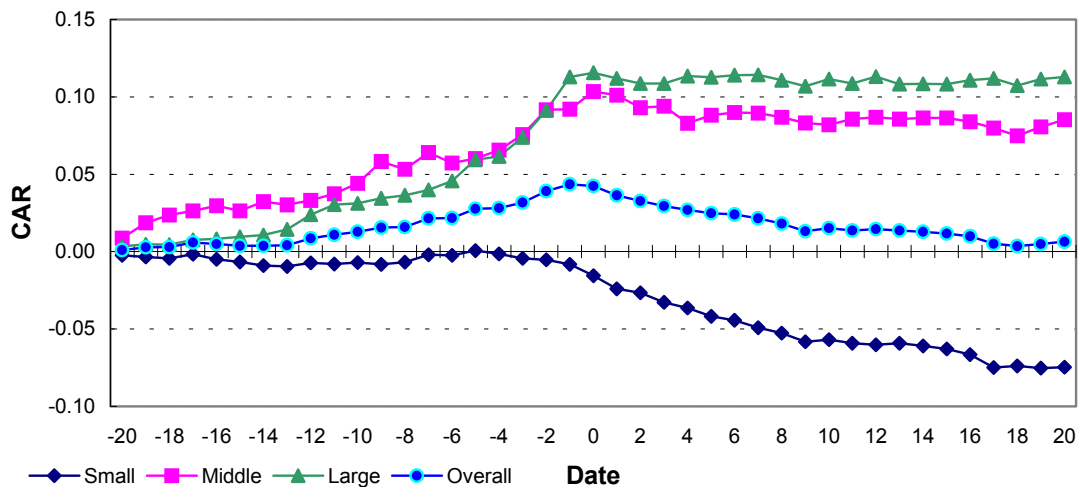
stocks begin positively and grow rapidly until the announcement date, and then remain relatively stable thereafter. At the end of the investigation period, the CARs of middle-bonus and large-bonus stocks are significant and above 7.0% and 11.0% respectively, compared with 9.6% and 11.56% at the announcement date.

Figure-1. Cumulative Abnormal Returns (CARs) for Bonus Proposals of A-Shares in China's Stock Market

(1). Market-Adjusted Model Cumulative Abnormal Returns (CARs)



(2). Market Model Cumulative Abnormal Returns (CARs)



Both the parametric and nonparametric *t*-test statistics in Table-1, Panel (b) suggest that the share traders react to the announcement of bonus proposals at the event dates both significantly and in suitable directions. The *t*-values of small-bonus stocks are below -1.96 or -2.58 at event dates 0 and +1, which illustrates that the small-bonus proposals represent unfavorable information at conventional levels of significance. Meanwhile, the *t*-values of middle-bonus and large-bonus stocks are larger than $+1.96$ or $+2.58$ at the event date 0 or at alternative event date -1 . This implies that the middle-bonus and large-bonus proposals are considered to be favorable information at conventional significance levels.

Table-1, Panel (c) shows significantly negative CARs in the intervals of dates -5 to $+5$, -10 to $+10$, and -20 to $+20$ around the announcement date 0 for the small-bonus stocks, but significantly positive CARs for the middle-bonus and large-bonus stocks. Moreover, the significantly negative CARs are generated mainly in the intervals of dates $+1$ to $+5$, $+1$ to $+10$, and $+1$ to $+20$ after the announcement date for the small-bonus stocks, suggesting underreaction to the unanticipated bad news. Meanwhile, significantly positive CARs are generated mainly in the intervals of -5 to -1 , -10 to -1 , and -20 to -1 before the announcement date for the middle-bonus and large-bonus stocks, implying that the market anticipated and incorporated the information before the event. The CARs in these intervals are presented graphically in Figure-1, Panels (1) and (2).

3.2 Assessment of Market Efficiency for A-Shares on the Announcement of Bonus

Proposals

At the event date 0, stock prices react negatively to the small-bonus proposals at the 5% or 1% significance level. However, the *t*-values on the CARs in the intervals of dates $+1$ to $+5$, $+1$ to $+10$, and $+1$ to $+20$ after the announcement are below -2.58 , which indicates that the small-bonus proposed stock prices underreact to the announcement at the event date. Thus, there exists a strategy permitting abnormally high returns for the small-bonus stock investors. Suppose that the small-bonus shareholders sell their shares at the announcement date and buy the same shares after 20 days. This strategy will provide a gain of 6%.¹⁵ Thus, the hypothesis of informational

¹⁵ $((-0.0163)-(-0.0768))*100\%=6.05\%$, abnormal returns are measured by the market-adjusted model; $((-0.0156)-(-0.0747))*100\%=5.91\%$, abnormal returns are measured by the market model. These numbers still yield abnormal returns even after allowing for a 0.30% transaction fee.

efficiency for the small-bonus stock is refuted. Furthermore, these results suggest that shareholder wealth declines in response to the announcement of a small-bonus issue proposal; Chinese shareholders appear to view the announcement of small-bonus proposals as bad news.

In contrast to the small-bonus stocks, the large-bonus stocks have positive and significant CARs at the alternative event date -1 and for the intervals of dates -5 to -1 , -10 to -1 , and -20 to -1 before the announcement date, but the CARs are insignificant after the announcement date. Despite some shareholders anticipating the information or obtaining inside information before the announcements, the stock prices still react to the large-bonus proposal announcements significantly at the 1% significance level. The information contained in the large-bonus proposals is fully incorporated into the stock prices by the event date 0. So, if we ignore the possibility that inside information is being used, we must conclude that the stock prices reflect the large-bonus proposals efficiently.¹⁶

The case of middle-bonus stocks is not as canonical as the cases of small-bonus and large-bonus stocks. It behaves most like that of large-bonus stocks. At the event date 0 and during intervals before the announcement date, the CARs are positive and significant at the 1% and 5% levels. This illustrates a significant price reaction to the middle-bonus proposals at the announcement date and the possible anticipation or use of inside information. Furthermore, the negative t -values in each interval after the announcement date are comparatively smaller in absolute value (just one is below -1.96), suggesting that there is a slight overreaction. In other words, the stocks are overpriced with respect to the middle-bonus proposals prior to and at the event date and then are corrected thereafter. This results in the CARs moving in opposite directions before and after the announcement date. Nevertheless, it is fair to conclude that the stock prices are reasonably efficient in reflecting the information of middle-bonus proposals. All in all, during the intervals around the event date, there has been a cumulative significant and positive impact of the announcement on returns, so Chinese-resident shareholders have experienced an increase in wealth.

¹⁶ According to Meulbroek (1992), this distinction between insider trading and semi-strong form market efficiency may not be as important as we make out since her results show that insider trading is associated with both quick price movements as well as price discovery. Her results suggest that insider trading promotes the informational efficiency of stock markets.

4. Tests on the Announcement of Bonus Approvals for A-Shares

Using the same criteria as was used previously in grouping bonus proposals, we construct three bonus approval portfolios: the small-bonus portfolio of 172 bonus approvals, the middle-bonus portfolio of 89 bonus approvals, and the large-bonus portfolio of 94 bonus approvals. The total of 355 bonus approvals includes the 196 cases analyzed above. We seek to understand the effects of the announcement of bonus approvals on stock prices, and then we delineate the distinct influences that the bonus proposals and approvals have on these prices.

4.1 A-Shares Return Behavior around the Announcement of Bonus Approvals

The results of the tests on the announcement of bonus approvals are summarized in Table-2. Table-2, Panel (a) and Figure-2 report the CARs around the announcement of bonus approvals for each portfolio. Firstly, the large-bonus approved stocks perform better than the small-bonus approved stocks, which is consistent with the analysis of large-bonus proposals on stock prices. This indicates that the Chinese-resident investors are more favorably inclined towards the announcement of large-bonus proposals and approvals than small-bonus proposals and approvals. Next, there are peaks of CARs at the alternative event date +2 of each portfolio; this indicates a delayed overreaction to the announcement of bonus approvals. These peaks are not evident in the CARs for the proposals.

Comparing Table-2, Panel (a) with Table-1, Panel (a), and Figure-2 with Figure-1, we find that the CARs related to the small-bonus approvals are above those relating to the small-bonus proposals, whereas, the CARs related to the middle-bonus and large-bonus approvals are below those relating to the middle-bonus and large-bonus proposals. The narrow range of CARs between portfolios of bonus approvals and the smaller t -statistics show that the influence of bonus approvals is weaker than that of bonus proposals. It appears that the main informational content of bonus approvals has already been disclosed in the announcement of the bonus proposals, but there is some valuable information in the approvals themselves.¹⁷

¹⁷ This finding is consistent with the studies of cash dividend proposals and approvals.

Table-2. Results of the Tests on the Announcement of Bonus Approvals for A-Shares in China's Stock Market

(a). Cumulative Abnormal Returns (CARs)

<i>Date</i>	<i>Market-Adjusted Model</i>				<i>Market Model</i>			
	<i>Small</i>	<i>Middle</i>	<i>Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle</i>	<i>Large</i>	<i>Overall</i>
-20	0.0004	-0.0036	0.0009	-0.0004	0.0002	-0.0036	0.0001	-0.0007
-18	-0.0042	-0.0038	0.0056	-0.0017	-0.0067	-0.0053	0.0017	-0.0041
-16	-0.0119	-0.0077	0.0085	-0.0058	-0.0149	-0.0108	0.0022	-0.0094
-14	-0.0205	-0.0101	0.0159	-0.0088	-0.0251	-0.0158	0.0078	-0.0143
-12	-0.0213	-0.0093	0.0177	-0.0086	-0.0264	-0.0180	0.0078	-0.0154
-10	-0.0225	-0.0099	0.0184	-0.0091	-0.0277	-0.0208	0.0072	-0.0168
-8	-0.0260	-0.0090	0.0231	-0.0095	-0.0319	-0.0229	0.0110	-0.0184
-6	-0.0240	-0.0119	0.0271	-0.0082	-0.0314	-0.0285	0.0136	-0.0188
-4	-0.0302	-0.0111	0.0361	-0.0089	-0.0376	-0.0294	0.0214	-0.0201
-3	-0.0298	-0.0084	0.0412	-0.0067	-0.0381	-0.0272	0.0268	-0.0184
-2	-0.0326	-0.0046	0.0429	-0.0067	-0.0412	-0.0249	0.0277	-0.0191
-1	-0.0302	0.0002	0.0537	-0.0016	-0.0397	-0.0204	0.0382	-0.0146
0	-0.0219	0.0233	0.0802	0.0150	-0.0317	0.0030	0.0639	0.0017
+1	-0.0169	0.0307	0.0926	0.0224	-0.0273	0.0096	0.0754	0.0085
+2	-0.0196	0.0262	0.0908	0.0195	-0.0300	0.0036	0.0730	0.0051
+3	-0.0239	0.0229	0.0878	0.0158	-0.0348	-0.0001	0.0694	0.0009
+4	-0.0263	0.0122	0.0854	0.0112	-0.0371	-0.0112	0.0655	-0.0040
+6	-0.0245	0.0045	0.0781	0.0084	-0.0360	-0.0202	0.0565	-0.0078
+8	-0.0238	-0.0015	0.0657	0.0041	-0.0358	-0.0267	0.0420	-0.0129
+10	-0.0242	-0.0050	0.0635	0.0025	-0.0373	-0.0320	0.0393	-0.0156
+12	-0.0264	0.0033	0.0639	0.0036	-0.0412	-0.0237	0.0379	-0.0157
+14	-0.0324	0.0013	0.0607	-0.0007	-0.0478	-0.0272	0.0326	-0.0212
+16	-0.0352	0.0060	0.0615	-0.0007	-0.0511	-0.0248	0.0320	-0.0223
+18	-0.0354	0.0103	0.0702	0.0024	-0.0525	-0.0213	0.0393	-0.0202
+20	-0.0293	0.0067	0.0712	0.0048	-0.0466	-0.0283	0.0395	-0.0188

- Notes: 1. Small: the sample of 172 approvals with bonus ratios less than or equal to 2 for 10.
2. Middle: the sample of 89 approvals with bonus ratios larger than 2 for 10, but less than or equal to 4 for 10.
3. Large: the sample of 94 approvals with bonus ratios larger than 4 for 10.
4. Overall: the sample of all 355 bonus approvals.
5. Date 0: the date of the announcement.
6. Date -1 to -20: the dates before the announcement.
7. Date +1 to +20: the dates after the announcement.

(b). Parametric and Nonparametric t-test Statistics on the Abnormal Returns for the Specific Event Date

Parametric t-test Statistics								
Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
-1	1.2017	1.7096	3.0970	3.4240	0.7649	1.6214	3.1329	3.1091
0	4.2438	8.2011	7.5881	11.1515	4.1328	8.6031	7.6457	11.2419
+1	2.5118	2.6124	3.5549	4.9888	2.2740	2.3913	3.4417	4.6551

Nonparametric (rank) t-test Statistics								
Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
-1	0.1130	0.6029	2.4676	1.4181	0.1103	0.7566	2.5353	1.5055
0	3.6867	5.2322	4.9137	6.4229	3.7220	5.6029	5.0061	6.6120
+1	2.5673	2.1100	1.9140	3.1843	2.4668	2.0746	1.7936	3.0479

- Notes: 1. Date 0: event date, the date of the announcement.
2. Date -1: alternative event date, the announcement may occur one day in advance of that on record.
3. Date +1: alternative event date, the announcement may occur one day later than that on record.
4. If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant abnormal return is statistically nonzero at the 5% or 1% significance level, respectively.

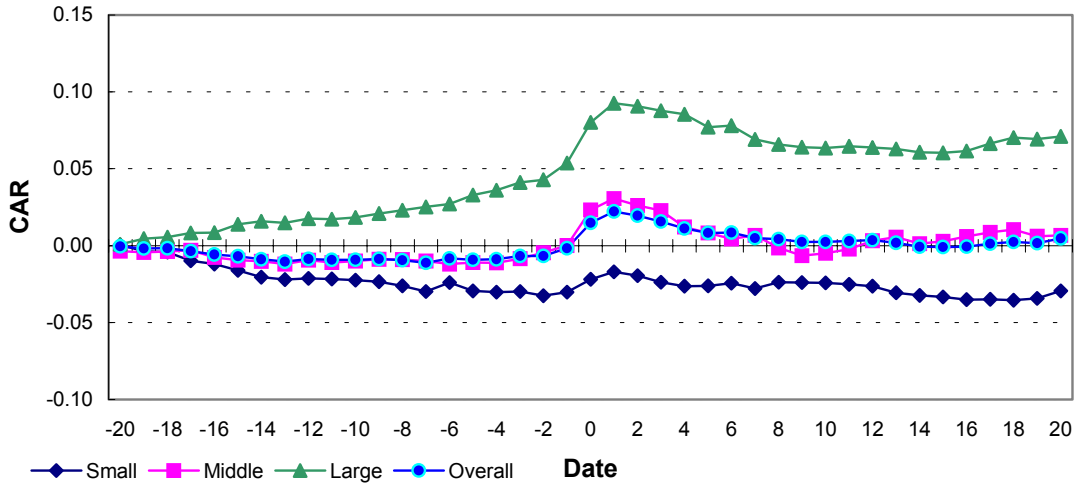
(c). Parametric t-test Statistics on the Cumulative Abnormal Returns (CARs) in Intervals around the Event Date

Date	Market-Adjusted Model				Market Model			
	Small	Middle	Large	Overall	Small	Middle	Large	Overall
11 Days Around Event Day								
-5 to -1	-1.4067	1.9119	3.4125	1.9760	-1.9232	1.3198	3.2822	1.2961
+1 to +5	-0.9485	-2.3942	-0.3895	-1.9916	-1.2704	-3.0690	-0.9265	-2.7627
-5 to +5	-0.3083	2.1476	4.3260	3.3518	-0.9071	1.4147	3.8934	2.4008
21 Days Around Event Day								
-10 to -1	-1.3658	1.2493	3.3036	1.6252	-2.1507	0.0035	2.9316	0.3488
+1 to +10	-0.3766	-3.1730	-1.5166	-2.6429	-0.9155	-4.0619	-2.3189	-3.7716
10 to +10	-0.2763	0.4621	2.8891	1.7312	-1.2140	-0.9232	2.0912	0.0913
41 Days Around Event Day								
-20 to -1	-3.4292	0.0159	3.4401	-0.2468	-4.5884	-1.6749	2.5501	-2.2490
+1 to +20	-0.8458	-1.3200	-0.5803	-1.5266	-1.7201	-2.5687	-1.6255	-3.1693
20 to +20	-2.3230	0.3700	3.1824	0.5030	-3.7607	-1.6203	1.8399	-2.0286

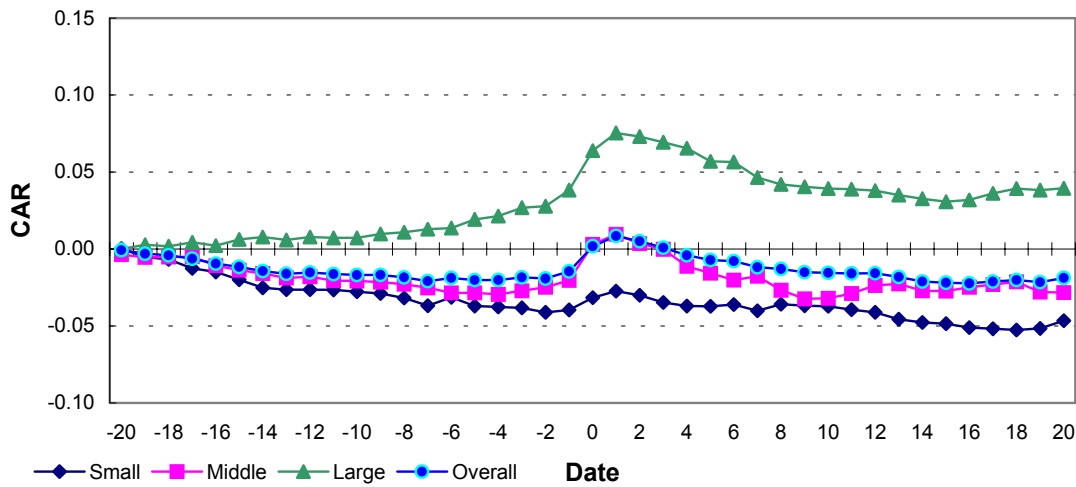
Note: If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant CARs of the intervals are statistically nonzero at the 5% or 1% significance level, respectively.

Figure-2. Cumulative Abnormal Returns (CARs) for Bonus Approvals of A-Shares in China's Stock Market

(1). Market-Adjusted Model Cumulative Abnormal Returns (CARs)



(2). Market Model Cumulative Abnormal Returns (CARs)



The t -values of the parametric and nonparametric tests on the event dates in Table-2, Panel (b) are all positive and large. In particular, the t -values that occurred at the event date 0 across every portfolio are dramatically larger than +2.58. Meanwhile, the majority of t -values at the

alternative event dates -1 and $+1$ are still above $+1.96$ or $+2.58$. The announcement of bonus approvals generates significantly positive returns at the event dates.

Table-2, Panel (c) reports t -tests on the CARs in intervals around the announcement of bonus approvals. The t -values for the interval of dates -20 to -1 before the event date for the small-bonus portfolio are below -1.96 , which suggests that investors are pessimistic in their anticipation of the small-bonus approvals. For these portfolios, the t -statistics on the CARs after the event date(s) tend to be negative and insignificant; no correction is made.

The t -values for the intervals of $+1$ to $+5$ and $+1$ to $+10$ after the event date for the middle-bonus portfolios are below -1.95 or -2.58 , which indicates that investment in these stocks incurs significantly negative returns after the announcement date of the approvals. This evidence suggests that the optimistic anticipation of the middle-bonus approvals is reversed after the announcement of such approvals.

For the large-bonus portfolio, the t -values for each interval before the event date are above $+2.58$ or $+1.96$, but for the three intervals after the event date they are negative and insignificant in five of six cases. No unwinding or correction of the optimistic anticipation of the event by Chinese traders transpires for these portfolios.

4.2 Assessment of Market Efficiency for A-Shares on the Announcement of Bonus Approvals

Stock prices reflect the announcement of bonus approvals in a statistically significant and positive manner at the event date(s). However, this cannot be simply labeled an efficient phenomenon. Firstly, the small-bonus approval should not be good news and should not engender the reaction of a large positive return, unless shareholders thought that the proposal announcement was a signal of a weaker position than the firm actually had. The significant positive returns at the event date, accompanied with significant negative returns in the intervals before the event date, show that the market corrects the negative anticipation of these approvals when they do finally occur. Since the negative returns are statistically insignificant after the announcement date, we place the reaction of A-share prices to the announcement of small-bonus approvals in the efficient category. Of course, since the CARs are significantly negative for the entire -20 to $+20$ period, we conclude that announcements of small-bonus approvals, like announcements of small-bonus proposals, lead to a decline in shareholder wealth. The CAR for

+20 is -0.0293 for the approval, while it was -0.0768 for the proposal, indicating that the information inherent in the proposal had a larger cumulative impact than that of the proposal for small-bonus issues.

Similarly, the abnormal returns for the large-bonus stocks after the announcement date, while negative and hence suggestive of potential overreaction, are also generally insignificant at the 5% level. The market for large-bonus stocks could be deemed semi-strong form efficient, or at worst ambiguous. Since the t -statistics for the CARs for large-bonus stocks over the intervals around the event date (-20 to $+20$ etc.) are positive and significant (in five of six cases), we conclude that the approval of large-bonus issues did have some informational content for Chinese-resident traders over and above the proposal. Furthermore, these approvals had a positive impact on shareholder wealth.

In contrast, the unusually large and positive t -values at the event date and negative t -values for the intervals after the event date show that the middle-bonus stocks have a severe overreaction at the event date. As a consequence, we conclude that the reaction of A-share prices to the middle-bonus approvals is inefficient. It could be the case that the middle portfolio is simply an average of the effects attributed to the small-bonus and large-bonus issue approvals, and hence this overreaction is an artifact of our classification. The t -statistics on the CARs for the intervals around the event date (-20 to $+20$ etc.) tend to be insignificant. Again, this suggests that the approval did not have any more informational content than the proposal and did not impact shareholder wealth.

5. Tests on the Announcement of Bonus Approvals for B-Shares

The records of bonus proposals of B-shares are of an insufficient number for statistical analysis. Thus, event study tests are only conducted on the 56 bonus approvals of B-shares. Among the 56 bonus approvals of B-shares, 34 of them fall into the small-bonus portfolio and 22 fall into the middle/large-bonus portfolio with a bonus ratio larger than 2 for 10.

Table-3 summarizes the results of the tests on the announcement of bonus approvals of B-shares. Table-3, Panel (a) and Figure-3, Panels (1) and (2) illustrate the CARs as measured by the market-adjusted and the market models. From that table and those figures it is evident that the B-share investors have a similar assessment to that of the A-share investors on the

information of bonus approvals. They prefer investing in the middle/large-bonus stocks to investing in the small- bonus stocks. The CARs of middle/large-bonus B-shares are mainly positive and above the zero return axis, while the CARs of small-bonus B-shares are negative and below the zero return axis. This evidence lends more support to the argument that larger-sized bonus issues signal that management is very confident about the company's future performance.

A comparison of Figure-3, Figure-2, and Figure-1 reveals that the difference in the CAR lines between the small-bonus and middle/large-bonus stocks for the B-share bonus approvals is more similar to the difference between the small-bonus and large-bonus stocks for the A-share bonus approvals than for the A-share proposals. Therefore, while we did not test the bonus proposals for the B-shares due to the small portfolio size, we may hypothesize that the B-share investors may respond to the announcement of bonus approvals more weakly than they respond to the announcement of bonus proposals. However, the CAR lines of the B-shares in Figure-3 are more volatile due to the small portfolio or sample size problem.

Table-3, Panel (b) shows that all parametric and nonparametric t -values tested on the announcement of small-bonus approvals for B-shares are less than +1.96 in absolute value, indicating that the small-bonus B-share prices have not been significantly affected by the announcement at the event date. This is in direct contrast to the significant and positive response of the A-share market to the announcement of small-bonus approvals. Apparently, the two different types of traders, Chinese residents (A-share traders) and foreign residents (B-share traders), view the announcement of small-bonus approvals differently, with Chinese residents viewing the information as a negative signal.

On the other hand, the t -values at the event date 0 for the middle/large-bonus B-shares are larger than +1.96. This implies that the middle/large-bonus B-shares react significantly and positively to the announcement at the event date at the 5% significance level, a similar response to that of the A-share market. Thus, there appears to be some agreement between these groups of traders regarding the informational content of larger-sized bonus issues.

Table-3. Results of the Tests on the Announcement of Bonus Approvals for B-Shares in China's Stock Market

(a) Cumulative Abnormal Returns (CARs)

<i>Date</i>	<i>Market-Adjusted Model</i>			<i>Market Model</i>		
	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>
-20	-0.0020	0.0097	0.0023	-0.0044	0.0079	-0.0003
-18	-0.0202	0.0114	-0.0085	-0.0342	0.0061	-0.0208
-16	-0.0153	0.0154	-0.0039	-0.0305	0.0062	-0.0183
-14	-0.0224	0.0248	-0.0049	-0.0315	0.0124	-0.0169
-12	-0.0294	0.0224	-0.0102	-0.0423	0.0078	-0.0256
-10	-0.0142	0.0109	-0.0049	-0.0252	-0.0091	-0.0199
-8	-0.0208	-0.0032	-0.0143	-0.0326	-0.0249	-0.0301
-6	-0.0232	0.0031	-0.0135	-0.0282	-0.0133	-0.0233
-4	-0.0305	0.0197	-0.0120	-0.0377	0.0076	-0.0226
-3	-0.0408	0.0191	-0.0186	-0.0482	0.0065	-0.0299
-2	-0.0422	0.0307	-0.0152	-0.0510	0.0170	-0.0283
-1	-0.0407	0.0413	-0.0104	-0.0500	0.0254	-0.0249
0	-0.0420	0.0575	-0.0052	-0.0527	0.0411	-0.0214
+1	-0.0469	0.0627	-0.0064	-0.0578	0.0461	-0.0231
+2	-0.0380	0.0599	-0.0018	-0.0479	0.0416	-0.0181
+3	-0.0381	0.0496	-0.0057	-0.0492	0.0318	-0.0222
+4	-0.0322	0.0604	0.0020	-0.0444	0.0424	-0.0155
+6	-0.0181	0.0661	0.0130	-0.0306	0.0510	-0.0034
+8	-0.0255	0.0593	0.0058	-0.0430	0.0467	-0.0131
+10	-0.0319	0.0740	0.0072	-0.0502	0.0629	-0.0125
+12	-0.0313	0.0874	0.0126	-0.0478	0.0730	-0.0075
+14	-0.0424	0.0679	-0.0016	-0.0610	0.0495	-0.0242
+16	-0.0359	0.0747	0.0050	-0.0537	0.0540	-0.0178
+18	-0.0497	0.0638	-0.0077	-0.0676	0.0393	-0.0320
+20	-0.0418	0.0642	-0.0026	-0.0643	0.0387	-0.0299

- Notes: 1. Small: the sample of 34 approvals with bonus ratios less than or equal to 2 for 10.
2. Middle/large: the sample of 22 approvals with bonus ratios larger than 2 for 10.
3. Overall: the sample of all 66 bonus approvals, including the small and middle/large samples.
4. Date 0: the date of the announcement.
5. Date -1 to -20: the dates before the announcement.
6. Date +1 to +20: the dates after the announcement.

(b). Parametric and Nonparametric t-test Statistics on the Abnormal Returns for the Specific Event Date

Parametric t-test Statistics						
Date	Market-Adjusted Model			Market Model		
	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>
-1	0.2202	1.6344	0.9882	0.1449	1.3209	0.7068
0	-0.2010	2.5062	1.0509	-0.4023	2.4854	0.7213
+1	-0.7221	0.8013	-0.2311	-0.7842	0.7993	-0.3585

Nonparametric (rank) t-test Statistics						
Date	Market-Adjusted Model			Market Model		
	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>
-1	0.1245	0.6340	0.5004	-0.1931	0.7671	0.3038
0	0.2373	2.5081	1.7842	0.2167	2.4231	1.6238
+1	-0.3891	0.2331	-0.1489	-0.4925	0.2211	-0.2633

- Notes: 1. Date 0: event date, the date of the announcement.
2. Date -1: alternative event date, the announcement may occur one day in advance of that on record.
3. Date +1: alternative event date, the announcement may occur one day later than that on record.
4. If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant abnormal return is statistically nonzero at the 5% or 1% significance level, respectively.

(c). Parametric t-test Statistics on the Cumulative Abnormal Returns (CARs) in Intervals around the Event Date

Date	Market-Adjusted Model			Market Model		
	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>	<i>Small</i>	<i>Middle/Large</i>	<i>Overall</i>
11 Days Around Event Day						
-5 to -1	-1.1695	2.6424	0.2825	-1.4911	2.7377	-0.1505
+1 to +5	1.6782	1.5078	2.1832	1.5412	1.5160	2.0510
-5 to +5	0.2823	3.5537	1.9792	-0.0875	3.6172	1.4988
21 Days Around Event Day						
-10 to -1	-0.7894	0.8538	-0.2634	-0.8146	0.9255	-0.3309
+1 to +10	0.4804	0.8037	0.8067	0.1179	1.0923	0.5827
10 to +10	-0.2571	1.6907	0.6042	-0.5686	1.9348	0.3312
41 Days Around Event Day						
-20 to -1	-1.3597	1.4283	-0.4745	-1.7116	0.8970	-1.1521
+1 to +20	0.0087	0.2318	0.1207	-0.3970	-0.0844	-0.3948
20 to +20	-0.9750	1.5508	-0.0830	-1.5355	0.9557	-0.9678

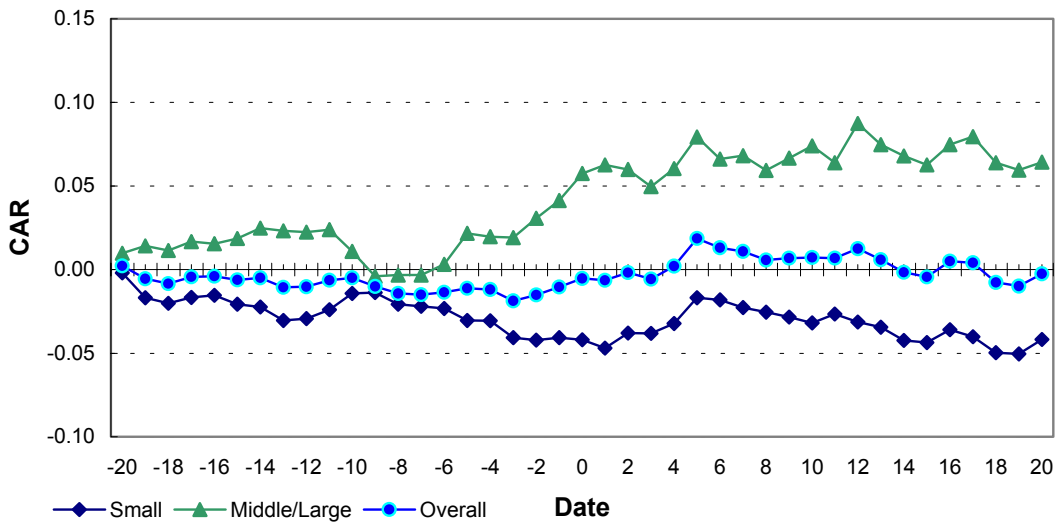
- Note: If the *t*-test statistic is larger in absolute value than 1.96 or 2.58, the relevant CARs of the intervals are statistically nonzero at the 5% or 1% significance level, respectively.

Table-3, Panel (c) shows that the CARs for any intervals are insignificant for the small-bonus approved B-shares. Thus, there are no significant variations of returns for the small-bonus approved B-shares at or around the event date. By contrast, the *t*-statistics tested on the CARs in the interval of dates -5 to -1 before the event date for the middle/large-bonus approved B-shares are larger than +2.58, which shows that significant positive returns are generated in the five days before the event date. Due to the significant positive returns occurring at the event date 0 and in

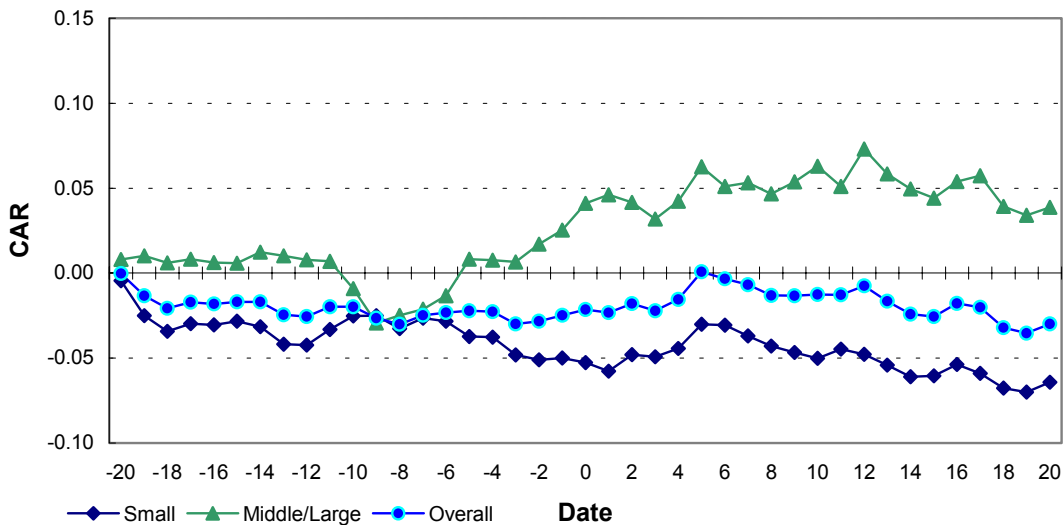
the interval of dates -5 to -1 before the announcement, the CARs of interval dates -5 to $+5$ around the event date for the middle/large-bonus B-shares are significant.

Figure-3. Cumulative Abnormal Returns (CARs) for Bonus Approvals of B-Shares in China's Stock Market

(1). Market-Adjusted Model Cumulative Abnormal Returns (CARs)



(2). Market Model Cumulative Abnormal Returns (CARs)



For the small-bonus B-shares, we fail to find evidence of overreaction or underreaction. Thus, even though the price reaction to the announcement of small-bonus approvals at the event date is statistically insignificant, we cannot conclude that the small-bonus B-share prices are not efficient with respect to the announcement. Similarly, for the middle/large-bonus B-shares, we again fail to find evidence of overreaction and underreaction. If we assume that the significant cumulative abnormal returns of the five days before the event date resulted from reasonable anticipation and not insider trading, then we should conclude that the middle/large-bonus approved B-share prices reflect the announcement efficiently.

There is some evidence of positive wealth generation for existing shareholders due to the announcement of middle/large-bonus approvals for the B-share market. This evidence is weaker than for the A-share market, however, both due to lower respective CARs and lower t -statistics (especially for the -5 to $+5$ interval). Similarly, although the small-bonus approvals generated a decline in shareholder wealth for Chinese residents, there appears to be no wealth impact for foreign-resident holders of these stocks. It appears that traders in the B-share market do not view the announcement of small-bonus approvals as negatively as traders in the A-share market; nor do they view the announcement of middle/large-bonus approvals as positively as traders in the A-share market.

6. Conclusion

The event study methodology was employed to investigate the stock price behavior in response to the bonus issues and then to determine whether or not semi-strong form efficiency holds for the new emerging stock markets of China. In addition, we explored the issues of how the announcements affected shareholder wealth and how the response of traders to these announcements differed for Chinese and foreign residents. Empirical studies were conducted on the abnormal returns triggered by the announcements of bonus issues' proposals and approvals for the A-shares and approvals for the B-shares respectively. In total, eleven portfolios were constructed according to the residency of the shareholder, the size of the bonus ratio, and whether the announcement was a proposal or an approval.

We argue that the A-share market can be deemed largely semi-strong form efficient for middle-bonus and large-bonus issue proposals and approvals, and the B-share market can be classified as semi-strong form efficient with respect to the announcement of middle/large-bonus issue approvals. (Recall there was not enough B-share information to perform the analysis on proposals, and the announcement of the middle-bonus issue approval for the A-shares was not incorporated “efficiently.”)¹⁸ The B-share market can also be classified as semi-strong form efficient on the basis of its response to the announcement of small-bonus issue approvals. However, the A-share market, with respect to its underreaction to the information contained in the announcement of small-bonus issue proposals, is not efficient. In general, the B-share market displays stronger evidence of semi-strong form market efficiency. For the A-share market, the announcements of proposals had a larger cumulative impact on abnormal returns than the announcements of approvals, but both proposals and approvals contain information to which the market responds (this, in spite of the fact that the approved bonus issues typically proceeded on the schedule originally proposed).

In contrast to the Miller and Modigliani (1961) prediction that bonus issues do not effect shareholders’ wealth, for both Chinese and foreign residents, middle-bonus and large-bonus issue proposals and approvals tend to increase shareholder wealth, more so for the Chinese residents. Additionally, small-bonus issue proposals and approvals tend to decrease shareholder wealth for A-share traders, but appear to hold no informational content for B-share traders. So, while larger bonus issues are taken to be good news by both sets of traders, only Chinese residents look upon small- bonus issues as unfavorable. Again, the Chinese traders appear to place more weight on the announcement of bonus issues of any size than their foreign counterparts. The small-bonus issues seem to have different import for the two groups of traders, with the Chinese traders viewing small-bonus issues as a negative signal and foreign traders viewing them as non-signals.¹⁹ Most clearly, large-bonus and small-bonus issues appear to contain different information for both trading groups, with large-bonus issues being viewed favorably by both.

¹⁸ Although the result for the middle portfolio was ambiguous, this could be due to an averaging out effect arising from stocks that behave more like the large-bonus issue stocks and those that behave more like the small-bonus issue stocks.

¹⁹ The proposals may have contained all the informational content for the B-share market, of course.

In conclusion, the A-share market reacts more strongly than the B-share market to the announcements of bonus proposals and approvals, suggesting that the A-share market is not as efficient as the B-share market. Furthermore, the small-bonus issues mean different things to Chinese and foreign shareholders, whereas large-bonus issues signal to both groups that management feels confident about the future of the firm. What determines the differential informational content of small-bonus issues to Chinese and foreign traders remains an open question.

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