

# Non-Tradable Shares Reform: Perspective from Changing in Use of Proceeds from Refinancing

Yajun CHAI, Bo LIU

*School of Management and Economics, University of Electronic Science and Technology of China, Chengdu, China*

*Email: chaiyajun2009@gmail.com, Liubor@gmail.com*

**Abstract:** This paper empirically studies the relation between the non-tradable shares reform and the probability of changing in use of the proceeds from refinancing via Probit regression using the refinancing records data from January 15, 2002 to June 4, 2009, then we adopt an alternative binary-choice model, Logit model, to perform further robustness checks. After controlling for the external factors including the firm size, liquidity ration and main business's increasing rate of income, we find that, based on forming a mutual benefit foundation between large shareholders and outside minority shareholders regarding the share price and market value of the companies, the non-tradable shares reform does mitigate the motive of changing in use of proceeds from refinancing. Our findings shed light on the importance and necessity of non-tradable shares reform.

**Keywords:** non-tradable shares reform; changing in use of proceeds; refinancing

## 1 Introduction

The listed companies in China stock market could refinance, i.e., further raise the capital after IPO (Initial Public Offering), mainly via convertible bonds and Seasoned Equity Offerings (SEOs) which includes public offerings, private placement and right issues. However, it has been a common practice that the use of proceeds from refinancing has always been deviated from its original plan in Chinese listed companies.

Li et al. (2008)<sup>[1]</sup> summarized that, the destinations of the use of proceeds from refinancing can always be classified into following categories: investment in un-related fixed investment projects; the supplement to working capital; idle capital; purchasing other companies' assets; financial investment, e.g. investment in stocks and bonds through financial agencies. These changes in the use of proceeds may benefit the large shareholders much. Essentially, the large shareholders could move the raised capital to the investment projects which may bring them more private benefits of control, which can to some extent be proved by the evidence of the tunneling behavior of Chinese listed firms (e.g. Li, *et al*, 2004<sup>[2]</sup>; Li, *et al*, 2005<sup>[3]</sup>). Existing literatures on the change in use of proceeds mainly target on the two dimensions: causes and consequences (e.g. the effect on company's performance).

For the causes, Zhang & Zhai (2005)<sup>[4]</sup> investigated the reasons why those listed companies did not invest in the items specific in their prospectuses and why they altered the direction and held more cash instead. Their empirical results showed that the probability and degree of changes is inversely related to the sizes of the company and its long-term investment but positively related

to the amount of cash, related party transaction, and the concentration of ownership. However, Yang (2003)<sup>[5]</sup> showed that the alteration of the flow of the investment of the financing capital was the inevitable outcome of market mechanism. Based on the statistical analysis on the 1290 announcements of 530 listed companies about the alteration of financing capital during 2000-2006, Fan & Zhang (2008)<sup>[6]</sup> found that the determination and alteration of a capital-raising project were quite arbitrary, large amounts of capital raised were possessed by associated parties or left idle, and some investments were deceptive.

For the consequences, Chen (2007)<sup>[7]</sup> tested the relations between raising capital investment and operating performance, focusing on the listed companies which raised capital in year 2000, 2001 and 2002 through IPO and SEO. The result indicated the changing of raised capital investment had notable negative effect to the operating performance. But above literatures did not differentiate between IPO and SEO. Liu & Dai (2004)<sup>[8]</sup> started to differentiate between IPO and SEO, and take both the causes and consequences into account. They performed a research on the 322 listed companies which raised fund in 2000 by public offering, and defined the change of committed investment projects of raised fund as concealed change and obvious change. They found that IPO companies changed their committed investment project of raised fund more frequently than SEO companies, and the scale of the listed companies had negative correlation with change of committed investment project.

From above, we could easily see that almost none of the extant researches have put the behavior of changing in the use of proceeds into the big picture of the institutional background of China stock market. Actually, it is

well-known that the non-tradable-share is the unique characteristics of China stock market. Before the reform, non-tradable shares in China stock market occupy almost 2/3 of the total issued shares and mainly consist of state-owned and legal person shares. This institutional defect would lead to a bad situation that the large shareholders could not benefit from any increase in the share price or the market value of the company. This absence of the mutual benefit foundation thus makes the large shareholders have strong motivation to deviate from the interests of the outside minority shareholders by changing the use of proceeds. Therefore, it is a brand new point of view and would be very interesting and meaningful to deeply look at the relation between change in the use of the proceeds and the non-tradable-share structure and its reform later on in China stock market.

The original rationale for those non-tradable shares was to keep the property of the state-owned enterprises. It has been generally accepted among the Chinese investors that it is just this institutional defect that has contributed many anomalies which would not emerge in western mature markets and lowered down the entire development of China stock market. To improve the health of the China financial system, the government finally made the decision to clear this huge overhang. On April 29, 2005, with the guidelines of the Circular on Issues relating to Pilot Reform of Listed Companies' Non-Tradable Shares by China Securities Regulatory Commission (CSRC), the Pilot Reform of non-tradable shares initialized, which stipulates that non-tradable shareholders have to bargain with tradable shareholders for compensation for gaining liquidity. By the end of the year of 2009, almost all of the listed companies of China stock market have successfully accomplished the reform. But what has the reform really brought to the market? Many researchers have empirically examined this big issue from following three different channels: compensation and pricing, market reaction, and corporate governance.

First, for the compensation and pricing issue, Wu *et al.* (2006)<sup>[9]</sup> tested the factors which would affect consideration ratio between non-tradable shareholders and tradable shareholders. Their results suggested that the game mechanism adopted in the reform generally could ensure the rationality of reform projects and protect both shareholders, but the institutional investors had not exhibited their bargaining ability in the reform. Based on the special event of the consideration ratio determination in non-tradable shares reform, Zheng *et al.* (2007)<sup>[10]</sup> examined the effectiveness of corporate governance mechanisms of China's listed companies and thus presented the new evidence to evaluate the status of corporate governance in China. Their results indicated that among the current corporate governance mechanisms, the existence of active investors outside the controlling shareholder had significant effects on the consideration determination and

then was effective in corporate governance practice. Zhu *et al.* (2006)<sup>[11]</sup> used option pricing method to price the liquidity for the reform of non-tradable shares. In addition, Xu & Wu (2007)<sup>[12]</sup> used the theory of "anchoring effect" in psychology to investigate the ways to set the compensation ratio and the determinants of compensation ratio.

Second, for the market reaction issue, Liao & Shen (2008)<sup>[13]</sup> used the Fama-French three factors model to examine the effect of the reform and found that the market's reaction to the reform was positive significantly and the more the consideration led to the larger the reaction, while the bigger the proportion of the first shareholder and the lower the check-and-balance of ownership would lead to the smaller the reaction, thus the future corporate control market had a positive impact on the interests of the shareholders. Huang & Tu (2009)<sup>[14]</sup> studied the relationship evolution between ownership structure and corporate performance pre and post the reform action. Their results showed that the listed companies' performances had been improved after the reform. The difference of the average performance between the groups of high and low state share proportion had decreased gradually, and the average performance in equity decentralization companies was improved faster than that in concentrated equity companies. Based on 1218 companies experiencing the reform, Chen & Wu (2008)<sup>[15]</sup> empirically studied the market reaction and the factors that affected the market reaction during the period of reform. Their results showed that there was significantly positive accumulated abnormal profit in reformed companies and the market reacted obviously to reformed companies in advance, and the market performance of reformed companies presented an obvious overreaction-amendment mode. Furthermore, the higher consideration ratio tradable share holders obtained and the higher tradable share holders supported the share reform plan would lead to the better reformed companies perform, but the corporation governance before reform and price to book value had no impacts on market performance.

Third, for the corporate governance, Liao & Zhang (2008)<sup>[16]</sup> constructed a "difference in difference" model by adopting the China's public-trade firms ultimately controlled by families and the analysis framework of pyramidal ownership. Their empirical results suggested that the reform indeed improved public-trade firms' governance and helped to remove the confliction between the ultimate controller's benefits and firm's valuation, regarding to those firms ultimately controlled by families. Adopting the principal component analysis, Liao *et al.* (2008)<sup>[17]</sup> further constructed the Corporate Governance Index and then analyzed the role of the split-share structure reform on Corporate Governance Index. They found that: the split-share structure reform had significantly improved the corporate governance of listed companies;

within the four dimensions of corporate governance, the split-share structure reform had the most notable influence on the controlling shareholder; those companies having the ultimate ownership of the state-owned shares and those companies having the concentrated ownership had a larger improvement on corporate governance; considering the stage of the split-share structure reform, after they controlled the self-selection of the sample, they found the effects of the reform were gradually manifested, those companies implemented the reform had a bigger improvement on corporate governance than those companies that hadn't implemented it.

To summarize, as a fundamental institutional breakthrough, the non-tradable shares reform has indeed played an active role in corporate performance and governance. But how would the reform behave upon changing in use of the proceeds from refinancing is still an open issue and yet need to be studied.

Hence, we first construct a Probit model to empirically test the relation between the non-tradable shares reform and the probability of changing in use of the proceeds from refinancing using the refinancing records data from January 15, 2002 to June 4, 2009, then we adopt an alternative binary-choice model, Logit model, to perform further robustness checks. After controlling for the external factors including the firm size, liquidity ration and main business's increasing rate of income, we find that, based on forming a mutual benefit foundation between large shareholders and outside minority shareholders regarding the share price and market value of the companies, the non-tradable shares reform does mitigate the motive of changing in use of proceeds from refinancing. Our findings shed light on the importance and necessity of non-tradable shares reform. To the best of our knowledge, we are the first attempt to explore the relation between the non-tradable shares reform and the probability of changing in use of the proceeds from refinancing, thus contribute to the literatures both on non-tradable shares reform and changing in use of the proceeds areas.

The remainder of the paper is organized as follows. Section 2 develops the hypothesis to be tested. Section 3 describes the data used in the study and includes sample summary statistics. Section 4 presents the empirical results. Section 5 provides robustness checks, and Section 6 concludes.

## 2 Development of Hypothesis

As we discussed above, before the reform, the unique non-tradable shares structure in China stock market could not guarantee a unanimous platform for benefits sharing between the illiquid large shareholders and liquid minority shareholders. It forces the large shareholders care less about the company fundamentals and improvements of their management, and have more incentive to manipulate the allocation of the resources towards their personal

private benefits of control and deviate from the interests of the outside minority shareholders by changing the use of proceeds or exercise other defacto expropriations through the pursuit of investment projects or objectives that are not profit-maximizing in return for their own utilities. However, all these situations change after non-tradable shares reform. After non-tradable shares reform, the stock price acts as an effective corporate governance device for the large shareholders since they would care more about the stock price. Therefore, we expect that after non-tradable shares reform, the probability of changing in use of the proceeds from refinancing would be significantly smaller than that before the reform. Formally, our hypothesis is: *non-tradable shares reform decreases the probability of changing in use of the proceeds from refinancing.*

## 3. Sample Selection and Data

Our primary data source are Wind Financial Database and CCER (China Center for Economic Research) China Economic Research Database. They are both the leading financial data and financial software providers in Mainland China, and record the whole development process of Chinese stock market in an objective and accurate way. We extract and merge the data of the change in use of proceeds from refinancing with firm's financial data for the firms listed on Shanghai and Shenzhen Stock Exchange (excluding B shares) from Wind Financial Database and retrieve SOEs and PEs data from CCER China Economic Research Database. We select January 15, 2002 to June 4, 2009 as the refinancing period for analysis, and January 1, 2001 to December 31, 2008 as the financial data period to match the refinancing data.

We notice that the private placement has been included into the public offerings sample in the databases, so there are only three refinancing ways in our sample, i.e., convertible bonds, public offerings (containing private placement), and right issues. Since one company could announce more than one projects at the same date and some of which would change the use of proceeds while others not, we identify them as one change record provided that at least one of the projects change.

After some preliminary treatments, similar to other empirical finance researches, we delete 24 refinancing records (based on our identification method for change) of financial companies according to the industries classification standards set by China Securities Regulatory Commission (CSRC). Table 1 shows that we finally have 572 records for full sample, 389 records for SOEs sample and 183 records for PEs sample, respectively.

Table 2 compares the change in use of proceeds before and after non-tradable shares reform. It is easy to see that, the percentages of change in use of proceeds all decrease after the reform, which implies that at least at the descriptive level, the non-tradable shares reform has dem

onstrated its power to mitigate the motive of changing in use of proceeds from refinancing.

**Table 1. Summary of samples for formal econometrics test**

	Total	Unchanged	Changed
All	572	439	133
SOEs	389	303	86
PEs	183	136	47

**Table 2. Comparison of Change in Use of Proceeds before and after non-tradable shares reform**

	Changed after NTSR(%)	Changed before NTSR(%)
All	18.80%	33.53%
SOEs	18.01%	30.47%
PEs	20.29%	42.22%

Note: SOEs refers to State Owned Enterprises; PEs refers to Private Enterprises; NTSR refers to Non-tradable Shares Reform.

## 4 Empirical results

We perform following Probit regression to examine the relations between non-tradable shares reform and the probability of changing in use of the proceeds from refinancing in China stock market:

$$Change\_Dummy_{ijt} = c + \alpha_1 NTSR\_Dummy_{ijt} + \alpha_2 \ln Asset_{ijt} + \alpha_3 LR_{ijt} + \alpha_4 IG_{ijt} + \varepsilon_{ijt}$$

where, for refinancing announcement  $i$  of firm  $j$  occurred in year  $t$ ,

$$Change\_Dummy_{ijt}=1$$

when the use of proceeds from refinancing was changed, and 0 otherwise;

$$NTSR\_Dummy_{ijt}=1$$

when the refinancing announcement date was after the accomplishment date of the non-tradable shares reform, and 0 otherwise;

$\ln Asset_{ijt}$  = (firm size) the natural logarithm of the total assets at the end of year  $t-1$ ;

$LR_{ijt}$  = the liquidity ratio at the end of year  $t-1$ ;

$IG_{ijt}$  = the main business's increasing rate of income of year  $t-1$ ;

$\varepsilon_{ijt}$  = error term.

Following Liu & Dai (2004), we expect that the larger firm size will increase the firm's capacity of bearing outside risks and consequently decrease the probability of changing in use of the proceeds from refinancing. We also expect that the firm with higher liquidity ratio would have lower probability for using the proceeds for liquidity compensation, thus have a lower probability of changing in use of the proceeds from refinancing. In addition, the main business's increasing rate of income re-

flects the firm's potential capacity of growth and investments opportunities. The firm with higher main business's increasing rate of income would have a larger and timelier demand for the proceeds, thus leading to a lower probability of changing in use of the proceeds from refinancing. Since these three variables represent a firm's fundamental information, we include them to control for the external factors that the large shareholders may take into account when making decisions on use of proceeds.

Table 3 presents the Probit regression results estimated for the sample period. To mitigate a potential heteroskedasticity problem, Huber/White standard errors and covariance are estimated for computing test statistics.

**Table 3. Non-tradable shares reform and the probability of changing in use of the proceeds from refinancing: full sample**

Variables	Model 1
$C$	2.063 (1.918)*
$NTSR\_Dummy$	-0.395 (-3.171)***
$\ln Asset$	-0.117 (-2.372)**
$LR$	0.001 (0.008)
$IG$	-6.22E-06 (-0.587)

Note: Huber/White heteroskedasticity-consistent z statistics are reported in the parentheses. \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% level, respectively.

The full sample results show that the coefficients of NTSR Dummy are all negative and statistically significant at the 1% level, showing a very strong test power. This result confirms our conjectures that non-tradable shares reform does decrease the probability of changing in use of the proceeds from refinancing.

We also notice that, as expected, the coefficients of  $\ln Asset$  are negative and statistically significant at the 5% level. By contrast, the coefficients of  $LR$  and  $IG$  are both statistically insignificant. Furthermore, the signs of the coefficients of  $LR$  consistently contradict our expectation. This indicates to some extent that the large shareholders actually change the use of the raised capital on the ground of other factors rather than the fundamental information related to the company.

## 5 Tests of Robustness

We next perform a few robustness checks. We employ an alternative binary choice model, i.e., Logit model, to perform the regressions to account for the model specification effects. Tables IV exhibits the Logit regression results. It is obvious that all the implications above still hold.



Table 4. Full Sample: Logit model

Variables	Model 2
<i>C</i>	3.377 (1.840)*
<i>NTSR_Dummy</i>	<b>-0.674</b> <b>(-3.228)***</b>
<i>lnAsset</i>	-0.191 (-2.278)*
<i>LR</i>	0.008 (0.063)
<i>IG</i>	-1.38E-05 (0.457)

In summary, the preceding results support our hypothesis that non-tradable shares reform decreases the probability of changing in use of the proceeds from refinancing. We also find the coefficients of LR and IG in are both statistically insignificant and the coefficients of *lnAsset* are not totally consistent in various samples, which may imply that the large shareholders change the use of the raised capital on the ground of other factors rather than the fundamental information related to the company.

## 6 Conclusions

We use a Probit model to empirically examine the relation between the non-tradable shares reform and the probability of changing in use of the proceeds from refinancing employing the refinancing records data from January 15, 2002 to June 4, 2009, then we adopt an alternative binary-choice model, Logit model, to perform further robustness checks. After controlling for the external factors including the firm size, liquidity ration and main business's increasing rate of income, we find that, based on forming a mutual benefit foundation between large shareholders and outside minority shareholders regarding the share price and market value of the companies, the non-tradable shares reform does mitigate the motive of changing in use of proceeds from refinancing. Our findings further confirm the importance and necessity of non-tradable shares reform.

## References

[1] Li X, Bo H, Huang Z. Changes in the use of Proceeds from

- Rights Issues: Evidence from Chinese Listed Firms. Working paper, Chinese Economic Association (UK) 2008 Conference, Available from <http://www.ceauk.org.uk/2008-conference-papers/Hong-Bo-Xuelian-fp.pdf>.
- [2] Li Z, Sun Z, Wang Z. Tunneling and Ownership Structure of a Firm: Evidence from Controlling Shareholder's Embezzlement of Listed Company's Funds in China. *Accounting Research*, 2004, 12: 3-13.
- [3] Li Z, Yu Q, Wang X. Tunneling, Propping and M & A: Evidence from Chinese Listed Companies. *Economic Research Journal*, 2005, 1: 95-105.
- [4] Zhang W, Zhai C. On the Motive of Changing Investment Projects of Rising Money through Public Offering. *Accounting Research*, 2005, 7: 19-24.
- [5] Yang X. An Empirical Study on the Market Reasons of the Alternation of Financing Capital from the Listed Companies. *Journal of Wuhan Polytechnic University*, 2003, 22 (3): 84-87.
- [6] Fan X, Zhang H. Empirical Study on the Alteration of Financing Capital's Use from the Listed Companies in China. *Social Sciences in Xinjiang*, 2008, 4: 14-18.
- [7] Chen M. The Investment of Raised Capital's Influence on Operating Performance-the Evidence from Listed Corporations. *Communication of Finance and Accounting (Academy Version)*, 2007, 11: 117-120.
- [8] Liu S, Dai W. Research on Change of Committed Investment Project of Listed Company in China. *Economic Research Journal*, 2004, 5: 88-97.
- [9] Wu C, Zheng F, Lin Z, Li W, Wu S. A Theoretical and Empirical Study on What Affect Consideration Ratio For Split Share Structure Reform of Listed Companies in China. *Economic Research Journal*, 2006, 8: 14-23.
- [10] Zheng Z, Sun Y, Tan S, Jiang D. Consideration Determination in the Split-share Structure Reform and the Examination of the Effectiveness of Corporate Governance Mechanisms in China's Listed Companies. *Economic Research Journal*, 2007, 7: 96-109.
- [11] Zhu X, Bao B, Yang Y. Share Splitting Reform and Pricing of Liquidity. *Accounting Research*, 2006, 2: 87-92.
- [12] Xu N, Wu S. A Study on Anchoring Effect for Non-tradable Share Reform of Listed Companies in China. *Economic Research Journal*, 2007, 1: 114-125.
- [13] Liao L, Shen H. Fama-French Three Factors Model and the Effect of the Split-share Structure Reform. *Journal of Quantitative & Technical Economics*, 2008, 9: 117-125.
- [14] Huang J, Tu M. Analysis on the Relationship of Ownership Structure and Corporate Performance pre and post the Reform Action for Split shares Structure. *Journal of Shanghai Jiaotong University*, 2009, 43(4): 602-605.
- [15] Chen B, Wu C. Empirical Study on Market Reaction of Non-tradable Shares Reform in China. *Journal of Shanghai University of Finance and Economics*, 2008, 10(6): 72-79.
- [16] Liao L, Zhang X. Split-Share Structure Reform and Interests of Private Ultimate Controllers-Evidences from China's Public-Trade Firms. *Economic Research Journal*, 2008, 8: 77-89.
- [17] Liao L, Shen H, Li J. An Empirical Study of the Split-share Structure Reform and Corporate Governance. *China Industrial Economics*, 2008, 5: 99-108.