

THE UNIVERSITY OF HULL

**An Empirical Analysis of IPOs and SEOs: Evidence From the
Chinese Stock Markets**

This thesis is submitted for the degree of Doctor of Philosophy in

Finance

at the University of Hull

by

Tianxiang Xu

July 2014

Abstract

Initial Public Offerings (IPOs) have drawn much attention among financial economists recently. However, gaps still exist and more empirical research is warranted, especially for immature stock markets, such as China. This research mainly concentrates on the aspects of “Credit rating effect on IPOs and SEOs”, ‘Complicated IPO allocation mechanisms’ and ‘Links between IPOs and SEOs, and SEOs motivations’ in the Chinese case using data from 1990 to 2011, which covers the entire history of the Chinese stock market development.

First of all, this thesis confirms that the presence of credit rating is able to reduce information asymmetry and lower the IPO/SEO underpricing level no matter the rating is from the Chinese domestic rating agency or top three international rating agencies (S&P, Fitch and Moody’s), where the so-called ‘Non-creditable rating’ system does work in Chinese case. Further, this thesis proves additional evidence that multiple credit ratings’ presence can lower the IPO/SEO underpricing level. What is more, this research confirms that what matters on IPO/SEO underpricing is not only the presence of credit rating, but also the level of credit rating. In order to analyse the credit-rating effect, this thesis has also divided sample into four sub-samples based on a pricing model in China and provides additional results that credit-rating presence is only able to reduce information asymmetry in time periods two and three for IPO, but the presence of credit rating can lower underpricing for SEO in all time periods.

Secondly, we examine the determinants of the allocation mechanism choice and the how effective each allocation mechanism is in reducing the IPO underpricing for the Chinese market. Our results show that among the several IPO allocation mechanisms in China,

the “bookbuilding” (BB) is most effective in reducing the underpricing level, and that the market conditions, firm’s risk level, information asymmetry and capital demand all play important roles in the choice of the IPO allocation mechanism. Our results also attest that firms with larger board size and or a higher proportion of legal persons sharing ownership are less likely to use the BB allocation mechanism. A higher proportion of tradable shares is negatively associated with the likelihood of using BB allocation mechanism, and the short-term and the long-term performance of IPOs vary significantly across the allocation mechanisms.

Thirdly, regarding the link between IPOs and SEOs, the results provide new evidence that firms do underpricing IPOs as strategy and will compensate the loss from following SEOs with higher price and larger sizes. Additionally, this thesis also captures the link between the IPO and SEO effect in different time lengths (doing SEOs within 12 months, 24 months, 36 months and more than 36 months after IPOs). The thesis confirms corporate governance can influence SEO decisions as well. Incentives of SEOs in the Chinese case also be evaluated in this thesis.

All our results in the thesis provide empirical evidence of difference areas about IPO and SEO in the Chinese case, and the results can be used as references directly in the real world.

JEL: G11, G14, G24, G32; G34, G38.

Keywords: Underpricing, Allocation mechanism, Corporate governance, Credit rating.

Acknowledgement

I would like to show my special thanks and gratitude to my first supervisor Dr Yilmaz Guney from Business School of University of Hull. He has given me priceless help, guidance and encouragement during my Ph.D. Additionally, Dr Yilmaz Guney has also been very helpful for my future career plan. I would not be able to finish my Ph.D. successfully without his help and supervision. Dr Yilmaz Guney is so patient whenever I need help. I also would like to say great thanks to Dr Alcino Azevedo, my second supervisor; his suggestions and commands made my research easier, and I also get some teaching experience from Dr Alcino Azevedo. I shall never forget Professor Aydin Ozkan and Dr Liang Han and the help they gave me when I was applying for my Ph.D. Another person I feel very grateful to is Dr Dimitrios Gounopoulos from the University of Sussex. He helped me promote the depth of my research a lot. Also thanks to Professor Michalis Makrominas and the feedback for my research during the multinational finance society conference in 2013. Also, I would like to thank Professor Ranko Jelic and Professor Robert Hudson to be my examiner and provide many useful commands for my researches. More importantly, I must show my most and deepest thanks to my family; thanks for their support for everything about me. My father, mother, older brother and sister, they gave me lots of suggestions when I struggled. Additionally, thanks to the Business School of Hull University for the amazing research environment.

Finally, Thanks for the feedbacks from 2014 FMA European Conference, World Finance Conference, Financial Engineering and Banking Society Conference, 21st Annual Global Finance Conference, 21st Annual Conference of the Multinational Finance conference and Portuguese Finance Network .

Table of Contents

| | |
|--|----|
| Abstract | 1 |
| Acknowledgement..... | 3 |
| 1 Introduction | 1 |
| 1.1 Background..... | 1 |
| 1.2 Reasons for choosing China | 5 |
| 1.3 Aims and Scope of this research..... | 6 |
| 1.4 Research Questions/ Hypotheses..... | 8 |
| 1.5 Motivations of the hypotheses | 10 |
| 1.6 Contributions of this research..... | 12 |
| 1.7 Findings | 14 |
| 1.8 Thesis layout..... | 16 |
| 2. Introduction of the Chinese stock market and economic development | 17 |
| 2.1 Chinese stock market introduction | 17 |
| 2.1.1 Requirements of firms going public in China..... | 18 |
| 2.1.2 Structure of listing firms in China..... | 19 |
| 2.1.3 Type of shares in Chinese stock market | 20 |
| 2.1.4 Pricing model of shares in the Chinese stock market | 21 |
| 2.1.5 IPO quota in the Chinese stock market | 22 |
| 2.1.6 IPO listing process | 24 |
| 2.1.7 Changes in the Chinese stock market..... | 24 |
| 2.2 Economic developments in China | 25 |
| 3 Literature Review of IPOs and SEOs..... | 28 |
| 3.1 Valuing IPOs..... | 28 |
| 3.2 IPO underpricing | 30 |

| | |
|--|----|
| 3.2.1 The winner's curse hypothesis | 30 |
| 3.2.2. The costly information acquisition hypothesis | 31 |
| 3.2.3 The cascades hypothesis | 32 |
| 3.2.4 The investment banker's monopsony power hypothesis..... | 33 |
| 3.2.5 The signalling hypothesis..... | 34 |
| 3.2.6 The regulatory constrain hypothesis | 35 |
| 3.2.7 The ownership dispersion hypothesis | 35 |
| 3.2.8 The market incompleteness hypothesis..... | 36 |
| 3.2.9 The prospect hypothesis | 36 |
| 3.2.10. Lawsuit avoidance hypothesis..... | 37 |
| 3.3 Long term performance | 38 |
| 3.3.1 The agency cost hypothesis..... | 40 |
| 3.3.2 Earning management hypothesis | 40 |
| 3.3.3 The window of opportunity hypothesis..... | 41 |
| 3.3.4. The impresario hypothesis | 42 |
| 3.3.5 The divergence of opinion hypothesis | 43 |
| 3.4 Hot issue markets..... | 43 |
| 3.5 Investors Information | 44 |
| 3.6 Corporate Governance and IPOs and SEOs | 46 |
| 3.7. Earnings management for IPOs and SEOs | 47 |
| 4. Credit rating effects on IPOs and SEOs | 49 |
| 4.1. Introduction | 49 |
| 4.2. Literature review..... | 53 |
| 4.2.1. Growth opportunities, market timing and underpricing..... | 54 |
| 4.2.2. Asymmetric information and underpricing | 55 |
| 4.2.3. Governance reforms, regulatory interventions and underpricing | 56 |

| | |
|---|-----|
| 4.2.4. Price discovery, signalling theory and underpricing | 57 |
| 4.2.5. Credit rating and underpricing | 58 |
| 4.3. Chinese Credit Rating Framework | 59 |
| 4.3.1 Chinese Framework on Credit Ratings | 60 |
| 4.3.2. Credit Rating Development in China..... | 61 |
| 4.3.3 Credit rating Problems in China (Non-creditable system)..... | 62 |
| 4.4. Hypotheses development..... | 62 |
| 4.5. Sample and Data..... | 64 |
| 4.5.1. Sample selection criteria | 64 |
| 4.5.2. Sample statistics | 65 |
| 4.6. Empirical Analysis..... | 82 |
| 4.6.1. Regression models | 82 |
| 4.6.2. Regression results | 87 |
| 4.7. Dagong rating and multiple international ratings | 94 |
| 4.7.1 Dagong and western ratings..... | 94 |
| 4.7.2 The effect of fourfold credit rating..... | 97 |
| 4.7.3. Level of Underpricing and Credit Rating Levels..... | 100 |
| 4.8. Discussion..... | 104 |
| 4.9. Additional Robustness Checks | 104 |
| 4.9.1. Investment Grade vs Speculative Grade firms..... | 105 |
| 4.9.2. Effect of rating for different time periods | 108 |
| 4.9.3. Endogeneity Control | 112 |
| 4.10. Conclusion | 119 |
| 5. Effectiveness, Determinants and Performance of Different IPO Allocation Mechanisms | 121 |
| 5.1. Introduction | 121 |

| | |
|---|-----|
| 5.2. Literature review..... | 129 |
| 5.2.1. Effectiveness of allocation mechanism..... | 129 |
| 5.2.2. Determinants of different allocation mechanism choices..... | 131 |
| 5.3. Allocation mechanism in Chinese stock market..... | 134 |
| 5.4. Hypothesis Development..... | 135 |
| 5.4.1. Allocation mechanism efficiencies..... | 135 |
| 5.4.2. Firm age..... | 136 |
| 5.4.3. Market capitalization..... | 137 |
| 5.4.4. Market to book ratio based on IPO offering price..... | 137 |
| 5.4.5. Proportion of public tradable shares..... | 138 |
| 5.4.6. Market conditions..... | 139 |
| 5.4.7. Corporate governance..... | 140 |
| 5.4.8. Control variables..... | 145 |
| 5.5. Data and Method..... | 146 |
| 5.6. Descriptive analysis..... | 148 |
| 5.7. Regression Results..... | 155 |
| 5.7.1. The effectiveness of each allocation mechanism..... | 155 |
| 5.7.2. The determinants of allocation mechanism..... | 159 |
| 5.7.3. Industry factor effect on the choice of allocation mechanism..... | 165 |
| 5.7.4. Short term and long term performance for different allocation mechanism..... | 177 |
| 5.8. Conclusion..... | 182 |
| 6. The link between IPOs and SEOs and factors affecting SEO issues..... | 185 |
| 6.1 Introduction..... | 185 |
| 6.2 Literature review..... | 192 |
| 6.2.1 Relationship between IPO and SEO..... | 192 |
| 6.2.2 Incentives of SEO..... | 196 |

| | |
|---|-----|
| 6.3 Hypothesis development..... | 201 |
| 6. 4 Methods and data..... | 205 |
| 6.4 Descriptive Analysis | 213 |
| 6.5 Empirical results | 222 |
| 6.5.1 Time duration Between IPO and First SEO | 222 |
| 6.5.2 SEO relative size | 228 |
| 6.5.3 SEO underpricing and the link with IPO | 230 |
| 6.5.4 Incentives of firm’s first SEO | 232 |
| 6.6 Additional Robustness Checks | 235 |
| 6.6.1 Multicollinearity..... | 235 |
| 6.6.2 Endogeneity Control | 235 |
| 6.7 Conclusion..... | 245 |
| 7 Summary and concluding remarks..... | 247 |
| 7.1 Summary of findings | 247 |
| 7.2 Recommendations | 251 |
| 7.2.1 Recommendations for managers | 251 |
| 7.2.2 Recommendations for policy makers..... | 252 |
| 7.2.3 Recommendations for investors..... | 253 |
| 7.3 Limitations of this research | 254 |
| 7.4 Future researches | 255 |
| 7.4.1 Future research suggestions | 255 |
| 7.4.2 Future researches..... | 255 |
| References | 257 |
| Appendix | 269 |

List of Table

| | |
|---|-----|
| Table 1: IPO underpricing worldwide..... | 4 |
| Table 4.1.A: Ratings sample breakdown for Chinese IPOs and Privatisation IPOs..... | 66 |
| Table 4.1 B: Ratings sample breakdown for SEOs..... | 68 |
| Table 4.2 A: Rating Grade for Chinese IPOs (1990 – 2011)..... | 70 |
| Table 4.2 B: Rating Grade for Chinese SEOs (1990 – 2011)..... | 71 |
| Table 4.3.1 A: Summary Statistics for Chinese IPOs for the main variables..... | 75 |
| Table 4.3.1 B: Summary Statistics for Chinese Privatisation IPOs for the main variables..... | 76 |
| Table 4.3.2: Summary Statistics for Chinese SEOs for the main variables..... | 77 |
| Table 4.4 A: Distribution of IPOs Sample by Age, Size and Time Gap | 78 |
| Table 4.4 B: Distribution of SEOs Sample by Age, Size and Time Gap..... | 79 |
| Table 4.5: Comparison mean of market adjusted initial return | 80 |
| Table 4.6: Summary Statistic for IPO and SEO underpricing by Chinese Credit Rating..... | 81 |
| Table 4.7: Probability of having a credit rating from all rating agencies..... | 88 |
| Table 4.8 A: Single rating agency effect on IPO market -adjusted initial returns..... | 90 |
| Table 4.8 B: Single rating agency effect on SEO market -adjusted initial returns | 92 |
| Table 4.9 A. Dagong and Multiple international Credit Rating Agencies Effect on IPO Underpricing..... | 95 |
| Table 4.9 B. Dagong and Multiple international Credit Rating Agencies Effect on SEO Underpricing..... | 96 |
| Table 4.10 A: Multiple (four) Credit Rating Agencies Effect on IPO Underpricing..... | 98 |
| Table 4.10 B: Multiple (four) Credit Rating Agencies Effect on SEO Underpricing..... | 99 |
| Table 4.11 A: Effects of the Grade of Ratings on IPO Underpricing..... | 102 |
| Table 4.11 B: Effects of the Grade of Ratings on SEO Underpricing..... | 103 |
| Table 4.12 A: Regressions on the Level of Underpricing based on the Investment Grade for IPO..... | 106 |
| Table 4.12 B: Regressions on the Level of Underpricing based on the Investment Grade for SEO | 107 |
| Table 4.13 A: The effect of Chinese rating agencies on IPO underpricing..... | 110 |
| Table 4.13 B: The effect of Chinese rating agencies on SEO underpricing..... | 111 |
| Table 4.14 : Multiple Credit Rating Agencies Effect on IPO and SEO Underpricing..... | 114 |
| Table 4.15 A: Multiple (four) Credit Rating Agencies Effect on IPO Underpricing..... | 115 |
| Table 4.15 B: Multiple (four) Credit Rating Agencies Effect on SEO Underpricing..... | 116 |
| Table 4.16 A: Endogeneity control for credit rating level (IPO)..... | 117 |
| Table 4.16 B: Endogeneity control for credit rating level (SEO)..... | 118 |
| Table 5.1: Descriptive statistic result | 151 |
| Table 5.2: Statistic summary of each allocation mechanism and the underpricing level by stock exchange market and listing year..... | 152 |
| Table 5.3: Correlation of each variable..... | 153 |
| Table 5.4: Basic statistic for different IPO allocation mechanisms..... | 154 |
| Table 5.5: Regression of allocation mechanism effect on IPO initial return (MAIR)..... | 158 |
| Table 5.6 A: Logit analysis of determination of different allocation mechanism without corporate governance..... | 162 |

| | |
|--|-----|
| Table 5.6 B: Logit analysis of determination of different allocation mechanisms with corporate governance..... | 163 |
| Table 5.7 A: Logit analysis of determination of different allocation mechanism for Manufacturing industry..... | 168 |
| Table 5.7 B: Logit analysis of determination with different allocation mechanism for non- manufacturing industry..... | 171 |
| Table 5.8: Distribution of firms for financial firms and non-financial firms under non-manufacturing category..... | 175 |
| Table 5.9: Logit analysis of determination of different allocation mechanism for non-financial firms..... | 176 |
| Table 5.10 A: Regression of short term and long term IPO performance with different allocation mechanism..... | 181 |
| Table 5.10 B: Regression of short term and long term IPO performance with Bookbuilding mechanism..... | 182 |
| Table 6.1: SEOs Breakdown in each year..... | 214 |
| Table 6.2: Industry distribution of Firm's first SEO..... | 215 |
| Table 6.3: Time Duration Between IPO and firm's first SEO..... | 216 |
| Table 6.4: Descriptive Statistics..... | 217 |
| Table 6.5: Correlation of each variable..... | 219 |
| Table 6.6: Correlation of each variable used in the motivation of SEO test..... | 221 |
| Table 6.7: OLS test of determination of Time duration between IPO and first SEO..... | 224 |
| Table 6.8: Probability of firm doing first SEO within different time periods after IPO..... | 227 |
| Table 6.9: IPO influence on first relative SEO size..... | 229 |
| Table 6.10: IPO influence on first SEO underpricing..... | 231 |
| Table 6.11: Motivation of firm doing first SEO within different time period after IPO..... | 234 |
| Table 6.12: Endogeneity Control for IPO underpricing on time duration between IPO and first SEO..... | 237 |
| Table 6.13: Endogeneity Control for IPO underpricing for Probability of firms doing first SEOs within different time periods after IPOs..... | 240 |
| Table 6.14: Endogeneity Control for IPO underpricing on determination SEO relative size..... | 241 |
| Table 6.15: Endogeneity Control for IPO underpricing on SEO underpricing..... | 242 |
| Table 6.16: Endogeneity Control for IPO underpricing for motivation of firm doing first SEO within different time periods after IPO..... | 244 |

List of Figure

| | |
|--|-----|
| Figure 1.1: Chinese IPO and SEO volume from 1990 to 2011..... | 2 |
| Figure 1.2: Chinese privatisation IPO and State-owned IPO from 1990 to 2011..... | 2 |
| Figure 2: Chinese IPO underpricing breakdown of each year from 1990 to 2011..... | 4 |
| Figure 4.1. IPO Underpricing in Different Time Periods (From 1990 to 2010)..... | 74 |
| Figure 4.2. SEO Underpricing in Different Time Periods (From 1990 to 2010)..... | 74 |
| Figure 6.1: SEO distribution each year..... | 214 |
| Figure 6.2: SEOs distribution in different industry..... | 215 |
| Figure 6.3: Time Duration between IPO and firm's first SEO..... | 216 |

1 Introduction

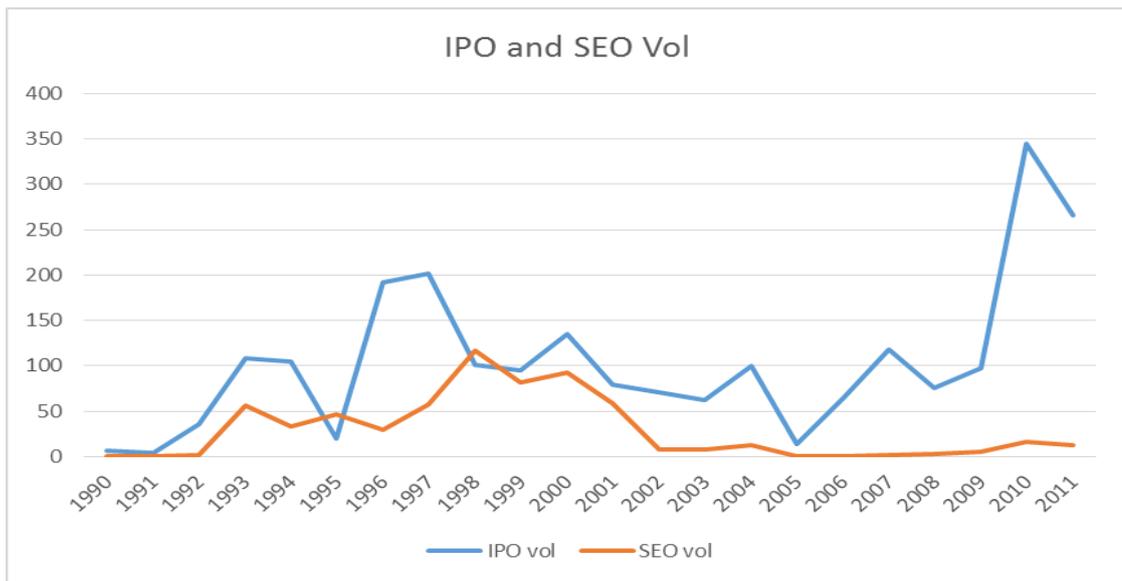
1.1 Background

Since Chinese stock markets were established in Shanghai and Shenzhen in 1990 and 1991 respectively, more than 2,000 firms were going public through Initial Public Offerings (IPOs) and more than 600 Seasonal Equity offerings (SEOs) were done until the end of 2011. All of these numbers indicate how active Chinese stock market is. Figure 1 shows the volume of IPO in the Chinese stock market each year from 1990 to 2011, and it indicates that the IPO volume has been significantly increasing since the stock market was established; especially there has been a dramatic increase from 2009 to 2010. However, since China is still a developing country, immature policy and market environment exist and are influencing this country's stock market (Chenug, Ouyang and Tan, 2009). Several facts can indicate how this immature stock market is different and unique from others, for instance, relatively higher level of IPO underpricing, long waiting time of IPOs, state-owned enterprises, complicated allocation mechanisms, and different pricing models in different time periods.

One of the most noticeable features for Chinese stock market would be the high underpricing level. Within our research, the Chinese IPOs experienced a 149.03 per cent underpricing, which is consistent with other researches, such as Chen et al (2008), who evaluated China's A-shares using 1,394 IPOs between 1990 to 2005 and reported an underpricing level of 164.5 per cent; Datar and Mao also (1998) found the underpricing by 388 per cent during 1990-1996. The underpricing level is extremely high when comparing with other mature stock markets such as Australia, Canada, France, the United

States and Germany (See as Table 1.1). The uncommon higher underpricing level of the IPOs in China indicated that the Chinese stock market is not able to present firms' true value or there is greater information asymmetry existed. In addition to that, we also find the waiting time (time gap) between the first trading day and the announcement day is relatively longer in China than other countries, with a mean value of 112.08 days.

Figure 1.1: Chinese IPO and SEO volume from 1990 to 2011



Source: GTA database.

Figure 1.2: Chinese privatisation IPO and State-owned IPO from 1990 to 2011

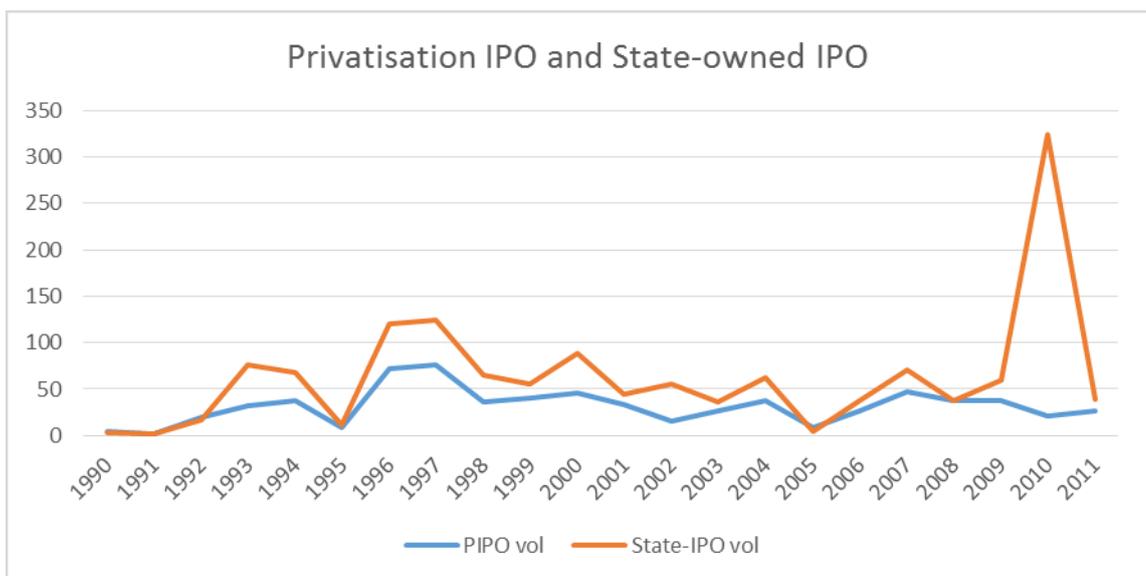


Figure 1.2 indicates the volume of total privatisation IPOs and partial privatisation IPOs¹, it shows that number of State-owned IPOs is experiencing a slightly floating from 1990 to 2009, and there is a significantly increase in 2010 to 2011. There is no dramatic change for the volume of Privatisation IPOs among 1990 till 2011, and the majority of IPOs issuing in Chinese stock market are belong to state-owned IPOs instant of privatisation IPOs. Figure 1.2 also presents that state-owned IPO is the principle part of Chinese stock market.

However, we are seeing several improvements of the Chinese stock market such as the underpricing levels and waiting time are reducing with time development. Figure 2 (blue line) indicates that the IPO underpricing in China has experienced a significant reduction from 234 per cent in 1990 to 13 per cent in 2011. Integrating with other factors, the Chinese stock market seems quite unique from others and draws the attention of many researches. In more detailed, Figure 2 also provides the underpricing for privatisation IPO and state-owned IPO. Figure 2 reports that the highly underpricing level of IPO from 1990 to 1992 is mainly constructed by extremely high level of initial return for state-owned IPO. Additionally, the Privatisation IPO experienced higher level of underpricing than State-owned IPO during the time period 1996 to 1999, this is also the time period the volume of Private IPOs is lower than state-owned IPOs (see as Figure 1.2). Overall, both privatisation IPOs and State-owned IPOs all experiencing a significantly decreasing of underpricing level. Within our research, we would like to investigate how this developing stock market performs differently from existing theories and other mature stock markets in IPO and SEO aspects. To be more specific, we focusing on the credit

¹ Since the Chinese stock market was created for state-owned enterprises to obtain more capital from investors, a large amount of firms listing on the stock market are state-owned enterprises. For these state-owned enterprises, the shares held by government are non-tradable, even after firms have gone public. Therefore, we call these firms partial privatisation IPOs or state-owned IPOs. IPOs with no state-owned shares are called Total privatisation IPOs (PIPOs).

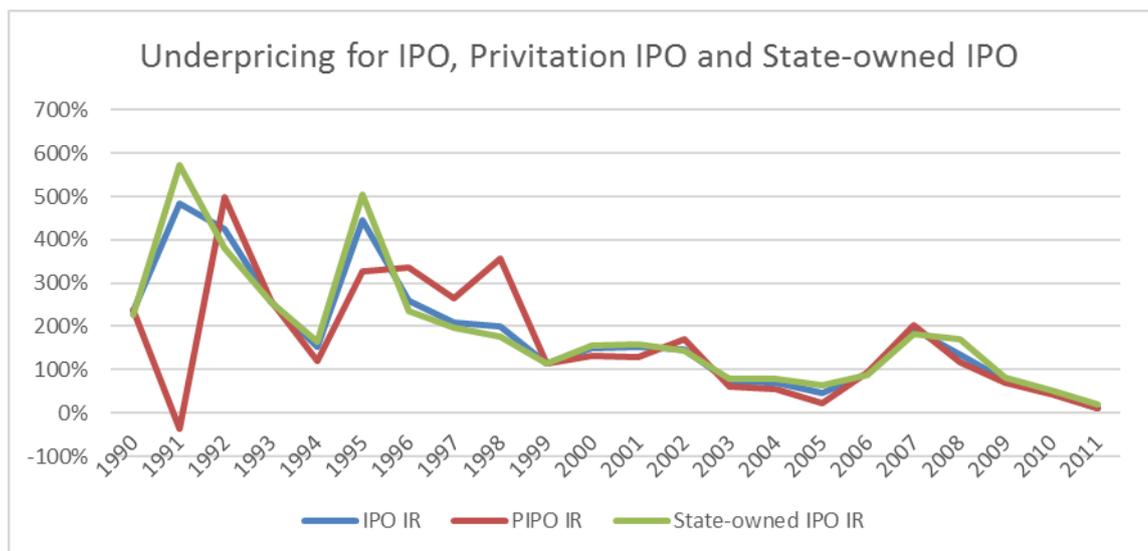
rating effect on IPO underpricing, allocation mechanisms of IPO and how IPO characteristics can influence SEO in term of timing, underpricing, size, etc.

Table 1: IPO underpricing level worldwide

This table provides different countries' underpricing level with different sample periods.

| Country | Author | Sample Period | N | IPO underpricing |
|-------------|------------------------------------|---------------|-----|------------------|
| Australia | Dimovski and Brooks (2008) | 1994 - 2004 | 114 | 13.30% |
| Belgium | Engelen (2003) | 1996 - 1999 | 33 | 14.32% |
| Canada | Boabang (2005) | 1990 - 2000 | 83 | 2.90% |
| China | Su and Fleisher (1999) | 1987 - 1995 | 308 | 948.60% |
| France | Chahine (2008) | 1997 - 2000 | 172 | 22.70% |
| Germany | Hunger (2003) | 1997 - 2002 | 435 | 42.34% |
| Israel | Hauser et al. (2006) | 1992 - 1996 | 94 | 10.40% |
| Japan | Kutsuna and Smith (2000) | 1995 - 1999 | 484 | 31.48% |
| Netherlands | van Hoeijen and van der Sar (1999) | 1980 - 1996 | 81 | 7.80% |
| Singapore | Hameed and Lim (1998) | 1993 - 1995 | 53 | 19.52% |
| Switzerland | Kunz and Aggarwal (1994) | 1983 - 1989 | 42 | 35.80% |
| UK | Hill and Wilson (2006) | 1991 - 1998 | 502 | 11.41% |
| US | Dolvin and Jordan (2008) | 2001 - 2004 | 390 | 10.99% |

Figure 2: Chinese IPO underpricing breakdown of each year from 1990 to 2011



Source: GTA database.

1.2 Reasons for choosing China

The reasons we choose China as our research target are complicated. First of all, China, as a developing country, has been experiencing an outstanding growth in recent years. A healthy and progressive economy can be beneficial for the entire world. Therefore, more researches about the Chinese stock market need to be done. The second reason we choose the Chinese stock market is because of the uncommon performance, such as the relatively higher underpricing level, complicated mechanism, longer IPO waiting time etc. Therefore, certain theories may not be suitable in the Chinese case and we would like to contribute to the literature about this fast developing stock market. Thirdly, government intervention (for instance, state-owned enterprises and IPO quota) is common in the Chinese stock market and this phenomenon only exists in this country. However, a healthy financial market should be the one without so many government interventions. Through our research, we will include several variables as proxy for government intervention and evaluate how these interventions will influence the IPO/SEO market. Fourthly, the policy of the Chinese stock market changed quite often. This can be seen from the fact that complicated allocation mechanisms were adopted and different pricing mechanism were applied. This unstable policy also makes this country's stock market different. Finally, China's stock market was established in the early 1990s, which is not a very long history. This give us the opportunity to cover all the firms listed on the Chinese stock market as samples in our research. A research covering all the time periods will give us comprehensive results, and to the best of our knowledge, no other research has been done for the Chinese case with a sample which covers the entire history of the Chinese stock market development so far.

1.3 Aims and Scope of this research

We focus mainly on three areas of the Chinese stock market. First, how credit rating can influence underpricing of IPOs and SEOs. Second, the determinants of allocation mechanisms in China. The last area of this research focuses on is how IPO characteristics can influence SEOs and what are the incentives of firms doing SEOs in the Chinese stock market. Our sample is from 1990 to 2011, which covers the entire history of the Chinese stock market development.

(1): The first thing this thesis focuses on is Credit rating. Credit rating is widely used in the Chinese financial market, from issuing debt, equity to insurance and it has played an increasing part recently. In China, several domestic credit rating agencies have been established, such as Dagong, Xinhua Far East. However, researches have stated that rating agencies in China are not able to reflect the real value of firms, therefore, different from other developed countries' rating systems, these firms rating information in China is not able to reduce information asymmetry, and the rating in China is called a 'Non-creditable system' (Bottelier, 2003; Lee, 2006). Within our research, we will analyse whether Chinese domestic rating agencies' rating information can reduce the information asymmetry and underpricing level with a different economic approach. Additionally, this research also includes multiple credit ratings (Chinese domestic rating agency and three other top international rating agencies: Moody, Fitch and S&P) and the different combinations of rating agencies effect on IPO underpricing.

(2): The second area this thesis focuses on is the China's complicated allocation mechanism. With time development, several allocation mechanisms were diversified in worldwide financial markets; however, the majority of the stock markets, such as the United States, United Kingdom and France, will only keep one or two allocation

mechanisms for firms to choose from. China, as a developing country, applied lots of allocation mechanisms compared with other countries, and even developed several mechanisms that only existed in China, such as the saving linkage mechanism. With so many choices of allocation mechanisms, interesting things would happen, and these things will be addressed in further parts within our research. We mainly focus on bookbuilding mechanisms, comparing with other allocation mechanisms widely used, or mechanisms that have been used in the Chinese stock market. In addition to that, we will fully concern about industry differences. Furthermore, corporate governance is prone to play important role in deciding which allocation mechanism to apply, however, this has not been paid much attention to by the academic world. Within this thesis, we would also like to investigate how corporate governance can contribute to allocation mechanism as well.

(3) The third area this thesis focuses on is the link between IPOs and SEOs, and the incentives of doing SEOs. SEOs are active in the Chinese stock market. According to Chen's (2004) research, Chinese listed firms are more willing to use equity as capital support and Chen developed a new "pecking order" theory for the Chinese case. However, using debt finance can have tax benefit for firm, this benefit seems be ignored by Chinese listing firms. Therefore, it would be very interesting to conduct research about SEOs in Chinese case. We mainly focus on the point of "how IPOs' characteristics can influences SEOs' decisions", this research mainly focuses on factors which occur on IPOs issuing days and how these IPO characteristics can influence SEO decisions in the term of SEOs' timing, size, underpricing and incentives of SEO. In order to make our research more robust and consistent, we analyse the links between IPOs and SEOs in different time durations (SEO within one year after IPO, SEO within two years after IPO, SEO within

three years after IPO and SEO more than three years after IPO). This enabled us to capture market reactions in different time periods. Additionally, corporate governance factors are also included in our analysis and this enables us to have a view of SEO decision on different aspects.

1.4 Research Questions/ Hypotheses

In order to make our research more focused, we developed more specific research questions for each of our topics (1: Credit rating influence on IPOs and SEOs underpricing; 2: The determinants of allocation mechanism; 3: The link between IPOs and SEOs and incentives of SEOs).

Regarding “Credit rating influence on IPOs and SEOs underpricing”, our research hypotheses are:

- (1) A): The presence of Chinese domestic credit ratings has no influence on lowering IPO underpricing in the Chinese IPO market.
B): The presence of Chinese domestic credit ratings has no influence on lowering IPO underpricing in the Chinese IPO market.
- (2) A): Chinese IPO firms rated by international CRA are less underpriced.
B): Chinese SEO firms rated by international CRAs are less underpriced
- (3) A): The level (not its presence) of credit rating has a significant effect on Chinese IPO underpricing level.
B): The level (not its presence) of credit rating has significant effect on Chinese SEO underpricing level

For “The determinants of allocation mechanisms”, the hypotheses in our research are:

- (1) Older firms are more likely to use a bookbuilding (BB) mechanism in China.

- (2) Firms with large market capitalisation are more likely to use the bookbuilding mechanism in China.
- (3) Firms with high market-to-book ratio based on the opening price on the IPO day are more likely to use the BB mechanism in China.
- (4) Firms with high ratio of public tradable shares are less likely to use the bookbuilding mechanism in China.
- (5) a): Firms are more willing to use a fixed price mechanism when there is higher market return in China.
b): Firms are more willing to use a fixed price mechanism when there is lower market volatility in China.
- (6) Firms with larger board size are more likely to use bookbuilding mechanism in China.
- (7) Firms with relatively more outsiders on the board are more likely to use bookbuilding allocation mechanism in China.
- (8) Firms with a higher proportion of legal personal shares are less likely to use the bookbuilding mechanism in China.
- (9) Firms with higher concentrated ownership are less likely to use the bookbuilding mechanism in China.

In our research about the link between IPOs and SEOs and incentives of SEOs, hypotheses are:

- (1) Highly underpriced IPOs are more likely to do their SEOs earlier in China.
- (2) Highly underpriced IPOs raise larger gross proceeds through their SEOs in China.
- (3) Firms with higher underpricing will exhibit lower first SEO returns in China.
- (4) Firms with higher M/B ratio are more likely to do SEOs in China.
- (5) Firms with higher leverage ratio are more likely to do SEOs in China.

A total of 17 hypotheses will be tested in this thesis. Hopefully, different results can be achieved to contribute to literature in the Chinese case.

1.5 Motivations of the hypotheses

After People Republic of China was established on 1949, Chinese government conducted several reforms, however, there is no significant improvement of Chinese economy because of lack of experience and lower education level in mainland of China. In 1978, the government made a major decision about “Reform and Opening Up” and the stock exchange market was established after 23 years following the “Reform and Opening Up” decision to provide additional capital sources for state-owned enterprises. The concept of stock market is a new words for Chinese investors and majority of them have no knowledge about shares, corporate governance, CEO, IPO etc. These investors were worried about the new investing option and require a high risk premium.

The Chinese stock market was established to aid “Reform” and “providing new capital source for state-owned enterprises”, and there are always risks that accompany reform. Therefore, in the early days of the reform and establishment of stock market, investors were worried about the possibility of the reforms being reversed leading to wealth loss, therefore, investors would require a high risk premium when they were engaged to participate in the stock market by government. Furthermore, Mok and Hui (1998) argue that investors were already allowed to invest in firms after the “Reform and Opening Up” policy but before the stock market was established, and the majority of investors received a relatively high level of profit at that time. Moreover, there were very limited investing opportunities for Chinese investors at that time. Therefore, the investors may have become over optimism about equity investment and the stock market, and this could have led to behavioural biases. Additionally, government owned institutions

would invest in certain privatisation IPOs, leading to further concerns that government may make the IPO underpriced and then try to gain benefit from investing in the IPO, or transfers wealth between different government agencies when investing in underpriced state-owned IPOs.

Another thing need to mention about Chinese IPO market is that the offering price is monitored by the China Securities Regulatory Commission (CSRC). In order to muster the enthusiasm of investors and to guarantee a full subscription, the offering price is set far below what the market is willing to pay. As a result, this creates massive speculation on IPOs when they are listed. This characteristics of Chinese stock market lead to uncommon performance and dramatic high level of underpricing of IPO during early stage of stock market development.

Further, majority of IPO shares are belong to government shares, which are held by the State Assets Management Bureau (SAMB), and legal entity shares, which are held by other state-owned enterprises. Chan, Wang, and Wei (2004) reports that 62% of shares is subscribed by SAMB and other state-owned enterprises, and this proportion is even higher when un-privatisation IPOs be listing. The underpricing of IPOs in China seems more like wealth transferring between different government agencies, and government agencies taking advantage of privatisation IPOs through making the IPOs underpricing.

Another characteristics of Chinese IPO market is that new issues reflect only a small percentage of outstanding shares. The majority of shares are still owned by the government or other legal entities. The retention of equity by the government has two opposing implication for IPO underpricing. When the state retains a high percentage of shares so that only a small percentage of shares are available to public investors, there could be more speculation so that returns on the first trading day would be higher. On

the other hand, a high percentage of shares being retained by the state may be equated with inefficient and low productivity, leading to fewer investors buying the new shares on the first trading day, so the initial return would be lower (Chan et al, 2004).

Motivated by the above points, this thesis tries to evaluate how other theories and stock activities could be performed in the Chinese stock market under such a unique situation. In more detail, the government intervention and the high level of underpricing forced by the government could lead to different results for the area of research on how credit rating is able to reduce the underpricing level, the effectiveness of the allocation mechanism that the most effective mechanism should be the one that generates the lowest level of underpricing, and the signalling theory.

1.6 Contributions of this research

Several contributions are made from this research. (1): The first one would be the sample size. To the best of our knowledge, no research has been done to cover the entire Chinese stock market developing history. Within our research, this thesis uses samples from 1990 to 31st December 2011 which starts from the point of the Chinese stock market being established. This allows us to provide deep and comprehensive results of the Chinese case in terms of how it changes over time and different characteristics in different time periods. This is the first contribution we shall make.

(2): Regarding the credit rating influence on Chinese IPOs and SEOs underpricing, our study is related to Poon (2003), Boot et al. (2006), Kisgen (2006), Liu and Malatesta (2007), An and Chan (2008), Poon et al. (2009), Avramov et al. (2009) and Avramov et al. (2013). The majority of these researches evaluate the relationship between credit rating and IPO outcomes, especially for IPO underpricing. They all found a negative

link between credit rating presence and IPO underpricing. However, being different from these extant studies, our paper employs a comprehensive sample of Chinese IPOs with ratings from top international and Chinese domestic rating agencies. Furthermore, we examine four sub-periods between 1990 and 2011 to see whether the nature of IPO underpricing varies across time periods. Our research also includes the state/government ownership into the analysis, which is ignored by most studies. Unlike other papers that focus on a single rating, we examine both the effect of single and multiple ratings on IPO underpricing, (such as rating just from the China domestic market, rating just from international top rating agencies, and firms receiving ratings from all four rating agencies we selected in our research). Therefore, we offer new evidence on the associated relationships. Robust econometric approaches are applied to control for the endogeneity problem and sample selection bias. Several researches indicate that credit ratings in China belong to a non-creditable system, which is not expected to affect IPO pricing. However, they were not able to provide any support or empirical evidence for this statement, nor did they mention its direct effect on IPOs. Our research will explore how this so-called non-creditable system influences Chinese IPOs' underpricing.

(3): For the determinants of allocation mechanism, the main contribution is based on investigating IPO allocation mechanisms from corporate governance aspect and different industries effects. Allocation mechanism, as a critical issue in IPO processing, is prone to be influenced by corporate governance factors. To the best of our knowledge, no other research has examined this aspect of the IPO allocation mechanism; thus, this research could fill this gap in the literature. In addition, we examine if there are different patterns for IPO allocation mechanism decisions in manufacturing and non-manufacturing industries. This study also considers the IPO performance in the

short-term and long-terms across different allocation mechanisms, which is ignored by the majority extant studies.

(4): Finally, we address the relationship between IPOs and SEOs, and the incentives of firms issuing seasonal equity offers. Although several researches mention the Chinese seasonal equity offering (Chen and Wang, 2007; Fonseka, Samarakoon and Tian, 2012; Bo, Huang, Wang et. al., 2011), few of them conduct any empirical researches about how IPOs can influence SEO decisions. Therefore, we would like to fill-in this gap and contribute to literature in the Chinese case. Different from existing studies that concentrate on variables prior to SEOs and examine how these variables can influence SEO, our research, in a more specific way, is more focused on how IPO characteristic can influence SEO decisions in terms of timing, size, and underpricing level. This research is related to signalling theory, information asymmetry theory and agency theory, and will contribute to literature by way of concentrating on IPO influence on SEO. Additionally, corporate governance will also be included in our analysis as a main control variable because corporate governance plays a critical role in affecting listing firms' decisions; however, this aspect has always been ignored by researches. Different time duration between IPOs and SEOs will be applied in our research and this enables us to capture the market reaction of SEO and the link between IPO and SEO in a consistent way. Another worth-mentioning contribution of our research is concerning about macroeconomic factors. Our results show a significant relationship between GDP growth rate and SEO decision. This could offer new inspiration for future research about financial situations.

1.7 Findings

Our research is able to confirm that all the credit rating information from Chinese

domestic or international rating agencies (S&P, Moody's and Fitch) can reduce information asymmetry level and lower IPO and SEO underpricing. We prove that although the so called "non-creditable rating system" in China is not able to reflect the true value of firms, it still plays a positive role in reducing the level of information asymmetry in the Chinese stock market. Our results show a significant negative relationship between the presence of two rating agencies and IPO/SEO underpricing. Furthermore, this research also proves that the presence more western rating agencies is more able to reduce IPO and SEO's initial return. Additionally, we get results that a higher credit rating grade will make IPO underpricing decrease more significantly except for the rating information from Fitch. Besides, credit rating seems only to influence IPO underpricing in time periods two and three in our sub-sample, however, the credit rating can influence SEO underpricing in all four time periods. Our results are still consistent even after additional robust checks, control for the endogeneity problem and sample selection bias.

For the determinants of allocation mechanism, we find that the bookbuilding mechanism is the most effective one among all eight allocation mechanism choices and generates the lowest underpricing level in the Chinese stock market. We are able to confirm that corporate governances can influence the choice of allocation mechanism significantly and should be paid more attention to by following researches; to be more specific, board size, ratio of legal persons' share and tradable share proportion can all affect allocation mechanism choices. Additionally, our results show firms choose allocation mechanisms is largely based on market condition. Furthermore, this research analysed short-term and long-term performance of IPOs with different allocation mechanisms. The results show private placement is the only mechanism that can

increase short-term return. Regarding bookbuilding mechanism, it seems, is not the best one with short- and longer-term return.

Our last empirical chapter indicated that there is a significant relationship between IPO characteristics and SEO decisions in term of timing, size and underpricing level. Our results are consistent with signalling theory but provide new evidence when this research divided our model into four time lengths (SEO within one, two, three and more than three years after IPO). In addition to that, we find that SEO decision-making are both based on IPO characteristics, firm features and market conditions before doing SEOs. This research concludes that Chinese listing firms are mainly doing SEO with the incentives of investment, potential growth and market timing. Another interesting thing we find is that firms with state-owned shares are more likely to conduct SEOs. However, after the Chinese government carried out a regulation to allow state-owned shares to trade on the stock market in 2005, SEO activities were significantly reduced in China.

1.8 Thesis layout

After the introduction chapter, the second part of this thesis provides a brief introduction about China's stock market and economic development. Within the third chapter, a system literature review regarding IPOs and SEOs were conducted. This thesis presents our first empirical chapter of 'Credit rating effects IPOs and SEOs underpricing' in the fourth chapter. Our second and third empirical chapters about "The determinants of allocation mechanism" and "The link between IPOs and SEOs and incentives of SEOs" will be presented in chapters five and chapter six, respectively. Following that, we will conclude this thesis in chapter seven. References and appendixes are delivered at the end of the thesis.

2. Introduction of the Chinese stock market and economic development

2.1 Chinese stock market introduction

The Chinese government has processed a complex economic reform for the rationalisation of investment activities since 1978. However, there were several difficulties faced by the government at the end of the 1980s. The first one was the lack of capital support in the national planned economy. Another difficulty was that the central bank and other national banks provided capital support for state-owned enterprises (SOEs). However, due to the lack of experience and capability, the bad debt ratio was extremely high and starting to influence national finance sectors. Finally, state-owned enterprises experienced higher gearing ratios and corruption.

In order to overcome these difficulties, two stock exchange markets were founded in Shanghai and Shenzhen in December 1990 and July 1991. The Chinese government hoped to raise more financial supports and improve governance for state-owned enterprises. However, the experiment of the stock market has struggled between economics and politics since the day of foundation because most listing firms on the stock market were state-owned enterprises and the government did not want to lose control after these firms went public.

The statistic provided by the China Securities Regulatory Commission (CSRC) indicated there are 53 firms listed on the Shanghai and Shenzhen Stock Exchange Markets when the stock market been established, and this number increased to 851 in 1998. It was further increased to 1,088 in 2000. Up to 2012, more than 2,000 firms were trading on the stock market and this fast development also shows a part of Chinese economy growth. For the total market capitalisation, the total amount was RMB 104.8

billion at the beginning and this number significantly increased to RMB 1,951.4 billion by the end of 1998. Within two years, the total market capitalisation has increased to 3,751.2 billion by the year 2000. Until 2012, although there is a massive drop of the stock market index, the total capitalisation is still a huge number.

2.1.1 Requirements of firms going public in China

In order to go public in China, there must be at least five persons in the organisation to apply and to be in charge of firms going public. For the persons in charge of going public in the organisation, more than half of them should be legal residents in China. However, there is no such a requirement for state-owned enterprises if the enterprise is planning go to public. In addition to that, firms should have a minimum registration capital requirement, which is 10 million RMB. The Chinese government try to use this requirement as a tool to protect investors and ensure the listing firm has the ability to pay off debts in the case of going bankrupt. Firms can pay the registration fee by cash, industrial property, or land-use rights. Every ordinary single share should be sold with same price and sharing equal rights with others. Other requirements are that the total capitalization of firm should be more than RMB 50 million, and issuing firms should have operated its business more than three years. However, this regulation would be much more flexible if the firm is a state-owned enterprise. The person in charge of going public should subscribe at least 35 per cent of total shares and trade the remaining proportion of share on the stock market. Additionally, there should be more than one thousand shareholders and each of them should hold more than RMB 1,000-worth face value of the firm's shares. Percentages of outstanding shares should be more than 25 per cent and this percentage will be reduced to 15 per cent if the listing firm's market value is more than RBM 400 million. The firm going public should have a place for

manufacturing or operation. In the future, when M&A happens for a listing firm, they are required to be approved by central or provincial government.

2.1.2 Structure of listing firms in China

Listing firms in China are mainly constructed by a shareholders' meeting, board of directors, board of supervisors and managers.

A shareholders' meeting is constructed by all shareholders in a listing firm, and it has highest authority. This meeting makes critical decisions on the firm's operation, such as votes and supervisors. The shareholders' meetings should be held for three times. The first one is a legal requirement shareholders' meeting which needs to be held within 30 days after the firm receives a subscription for capital from investors. The mission of this meeting is to report to all shareholders about the firm's situation, vote for boards and supervisors of firms, approve principles of how the firm will be operated and other important issues. The second meeting is the annual shareholders' meeting. In this meeting, the firm will report to all shareholders about the changes in firm, including profit, plans, and the changes of share proportion or the dividends allocated. The last one is a temporary shareholders' meeting which will be held when unexpected things happen.

Boards of directors are voted for by all shareholders through a shareholders' meeting. The mission of boards of directors is planning and holding shareholder meetings, reporting on the firm's situation to shareholders, presenting information of shareholder meetings to the public, deciding a firm's strategy and operations in detail, planning budgets for the following year, allocating profits generated from operations, employing the firm's managers et al. In addition to that, the board of director has authority to decide

on issuing debt or seasonal equity of the firm.

The board of supervisors is voted for through the shareholders' meeting as well. It is responsible for monitoring the firm's financial situation and how the board of directors executes issues decided for in shareholders' meetings. The board of supervisors in listing firms should have at least three people. The people on the board of supervisors should be shareholder representatives and employees of the firm. Board members, managers and CFOs are not allowed to be supervisors.

Managers in listing firms are directly employed by the board of directors and are in charge of managing the firm's operations in detail. Managers also need to participate in the decision of investment. In addition to that, "Firm Law" in China states members from the board of director can also be managers.

2.1.3 Type of shares in Chinese stock market

The two types of tradable shares in China are ordinary domestic shares, also called A shares, and foreign shares. For A shares, these are just for investors from the mainland of China and trade with Chinese currency 'Yuan'. Foreign shares, as their name shows, are designed for foreign individuals or institutions. Foreign shares can be traded in mainland of China, called B shares, in Hong Kong, called H shares, and in New York, called N shares. For some reasons, the average time lapse is quite long, about 260 days for A shares and 72 days for B shares. This is not normal compared with other nations such as the US (one day), Japan (14 days) and other developed countries (Loughran et al. 1994). For Chinese firms, they can issue both domestic shares and foreign shares and they also share rights for voting. However, the majority of the pricing for domestic shares is higher than foreign shares. This is because of information issued for foreign

investors. As Chen's report stated (1999), the communication problem arises from a different accounting standard and the difficulty of finding useful information to analyse the Chinese economy and firms' situations.

In order to retain the nature of socialist public ownership, the majority of IPO firms have a large percentage of State-Owned Shares (SOE) which are not tradable on stock market. Beside this, legal entity shares and employee shares are also not allowed to be traded.

2.1.4 Pricing model of shares in the Chinese stock market

With time development, the pricing methods for Chinese IPOs are also changed, but are still decided by the CSRC. They can be classified into the following four periods:

- i) *Pre-fixed P/E method* during January 1st 1990-July 27th 1999. Government set the P/E ratio and issuing price before IPO.
- ii) *Cumulative method* during July 28th 1999-June 30th 2001. Underwriters set up the issue price and look for investors. However, investors, especially retail investors, have no ability to value these share led to overheated P/E ratio.
- iii) *Cumulative price inquiry method* during July 1st 2001-December 31 2004. In order to cool down overheated IPOs with excessively high P/E ratio, government put a cap on the IPO's P/E ratio and applied in all industries. However, the biggest disadvantage about the pricing mechanism is ignoring the different characteristics between different industries.
- iv) *Cumulative price inquiry from institutional investor method* during January 1st 2005- December 31st 2011. Allow underwriters look for institutional

investors, and the final negotiated price will be the issuing price².

Most firms in China are doing IPO in partial privatizations that make them equip some features with completely privatization IPOs. Due to high maintain of State Owned Equity, government, instead of firms, gets the main benefit of privatizations. Chinese governments always try to achieve many other targets through Chinese firms' IPO activities. Huang and Song (2001) stated the means for IPOs in China are similar with other IPOs in worldwide; however, government would not like to release the controlling rights even after firms did their IPOs. Tian and Megginson (2007) argue that Chinese government control and supervise IPOs because its security market is still too young and they are within the background of socialist market framework. Our results indicated 63% of IPOs and 70.2% of SEOs have government shares, however, Chinese investors do not concern firms with government participation as a signal of lower risk level.

2.1.5 IPO quota in the Chinese stock market

As this thesis mentioned in the Introduction chapter, there is high level of government intervention in the Chinese stock market. In China, whether a firm can go public is decided more by an administrative process rather than the market process seen in developed economies. The State Planning Commission (SPC) decides the IPO quota every single year. The State Planning Commission is constituted by the Central Bank of China and the China Securities Regulatory Committee (CSRC). Under this quota system, how many and which firm go public in each year not only depends on the

² The percentage market shares of top 20 underwriters in the Chinese stock markets from 1st January 1990 to 31st December 2011 are as follows: Ping An China (12.58), Guosen Securities (12.07), China Merchants Bank (5.59), Guangzhou Development Bank (5.59), China CITIC Bank (5.08), Huatai United Securities (4.70), Haitong Securities (4.57), Minsheng Securities (3.18), Everbright Securities (3.18), China Securities (3.05), Sinolink Securities (2.80), Essence Securities (2.80), GuoYuan Securities (2.03), HongYuan Securities (2.03), Huatai Securities (1.78), Xingye Securities (1.78), Soochow Securities (1.65), Southwest Securities (1.65), Zhongde Securities (1.52), and China Investment Securities (1.40).

quality of the firm and the macroeconomic condition, but also the availability and distribution of the quota (Lin and Zhu, 2007). The CSRC is in the front line of administrative enforcement in the stock market, and it always controls the listing time for all firms going to public. Although some firms already get permission from the CSRC that they can do IPOs, they still need to wait a call for when they can do IPOs from the CRSC. In other words, firms need to wait until they get their IPO quota. The date of announcing the quota is not fixed each year; indeed, the time of announcing a quota is mainly decided by the CSRC's evaluation of whether the stock market is enough of a bull market. Firms only get their quota when there is a significant sign that a bull market is happening. This is also the reason why so many firms get permission from the CSRC to go public but a few of them do IPOs.

For the IPO quota in China, these are allocated to different areas and industries based on China's state development strategy. For each province, the number of firms going public from that province is a performance indicator for local government. The amount of the quota was equally allocated to 32 provinces and 4 municipalities before 2000. After 2000, every province and municipality set up a special department and the responsibility of that department is to communicate with the CSRC and win over a larger quota for its own province. Since the number of IPOs is a performance indicator for province government, local government is happy and willing to help their firms go public. In order to increase the number of IPO firms, some governments even make up financial data for firms. This has heavily affected investors' judgment about listing firms' true value.

2.1.6 IPO listing process

In the case of a firm wanting to go public, there are certain processes in the Chinese stock market. First of all, the firm should prepare a draft of offering a project report and also the feasibility reports. Then, lawyers will start to investigate the firm's legal issues and the re-structure plan. Certified public accountants will then conduct an auditing report, financial statements and other necessary original certificates required by the CSRC. Underwriters will step in to provide advice when all these documents are ready. Finally, these documents will be submitted to the CSRC. Firms can be listed in stock market after CSRC approval of the application and arrange a quota for the firm. However, listing firms still need to be audited by certified public accountants after three years of IPO activity. During the IPO process, investment banks will have the responsibility for unsubscribed shares. However, this situation rarely happens because Chinese investors have extremely a high interest in IPOs or SEOs and the issuing is often oversubscribed. There are about 170 underwriters and the majority of them have a good relationship with, and are well connected to, the government (Tian, 2003). Only a few international underwriters exist in the Chinese stock market.

2.1.7 Changes in the Chinese stock market

The unique quota regulation in the Chinese stock market was replaced by a Recommending and Approving System (RAS) by 2001. In the new system, the China Securities Regulatory Commission will evaluate the recommend lists sent by different provincial governments and make the decision of whether to approve or not. The decision made by the China Securities Regulatory Commission is based on market volatility, risk level of the stock market, the supply and demand situation in the stock market and other situations. The Chinese stock market experienced a six-month IPO ban

in 2004 and the CSRC stated that market speculation was the major concern. The new application system is viewed as a signal that the stock exchange market has promoted an economic-driven market instead of a government-planned market.

Bookbidding mechanisms started to become more popular in the Chinese stock market after the IPO ban was over. Now there is a new requirement which is called “the channel system” to be adopted in the Chinese stock market. Under the channel system, each underwriter will get several channels to underwrite an IPO, and underwriters are not allowed to conduct other IPOs when they do not have an empty channel. They will get the empty channel when they finish the current IPO underwriting service. How many channel underwriters can get is based on underwriters’ reputation and performance. This channel system is similar to the previous quota system.

2.2 Economic developments in China

The People's Republic of China was established in 1949. During the first 30 years, Chairman Mao tried to follow the experience of Russia and conduct a “Planned Economy” policy; however, there was no significant development. In 1978, the Third Plenum of the Party made a major decision about “Reform and Opening Up”. In order to promote China’s economy, the Central Committee and the State Council approved the implementation of “Special Policies and Flexible Measures” in the foreign economic zone in Shenzhen, Zhuhai, Xiamen and Shantou, a special economic zone pilot. Fujian Province became the first province to apply the implement of the “Opening Up” policy. Since then, China’s economy has started to experience a significant increase.

After the Third Plenary Session, the national economy in China entered into adjustment periods. The Fourth Plenary Session held in September 1979 made a decision that

allowed farmers to develop their enthusiasm of production, conduct private business operations and protect their operational autonomy under the guidance of national unity. In the same year, the State Council also made a decision to implement special policies and preferential measures on foreign economic activities in Guangdong and Fujian provinces to encourage foreign investment. Additionally, China also set up new special economic zones in Shenzhen, Zhuhai, Shantou and Xiamen to attract more foreign investment and study advance technology as well as the management skills of foreign companies. In April 1984, China further opened 14 port cities including Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Wenhou, Fuzhou, Guangzhou, Zhanjiang and Beihai.

On August 18th, 1980, Deng Xiaoping gave a speech with the entitled of “The Reform of Party and State Leadership System” in order to show a new clear direction of the reform of the political system at the enlarged meeting of the Politburo. In September 1980, the CPC Central Committee issued a document named “Several Concerns about Further Strengthening and Improving the Agricultural Production System”, which affirmed the socialist nature of the household responsibility system. The household responsibility system stated that every household can sell their excess production they produced after each household submits its required amount of production to the government. Since the beginning of 1983, the household contract responsibility system has been adopted nationwide.

On October 1984, the Third Plenary Session of the 12th Party Congress systematically presented and illustrated series issues of economic reforms in the major theoretical and practical issues; the congress confirmed China’s socialist economy is a planned commodity economy based on public ownership. This is also the reason how

state-owned enterprise and state-owned equity existed in the Chinese stock market. The congress also conducted a comprehensive economic reform programmatic document. The political reform and economic system reform are conducted simultaneously.

In the mid-1980s, the reforms of technology, education, culture and other fields in China also started. After years of practice, China has formatted a comprehensive, multi-level pattern of opening and reform, and the “Open Up” policy gets support for people all over China. “The road of reform and opening up is power” has become the consensus among people.

In the past half century, China’s economic development can be classified into three stages. The first stage is the period from 1949 to 1978, which economists called “The era of balanced regional economic development”. The second stage is the period from 1979 to 1999 when the “Reform and Opening Up” was first applied in China. This stage is focused on the development of China’s eastern coastal cities period. The third stage is the period from 1999 to the present. During this period, the state has proposed “The Western Development Plan”, “Revitalising the Traditional North-east Industrial Base”, “Accelerate The Development of The Central Region” and other strategic measures. This is the stage that China coordinated the development of all regions. China’s economy is experiencing significant increase with the “Open Up” policy; this country’s GDP has become the third largest in the world in 2008 and China just became the second largest in 2013.

3 Literature Review of IPOs and SEOs

In recent two decades there is an significantly increase in IPOs and SEOs market, at the same time the growth equity market is accompanied by increasing theories, literatures and empirical results conducted by researchers. In this chapter, this thesis will provide systematic literature review about IPOs and SEOs theories.

3.1 Valuing IPOs

The use of accounting information in conjunction with comparable firm multiples is widely recommended for valuing IPOs. In the real world, because many firms are young growth firms within high technology industries, historical accounting information is of limited use in projecting future profits or cash flows, and discounted cash flow analysis is very imprecise (Kim and Ritter, 1999). Therefore, a preliminary valuation may rely heavily on how the market is valuing comparable firms in the same industry. Also, in real practices, asset-based approach is also widely used. However, each approach has its limitations and advantages. For instance, the comparable firms approach works best when a highly comparable group is available. While it can reduce the probability of misvaluing a firm relative to others, this approach provides no safeguard against an entire sector being undervalued or overvalued. The discounted cash flow approach is based on a firmer theoretical footing than any other approach, but in many situations it is difficult to estimate further cash flows and an appropriate discount rate. The asset-based approach focus on the underlying value of a company's assets to indicate value. This approach is more relevant when a significant portion of the assets can be liquidated readily at well-determined market prices if so desired. For most IPOs, the asset based approach has little relevance, since most of their value comes from growth opportunities (Kim and Ritter, 1999).

There are differences between valuing primary and secondary markets. In real world, four main approaches are used in valuing secondary market, including the efficient market approach, discounting the future free cash flow approach, discounting the future equity payouts approach and comparative valuation based on multiples approach. For the first approach, in its simplest form the efficient market approach states that the current stock price is correct. A somewhat more sophisticated use of the efficient markets approach to stock valuation is that a stock's value is the sum of the values of its components. For the discounting the future free cash flows approach, this approach values the firm's debt and its equity together as the present value of the firm's future free cash flows. The discount rate used is the weighted average cost of capital (WACC) (Benninga, 2006). This approach is favoured by most finance academics. The third approach states that a firm's shares can also be valued by discounting the stream of anticipated equity payouts at an appropriate cost of equity. Finally, for the last valuing approach, it value a firm's share by a comparative valuation based on multiples. This very common method involves ratio such as the P/E ratio, EBITDA multiples, and more industry specific multiples such as value per square foot of storage space or value per subscriber.

Regarding for the measure of IPO initial return, there are two common ways to measure. The first one is the percentage difference between the opening price and the closing price on the IPO day, which can be write as the formula that:

$$IR = \frac{P_c - P_o}{P_o}$$

Where IR is the IPO initial public return, P_c is the closing price on the IPO day and P_o is the opening price of the IPO day (see as Loughran and Ritter (2002), Tian (2011)).

However, the above method seems ignore the factor of market index change, another measure fully controlled the market effect which is usually called market adjusted initial return (MAIR) and the formula is written as:

$$MAIR = \frac{P_c - P_o}{P_o} - \frac{M_c - M_o}{M_o}$$

Where MAIR is the market adjusted initial return, M_c is the closing price of the stock index where firm listing on at the IPO day and M_o is the opening price of the stock index where the firm listing on at the IPO day(see Chi and Pedgett (2005)).

Since the market adjusted initial return concerned about the return of market index, majority of research use MAIR method to measure the IPO initial return.

3.2 IPO underpricing

Many researches demonstrate the IPO underpricing in practice, such as Logue (1973), Ibbotson (1975) and Ritter (1984). This phenomenon is common in all nations. Several theories are used to explain IPO underpricing with the support of empirical evidences. In the following part of this section, different explanations of IPO underpricing will be presented.

3.2.1 The winner's curse hypothesis

Rock (1986) first developed a winner's curse model. During the issuing process, there is fixed number of shares are sold at fixed price. Rationing will happen in the case that demand is extremely high. As Ibbotson and Ritter (1995) stated rationing itself are not able to cause IPO underpricing, however, in the case that there are some investors has difficulties in obtaining information, some investors will be worse off. Within this model, it assumed that there is unbalance at information availability for different type of

investors. Some investors can be better informed and they can get better information about true value of firms and find out which one is more attractive and bid for the one. However, the less informed or uninformed investors do not have such information to decide firms' potential, they often bid for IPOs which are overpriced. To make sure uninformed investors do not lost their enthusiasm and continued participate in stock market; firms usually underprice their IPO shares for uninformed investors. Leite (2007) develop information environment of winner's curse model and let it still can provide empirical results for underpricing literature. In the empirical field, several researches were conducted, for instance, Koh & Walter (1989) using data from Singapore and get the early supporting evidence of Winner's course theory.

The case in China is that individual investors having very serious difficulties in obtaining resource, especially for these state-owned enterprises. In order to make the IPO fully subscribed and do not let uninformed investors to lost their enthusiasm and continue participate in stock market to provide additional capital for state-owned enterprises, Chinese government forcing new issuing shares to be set under their true value.

3.2.2. The costly information acquisition hypothesis

Benveniste & Spindt (1989) argued that underwriters might underprice initial public offering and try to persuade regular investors to reveal information in the period of pre-selling, and the revealed information can help investment bankers to price the shares. Underwriter will compensates investors through underpricing to get truthfully reveal valuation. In addition to this, underwriters must underprice issues for which favourable information is revealed by more than those for which unfavourable information is revealed to get truthful revelation for the Initial Public Offerings (Ibbotson and Ritter

(1995)). For these initial public offerings which the offer price is revised upwards will be more underpriced than these initial public offerings with offer price revised downwards. Hanley (1993) also support this argument through empirical study.

However, this hypothesis is not totally suitable in China. In the early stage of Chinese stock market established, the IPO prices are not settled by underwriters, instant, Chinese government set the price for shares based on pre-fixed P/E ratio. There is no need that for underwriter to persuade regular investors to reveal information in the period of pre-selling. Even in the period July 1st 2001-December 31 2004, in order to cool down overheated IPOs with excessively high P/E ratio, government put a cap on the IPO's P/E ratio and applied in all industries. The costly information acquisition hypothesis is definitely influenced. Within recent ten years, the underwriters starting play an increasing role in IPO market, and costly information acquisition hypothesis becoming more effective in explaining the IPO underpricing in Chinese stock market.

3.2.3 The cascades hypothesis

There is a new statement presented by Welch (1992) that the initial public offering market is subject to "Cascades". In more detailed, these potential investors will not only refer their obtained information to evaluate the new shares, but also refer the trend that whether other investors will purchase the new share. Potential investors might quite purchasing the new share in the case that they did not see any other investors are interesting in the new share and willing to invest in. In order to avoid such a situation, issuers could underprice the shares to encourage potential investors to invest and spread the news to other potential investors, this would increase the chance of success.

Ibbotson and Ritter (1995) stated that:

“An interesting implication of Benveniste and Spindt (1989)’s dynamic information acquisition explanation, in conjunction with Welch (1992) cascades model, is that positively-sloped demand curves can results.”

Within the dynamic information acquisition explanation, the offering price with IPO will be change to higher in the case that regular investors show a positive information. At the meantime, other potential investors, knowing that this will only be a partial adjustment, correctly infer that these offerings will be underpriced. These other investors will therefore willing to buy more shares, leads to a positively sloped demand curve.

In China, especially in investing market, investors are heavily influenced by other people around them. For instance, during the bull market at the time 2001 to 2004, one people investing in stock market will influence five people around him/her and make them investing in stock market (Sina news, 2006). Another example would be the real estate market in China. Almost every single family investing in real estate properties after the media publicize the benefit of real estate investment. In more recently, another famous example would be the Chinese old women crazily purchasing the gold after they saw other people are investing in it and the gold price is becoming cheaper. Therefore, the cascades hypothesis will be very suitable in Chinese case.

3.2.4 The investment banker’s monopsony power hypothesis

There is also other argument about IPO underpricing in the worldwide and this argument is mainly focus on the information asymmetry between underwriters and issuing firms (Baron and Holmstrom (1980)). These underwriters have a more clear and correct valuation of issuing firm’s shares because underwriters has knowledge advantages that issuing firm does not have, underwriters will underprice the shares to

reduce the job they need to do to promote shares and this will increase the chance of success. At the same time, underwriters will introduce the underpriced shares to their clients and suggest them to invest in. Therefore, underwriters can enjoy to advantages through underpricing of initial public offerings.

This case is also very common in Chinese stock market. 68% of outstanding shares are subscribed by institutional investors in Chinese stock market. Underwriters play a critical role in the highly percentage of institutional investors subscription. In China, even in the whole world, there is always a strong relationship between underwriters and institutional investors.

3.2.5 The signalling hypothesis

Another explanation of IPO underpricing is the signaling hypothesis. Within this hypothesis, issuers will underprice their shares to “leave a good taste” to investors and issue more shares in the future at higher price to compensate these loses from IPO underpricing. Allen and Faulhaber (1989), Welch (1989) and Grinblatt and Hwang (1989) all contribute to the development of signaling hypothesis. Within this hypothesis, it assumes that issuers know the true value of firms, they will underprice IPO as a strategy for forthcoming seasoned equity offerings. Depending upon parameter values, firms with higher value and better potential growth might underprice initial public offering as a signal of high quality. This will increase investors’ confidence about firm’s value and the success chance of following issuing will be higher. In order to make the underpricing become worth, firms will have to conduct SEO in the future.

In China, the signaling theory may not suitable and the explanation power is also limited. As signaling theory stated, firms will underpriced their IPO in order to promote their future equity share issuing. However, the case in China is that the share price is

mainly decided by Chinese government instead of firms themselves. The underpricing phenomenon is forced by political regulations. A statistic example would be that 76.52% of Chinese IPOs are underpriced, but only 29.83% firms did future seasonal equity offering till 2011. These numbers show how limited explaining power would be for signaling theory in Chinese stock market.

3.2.6 The regulatory constrain hypothesis

The underpricing of initial public offering might be also explained by the regulatory constrain. In certain countries, the pricing of IPO are required to be set lower than they would be, and some other countries require the pricing of IPO need to be matched with the book value. The initial public offering will be underpriced if firm enjoy a growth potential.

For example, the pricing of IPO in China was firstly use the pre-fixed P/E ratio method that government set the P/E ratio and issuing price before initial public offerings. Many firms in China with higher market value are significantly underpriced and this is also an important reason that the why the underpricing level of IPO in China is extremely high.

3.2.7 The ownership dispersion hypothesis

Issuers may underprice their initial public offer to increase the demand of the shares and to generate large number of shareholders. Through this, the liquidity of the market will be increased and new shareholders are more difficult to challenge managers. Booth and Chua (1995) stated that investors will price share with lower discount rate in the case that investors expect a liquid market of the share they purchasing. Additionally, Booth and Chua (1995) also stated that issuers are willing to make the initial public offerings be underpriced for the purpose of diffusing ownership base. Regarding managers, they

may also willing to make shares be underpriced to make sure that they still control the firms and will not be challenged by new shareholders after listing.

This case is not quite suitable in Chinese case. The reason would be that the state-owned shares and legal entity shares are not allowed to trade in stock market, and these two types of shares normally take about 62% of total shares issuing. The ownership will never be challenged for these firms.

3.2.8 The market incompleteness hypothesis

Initial public offerings may be underpriced to compensate investors for the “market incompleteness”, especially for firms in new industries. In the case that certain segmentation existed between market for initial public offerings and the broader capital market, investors will get certain premium to encourage them for bearing diversifiable risk. As theory in financial field, higher risk means higher return, and issuers need to compensate investors and offer a higher return for them if they would like to take the risk in new industries. The research did by Mauer and Senbet (1992) also support this hypothesis and provide empirical evidence for it.

Since the Chinese stock market was only established for 24 years, and this market can be classified as immature market. Chinese investors still concern investing in stock market in a higher risk investing options, especially after the dramatic market index drop after 2005. Investors require higher return in order to make them be compensate for the market incompleteness.

3.2.9 The prospect hypothesis

Another explanation of initial public offering underpricing is the prospect hypothesis. Kahneman and Tversky (1978) argue that that people will pay more attention on the

changes in their wealth compared to the level of their wealth. Loughran and Ritter (2002) apply this to initial public offerings by arguing that the majority of these “money left on the table” is by the minority of firms where the offer price is revised upwards when using bookbuilding mechanism. These managers in issuing companies are seeing personal wealth increase relative to what these managers had expected based on the file price range, even as these managers agree to underprice firms’ initial public offerings. Loughran and Ritter (2002) also state that managers from issuing companies bargain less hard for a higher initial public offering price in this situation than they would otherwise. Additionally, the research did by Loughran and Ritter (2002) also try to explain why underwriters would prefer the shares be underpriced rather than charge higher gross spreads from the prospect theory. Issuers will not so focus on the opportunity cost of IPO being underpriced than the direct cost of gross spreads. In the case that underwriters can allocated these underpriced shares to buy-side clients who are competing for favorable allocations by overpay for other service, part of the gain that investors gat from investing in these underpriced initial public offering shares will be end up in the pockets of the underwriters.

3.2.10. Lawsuit avoidance hypothesis

Lawsuit avoidance hypothesis is first developed by Tinic (1988) and he also provide evidence that is consistent with it. In more recently, other researches about lawsuit avoidance hypothesis state that underprice initial public offering can reduce the frequency and severity of future lawsuits since the Securities Act of 1933 requires every participant in the offer who sign the prospectus liable for any material omissions (Ibbotson and Ritter (1995)). As Ritter (2003) focus on internet IPOs in the period from 1999 to 2000 and he state that one reason why IPOs in internet industry underpriced is

to avoid lawsuit. However, this situation is mainly existed in United State and other countries have the similar Act with the Securities Act of 1933, for other countries like China, this situation will not be existed. For the empirical evidence, however, Drake and Vetsuypens (1993) evaluate 93 initial public offerings involved in lawsuits from 1969 to 1990, there is no evidence shows there is significantly different about the underpricing levels between these lawsuit involved firms and control firms. Additionally, Alexander (1991, 1993)'s research also provide little evidence that initial public offerings will be underpriced to prevent lawsuit.

The case is totally different in Chinese case. One important reason is that there is no such a law like Securities Act of 1933 that requires every participant in the offer who sign the prospectus liable for any material omissions. Lawsuit avoidance hypothesis is not able to explain the high level of underpricing in Chinese stock market at all.

These arguments above show systemic explanation of IPO underpricing and get support by empirical evidence in recent decades. Some hypotheses above also explained the reason for underpricing of seasonal equity offerings, for example, seasonal equity offering may be also underpriced because there is information asymmetry existed during the listing process and issuers would like to compensates these uninformed investors through underpricing of SEOs. Ownership dispersion hypothesis, cascades hypothesis, investment banker's monopsony power hypothesis and the regulatory constrain hypothesis can also be the reason for SEOs underpricing.

3.3 Long term performance

Another important area of initial public offering is the long term performance and dozens of research has proved that there is a general long term under-performance. For example, Ritter (1991) find that the cumulative return is -15.08% after three years when

using data of United States' stock market from 1975 to 1984. The long term underperformance will be more serious if the measurement of long term underpricing is about the opening price of the announcement day of IPO and the closing price after three years. Loughran (1993) documents that the underperformance of initial public offers continues for about six years after listing in NASDAQ. Longharn and Ritter (1995) also reported a significantly long term underpricing of IPOs in United State. Uhlir (1989), Goergen et al (2006) also find evidence of IPO long term underperformance in German, Aggarwal, Leal and Hernandez (1993) confirmed the underperformance phenomenon in Brazilian and Chilean. Regarding UK, Levis (1993) study about 712 listing firms and report an underperformance during the next three years of IPOs. More recently, Fan, Wong and Zhang (2007) confirmed that underperformance is also existed in Chinese stock market. Ahmad-Zaluki, Campble and Goodacre (2011) also find there is also IPO long term underperformance in Malaysian. The long term underperformance on IPOs is existed all over the worlds, such as Australia, Brazil, Chile, China, Finland, Germany, Japan, and South Africa et.al. (Kim et al., 1995).

There are two most common used methods to calculate long term performance: (1) Buy and hold return (BHRs). (2) Cumulative Abnormal returns (CARs). Barber and Lyon (1997), Kothari and Warner (1997) Fama (1998) and Lyon et al. (1999) study what the difference between the two methods and Lyon et al. (1999) state that Buy and holder return methods will be more appropriate when measuring about whether investors get profit through the periods holding that shares. Regarding to the Cumulative abnormal returns method, it will be more fitted when the research is about whether the sample shares persistently earn abnormal monthly return, while Cumulative abnormal returns

methods implicitly assume frequent portfolio rebalancing. Furthermore, Barber and Lyon (1997) suggest that the main benefit of BHRs method is that it measuring investors' experience, however, CARs methods does not adequately measure the returns from holding the shares. Barber and Lyon (1997) also argue that CARs method is a biased predictor of long term BHRs.

There are several explanations have been proposed to explain the long term underperformance phenomenon.

3.3.1 The agency cost hypothesis

Regarding the agency cost hypothesis, Jensen (1986) argue that managers are more willing to divert capitalization raised from IPO to invest these projects with negative net present value at the expense of shareholders' wealth because of the divergence of interest between managers and shareholders. This will leads to a decrease of firm's market value and make the long term underperformance happens. McLaughlin et al. (1996) provide additional support about this argument that they find that the long term decline in operation performance is greater for firms that have higher free case flows.

This hypothesis may also able to explain the long term underperformance in Chinese stock market. However, there is still no research address this issue and provide strong empirical evidence for that in Chinese case.

3.3.2 Earning management hypothesis

Yong (2007) states that earnings management might be another explanation of long term underperformance. In essence it argues that initial public offering firms exhibit larger gains in the operating performance during one year prior the offering data when comparing with the average level in the industry they belong. This aggressive earning

management will make investors feel more optimistic about the firm investors going to invest in. However, when initial earnings cannot be sustained, these disappointed investors will re-evaluate firm's value and this will lead to long term underperformance. The earning management also existed in seasonal equity offering that managers will try to manage accounting report and make firm's value be increased significantly. This will lead to the underpricing of SEOs, but also the long term underperformance of SEOs as well.

Earning management is commonly existed in Chinese stock market. Lee and Xue (2011) reports that earning management exists significantly in all industries' loss-firms. In all firms which shift from negative earnings to positive earnings, 50% of them avert by the improvement of their operating profits, and the other 50% is by all kinds of restructuring (such as assets swaps, assets sales and debt restructure) or subsidies from governments. Therefore, the earning management can also significantly explain the long term underperformance in Chinese stock market.

3.3.3 The window of opportunity hypothesis

The windows of opportunity hypothesis is developed by Ritter (1991) and Loughran and Ritter (1995) and this hypothesis is mainly concerning about manager's view point. In the case that there are periods that investors are very optimistic about growth potential of firms being listed, there will be large volume of firm trying to do IPOs to take advantage of these swings in investors' sentiment. Ritter (1991) and Loughran and Ritter (1995) state that these firms taking advantage of "windows of opportunity" will experience long term underperformance. Loughran and Ritter (1995) discover that equity-issuing firms have poorly performance following the issue. This can be explained in pecking order theory and Myers' (1984) financing hierarchy that firm will use

external equity as the last choice of financing. However, external equity is becoming the first choice for firm in some cases. Therefore, it is logically to assume that managers will only use equity as the first choice for financing when the firm is overvalued. Firms will definitely experience long term underperformance when market realizing the true value of them. However, Kang et al. (1999) has different idea about temporary over-valuation corrected by stock market with time development when using data from Japan. In their case, they use market to book ratio as proxy for whether firms are overvalued or not, and they find that underperformance still existed even after controlling M/B ratio in their analysis.

This issue is also existed in Chinese stock market, our research indicates that more than 60% of firms conducting IPO in hot issue markets, and Chinese firm are more prefer share issuing than bonds issuing, and even there is tax benefit for issuing bonds.

3.3.4. The impresario hypothesis

The other explanation of long term performance is impresario hypothesis which is developed by Shiller (1990). Within this hypothesis, it states that market for IPOs is subject to fads and shares will be underpriced by underwriters (the impresarios) to generate the appearance of excess demand, just as the promoter of a rock concert attempts to make it an “event” stated by Yong (2007). The impresario hypothesis states that firms will higher underpricing level should also experience the lowest subsequent returns. Ritter (1991) also provides some evidence for this hypothesis.

For Chinese case, as this thesis mentioned before, the shares is priced by government instant of underwriter in the early stage of Chinese stock market established. Underwriter cannot be traded as impresario in Chinese case. Therefore, this hypothesis has limitation in explanation the long term performance in Chinese stock market.

3.3.5 The divergence of opinion hypothesis

Regarding the divergence of opinion hypothesis, Miller (1997) stated that these most optimistic investors will be the buyers. In the case that there is a greater uncertainty about valuation of an initial public offering, these optimistic investors will evaluate the price to be much higher than these pessimistic ones. The divergence of opinion between optimistic and pessimistic investors will narrow when there is more information available, therefore, share price will drop. Therefore, Miller (1997) state that initial public offerings will experience negative return in the long run.

This hypothesis hasn't ever been tested in Chinese case so far, and the explanation power is unknown.

3.4 Hot issue markets

The hot issue market is mainly concern about volume and the initial return of IPOs and SEOs. The concept of hot issue markets is first documented by Ibboston and Jaffe (1975) and they defined the hot market as the time period of high average initial returns. Although it is difficult to define how the hot issue markets are come and developed, Ritter (1984)'s research stated that the "changing risk composition" can be one possible explanation for the dramatic change in average initial return, since cross-sectionally, riskier issues tend to be underpriced to a greater extent. In the case that certain time periods are more risky and firms doing IPOs or SEOs will have a higher underpricing level. Although Ritter (1984) get some evidences that hot issue periods in initial public offering market are characterized nu riskier issues, the amplitude of the cycles in average initial returns in far larger than can be accounted for by the "changing risk composition" hypothesis.

There is another argument about how the hot issue market existed, this argument states that some investors will follow positive feedback strategies, and these investors feel that positive autocorrelation in the initial returns on IPOs and SEOs. In that case, investors follow positive feedback strategies will more willing to invest and purchase new shares if there is other IPO shares price going up in stock market. In the case that lots of investors use such investing strategy, they may induce the positive autocorrelation of initial return that they assumed. The hot issue market is existed all over the worlds. The successful rate of issuing new shares will be increased as well in hot issue market, and firms are willing to do IPOs or SEOs during hot issue market. This indirectly contributes to the development of hot issue market. Ritter (1984) find that there were certain time periods during 1960 to 1982 and the monthly average initial returns of initial public offering were extremely high, and there is a significantly increase in the volume of IPOs during these high initial return periods.

3.5 Investors Information

In order to protect investors, many countries will require initial public offering provide recent years' accounting or other financial information, management earnings forecast prior the IPO date and financial information after IPO to public, some public institutions and investors may use these information to value firms' performance and decide whether to invest in or not. Several studies focus on how these released information can influence the initial return of the IPOs. For instance, Kim, Krinsky and Lee (1995) find a significantly relationship between the value of released information with the initial public offering return in Korea using 260 IPOs during 1985 to 1990. Additionally, Kim, Krinsky and Lee (1995) also find that the share price also has close relationship with these released information. Another example is Jaggi (1997)'s research about Hong

Kong stock market. In Jaggi (1997)'s research, he evaluate the accuracy of forecast information disclosed in the IPO prospectuses and he find that these forecasts inflation released by listing firm is overall reliable and able to predict the share price. Also, Chan et al. (1996) focus on the factors that influence the accuracy of the prospectus earning forecasts in Hong Kong, the results Chan et al (1996) get suggest that the prospectus earnings forecasts will be more accurate when firm's past profit variability is lower or the economic environment does not experience a significantly change, additionally, the earnings forecasts will be more accurate in the case that the firm just going public in more recently days. Chen, Firth and Krishnan (2001) further evaluate the earnings forecast errors in Hong Kong IPO prospectuses. In the IPO prospectus, there will be certain information about the forecast of the firm's next year's profit and this kind of information can help investors to evaluate firm's value and decide whether to purchase the shares on the IPO day. Chen, Firth and Krishnan (2001) confirm that these earnings forecast in initial public offering prospectuses are reliable and investors can use these information as reference to make their investment decisions.

In more recently, Jelic Saadouni and Briston (2001) use a sample from Malaysian and evaluate management earnings forecasts, the results they get confirm that a negative relationship of upwards bias in management earnings forecasts with initial public offerings during the first year after the IPO announcement day. For the situation in Singapore, Eng and Aw (2000) evaluate what kind of information investors will focus when they making investment decision and they claim that large investors will pay more attention on the earnings yield, the size of capitalization and the level of underpricing. Another interesting result Eng and Aw (2000) discover is that large investors seems not willing to purchase the shares with higher book to market ratio. Regarding small

investors, differently with large investors, Eng and Aw (2000) find there is a negative relationship between the demand and firm's earnings yield, the size of capitalization and the level of underpricing.

3.6 Corporate Governance and IPOs and SEOs

Until now, there are still rare researches have done about how corporate governance factors can influence initial public offering. This leads to a situation that lack of theory developing in this area. Yong (2007) argue that the link between IPO and corporate governance is the cross section of institutional ownership in IPOs and initial return of new issuing shares. Ben Dor (2003) confirms that the percentage of shareholding by institutional investors shortly after the IPO and the following change of percentage of shareholding by institutional investors can significantly influence the long term performance up to 3 years after the IPO date. Ben Dor (2003) also confirms that these new issuing shares with highest proportion of institutional investing shares experience a better performance. In contrary, these firms with lowest proportion of institutional investing shares experience a relatively lower return. However, Ben Dor (2003) did not find any evidence to prove the proportion of institutional shares can contribute to IPO performance in hot issue market defined by high IPO volume and large initial return.

The managerial ownership of firm will experience dilution after firm going public. Yong (2007) states that the effects of dilution of ownership structure on firm performance are different with respect to the agency theory and corporate control theory. Chen and Kao (2005) using sample from Taiwan IPOs and evaluate the conflict between agency theory and corporate control on managerial ownership. Chan and Kao (2005) confirm that the proportion of managerial shares is high enough to control the firm even after going public, the increasing proportion of managerial share in the early aftermarket can

contribute to firm's performance. In other words, the results from Chan and Kao (2005) prove that corporate control benefit dominates the agency cost of IPO firms under the view of managerial ownership. Another empirical support is from Fernando, Krishnamurthy and Spindt (2004) and they confirm that both institutional ownership and the reputation of underwriter significantly influence the IPO price level. Additionally, Fernando, Krishnamurthy and Spindt (2004) also discover a U-shape relationship between IPO price and the underpricing level, which means institutional ownership and reputation of underwriter can contribute to IPO underpricing.

3.7. Earnings management for IPOs and SEOs

Another important theory for IPO and SEO is earning management. Under this theory, it argues that IPO or SEO firms will exhibit a significantly increase of firm's performance 1 year prior the IPO or SEO announcement day and usually the increasing rate is higher than average ratio in firm belonged industry. The reason why managers want conduct earning management is providing a view of higher quality and value firm for public and making investors over optimistic about the new issuing. However, the value of firm will be significantly reduced in the case that initial earning cannot be sustained. The earning management seems existed all over the worlds. Mclaughlin et al (1996) and Loughran and Ritter (1997) report the earning management in US SEOs; Mathew (2002) finds the earning management in Hong Kong, Cai and Laughran (1998), Guan et al. (2005) also report earning management in Japan; Regarding United Kingdom, Levis (1995) confirms earning management existed in United Kingdom as well.

Li, Zhang and Zhou (2006) study how the degree of earning management can influence the likelihood to delisting of initial public offerings using data from 1980 to 1999, the results suggest that firm with aggressive earning management has a higher chance to be

delisted from stock market, additionally, they also find that the more earning management activities involved before issuing, the sooner firm will be delisted. Furthermore, Li, Zhang and Zhou (2006) also argue that initial public offerings with conservative earning management experience higher chance to be involved in M&A. One possible action on earning management is report earnings in excess of cash flow by taking positive accruals. Teoh, Welch and Wong (1998) discover that initial public offerings with higher accrual experience poor long term performance.

Teoh, Wong and Rao (1998) confirm that initial public offering firms with high positive earnings within one year of IPO and abnormal accruals will experience a poor long run earnings and negative abnormal accruals. Additionally, Teoh, Wong and Rao (1998) argue that the abnormal accruals of IPO-year can explain the cross-sectional variation in post issue earnings and stock returns. Their findings suggest that opportunistic earnings management can explain the new issue anomaly in certain degree. Another evidence from Ducharme, Malatesta and Sefcik (2004) is that abnormal accounting accruals are extremely high around stock offerings, and the account accruals tend to reverse after share issuing. Consistent with Teoh Wong and Rao (1998b), Ducharme Malatesta and Sefcik (2004) also find a negative relationship with the accounting accruals and the stock returns.

4. Credit rating effects on IPOs and SEOs

4.1. Introduction

Credit rating agencies (CRAs) have the ability to provide additional information about corporations that public cannot otherwise obtain. They can reveal the potential risk of rated firms and many institutional investors would make use of credit rating level to judge companies' situation and decide whether to invest. Regarding the link between underpricing and credit rating, there are two main explanations: i) information asymmetries and ii) signalling theory. CRAs can theoretically alleviate IPO underpricing since they can provide information about firms' risk and reduce information asymmetries between insiders and outside investors. As for the second explanation, firms can purposefully underprice their IPOs to signal their high quality. Furthermore, Faulkender and Petersen (2006) and Liu and Malatesta (2007) report that a firm is more likely to have a credit rating when it is larger, older, and more profitable, and has more tangible assets. Firms with a credit rating can normally be viewed as high quality and hence they do not need to underprice their IPOs too much as signal of their quality.

Chemmanur and Paeglis (2005), An and Chan (2008) and Deb and Marisetty (2012) argue that CRAs can mitigate asymmetric information and value uncertainty of rated initial public offering (IPO) firms. As a result, rated IPOs are expected to be underpriced or mispriced lower than the unrated peers. Moreover, in the seasoned equity offerings (SEOs) market, Liu and Malatesta (2007) explore how credit rating may affect SEOs and they report that rated firms are significantly less underpriced than unrated firms.

Their results indicate that the presence of credit rating can reduce magnitude of underpricing level for both IPOs and SEOs.

The objective of this study is to analyse how credit rating could influence underpricing level of A-shares of Chinese IPOs and SEOs during 1990-2011. Motivated by severely high IPO underpricing in China we attempt to find out if being listed by CRAs can reduce money left on the table. We analyse whether CRAs can reduce IPOs and SEOs underpricing and get results of how credit ratings affect investors with the prevalent doubts about the rating system in China.

The rapid growth of the Chinese economy over the last 20 years has led to an increasing number of IPOs in its stock markets. However, the high level of underpricing in China (Chan et al., 2004, Tian and Megginson, 2007) has been unusual compared with the mature stock markets. Chen et al. (2008) evaluated China's A shares using 1394 IPOs listed between 1990-2005, reporting an underpricing level of 164.5%. Datar and Mao (1998) find an underpricing by 388% for the same shares during 1990-1996. Liu and Chung (2013) using data from 1999 to 2007 and report a 30% of underpricing level of SEOs in Chinese stock market.

Credit ratings were initially employed in the Chinese market in 1987 and since then they have been widely used by securities markets. However, Lee (2006) contends that most CRAs in China cannot reveal the actual situation of firms; noting that Dagong Global Credit Agency has rated 29 firms with A level and more than 21% of Chinese firms rated by Dagong CRA got AAA level. There is a similar concern about the China Cheng Xin International (CCXI), another major Chinese rating agency. Lee (2006) further states that many Chinese CRAs are business-oriented which implies that they can have perverse incentives to allow the quality of ratings to slip via soft assessments.

Such rosy ratings would potentially hide the truth about companies' prospects. In other words, credit rating system in China may not necessarily reduce information asymmetry and subsequently curb IPO underpricing levels (Tang, 2009). However, it should be noted that even stock analysts cannot access to information that CRAs can because of the Chinese wall on data gathering.

There are a number of reasons that make China a unique environment with respect to the IPO underpricing and credit rating link. First, the pricing methods of IPOs and SEOs change quite often because of immature stock market environment and lack of knowledge by Chinese government. Further, there exist debates about reliability of Chinese credit rating system that can or is unlikely to reduce information asymmetry between firms and outside investors. Another feature of Chinese IPOs is their extremely high level of underpricing and the participation of Chinese government as the ownership levels by state-owned enterprises (SOEs) are discernible and significant.

We raise several research questions on the role of credit ratings in the IPOs and SEOs context: can CRAs be a solution to the massive underpricing phenomenon in China? Do Chinese IPOs and SEOs select leading U.S. CRAs to go public or do they rely on their domestic peers? Does listing with more than one credit rating help lower the underpricing level? What is the effect of credit rating level on underpricing and does it matter to have a higher rating level? To what extent do CRAs convey useful information to reduce value uncertainty of the issuing firms given the information asymmetry in the IPO and SEO markets?

Our main hypotheses are summarized as follows: (1) The presence of Chinese domestic credit ratings has no influence on lowering IPO or SEO underpricing in the Chinese IPO or SEO market. (2) IPO and SEO firms rated by international standing credit rating

agencies are less underpriced in Chinese stock market. (3) The level (not its presence) of credit rating has significantly effect on IPOs and SEOs underpricing level in Chinese stock market. The detailed information of how these hypotheses developed will be presented in hypothesis development section.

We contribute to the literature in several ways. This study is related to Poon (2003), Boot et al. (2006), Kisgen (2006), Liu and Malatesta (2007), An and Chan (2008), Poon et al. (2009), Avramov et al. (2009) and Avramov et al. (2013). Most of these papers examine the relationship between credit ratings and IPOs outcomes. They find a negative link between the presence of credit rating and IPO underpricing. However, being different from these extant studies, our paper employs a comprehensive sample of Chinese IPOs and SEOs with ratings from top international and Chinese CRAs. Furthermore, we examine four sub-periods between 1990 and 2011 to see whether the nature of IPO underpricing varies across time periods. Our research also includes the SOE ownership into the analysis, which is ignored by most studies. Unlike other papers that focus on a single rating, we examine both the effect of single and multiple ratings on IPO underpricing. Therefore, we offer new evidence on the associated relationships. Robust econometric approaches are applied to control for the endogeneity problem and sample selection bias. Several researches indicate that credit ratings in China belong to non-creditable system, which is not expected to affect IPO pricing. However, they were not able to provide any support or empirical evidence for this statement, nor did they mention its direct effect on IPOs. Our research will explore how this so-called non-creditable system influences Chinese IPOs and SEOs' underpricing.

We report several notable findings. We find that credit rating presence is able to reduce information asymmetry and lower underpricing level for both IPOs and SEOs. Also, this

research confirmed that there is negative relation between multiple credit ratings and the IPO/SEO underpricing. Regarding credit rating level, results from this research prove that firms with higher credit rating are underpriced less than firm with lower underpricing (Except rating from Fitch). What matters for IPOs and SEOs underpricing is not only the presence of credit rating, but also the credit rating level. Our research shows the underpricing level in China is 149%, which is much higher than other countries and half of listing firms have government shares. For SEOs underpricing in China, the underpricing level is -0.7%, and this underpricing level is reduced significantly when comparing with the situation for IPOs.

The rest of the section is organized as follows. Section 4.2 discusses the relevant literature. Section 4.3 discusses Chinese credit rating framework by reviewing the stock market characteristics which related to credit rating and IPOs/SEOs underpricing. Section 4.4 provides hypothesis development and Section 4.5 is about descriptions of our sample. Section 4.6 provides methods and empirical analysis of probability of being rated and the effect of single rating on IPOs/SEOs underpricing. In section 4.7, we deliver multiple credit rating effect, followed by a discussion in section 4.8. Section 4.9 presents additional robustness checks. Section 4.10 concludes this section.

4.2. Literature review

The worldwide phenomenon of IPO underpricing was well articulated by scholars such as Ibbotson (1975), Ritter (1984) and Ritter et al. (2013). Below we classify and summarize the main explanations about IPOs/SEOs underpricing and attempt to relate them to credit ratings.

4.2.1. Growth opportunities, market timing and underpricing

The investment opportunity theory implies a link between growth opportunities and IPO underpricing. Firms may prefer equity over debt financing when they experience growth potentials (see Martin, 1996; Jung, Kim and Stulz, 1996, for instance). Myers (1977) contends that firms with growth potential are more willing to raise capital through IPOs/SEOs to make sure that shareholders get more wealth by avoiding wealth transfers to debt holders. However, for firms with potentially high growth there is a significant probability of experiencing uncertainty in future cash flows, and this uncertainty can increase operational risk³. In other words, high growth opportunity means high risk for investors. In order to attract more investors and make their listing a success, firms might intentionally underprice their IPOs to make investors feel a lower level of risk. Kim and Weisbach (2008) find that firms are more willing to issue public offerings at underpriced price when they have a very risky R&D program, which implies an interrelationship among growth opportunities, risk, and underpricing. Rating agencies are viewed as having the ability to get internal information about a firm's operation strategy and release risk-related information to the public.

Clustering of IPOs has become a well-known phenomenon. Ibbotson and Jaffe (1975) already showed that IPOs tend to cluster both in time and in industries. However, there is still no clear explanation of what causes hot or cold markets. The explanation of hot market is caused by investment opportunities, also discussed in Pagano, Panetta, and Zingales (1998). It is possible that firms' equity issue decisions are driven mainly by

³ Myers and Majluf's (1984) pecking order theory suggests that growth firms would be the equity issuers with least likelihood because of high asymmetric information costs they might cause. Nevertheless, such firms often resort to equity financing as they tend to face with financial constraints (Lemmon and Zender, 2010). It would also be interesting to note that financing needs can be specific to risky projects but the financing decision can be endogenous to projects risk and financial constraints.

market timing attempts (Baker and Wurgler, 2002). Specifically, if offer price of IPOs in a given month exceed initial expectations, the IPO volume in the subsequent months increases dramatically. On the other hand, they found that the offer prices turn out to be lower than expected.

4.2.2. Asymmetric information and underpricing

Rock's (1986) winner's curse model points out the relationship between information asymmetry between good/bad issuers and uninformed investors, and underpricing. Zhang (2012) states that more precise information exerts more influence on IPO offer prices. Additionally, Sherman and Titman (2002) show that underpricing is larger when it is more difficult and costly for investors to produce information, i.e., firms will incentivize and attract more investors by pricing shares at lower levels to make up the limitations of information asymmetry. Moreover, potential institutional investors demand information from underwriters in bidding process of bookbuilding mechanism, and this information is unknown by individual investors. In order to dispel individual investors' concern, firms thus might underprice their IPOs.

Edelen and Kadlec (2005) provide a different perspective and argue that firms partially adjust the offer price with respect to the public information in order to increase the probability of a successful IPO. In their model, the issuer's surplus from the IPO increases with the public information while the probability of the IPO's success decreases with the offer price. To decrease the probability of failure, the issuer asks for a lower offer price if positive information is observed.

Beatty and Ritter (1986) acknowledge that IPO underpricing levels are positively associated with information asymmetry as investors are willing to risk their money. The

cost of gathering information is more like call option of IPOs. The cost will be increasing while the risk or uncertainties of IPOs increases. Thus, investors would ask for lower-priced IPOs when the uncertainty increases. CRAs can reveal publicly unavailable inside information (e.g., firms' strategic plans and profit breakdown) that can reduce information asymmetries (Ederington and Yawitz, 1987). Hands (1992) studied on the relationship between bond ratings and markets reaction and found that stock market index will go down when a firms' bond rating receives a downgrade. Ederington and Goh (1998) further deliver a message implying that markets react more negatively to downgraded ratings compared to bad earnings news.

4.2.3. Governance reforms, regulatory interventions and underpricing

There are two forms of governance reforms and regulatory interventions that can contribute to IPO underpricing. The first one would be the accounting rule or disclosure rules. Chambers and Dimson (2009) point out that disclosure rules should improve the reliability of prospectus information, and stronger anti-director rights should give shareholders more effective measures to resist unsatisfied management, thereby reducing IPO investors' demand for compensation via underpricing. This indicates the relationship between governance rule and IPO underpricing. Shleifer and Wolfenzon (2002) developed a model to analyse the impact of governance reform on IPO underpricing. They found that, with better legal protection, the risk of wealth expropriation by insiders is lower and investors are more willing to pay higher price for a firm's equity. Therefore, we state that the efficacy of a governance reform implies reduction in IPO underpricing.

The second form of regulatory interventions is the rule for pricing. This form is common in China, which implied several IPO pricing rules in different periods. For

example, from January 1st 1990 to July 27th 1999, the price of IPO was set based on certain P/E ratios no matter what value of a firm was. Additionally, the pricing mode changed again to the cumulative method in July 28th 1999 to June 30th 2001. All of these regulation reforms contribute to IPO underpricing. Therefore, the IPO underpricing in China should be examined in different time periods before one generalizes the results.

4.2.4. Price discovery, signalling theory and underpricing

Ljungqvist and Wilhelm (2002) state that discretionary allocation encourages price discovery efficiency in primary markets and lower the costs of going public. The positive correlation between price revision and initial returns is referred to as the partial adjustment phenomenon by Hanley (1993). This points out that the offer price should only be partially adjusted in order to leave enough money to compensate investors for actively revealing positive information. Furthermore, Benveniste and Spindt (1989) argue that investors revealing advantageous information should expect great compensation than investors revealing disadvantageous information. Kutsuna, Smith and Smith (2009) study on the Japanese stock market and find that early pricing discussions between underwriter and issuers and the filing rage constrains generate relatively high initial returns. The early pricing discussion means that although underwriter and issuer can get information about public expectation through bookbuilding mechanism, they do not fully incorporate the information into offer price. In return, the underwriter uses underpricing as device to attract investors.

The signalling model argues that firms will underprice their initial offers to leave a good taste for investors and usually followed by new shares issuing with higher price. This leads to the several predictions that firms with more underpriced IPOs have more opportunities to (1) subsequently do SEOs (2) issue SEOs more promptly, (3) issue

larger size of SEOs and (4) have smaller price drop after the SEO issuance. Following up these hypotheses, Jegadeesh, Weinstein and Welch (1993) find that firms with more underpriced IPOs are more likely to issue SEOs within three years after their IPOs and the size of SEOs will be larger but they characterize the evidence as weak. In contrast, Garfinkel (1993) finds that, after controlling for other potential variables associated with underpricing, IPO underpricing has no bearing on the probability of subsequent SEOs.

4.2.5. Credit rating and underpricing

Credit rating reveals company information and can be used as another source for investors to reduce information asymmetry. Ederington and Yawitz (1987) argue that credit rating agencies state they can provide inside information which are not available to public, such as firms strategy plans and profit breakdown. Even stock analysts cannot reach such information because of the Chinese wall on data gathering. Hands (1992), on a study on bond rating and markets reaction found that stock market will go down when firms' bond rating will receive a downgrade. Ederington and Goh (1998) further deliver the message that negative market reaction is because of the downgrade of firms instant of firms' current performance or negative realized information.

Boot et al. (2006), created a model which shows that all investors rationally base their investment and pricing decisions on the rating. They stated that credit rating agencies can supervise and monitor listing companies and force them to improve their quality and reduce risks. In other word, credit rating can spread inside information of firms to public investors.

Uninformed individual investors can get extra information of firms through credit rating to reduce the level of information asymmetry. Sufi (2009) stated that firms going public

with a Moody's or S&P's credit rating are able to receive syndicated loan easier and also can get financial support with more capital. In line with the concept that credit rating can lower the level of information asymmetry, Sufi (2007) shows that credit rated companies purpose is to preserve a bigger share of loan while these firms without credit ratings aim to receive financial support through others. On the other hand, syndicate loans will dispersed through many commercial banks or investment institutions when firms have credit rating. Faulkender and Petersen (2006) argue that credit rating lower credit constraints faced by listing companies through enabling firms to get more debt capital.

Liu and Malatesta (2007) investigated how credit rating affect SEOs. They report that companies going for SEO with credit ratings are obviously less underpriced. Liu and Malatesta report that credit rating can also lower level of information asymmetry in SEOs. On this basis, credit rating of listing companies should be placed at a more important status in both IPOs and SEOs process. This is because of the majority of IPOs are not well known by public and the market, consequently, information asymmetry is at higher level in IPOs market. Applying credit rating into analysis of IPOs and SEOs will contribute to the existing literature.

4.3. Chinese Credit Rating Framework

Credit ratings initially penetrated the Chinese market in 1987 when Chinese government issued "Temporary Regulations on the Management of Corporate Bonds". People's Bank of China (PBOC) has been the first credit rating agent in the country. Over the years national credit agencies became independent department. By December 16, 1997, PBOC required all corporate bond issues to be credit rated by one of the nine accredited credit rating agencies.

4.3.1 Chinese Framework on Credit Ratings

In China, the issuers of corporate bonds had to receive a credit rating⁴. There has been a minimum requirement for ‘A’ from several credit rating agencies⁵ to secure trading in Shanghai and Shenzhen Stock Exchanges. People Bank of China (also the central bank in China) provided advices to banks to use credit rating as a standard in the process of deciding loan for enterprises. After several years, China Banking Regulatory Commission (CBRC) decided to follow the same provisions. In 2010, The Basel II capital adequacy framework⁶ is fully implemented in China.

As Credit rating started playing increasingly important role in China, the government set up a Regulatory System for credit rating agencies. By 2004, State Council of China announced “Opinions of the Stated Council on Promoting the Reform, Opening, and Steady Growth of Capital Market,”⁷ and set up a schedule of building regulatory framework for credit rating in China.

Securities Law, as part of legislation carried out by National People’s Congress to regulate credit rating in China, stated that any credit rating agency that try to participate in securities services must get permission from CSRC. CSRC also announced “Interim Measures for the Administration of the Credit rating Business Regarding the Securities Market” in the year of 2007. This regulation shows the rules on licensing, business operation, administration and legal liabilities for Credit rating agencies. These rules apply for credit rating agencies participating in securities markets. Nowadays, China use

⁴ That is basic on the “Regulations on Administration of Enterprise Bonds” carried out by State Council on August 2 in 1993.

⁵ “Enterprise Bonds Listing Rules of Shanghai Stock Exchange (2000)” and “Enterprise Bonds Listing Rules of Shenzhen Stock Exchange (2000)”

⁶ Basel Committee on Banking Supervision, “International Convergence of Capital Measurement and Capital Standards: A revised Framework,” See as WWW.bis.org/publ/bcbs107.htm.

⁷ Announced on 31st January, 2004 by State Council.

more international standard to measure credit rating for enterprises.

4.3.2. Credit Rating Development in China

There are 23 credit ratings agencies in China (i.e. including the 9 PBOC qualified) the majority of which are small and inexperienced. The main credit rating agencies in China are SFE⁸, CCXI⁹, Dagong¹⁰, and Lianhe¹¹. There is a reputable credit rating agency based in Hong Kong called XFN of Xinhua Finance. Leading international credit agency, (i.e. Moody's, S&P's and Fitch) made efforts to set up business in China over the recent years by approaching the nascent credit rating industry. Fitch formed a joint venture with China Chengxin Credit Management Co., Ltd. (CCX) in 1999 but divested from this joint venture in 2003 (Lee, (2006)). Moody's signed a cooperative agreement with Dagong in 1999 (Moody's (1999)) but they ended their three-year cooperation in 2002 (Lee, 2006). In August 2006, China's Ministry of Commerce approved Moody's move to acquire a 49% interest in CCXI from its parent company, CCX. Moody's is the first foreign company holding a sizable share of ownership in a Chinese rating company, while CCXI is the first Sino-foreign joint venture in China's credit rating industry. S&P's has assigned credit ratings to major Chinese banks and Chinese companies listed on international stock exchanges. Unlike Fitch and Moody's, S&P so far does not have any official cooperation agreement or joint venture with the local rating agencies in China; it only signed a technical service agreement and then shares expertise and experience with Chinese domestic rating agency called 'Shanghai XinShiJi'.

⁸ Shanghai Far East Credit Rating Co., Ltd.

⁹ China Chengxin International Credit Rating Co., Ltd.

¹⁰ Dagong Global Credit Rating Co., Ltd.

¹¹ China Lianhe Credit Rating Co., Ltd.

4.3.3 Credit rating Problems in China (Non-creditable system)

Although literature shows credit rating should play crucial role in IPOs market, however, there are serious problems for credit rating in Chinese market. Lee (2006) argued that most credit rating agencies in China are more business oriented which means that they would offer a higher credit rating for firms prepared to synapse business relationship with them. Evidence shows that 29 firms credited by Dagong Global Credit Rating Agency get 'A' and more than 21% firms receive 'AAA' (Dagong, 2006). In addition to that, this credit Dagong gave 'AAA' for all firms' bond in Dagong's sample (Dagong credit rating report, 2006). Asiamoney (2006) also stated that credit rating agency CCXI never assigned a speculative-grade rating on any of the short-term corporate debt issues it covers. Bottelier (2003), shows that the majority of bonds issued by listing firms receives 'AAA' rating from Chinese agencies and adds that Chinese credit rating agencies did not evaluated these firms based on their proper conditions. Larry Lee, CEO of Fitch, express the view that the majority of investors within China trade credit rating information from a reputational agency as an important factor for valuing a firm.

4.4. Hypotheses development

Uninformed investors can get information on companies' risk profiles from credit rating agencies' evaluations which are based on companies' inside information not available on public sources. Credit rating agencies will receive information on firm's strategy, and will carry out forward looking projections for that firm. The agency incorporates these inside based information and provides an outcome on firm's risk portfolio followed by rating information to public. Due to the extensive contribution of information asymmetry in IPO underpricing in capital market, it is reasonable to contend an evaluation that credit rating could lower the level of information asymmetry and thus

reduce the level of underpricing. An and Chan (2008) suggest that credit rating reduce information asymmetry and value uncertainty of rated IPO firms, which in turn are underpriced less than the unrated IPO firms. Mahajan and Anand (2009) state that a bad rating can shake investors' confidence and create panic in the market and can really paralyze the system. Chemmanur and Paeglis (2005) and Deb and Marisetty (2010) report that IPO underpricing is lower for graded IPO compare with IPO without graded. SEOs are the same with IPOs.

However, Lee (2006) argued that most credit rating agencies in China are more business oriented which means that they would offer a higher credit rating for firms prepared to synapse business relationship with them. Asiamoney (2006) also stated that credit rating agency CCXI never assigned a speculative-grade rating on any of the short-term corporate debt issues it covers. Further, Bottelier (2003) shows that the majority of bonds issued by listing firms receives 'AAA' rating from Chinese agencies and adds that Chinese credit rating agencies did not evaluated these firms based on their proper conditions.

Consequently, the first hypothesis is

H1a: The presence of Chinese domestic credit ratings has no influence on lowering IPO underpricing in the Chinese IPO market.

H1b: The presence of Chinese domestic credit ratings has no influence on lowering SEO underpricing in the Chinese SEO market.

Bottelier (2003) and Lee (2006) claim that in contrast to international standing ratings, Chinese agencies cannot reveal with their ratings the real condition of firms, thus, ratings have no effect on reducing information asymmetry. However, the international

agencies are different from Chinese domestic agencies and the rating information is more reliable, and able to provide additional information that public cannot obtain. In the light of previous evidence Hypothesis will be as follows:

H2a: IPO firms rated by international standing credit rating agencies are less underpriced in Chinese stock market.

H2b: SEO firms rated by international standing credit rating agencies are less underpriced in Chinese stock market.

Beatty and Ritter (1986) put forward the uncertainty effect in IPOs and claimed that uncertainty will leads underpricing when firm goes public. Jenkinson and Ljungqvist (1996) also support previous findings with their empirical results. Credit rating mainly shows the strengths and weaknesses for firm and also the uncertainty. Higher credit rating level stands for lower level of uncertainty, therefore, firms with higher rating level are supposed to experience lower underpricing in both IPO and SEO market.

H3a: The level of credit rating has significantly negative effect on firms' underpricing level in Chinese IPOs market.

H3b: The level of credit rating has significantly negative effect on firms' underpricing level in Chinese SEOs market.

4.5. Sample and Data

4.5.1. Sample selection criteria

We download a sample of Chinese IPOs and SEOs over the period January 1, 1990 and December 31, 2011 which covers the entire history of Chinese stock market development from DEALOGIC Database. More data are collected from Bloomberg,

COMPUSTAT and GTA. The start date of the sample was driven by the availability of data for all variables used in the empirical analysis. The sample consists of two groups, IPOs/SEOs with credit ratings and companies going public without credit rating. The sample includes 2096 IPOs and 625 SEOs listed in Shanghai and Shenzhen Stock Exchanges. Credit rating information is collected from ALL TOP three credit agencies in the world Standard & Poor's (S&P), Moody's, Fitch and one Chinese domestic rating agency "Dagong Global Credit Rating". GTA provides all going public firms basic information, stock market trading information, financial statements and listing times. This database is widely used by researches of Chinese financial market.

4.5.2. Sample statistics

The number of observations is 2096 IPOs firms, 131 (1965) of them are rated (unrated) by Chinese domestic CRA Dagong Global Credit Rating Agency, see as Table 4.1 Panel A. We can see that these rating activities are mostly happened from 1993 to 2002. Additionally, most firms in China do not have rating, and this indicated that credit ratings from independent agency are still not commonly adopted in Chinese case. In panel B, it provides a more detailed information about of each agencies' rating information and percentage among there four rating agencies. Although S&P, Moody's and Fitch have already entered into Chinese market, still their contribution of credit rating in China is not significant. For SEOs, 625 SEOs are included and only 55 of them are rated by Chinese domestic rating agency, the proportion of rating firms is about 8.8%. Moreover, Table 4.1 B Panel B shows only 68 among 625 SEO firms get rating from Dagong or other top three international rating agencies. Contribution of Credit rating is still very limited for IPOs and SEOs in Chinese stock market.

Table 4.1 A: Ratings sample breakdown for IPOs and Privatisation IPOs

Panel A in this table provides break down of results of Chinese IPO and privatisation IPO activities in every single year in our time period from 1990 till 2011. 131 firms are rated by domestic rating agency (Dagong) or other 3 top rating agencies (Moody, S&P, Fitch) in the world within total sample size of 2096. Panel B provide more detailed information of each agencies' rating information and percentage among there four agencies.

Panel A: IPOs in China rated by Rating Agencies (1990 – 2011)

| Year | Total IPOs/PIPOs | | Unrated IPOs/PIPOs | | Rated IPOs/PIPOs | |
|--------------|---------------------|------------------|-----------------------|-------------------|---------------------|------------------|
| | <u>N</u> | <u>%</u> | <u>N</u> | <u>%</u> | <u>N</u> | <u>%</u> |
| | 1990 | 7/4 | 0.33/0.19 | 7/4 | 0.33/0.19 | 0/0 |
| 1991 | 4/2 | 0.19/0.10 | 2/1 | 0.10/0.05 | 2/1 | 0.10/0.05 |
| 1992 | 36/19 | 1.72/0.91 | 32/18 | 1.53/0.86 | 4/1 | 0.19/0.05 |
| 1993 | 108/32 | 5.15/1.53 | 96/27 | 4.58/1.29 | 12/5 | 0.57/0.24 |
| 1994 | 105/37 | 5.01/1.77 | 96/34 | 4.58/1.62 | 9/3 | 0.43/0.14 |
| 1995 | 20/8 | 0.95/0.38 | 19/8 | 0.91/0.38 | 1/0 | 0.05/0.00 |
| 1996 | 192/72 | 9.16/3.44 | 186/70 | 8.87/3.34 | 6/2 | 0.29/0.10 |
| 1997 | 201/76 | 9.59/3.62 | 181/73 | 8.64/3.48 | 20/3 | 0.95/0.14 |
| 1998 | 101/36 | 4.82/1.72 | 90/32 | 4.29/1.53 | 11/4 | 0.52/0.19 |
| 1999 | 95/40 | 4.53/1.91 | 86/38 | 4.10/1.81 | 9/2 | 0.43/0.10 |
| 2000 | 135/46 | 6.44/2.19 | 124/42 | 5.92/2.00 | 11/4 | 0.52/0.19 |
| 2001 | 79/34 | 3.77/1.62 | 67/29 | 3.20/1.38 | 12/5 | 0.57/0.24 |
| 2002 | 71/16 | 3.39/0.76 | 63/13 | 3.01/0.62 | 8/3 | 0.38/0.14 |
| 2003 | 62/26 | 2.96/1.24 | 58/25 | 2.77/1.19 | 4/1 | 0.19/0.05 |
| 2004 | 100/37 | 4.77/1.77 | 98/37 | 4.68/1.77 | 2/0 | 0.10/0.00 |
| 2005 | 14/9 | 0.67/0.43 | 13/9 | 0.62/0.43 | 1/0 | 0.05/0.00 |
| 2006 | 65/27 | 3.10/1.29 | 59/24 | 2.81/1.15 | 6/3 | 0.29/0.14 |
| 2007 | 118/47 | 5.63/2.24 | 110/42 | 5.25/2.00 | 8/5 | 0.38/0.24 |
| 2008 | 75/38 | 3.58/1.81 | 74/38 | 3.53/1.81 | 1/0 | 0.05/0.00 |
| 2009 | 97/37 | 4.63/1.77 | 94/36 | 4.84/1.72 | 3/1 | 0.14/0.05 |
| 2010 | 345/111 | 16.46/1.00 | 344/111 | 16.41/5.30 | 1/0 | 0.05/0.00 |
| 2011 | 66/27 | 3.15/1.29 | 66/27 | 3.15/1.29 | 0/0 | 0.00/0.00 |
| Total | 2096/781 | 100/37.25 | 1965/738 | 93.75/35.2 | 131/43 | 6.25/2.05 |

Table 4.1 A: (continued)

| Panel B: Rated IPOs in the China across different rating agencies (1990 – 2011) | | | | |
|--|------------------------|----------------------------|--------------------------|---------------------------|
| Year | S&P IPOs/PIPOs N | Moody's IPOs/PIPOs N | Fitch IPOs/PIPOs N | Dagong IPOs/PIPOs N |
| 1990 | 0/0 | 0/0 | 0/0 | 0/0 |
| 1991 | 1/0 | 1/0 | 0/0 | 2/1 |
| 1992 | 0/0 | 0/0 | 0/0 | 4/1 |
| 1993 | 0/0 | 0/0 | 1/0 | 12/4 |
| 1994 | 0/0 | 0/0 | 0/0 | 9/3 |
| 1995 | 0/0 | 0/0 | 0/0 | 1/1 |
| 1996 | 0/0 | 0/0 | 1/1 | 5/1 |
| 1997 | 1/0 | 1/0 | 2/1 | 19/7 |
| 1998 | 3/1 | 2/1 | 0/0 | 9/2 |
| 1999 | 1/0 | 1/0 | 2/0 | 8/3 |
| 2000 | 3/2 | 2/2 | 2/1 | 9/3 |
| 2001 | 2/1 | 2/1 | 1/1 | 12/6 |
| 2002 | 2/0 | 1/0 | 2/0 | 7/2 |
| 2003 | 0/0 | 0/0 | 2/1 | 4/1 |
| 2004 | 0/0 | 0/0 | 0/0 | 2/0 |
| 2005 | 0/0 | 0/0 | 1/0 | 1/1 |
| 2006 | 2/1 | 2/0 | 3/1 | 3/1 |
| 2007 | 6/3 | 4/2 | 3/2 | 4/0 |
| 2008 | 1/1 | 0/0 | 0 | 0/0 |
| 2009 | 1/1 | 1/0 | 1/1 | 1/0 |
| 2010 | 1/0 | 1/1 | 0 | 0/0 |
| 2011 | 0/0 | 0/0 | 0 | 0/0 |
| Total | 24/10 | 18/7 | 21/9 | 112/37 |
| Panel C: Rating length before issuing and level of underpricing for IPOs and PIPOs | | | | |
| Rating Length | S&P IPOs/PIPOs | Moody's IPOs/PIPOs | Fitch IPOs/PIPOs | Dagong IPOs/PIPOs |
| <12m | 152.32%/143.61% | 150.64%/165.95% | 153.16%/151.82% | 156.72%/149.95% |
| 12m-24m | 143.51%/141.82% | 140.65%/143.38% | 143.62%/140.76% | 150.16%/140.68% |
| 24m-36m | 131.66%/NA | 133.63%/127.86% | 158.70%/NA | 152.31%/146.70% |
| >36m | 123.91%/120.57% | 125.44%/NA | NA/NA | 142.09%/137.83% |
| Panel D: Rating length and rating level | | | | |
| Rating Length | S&P IPOs/PIPOs | Moody's IPOs/PIPOs | Fitch IPOs/PIPOs | Dagong IPOs/PIPOs |
| <12m | 4.5/3.6 | 5.13/4.92 | 6.5/6 | 6.12/5.95 |
| 12m-24m | 7.61/5.38 | 6.96/6.37 | 7.61/5.6 | 5.65/6 |
| 24m-36m | 6.0/NA | 5.91/5.83 | 5/NA | 6.54/6.21 |
| >36m | 6.69/6.83 | 5/NA | NA/NA | 6.68/6.32 |

Note: The rating level under Panel D is calculated as the mean value of all ratings under each time length

Table 4.1 B: Ratings sample breakdown for SEOs

Panel A in this table provides break down of results of Chinese SEO activities in every single year in our time period from 1990 till 2011. 131 firms are rated by domestic rating agency (Dagong) or other 3 top rating agencies (Moody, S&P, Fitch) in the world within total sample size of 625. Panel B provide more detailed information of each agencies' rating information and percentage among there four agencies.

Panel A: SEOs in China rated by Rating Agencies (1990 – 2011)

| Year | Total | | Unrated | | Rated | |
|--------------|------------|------------|------------|--------------|-----------|--------------|
| | <u>N</u> | <u>%</u> | <u>N</u> | <u>%</u> | <u>N</u> | <u>%</u> |
| 1990 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 1991 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 1992 | 1 | 0.16 | 1 | 0.16 | 0 | 0.00 |
| 1993 | 57 | 9.12 | 52 | 8.32 | 5 | 0.8 |
| 1994 | 33 | 5.28 | 31 | 4.96 | 2 | 0.32 |
| 1995 | 46 | 7.36 | 45 | 7.2 | 1 | 0.16 |
| 1996 | 28 | 4.48 | 23 | 3.68 | 5 | 0.8 |
| 1997 | 53 | 8.48 | 43 | 6.88 | 10 | 1.6 |
| 1998 | 117 | 18.72 | 108 | 17.28 | 9 | 1.44 |
| 1999 | 80 | 12.8 | 76 | 12.16 | 4 | 0.64 |
| 2000 | 91 | 14.56 | 83 | 13.28 | 8 | 1.28 |
| 2001 | 57 | 9.12 | 50 | 8 | 7 | 1.12 |
| 2002 | 8 | 1.28 | 8 | 1.28 | 0 | 0.00 |
| 2003 | 8 | 1.28 | 8 | 1.28 | 0 | 0.00 |
| 2004 | 12 | 1.92 | 8 | 1.28 | 4 | 0.64 |
| 2005 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 2006 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| 2007 | 1 | 0.16 | 0 | 0.00 | 1 | 0.16 |
| 2008 | 3 | 0.48 | 3 | 0.48 | 0 | 0 |
| 2009 | 5 | 0.8 | 4 | 0.64 | 1 | 0.16 |
| 2010 | 12 | 1.92 | 6 | 0.96 | 6 | 0.96 |
| 2011 | 13 | 2.08 | 8 | 1.28 | 5 | 0.8 |
| Total | 625 | 100 | 557 | 89.12 | 68 | 10.88 |

Table 4.1 B: (continued)

| Panel B: Rated SEOs in the China across different rating agencies (1990 – 2011) | | | | |
|---|----------|--------------|------------|-------------|
| Year | S&P N | Moody's N | Fitch N | Dagong N |
| 1990 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 0 | 0 | 0 |
| 1993 | 1 | 1 | 1 | 5 |
| 1994 | 0 | 0 | 0 | 2 |
| 1995 | 0 | 0 | 0 | 1 |
| 1996 | 0 | 0 | 0 | 5 |
| 1997 | 3 | 1 | 2 | 9 |
| 1998 | 2 | 2 | 1 | 7 |
| 1999 | 0 | 0 | 1 | 4 |
| 2000 | 0 | 0 | 0 | 7 |
| 2001 | 1 | 1 | 1 | 5 |
| 2002 | 0 | 0 | 0 | 0 |
| 2003 | 0 | 0 | 0 | 0 |
| 2004 | 2 | 1 | 1 | 2 |
| 2005 | 0 | 0 | 0 | 0 |
| 2006 | 0 | 0 | 0 | 0 |
| 2007 | 0 | 0 | 0 | 1 |
| 2008 | 0 | 0 | 0 | 0 |
| 2009 | 1 | 1 | 0 | 1 |
| 2010 | 6 | 5 | 2 | 2 |
| 2011 | 3 | 2 | 3 | 4 |
| Total | 19 | 14 | 12 | 55 |

| Panel C: Rating length before issuing and level of underpricing for SEOs | | | | |
|--|--------|---------|--------|--------|
| Rating Length | S&P | Moody's | Fitch | Dagong |
| <12m | -0.71% | -0.59% | -0.26% | -0.70% |
| 12m-24m | -0.78% | -0.63% | -0.33% | -0.65% |
| 24m-36m | -0.65% | -0.56% | -0.21% | -0.73% |
| >36m | -0.77% | -0.81% | NA | -1.66% |

| Panel D: Rating length and rating level | | | | |
|---|-----|---------|-------|--------|
| Rating Length | S&P | Moody's | Fitch | Dagong |
| <12m | 6 | 5 | 6 | 6.3 |
| 12m-24m | 5.5 | 5.5 | 5 | 7.2 |
| 24m-36m | 6.5 | 7 | 6.5 | 6.4 |
| >36m | 7.8 | 6 | NA | 6.2 |

Note: The rating level under Panel D is calculated as the mean value of all ratings under each time length

Table 4.2 A: Rating Grade for Chinese IPOs (1990 – 2011)

This table describes these rated firms in different types. Panel A is in Grade level detail. NR means not rated. C means firm be rated with lowest rating level, take value of 1, AAA will be the highest level and take value of 9. In panel B, we classify IPO firm with Higher Grade (in A's level), Medium Grade (in B's level), Lower Grade (in C's level) and NR (not rated). Panel C provides firms with investment grade and non-investment grade from S&P, Moody, Fitch and Dagong

Panel A: Classified By Grade

| GRADE | CRGRD | S&P | | MOODY'S | | FITCH | | Dagong | |
|--------------|-------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
| | | N | % | N | % | N | % | N | % |
| AAA | 9 | 3 | 0.14 | 0 | 0.00 | 0 | 0.00 | 3 | 0.14 |
| AA | 8 | 12 | 0.57 | 9 | 0.43 | 0 | 0.00 | 21 | 1.00 |
| A | 7 | 3 | 0.14 | 5 | 0.24 | 6 | 0.29 | 35 | 1.67 |
| BBB | 6 | 4 | 0.19 | 3 | 0.14 | 5 | 0.24 | 31 | 1.48 |
| BB | 5 | 2 | 0.10 | 1 | 0.05 | 3 | 0.14 | 16 | 0.76 |
| B | 4 | 0 | 0.00 | 0 | 0.00 | 1 | 0.05 | 2 | 0.10 |
| CCC | 3 | 0 | 0.00 | 0 | 0.00 | 6 | 0.29 | 0 | 0.00 |
| CC | 2 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 2 | 0.10 |
| C | 1 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 2 | 0.10 |
| NR | 0 | 2072 | 98.85 | 2078 | 99.14 | 2075 | 98.99 | 1965 | 93.75 |
| Total | | 2096 | 100 | 2096 | 100 | 2096 | 100 | 2096 | 100 |

Panel B: Classified by level of grade (A's, B's and C's)

| | | | | | | | | |
|---------------|------|-------|------|-------|------|-------|------|-------|
| Higher | 18 | 0.86 | 14 | 0.67 | 6 | 0.29 | 59 | 2.81 |
| Medium | 6 | 0.29 | 4 | 0.19 | 9 | 0.43 | 49 | 2.34 |
| Lower | 0 | 0.00 | 0 | 0.00 | 6 | 0.29 | 4 | 0.19 |
| NR | 2072 | 98.85 | 2078 | 99.14 | 2075 | 98.99 | 1965 | 93.75 |

Panel C: Classified by Investment/Non-Investment Grade

| | | | | | | | | |
|-----------------------------|----|-------|----|-------|----|-------|----|-------|
| Investment Grade | 22 | 91.67 | 17 | 94.44 | 11 | 52.38 | 90 | 80.36 |
| Non-Investment Grade | 2 | 8.33 | 1 | 5.56 | 10 | 47.62 | 22 | 19.64 |

Table 4.2 B: Rating Grade for Chinese SEOs (1990 – 2011)

This table describes these rated firms in different types. Panel A is in Grade level detail. NR means not rated. C means firm be rated with lowest rating level, take value of 1, AAA will be the highest level and take value of 9. In panel B, we classify SEO firms with Higher Grade (in A's level), Medium Grade (in B's level), Lower Grade (in C's level) and NR (not rated). Panel C provides firms with investment grade and non-investment grade from S&P, Moody, Fitch and Dagong

Panel A: Classified By Grade

| GRADE | CRGRD | S&P | | MOODY'S | | FITCH | | Dagong | |
|--------------|-------|------------|------------|------------|------------|------------|------------|------------|------------|
| | | N | % | N | % | N | % | N | % |
| AAA | 9 | 3 | 0.48 | 0 | 0.00 | 0 | 0.00 | 2 | 0.32 |
| AA | 8 | 10 | 1.6 | 5 | 0.8 | 0 | 0.00 | 10 | 1.6 |
| A | 7 | 1 | 0.16 | 6 | 0.96 | 5 | 0.8 | 19 | 3.04 |
| BBB | 6 | 3 | 0.48 | 2 | 0.32 | 2 | 0.32 | 17 | 2.72 |
| BB | 5 | 2 | 0.32 | 1 | 0.16 | 1 | 0.16 | 5 | 0.8 |
| B | 4 | 0 | 0.00 | 0 | 0.00 | 1 | 0.16 | 1 | 0.16 |
| CCC | 3 | 0 | 0.00 | 0 | 0.00 | 3 | 0.48 | 0 | 0.00 |
| CC | 2 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 |
| C | 1 | 0 | 0.00 | 0 | 0.00 | 0 | 0.00 | 1 | 0.16 |
| NR | 0 | 606 | 96.96 | 611 | 97.76 | 613 | 98.08 | 570 | 91.2 |
| Total | | 625 | 100 | 625 | 100 | 625 | 100 | 625 | 100 |

Panel B: Classified by level of grade (A's, B's and C's)

| | | | | | | | | |
|---------------|-----|-------|-----|-------|-----|-------|-----|-------|
| Higher | 14 | 2.24 | 11 | 1.76 | 5 | 0.8 | 31 | 4.96 |
| Medium | 5 | 0.8 | 3 | 0.48 | 4 | 0.64 | 23 | 2.34 |
| Lower | 0 | 0.00 | 0 | 0.00 | 3 | 0.48 | 1 | 0.19 |
| NR | 606 | 96.96 | 611 | 97.76 | 613 | 98.08 | 570 | 93.75 |

Panel C: Classified by Investment/Non-Investment Grade

| | | | | | | | | |
|-----------------------------|----|-------|----|-------|---|-------|----|-------|
| Investment Grade | 16 | 88.89 | 13 | 92.86 | 7 | 58.33 | 48 | 87.27 |
| Non-Investment Grade | 2 | 11.1 | 1 | 7.14 | 5 | 41.67 | 7 | 12.73 |

See Appendix A for the definition of variables

Table 4.2A provides more detailed information about credit rating in China. Only 3 firms got 'AAA' rating from S&P, and the situation is the same for Dagong, however, no firm get 'AAA' level from Moody's and Fitch. Other information we can see from Table 4.2 A is that Dagong give most of its rating clients 'BB' or above, this is also the reason why many researches doubt about reliability of Chinese domestic rating agencies. What is more, this table indicated that either top three international rating agencies or Chinese domestic rating agency give majority IPOs with investment grade. For instance, 91.67% of IPOs rated by S&P receive investment grade, and this figure is 94.44%, 52.38% and 80.63% for Moody's, Fitch and Dagong separately. Fitch seems not as generous as other CRAs in offering rating to Chinese firms. Regarding credit rating information for SEOs, Table 4.2B indicated that no firm get AAA rating from Moody's and Fitch for SEOs, however, three and two firms get rating from S&P and Dagong respectively. Only one firm get a C rating from Dagong. Panel C shows the percentage of SEO firms with investment grades is significantly reduced when comparing with IPOs.

Table 4.3.1 A reports that underpricing level of IPO is 149.03% which is similar with other researches such as: Chan et al. (2004) obtained the level of underpricing is 178%. The highest underpricing level in our sample even reaches to 1900%. The underpricing level for SEO is much smaller than IPO's, average underpricing level for SEO is only -0.7% (As showed in Table 4.3.2 A), in other words, SEOs are overpriced in Chinese stock market and this results is different from Liu and Chung (2013)'s conclusion which using data from 1999 to 2007 and reporting a 30% of underpricing level of SEO in Chinese stock market. Table 4.3.1 A reports that about 63% of listing firms in China have government background which is a unique characteristic for Chinese case, and this situation is the same for both IPOs and SEOs in Chinese stock market. Results in Table

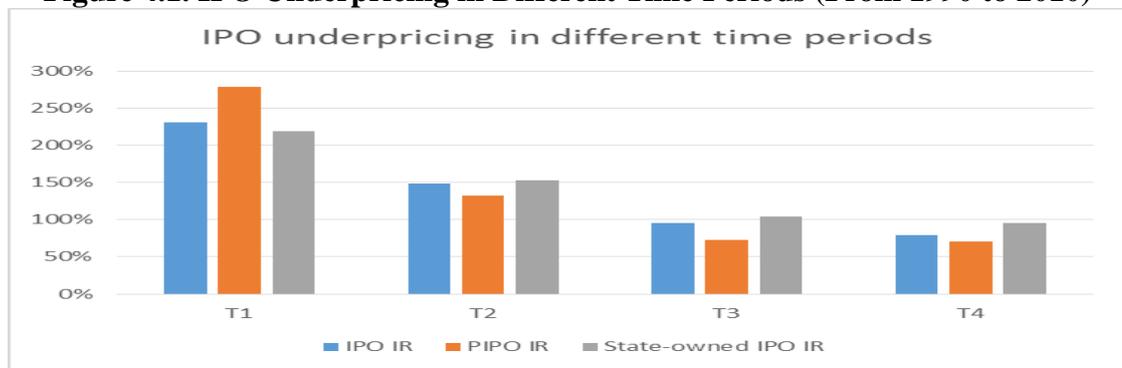
4.3.1 A show the mean proportion of state-shares is 27.5% for IPOs and this number increases to 34.2% for SEOs. Another significant difference between Chinese stock market and other mature ones is Chinese case experienced a much longer time gap for IPOs with mean of 112.08 days (Table 4.3.1 A). However, this situation changed in SEOs case, the mean time gap decreased to 51.5 days in SEOs. Clarkson and Simunic (1994) stated that the longer waiting time for IPO, the higher risk would be. This argument can also be used to explain why Chinese stock market is having such high IPO underpricing levels. From Table 4.4, we can see that most of rating firms have histories less than 3 years which is relatively youth in Chinese stock market. And 73 among 131 rating firms have size more than 80 million RMB. More interestingly, majority rating firms experienced a time gap less than 150 days and such a short gap can reduce value uncertainty. Regarding to SEOs, similar with IPOs, most firms are with a history of less than 3 years which is also relative youth, and also most of them have size more than 80 million RMB. Consistently with the results in Table 4.3, time gap for SEOs are much less than IPOs and all of SEOs firm experienced time gap less than 150 days. The results from Table 4.3 can shows certain explanation that why SEOs are less underpriced than IPOs in Chinese stock market.

Table 4.5 reports the mean of underpricing level for unrated IPOs/SEOs and rated IPOs/SEOs by four rating agencies respectively. The results confirm initial evidence as they indicate that the mean of rated IPOs/SEOs having average lower level of underpricing when comparing with unrated IPOs/SEOs. Within Table 4.6, it indicates the underpricing under each rating level by Chinese domestic rating agency (Dagong) for both IPOs and SEOs.

Figure 4.1 show that each time period experienced a significant different level of

underpricing for IPO firms. Magnitude of underpricing decreased from 240.13% in time period 1 to 79.28% in time period 4. The level of underpricing reduced with time development. Regarding Privatisation IPOs, the underpricing level is also experienced a significantly decreasing from time period 1 to time period 3. For SEOs, the underpricing level also be significantly reduced from time period 1 to time period 4 based on different pricing method. This can lead further research to divide Chinese IPO into different time periods.

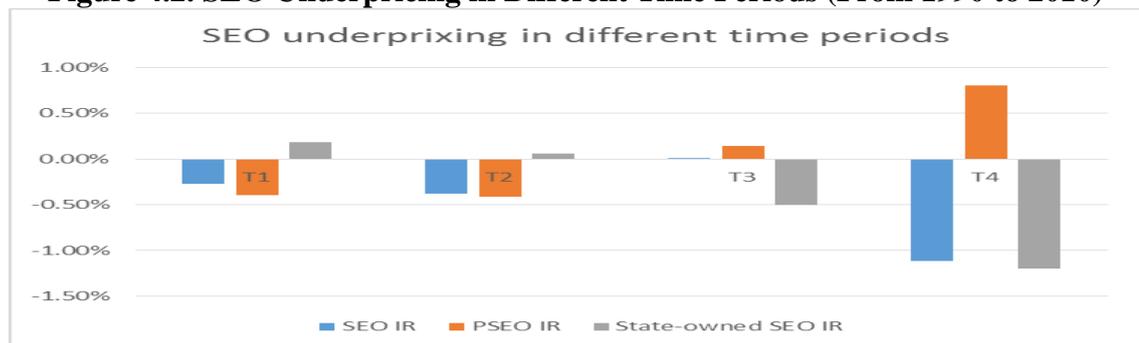
Figure 4.1. IPO Underpricing in Different Time Periods (From 1990 to 2010)



Note: The time period is divided based on the pricing method of shares (as we mentioned in Section 2.1.4). Time period 1 is from January 1st 1990-July 27th 1999, Time period 2 is from July 28th 1999-June 30th 2001. Time period 3 is from July 1st 2001-December 31st 2004, Time period 4 is from January 1st 2005- December 31st 2011.

Note: PIPO means there are no state-owned shares involved in the firms, which is totally privatisation. State-owned IPO means government owns a certain proportion of the firm's shares, and these shares are non-tradable on the stock market.

Figure 4.2. SEO Underpricing in Different Time Periods (From 1990 to 2010)



Note: The time period is divided based on the pricing method of shares (as we mentioned in Section 2.1.4). Time period 1 is from January 1st 1990-July 27th 1999, Time period 2 is from July 28th 1999-June 30th 2001. Time period 3 is from July 1st 2001-December 31st 2004, Time period 4 is from January 1st 2005- December 31st 2011.

Note: PSEO means there are no state-owned shares involved in the firms, which is totally privatisation. State-owned SEO means government owns a certain proportion of the firm's shares, and these shares are non-tradable on the stock market.

Table 4.3.1 A: Summary Statistics for Chinese IPOs for the variables

| Panel A: Summary statistic for main variables of full sample | | | | | | |
|--|-----------------|----------------|----------------------|----------------|-----------------|----------------|
| | Mean | Median | Std.Deviation | Maximum | Minimum | N |
| MAIR | 1.4903 | 0.920 | 2.3249 | 19 | -0.730 | 2096 |
| HOT | 0.67 | 1 | 0.471 | 1 | 0 | 2096 |
| SOE | 0.63 | 1 | 0.484 | 1 | 0 | 2096 |
| CRD | 0.05 | 0 | 0.224 | 1 | 0 | 2096 |
| CRGRD | 6.43 | 7 | 1.444 | 9 | 1 | 112 |
| EXC | 0.42 | 0 | 0.494 | 1 | 0 | 2096 |
| SIZE | 731.8 | 356 | 1682.2 | 22440 | 2.31 | 2096 |
| AGE | 4.62 | 3.35 | 4.27 | 26.37 | 0.005 | 2092 |
| TGAP | 112.08 | 17 | 417.62 | 4046 | 6 | 2096 |
| UND | 0.98 | 1 | 0.139 | 1 | 0 | 2096 |
| LEV | 0.402 | 0.248 | 0.825 | 14.622 | 0.005 | 2096 |
| TAN | 0.219 | 0.18 | 0.158 | 0.977 | 0.002 | 2096 |
| GROWTH | 0.271 | 0.192 | 0.567 | 9.216 | -0.985 | 2096 |
| ROA | 0.0547 | 0.0453 | 0.044 | 0.558 | -0.0316 | 2096 |
| Pstateshare | 0.275 | 0.211 | 0.276 | 1 | 0 | 2087 |
| Z- score | 1.910 | 1.814 | 0.668 | 5.159 | 0.608 | 2096 |
| Total asset | 5960.7 | 744.05 | 862.65 | 137545 | 4.25 | 2095 |
| Panel B: Summary statistic for Chinese IPOs basic on different stock exchange market: SHANGHAI (S.H)/ SHENZHEN(S.Z) | | | | | | |
| | Mean | Median | Std.Deviation | Maximum | Minimum | N |
| | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z |
| MAIR | 1.38/1.504 | 0.81/1.06 | 2.21/2.47 | 19/18.69 | -0.37/-0.78 | 888/1208 |
| HOT | 0.739/0.572 | 1/1 | 0.439/0.495 | 1/1 | 0/0 | 888/1208 |
| SOE | 0.506/0.793 | 1/1 | 0.500/0.406 | 1/1 | 0/0 | 888/1208 |
| CRD | 0.035/0.067 | 0/0 | 0.188/0.126 | 1/1 | 0/0 | 888/1208 |
| CRGRD | 6.226/6.506 | 6/7 | 1.203/1.526 | 8/9 | 2/1 | 31/81 |
| SIZE | 748.8/727.6 | 405/372 | 1569/1395 | 22440/19852 | 2.31/3.25 | 888/1208 |
| AGE | 4.79/4.26 | 4.85/3.76 | 5.36/3.95 | 26.37/24.58 | 0.005/0.072 | 888/1208 |
| TGAP | 88.91/144.38 | 14/22 | 369.1/473.8 | 4046/3423 | 7/6 | 888/1208 |
| UND | 0.985/0.974 | 1/1 | 0.12/0.16 | 1/1 | 0/0 | 888/1208 |
| LEV | 0.313/0.536 | 0.212/0.283 | 0.343/1.287 | 4.008/14.946 | 0.005/0.006 | 888/1208 |
| TAN | 0.199/0.246 | 0.166/0.211 | 0.146/0.169 | 0.977/0.9 | 0.002/0.002 | 888/1208 |
| GROWTH | 0.233/0.346 | 0.1889/0.189 | 0.477/1.202 | 7.812/28.014 | -0.985/-0.938 | 888/1208 |
| ROA | 0.048/0.060 | 0.0407/0.049 | 0.039/0.047 | 0.558/0.469 | -0.0316/-0.0153 | 888/1208 |
| Pstateshare | 0.386/0.192 | 0.449/0 | 0.267/0.253 | 1/0.928 | 0/0 | 887/1200 |
| Z- score | 1.937/1.891 | 1.742/1.860 | 0.822/0.527 | 5.159/5.159 | 0.608/0.617 | 888/1208 |
| Total asset | 13892.2/1369.17 | 690.42/769.34 | 132.20/836.81 | 137545/28765 | 4.25/81.23 | 888/1207 |
| See Appendix A for the definition of variables | | | | | | |

Table 4.3.1 B: Summary Statistics for Chinese Privatisation IPOs for the variables

| Panel A: Summary statistic for main variables of full sample | | | | | | |
|--|----------------|----------------|----------------------|----------------|----------------|----------------|
| | Mean | Median | Std.Deviation | Maximum | Minimum | N |
| MAIR | 1.298 | 0.721 | 1.552 | 12 | -0.730 | 781 |
| HOT | 0.42 | 0 | 0.264 | 1 | 0 | 781 |
| CRD | 0.06 | 0 | 0.235 | 1 | 0 | 781 |
| CRGRD | 4.32 | 6 | 1.515 | 9 | 1 | 46 |
| EXC | 0.448 | 0 | 0.472 | 1 | 0 | 781 |
| SIZE | 532.5 | 218.2 | 351.2 | 5692.1 | 2.31 | 781 |
| AGE | 3.28 | 3.84 | 2.61 | 10.56 | 0.56 | 781 |
| TGAP | 161.5 | 32.5 | 97.18 | 4046 | 12 | 781 |
| UND | 0.99 | 1 | 0.138 | 1 | 0 | 781 |
| LEV | 0.385 | 0.251 | 0.792 | 12.61 | 0.105 | 781 |
| TAN | 0.302 | 0.201 | 0.144 | 0.901 | 0.005 | 781 |
| GROWTH | 0.352 | 0.224 | 0.408 | 9.006 | -0.462 | 781 |
| ROA | 0.065 | 0.052 | 0.046 | 0.558 | -0.020 | 781 |
| Z- score | 2.065 | 1.981 | 0.704 | 5.159 | 0.608 | 781 |
| Total asset | 2056.9 | 494.13 | 563.25 | 98548 | 4.25 | 781 |
| Panel B: Summary statistic for Chinese IPOs basic on different stock exchange market: SHANGHAI (S.H)/ SHENZHEN(S.Z) | | | | | | |
| | Mean | Median | Std.Deviation | Maximum | Minimum | N |
| | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z |
| MAIR | 1.105/1.392 | 0.685/0.802 | 1.96/1.82 | 12/10.95 | -0.73/-0.70 | 350/431 |
| HOT | 0.39/0.45 | 0/0 | 0.265/0.301 | 1/1 | 0/0 | 350/431 |
| CRD | 0.048/0.067 | 0/0 | 0.362/0.186 | 1/1 | 0/0 | 350/431 |
| CRGRD | 4.89 /4.06 | 5/7 | 1.56/1.49 | 8/9 | 2/1 | 17/29 |
| SIZE | 620.1/495.2 | 309.5/201.2 | 398.6/315.2 | 5692.1/5010.6 | 2.31/3.25 | 350/431 |
| AGE | 3.05/3.51 | 3.68/3.56 | 2.09/2.91 | 9.50/10.56 | 0.56/0.78 | 350/431 |
| TGAP | 185.02/149.99 | 48.61/30.92 | 120.16/101.17 | 4046/3423 | 19/12 | 350/431 |
| UND | 0.99/0.99 | 1/1 | 0.10/0.14 | 1/1 | 0/0 | 350/431 |
| LEV | 0.361/0.403 | 0.401/0.395 | 0.284/0.325 | 12.61 /10.81 | 0.105/0.216 | 350/431 |
| TAN | 0.295/0.322 | 0.305/0.364 | 0.108/0.155 | 0.901/0.813 | 0.005/0.009 | 350/431 |
| GROWTH | 0.323/0.368 | 0.351/0.382 | 0.105/0.164 | 9.006/8.215 | -0.462/0.061 | 350/431 |
| ROA | 0.072/0.061 | 0.0548/0.065 | 0.024/0.021 | 0.558/0.469 | -0.020/-0.015 | 350/431 |
| Z- score | 2.325/1.893 | 1.861/1.984 | 0.801/0.703 | 5.056/4.684 | 0.608/0.692 | 350/431 |
| Total asset | 2563.5/2436.3 | 599.6/395.2 | 296.3/263.1 | 98548/69065 | 4.25/19.86 | 350/431 |

See Appendix A for the definition of variables

Table 4.3.2 A: Summary Statistics for Chinese SEOs for the variables

| Panel A: Summary statistic for main variables of full sample | | | | | | |
|--|----------------|----------------|----------------------|----------------|----------------|----------------|
| | Mean | Median | Std.Deviation | Minimum | Maximum | N |
| MAIR | -0.007 | -0.008 | 0.030 | -0.113 | 0.106 | 625 |
| HOT | 0.384 | 0 | 0.487 | 0 | 1 | 625 |
| SOE | 0.702 | 1 | 0.458 | 0 | 1 | 625 |
| CRD | 0.109 | 0 | 0.312 | 0 | 1 | 625 |
| CRGRD | 6.56 | 7 | 1.288 | 1 | 9 | 55 |
| EXC | 0.541 | 1 | 0.499 | 0 | 1 | 625 |
| SIZE | 501.5 | 159.7 | 2581.34 | 10.91 | 41786 | 625 |
| AGE | 4.841 | 4.206 | 3.242 | 0.7 | 23.592 | 625 |
| TGAP | 51.50 | 52 | 19.73 | 13 | 144 | 625 |
| UND | 0.99 | 1 | 0.098 | 0 | 1 | 625 |
| ROE | 0.060 | 0.048 | 0.046 | 0.002 | 0.315 | 625 |
| LEV | 0.548 | 0.333 | 1.062 | 0.006 | 12.117 | 625 |
| TAN | 0.266 | 0.242 | 0.163 | 0.002 | 0.815 | 625 |
| GROWTH | 0.034 | 0.02 | 0.806 | -1.576 | 5.484 | 625 |
| M/B ratio | 1.581 | 1.762 | 0.882 | 1.20 | 16.868 | 625 |
| ROA | 0.063 | 0.089 | 0.063 | 0.009 | 0.233 | 625 |
| Pstate share | 0.342 | 0.483 | 0.249 | 0 | 0.863 | 625 |
| Z-score | 1.890 | 2.585 | 0.761 | 0.672 | 5.159 | 625 |
| Total Asset | 129780 | 132541 | 728.035 | 425.08 | 1380230 | 625 |
| Panel B: summary statistic for Chinese SEOs basic on different stock exchange market: SHANGHAI (S.H)/ SHENZHEN(S.Z) | | | | | | |
| | Mean | Median | Std.Deviation | Minimum | Maximum | N |
| | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z | S.H/S.Z |
| MAIR | -0.007/-0.007 | -0.007/-0.008 | 0.002/0.029 | -0.113/-0.112 | 0.106/0.100 | 338/287 |
| HOT | 0.396/0.369 | 0/0 | 0.490/0.483 | 0/0 | 1/1 | 338/287 |
| SOE | 0.663/0.749 | 1/1 | 0.026/0.434 | 0/0 | 1/1 | 338/287 |
| CRD | 0.104/0.070 | 0/0 | 0.334/0.282 | 0/0 | 1/1 | 338/287 |
| CRGRD | 6.657/6.400 | 7/6 | 1.514/0.754 | 1/5 | 9/8 | 35/20 |
| SIZE | 620.2/498.6 | 160.5/130.1 | 1569/1395 | 10.91/12.83 | 32440/41786 | 338/287 |
| AGE | 4.793/4.897 | 4.069/4.369 | 3.456/2.975 | 0.700/0.942 | 23.592/16.044 | 338/287 |
| TGAP | 45.154/58.965 | 47/59 | 18.334/18.692 | 13/17 | 142/144 | 338/287 |
| UND | 0.985/0.997 | 1/1 | 0.12/0.059 | 0/0 | 1/1 | 338/287 |
| ROE | 0.054/0.068 | 0.046/0.050 | 0.036/0.054 | 0.002/0.003 | 0.230/0.315 | 338/287 |
| LEV | 0.627/0.455 | 0.339/0.329 | 1.391/0.407 | 0.006/0.009 | 12.117/7.794 | 338/287 |
| TAN | 0.254/0.280 | 0.235/0.251 | 0.165/0.160 | 0.002/0.009 | 0.815/0.778 | 338/287 |
| GROWTH | 0.045/0.021 | 0.031/0.021 | 0.836/0.771 | -1.00/-1.576 | 5.484/4.462 | 338/287 |
| M/B ratio | 1.676/1.467 | 4.658/1.984 | 1.178/0.171 | 1.2/1.2 | 16.808/2.272 | 338/287 |
| ROA | 0.064/0.061 | 0.079/0.068 | 0.038/0.037 | 0/0.009 | 0.227/0.233 | 338/287 |
| Pstate share | 0.354/0.327 | 0.486/0.401 | 0.257/0.238 | 0/0 | 0.863/0.809 | 338/287 |
| Z-score | 2.041/1.711 | 2.357/2.014 | 0.899/0.496 | 0.677/0.672 | 5.159/4.031 | 338/287 |
| Total Asset | 237749/1869.87 | 238954/3017.6 | 32447/286.96 | 425.078/95.602 | 1380230/87658 | 338/287 |

See Appendix A for the definition of variables

Table 4.4 A: Distribution of IPOs and Privatisation IPOs Sample by Age, Size and Time Gap

This table provides break down of main independent variables and divided by rated IPO terms, unrated IPO terms and Total IPO terms.

| Panel A: AGE | TOTAL IPOs/PIPOs | | RATED IPOs/PIPOs | | UNRATED IPOs/PIPOs | |
|-------------------------------|-----------------------------------|-------------|-----------------------------------|-----------|-------------------------------------|-------------|
| | N | % | N | % | N | % |
| <3 | 1003/420 | 47.85/20.04 | 79/30 | 3.77/1.43 | 924/390 | 44.08/18.61 |
| 3 – 6 | 637/256 | 30.39/12.21 | 31/13 | 1.48/0.62 | 606/243 | 28.91/11.59 |
| 7 – 10 | 325/84 | 15.51/4.01 | 16/0 | 0.76/0.00 | 309/84 | 14.74/4.01 |
| 11 – 15 | 101/21 | 4.82/1.00 | 4/0 | 0.19/0.00 | 97/21 | 4.63/1.00 |
| > 15 | 30/0 | 1.43/0.00 | 1/0 | 0.05/0.00 | 29/0 | 1.38/0.00 |
| TOTAL | 2096/781 | 100/37.26 | 131/43 | 6.25/2.05 | 1965/738 | 93.75/35.21 |

| Panel B: SIZE (Million RMB) | TOTAL IPOs/PIPOs | | RATED IPOs/PIPOs | | UNRATED IPOs/PIPOs | |
|---|-----------------------------------|-------------|-------------------------|-----------|-------------------------------------|-------------|
| | N | % | N | % | N | % |
| <10 | 107/58 | 5.10/2.77 | 2/0 | 1/0.00 | 105/58 | 5.01/2.77 |
| 10-40 | 590//396 | 28.15/18.89 | 15/10 | 0.72/0.48 | 575/386 | 27.43/18.42 |
| 40-80 | 867/300 | 41.36/14.31 | 41/29 | 1.96/1.38 | 826/271 | 39.41/12.93 |
| >80 | 532/27 | 25.38/1.29 | 73/4 | 3.48/0.19 | 459/23 | 21.90/1.10 |
| Total | 2096/781 | 100/37.26 | 131/43 | 6.25/2.05 | 1965/738 | 93.75/35.21 |

| Panel C: TGAP | TOTAL IPOs/PIPOs | | RATED IPOs/PIPOs | | UNRATED IPOs/PIPOs | |
|--------------------------------|-----------------------------------|-------------|-------------------------|-----------|-------------------------------------|-------------|
| | N | % | N | % | N | % |
| Days | | | | | | |
| >150 | 1919/650 | 91.56/31.01 | 104/32 | 4.96/1.53 | 1815/618 | 86.59/29.48 |
| 150-365 | 72/60 | 3.44/2.86 | 10/4 | 0.48/0.19 | 62/56 | 2.96/2.67 |
| 366-720 | 28/17 | 1.34/0.81 | 0 | 0.00/0.00 | 28/17 | 1.34/0.81 |
| >720 | 77/54 | 3.67/2.58 | 17/7 | 0.81/0.33 | 60/47 | 2.86/2.24 |
| Total | 2096/781 | 100/37.26 | 131/43 | 6.25 | 1965/738 | 93.75/35.21 |

See Appendix A for the definition of variables

Table 4.4 B: Distribution of SEOs Sample by Age, Size and Time Gap

This table provides break down of main independent variables and divided by rated SEO terms, unrated SEO terms and Total IPO terms.

| Panel A: | | TOTAL SEOs | | RATED SEOs | | UNRATED SEOs | |
|-----------------|--|------------|-------|------------|-------|--------------|-------|
| AGE | | N | % | N | % | N | % |
| <3 | | 479 | 76.66 | 51 | 8.16 | 428 | 68.48 |
| 3 – 6 | | 120 | 19.2 | 14 | 2.24 | 106 | 16.96 |
| 7 – 10 | | 25 | 4 | 3 | 0.48 | 22 | 3.52 |
| 11 – 15 | | 1 | 0.16 | 0 | 0.00 | 1 | 0.16 |
| > 15 | | 0 | 0 | 0 | 0.00 | 0 | 0 |
| TOTAL | | 625 | 100 | 68 | 10.88 | 557 | 89.12 |

| Panel B: | | TOTAL SEOs | | RATED SEOs | | UNRATED SEOs | |
|----------------------|--|------------|-------|------------|-------|--------------|-------|
| SIZE | | N | % | N | % | N | % |
| (Million RMB) | | | | | | | |
| <10 | | 0 | 0 | 0 | 0 | 0 | 0 |
| 10-40 | | 43 | 6.88 | 2 | 0.32 | 41 | 6.56 |
| 40-80 | | 98 | 15.68 | 2 | 0.32 | 96 | 15.36 |
| >80 | | 484 | 77.44 | 64 | 10.24 | 420 | 6.72 |
| Total | | 625 | 100 | 68 | 10.88 | 557 | 89.12 |

| Panel C: | | TOTAL IPOs | | RATED IPOs | | UNRATED IPOs | |
|-----------------|--|------------|-----|------------|-------|--------------|-------|
| TGAP | | N | % | N | % | N | % |
| Days | | | | | | | |
| <150 | | 625 | 100 | 68 | 10.88 | 557 | 89.12 |
| 150-365 | | 0 | 0 | 0 | 0 | 0 | 0 |
| 366-720 | | 0 | 0 | 0 | 0 | 0 | 0 |
| >720 | | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 625 | 100 | 68 | 10.88 | 557 | 89.12 |

See Appendix A for the definition of variables

Table 4.5. Comparison mean of market adjusted initial return

Panel A: IPOs aftermarket initial return for rated firms and un-rated firms.

This table provides comparison mean of MAIR for Chinese IPOs and SEOs divided by different rating agencies

| Variable | Sample | Mean IPO/PIPOS | Median IPO/PIPOS | Upper quartile IPO/PIPOS | Lower quartile IPO/PIPOS | Minimum IPO/PIPOS | Maximum IPO/PIPOS |
|---------------|---------------|-------------------|---------------------|-----------------------------|-----------------------------|----------------------|----------------------|
| MAIR(S&P) | Rated IPOS | 1.491/1.406 | 1.023/1.118 | 2.352/2.051 | 0.458/0.621 | 1.3908/1.3908 | 2.865 /2.637 |
| | Un-rated IPOs | 1.971/1.843 | 1.936/1.677 | 2.610/2.041 | 1.051/0.548 | -0.730/-0.730 | 19/12 |
| MAIR(Moody's) | Rated IPOS | 1.490/1.368 | 1.368/1.420 | 2.065/1.986 | 1.030/1.061 | 1.390/1.250 | 1.5893/2.694 |
| | Un-rated IPOs | 2.274/1.867 | 2.016/1.705 | 2.941/2.152 | 1.328/1.095 | -0.730/-0.730 | 19/12 |
| MAIR(Fitch) | Rated IPOS | 1.449/1.532 | 1.989/1.585 | 2.236/1.914 | 1.482/1.261 | 1.3899/1.007 | 1.588/2.960 |
| | Un-rated IPOs | 1.646/1.398 | 1.994/1.605 | 2.361/2.015 | 1.618/1.701 | -0.73/-0.730 | 19/12 |
| MAIR(Dagong) | Rated IPOS | 1.487/1.392 | 1.387/1.408 | 1.916/2.261 | 1.397 /1.401 | 0.249/1.225 | 9.878/6.554 |
| | Un-rated IPOs | 1.553/1.336 | 1.822/1.758 | 3.076/2.564 | 0.954/0.715 | -0.73/-0.730 | 19/12 |

Panel B: SEOs aftermarket initial return for rated firms and un-rated firms.

| | | | | | | | |
|---------------|---------------|--------|---------|---------|---------|---------|--------|
| MAIR(S&P) | Rated SEOs | -0.007 | -0.0072 | 0.0641 | -0.0097 | -0.0441 | 0.0405 |
| | Un-rated SEOs | -0.007 | -0.0059 | 0.012 | -0.0182 | -0.1127 | 0.1062 |
| MAIR(Moody's) | Rated SEOs | -0.008 | -0.0082 | 0.0026 | -0.0013 | -0.0441 | 0.0405 |
| | Un-rated SEOs | -0.007 | -0.0071 | -0.0025 | 0.0061 | -0.1127 | 0.1062 |
| MAIR(Fitch) | Rated SEOs | -0.001 | -0.0020 | 0.0013 | -0.0053 | -0.0517 | 0.0405 |
| | Un-rated SEOs | -0.007 | -0.0085 | -0.0016 | -0.013 | 0.1062 | 0.1062 |
| MAIR(Dagong) | Rated SEOs | -0.007 | -0.006 | 0.0005 | -0.021 | -0.1127 | 0.1062 |
| | Un-rated SEOs | -0.003 | 0.131 | 0.121 | -0.015 | -0.0916 | 0.0546 |

See Appendix A for the definition of variables 11

Table 4.6. Summary Statistic for IPO and SEO underpricing by Chinese Credit Rating Agency

This table provides the average underpricing for Chinese IPOs and SEOs by full sample, rated, un-rated. 2096 IPOs and 625 SEOs samples are included.

| Panel A: Summary statistic for IPOs underpricing | | | | | |
|---|----------------------|---------------------|-------------------|-------------------|-------------------|
| Credit rating | Average underpricing | Median underpricing | Upper quartile | Lower quartile | N |
| | IPOs/PIPOs | IPOs/PIPOs | IPOs/PIPOs | IPOs/PIPOs | IPOs/PIPOs |
| All firms | 149.03%/135.62% | 178.61%/142.85% | 213.1%/206.3 | 43.84%/52.62 | 2096/781 |
| Rated firms | 148.7%/139.2% | 138.7%/140.8% | 190.6%/226.1% | 43.2%/50.5% | 112/37 |
| Un-rated firms | 155.3%/133.6% | 182.2%/175.8% | 307.6%/256.4% | 95.4%/71.5% | 1984/734 |
| AAA | 38.67%/NA | 39.86%/NA | - | - | 3 |
| AA | 68.9%/57.65% | 42.91%/50.32% | 72.61%/62.51% | 28.90%/29.58% | 21/8 |
| A | 230.8%/124.58% | 59.75%/130.25% | 237.95%/194.12% | 39.54%/40.58% | 35/12 |
| BBB | 92.39%/142.71% | 85.69%/143.85% | 113.02%/187.89% | 49.61%/50.65% | 31/9 |
| BB | 74%/148.54% | 85.36%/150.54% | 107.65%/175.60% | 53.97%/60.51% | 16/7 |
| B | 950.5%/139.08% | 950.5%/139.08 | - | - | 2/1 |
| CCC | - | - | - | - | 0/0 |
| CC | 33% | 33% | - | - | 2/0 |
| C | 881.5% | 881.5% | - | - | 2/0 |
| Panel B: Summary statistic for SEOs underpricing | | | | | |
| Credit rating | Average underpricing | Median underpricing | Upper quartile | Lower quartile | N |
| All firms | -0.66% | 9.64% | 26.31% | -1.02% | 625 |
| Rated firms | -0.699% | -0.581% | 0.05% | -2.08% | 56 |
| Un-rated firms | -0.27% | 13.10% | 12.06% | -1.50% | 571 |
| AAA | -0.66% | -1.36% | - | - | 2 |
| AA | 3% | -0.13% | 0.56% | -1.64% | 9 |
| A | 0.6% | -0.05% | 1.20% | -0.84% | 19 |
| BBB | -1.98% | 1.24% | 3.05% | 0.10% | 18 |
| BB | 0.55% | 1.30% | 5.61% | -0.08% | 5 |
| B | 1.91% | 1.91% | - | - | 1 |
| CCC | - | - | - | - | 0 |
| CC | - | - | - | - | 0 |
| C | 3.33% | 3.33% | - | - | 1 |

See Appendix A for the definition of variables

4.6. Empirical Analysis

In order to check the multicollinearity, we first did the correlation check for all variables and check whether the correlation value is high among these variables. In addition to that, a VIF test was adopted following all regressions. Our result indicated that our VIF for our model are very lower (less than 3 in all of our tests). Regarding endogeneity, we used IV and Heckman two steps method to control the probability of firm having rated. This method are also used by An and Chen (2008). Following that, this research conduct additionally method (Durbin-Wu-Hausman method) to test whether it is appropriate to use IV methods. Our DWH test indicated that it is appropriate to use IV regression to replace OLS in Table 4.8.

4.6.1. Regression models

Credit rating agencies (CRAs) give ratings to firms based on their financial characteristics.

However, the determining factors for the probability of being rated might also be the factor that affects IPO underpricing, such as the value of R&D project which are not observable, are included in the error terms for the regression of probability of firm being rated and the regression of rating presence effect on IPO and SEO underpricing (An and Chan, 2008). This will leads the error terms in two regression models correlated to each other. Hence, the endogeneity problem occurs in the analysis with the sample-selection bias (see e.g., Poon et al., 2013). Consequently, we need to control for such concern. Following An and Chan (2008), Heckman's (1979) two-step estimation method and Wooldridge's (2002) two-step instrumental variable method (IV) were employed to mitigate sample-selection bias and endogeneity.

4.6.1.1. Sample selection

Pioneered by Heckman (1979), the sample selection model, also known as Heckman model or Type II Tobit model (Amemiya, 1985), has been used as a state-of-the-art model for correcting OLS estimates for a potential selection bias. A often used example is given by wage regressions for women, where only a non-random part of the entire population of women is working and included in the sample in to analysis. As it is well known, not accounting for the non-randomness of the sample induces biased parameter estimates. The most commonly employed methods to estimate these models are Heckman's two-step approach and maximum likelihoods. Both approaches involve the primary regression equation and slection equation of the probit type which controls for the sample selection mechanism.

However, in most studies using the sample selection model covariates are treated as exogenous. In the cross section case, few attempts have been made to account for possibly endogenous covariates. Exceptions are Wooldridge (2010) and Chib et al (2009). Wooldridge (2010) essentially proposed a two-stage least squares approach, where fitted values from a first stage regression of the endogenous covariate(s) on instrumental variables are inserted into the primary regression equation (which includes the inverse Mill's ratio term). Semykina and Wooldridge (2010) used the same methodology when considering panel data models incorporating the simultaneous presence of endogeneity and sample selection. Further estimators for panel sample selection models with endogeneity have been proposed by Vella and Verbeek (1999) and Das, Newey and Vella (2003). While Vella and Verbeek (1999) considered conditional moment and conditional maximum likelihood estimation, Das, Newey and Vella (2003) suggested nonparametric estimators. Back in the cross section setting, Chib et al. (2009)

employed a full information maximum likelihood framework in a Bayesian setup, where estimation involves use of the Gibbs sampler.

To examine the impact of having a credit rating on IPO pricing, we estimate the following treatment effect model:

$$Y_i = \alpha + \beta_1 CRD_i + \beta_n \sum X_{ni} + \varepsilon_i \quad (1)$$

Where Y_i is IPO/SEO underpricing, X_i is a set of n explanatory variables, β_n is a vector of parameters to be estimated and ε_i is an error term. CRD_i is a dummy variable equals to one if the firm has a credit rating. β_1 is the parameter of interest, which measures the average treatment effect of having a credit rating on IPO/SEO pricing. An extended format of the model including all control variables is:

$$Y_i = \alpha + \beta_1 * CRD_i + \beta_2 * HOT + \beta_3 * SOE + \beta_4 * EXC + \beta_5 * AGE + \beta_6 * TGAP + \beta_7 * UND + \beta_8 * ROE + \beta_9 * LEV + \beta_{10} * TAN + \beta_{11} * GROWTH + \varepsilon_i \quad (2)$$

The OLS (model 1) estimate of β_1 is unbiased only if CRD is statistically independent of potential IPO pricing, as would occur when the assignment of credit rating is randomized across firms. In reality, firms at least partly determine whether they receive credit rating, and their decisions are related to the firm-specific benefits of having credit rating (An and Chan, 2008). A firm would choose to get a credit rating when the benefits, such as reduction in future IPO pricing, outweigh the costs of securing a rating. Specifically, we model the firm's decision to obtain a credit rating by:

$$CRD_i^* = \omega Z_i + \eta_i$$

$$CRD_i = 1 \text{ if } CRD_i^* > 0 \quad (3)$$

$$CRD_i = 0 \text{ if } CRD_i^* < 0$$

Where CRD_i^* is a latent variable. Z_i is a set of observable variables influencing the firm's choice of having a credit rating. ω is a set of coefficients, and η_i is an error term.

Firm characteristics affecting the firm's choice of having a rating could also determine its IPO pricing at a later stage. Some of these variables, such as the value of research and developing projects, are not observable, and hence, are included in the two error terms (in equation 1 and equation 3). In this case, the correlation between the error term in equation 1 and equation 3 will result in the endogeneity in equation 1. That is, CRD_i is correlated with ε_i .

The studies by Faulkender and Petersen (2006) and Liu and Malatesta (2007) reveal that a firm is more likely to have a credit rating when it is larger, older, more profitable, has more tangible assets, and less growth opportunities. Therefore, we follow the literature and use log total asset, Age, ROA, Tan, and Growth (all variables are explained in Appendix A) as the factors to explain probability of firms being rated. In addition to that, following Denis and Mihov (2003), Liu and Malatesta (2005), and Faulkender and Petersen (2006), we also control the industry influence and add a variable named industry in our analysis as firms are more likely to have credit ratings when they are operating in an industry where the competitors have also credit ratings, it calculated as log of 1+ proportion of firms get rating in its industry. Furthermore, following An and Chen (2008), as a factor to predict the financial distress, we also included Z-score in our analysis. However, Altman's Z-score needs to be modified when it applied in different countries. Wang and Campbell (2010) use original Z-score formula to predict Chinese case and found that Altman's model has higher prediction accuracy for predicting failed firms. Therefore, we use the original Z-score model to estimate Chinese firms' bankruptcy risk.

Following An and Chan (2008), we use the Heckman treatment effect model to control for the self-selection bias. In the first stage, we estimate the selection equation using a

probit regression to obtain the estimates of ω in Equation 3, denoted by $\hat{\omega}$. Based on whether the firm has a rating or not, the self-selection correction term, $\hat{\lambda}$, or the inverse mills ratio is estimated as followings:

$$\hat{\lambda}_i = \frac{\phi(\hat{\omega} \cdot Z_i)}{\Phi(\hat{\omega} \cdot Z_i)} \quad \text{if } CRD_i = 1$$

$$\hat{\lambda}_i = \frac{-\phi(\hat{\omega} \cdot Z_i)}{1 - \Phi(\hat{\omega} \cdot Z_i)} \quad \text{if } CRD_i = 0$$

Where Φ and ϕ denote, respectively, the cumulative and density distribution function of the standard normal distribution. In the section state, the $\hat{\lambda}$ is added in Equation 1 and the main regression can be consistently estimated using OLS.

4.6.1.2 Instrumental variable approach

Because the endogenous variable, CRD, in the main regression is binary, Equation 1 is called a dummy endogenous variable model (Heckman, 1978). Wooldridge (2002) offers a generated instrumental variable (IV) approach to exploit the binary nature of the endogenous explanatory variable. Specifically, in stage one, we estimate Equation 3 using Probit to obtain the fitted probabilities of having a credit rating. In the second stage, we estimate Equation 1 by the two-stage least squares (2SLS) using the fitted probabilities from stage one as an instrument for CRD. This approach has been used in the finance literature to deal with the endogenous selection issue (e.g., Campa and Kedia, 2002; Faulkender and Petersen, 2006; Lin and Su, 2008).

The generated IV approach has a nice robustness property. Because we use the fitted probabilities as an instrument for CRD, the specification of Equation 3, i.e., the selection equation, does not have to be perfectly correct. This robustness property is

important in our case. Because the determinants of having credit ratings are not particularly well-defined in the literature, the generated IV approach will provide a necessary robustness check for the results from the treatment effect models. The generated IV approach requires Z to be partially correlated with CRD; we will discuss the rating determinants and the probit estimates in more detail in the next section.

Before the regression analysis, following Golubov, Petmezas and Travlos (2012), this thesis controlled the outliers through winsorizing the market adjusted initial return (MAIR) at the 5th and 95th percentiles. In addition to that, when conducting OLS analysis, this study also tested whether the error is normally distributed, checked whether multicollinearity is existed (with in our testing, the VIF values are all less than 3), and controlled the homoscedasticity. Further, this study also tested exogeneity issue through putting including the residual as a regressor to check the assumptions under OLS analysis are valid and able to conduct unbiased results.

4.6.2. Regression results

4.6.2.1. Probability of being rated

In the testing of probability of being rated, Table 4.7 Panel A indicated that independent variables with significant effects are different among Dagong, Moody's, Fitch and S&P for IPO term. However, the most common thing is that all rating agencies focus on total asset of firm when concerning whether give rating to firm. Our results show that firms with larger amount of total asset are more likely to be rated by each agency. Chinese domestic rating agency, Dagong, also focus on "Age" of firms which other agencies do not. Besides, firms with higher ROA have a higher chance rated by Dagong as well. Additionally, firms are more likely to get rating from Fitch when their tangibility ratio is

high and the firm has government background. There is no influence from Z-score and industry factor for probability being rated.

For SEO firms, CRAs all focus on total assets as well when deciding whether give rating to firms, firms with larger total assets are more likely to be rated. However, there is no rating agency pay attention to firms' history and only Chinese domestic rating agency, Dagong, focus on Z-score value, and firms with higher market to book ratio are more likely to be rated by Fitch.

Table 4.7 : Probability of having a credit rating from all rating agencies

This table presents the probit regression result of the possibility of having a credit rating for Chinese IPOs and SEOs from 1990 to 2011. ***, (**), and (*) indicates significance at the 1%, (5%), and (10%) level, respectively. See Appendix A for the definition of variables.

| Panel A: Probability being rated for IPOs | | | | |
|--|---------------|----------------|--------------|----------------|
| | Dagong | Moody's | Fitch | S&P |
| Independent variable | | | | |
| Log TA | 1.0147*** | 0.7575*** | 0.7158*** | 0.8278*** |
| Age | -0.1236*** | -0.076 | -0.0077 | -0.066 |
| TAN | 1.6580*** | 0.2369 | 1.5859*** | -0.0369 |
| ROA | 5.6840*** | -1.4258 | 1.5941 | -0.5675 |
| SOE | 0.2817 | -0.0003 | 1.4677** | 0.3026 |
| Industry | -1.3089 | 2.3581 | -0.9547 | 1.2476 |
| Z score | -0.0979 | -0.2399 | 0.0019 | -0.1712 |
| Cons | -2.8325*** | -6.4196*** | -5.2439*** | -5.7774*** |
| Pseudo R2 | 0.2896 | 0.3339 | 0.4564 | 0.4061 |
| N | 2096 | 2096 | 2096 | 2066 |
| Panel B: Probability being rated for SEOs | | | | |
| | Dagong | Moody's | Fitch | S&P |
| Independent variable | | | | |
| Log TA | 1.2339*** | 1.3642*** | 0.7925*** | 1.3966*** |
| Age | 0.0265 | -0.0050 | 0.0064 | -0.0297 |
| TAN | 0.7717 | -1.0988 | 2.1033 | -0.3073 |
| ROA | 7.8716 | -7.1594 | 1.3804 | -6.7388 |
| M-B ratio | 0.0848 | 0.1426 | 0.2123** | 0.1531 |
| SOE | 0.2705 | -0.7654 | 1.9794 | -0.3465 |
| Industry | -3.8080 | -6.4439** | -2.3424 | -2.9787 |
| Z score | 0.0790** | -0.3614 | -0.0184 | -0.0800 |
| Cons | -2.0909 | 1.8821 | -4.4211 | -2.5001 |
| Pseudo R2 | 0.2424 | 0.3904 | 0.4841 | 0.4863 |
| N | 625 | 625 | 625 | 625 |

See Appendix A for the definition of variables

4.6.2.2. Effect of single credit rating effect on IPO underpricing

Table 4.8 investigates into the effect of the presence of single credit rating on underpricing use Heckman two-stage model and IV model. For all the tests in Table 4.8 using Heckman model, the inverse Mill ratios are significant at 10%, and this means the selection bias do existed. For the whole sample and IPOs rated by each rating, the present of credit rating can significantly reduce IPO underpricing level with both Heckman and IV test. Credit rating by each rating agency can lower SEO underpricing significantly as well in Table 4.8 B. Adjusted R² shows a good fit of our sample.

Unexpectedly, we get result that firms' with state owned shares has a positive relationship with underpricing level as well; this means investors in China do not consider SOE firms as low risk level when doing analysis with full sample from 1990 till 2011 for IPOs. The effect of SOE disappeared for seasonal equity offering. Interestingly, underpricing level of IPO/SEO does not affect by hot market. Still, time gap shows a strong positive relationship with underpricing level for IPO. Another interesting thing we found that higher leverage ratio can expand magnitude of underpricing in most columns of our tests in Table 4.8 A. We are able to confirm that AGE can significantly lower SEO underpricing level and leverage ratio has significantly relationship with SEO underpricing.

Table 4.8 A. Single rating agency effect on IPO market -adjusted initial returns

This table reports the effect of the presence of a single rating on market-adjusted initial return for the whole sample and for each rating agency using Heckman and IV estimation. The dependent variable is MAIR. The standard errors that are reported below coefficients are robust to heteroscedasticity. SINGLE takes the value of 1 if the firm is rated by any of one agency in column 1; and by S&P, Moody's, Fitch and Dagong in columns 2, 3, 4, and 5, respectively. ***, **, and * indicate significance at the 1%, 5%, and 10% level. See Appendix A for the definition of variables.

| | All(1) | | S&P(2) | | Moody's(3) | | Fitch(4) | | Dagong(5) | |
|-----------------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Heckman | IV | Heckman | IV | Heckman | IV | Heckman | IV | Heckman | IV |
| SINGLE | -2.195*** (0.5126) | -3.436*** (0.468) | -5.197** (1.196) | -9.665*** (1.498) | -4.563*** (2.023) | -9.629*** (1.782) | -6.536** (1.244) | -9.629*** (1.782) | -1.965*** (0.429) | -3.805*** (0.555) |
| HOT | -0.146 (0.0749) | -0.108 (0.080) | -0.112 (0.088) | -0.107 (0.080) | -0.106 (0.058) | -0.116 (0.081) | -0.109 (0.084) | -0.116 (0.081) | -0.077 (0.068) | -0.111 (0.080) |
| SOE | 0.218*** (0.075) | 0.352*** (0.082) | 0.225*** (0.075) | 0.289*** (0.082) | 0.225*** (0.075) | 0.278*** (0.082) | 0.323*** (0.074) | 0.278*** (0.083) | 0.220*** (0.076) | 0.355*** (0.082) |
| EXC | -0.031 (0.072) | -0.024 (0.079) | 0.013 (0.073) | -0.028 (0.079) | -0.053 (0.073) | -0.038 (0.079) | -0.038 (0.073) | -0.038 (0.079) | -0.030 (0.073) | -0.027 (0.079) |
| AGE | -0.053*** (0.020) | -0.066*** (0.021) | -0.033 (0.040) | -0.028 (0.021) | -0.022 (0.019) | -0.030 (0.021) | -0.022 (0.019) | -0.030 (0.021) | -0.069** (0.023) | -0.067*** (0.022) |
| TGAP | 0.003*** (0.0001) | 0.004*** (0.0001) | 0.003*** (0.0001) | 0.004*** (0.0001) | 0.003*** (0.0001) | 0.004*** (0.0001) | 0.003*** (0.0001) | 0.004*** (0.0001) | 0.003*** (0.0001) | 0.004*** (0.0001) |
| UND | 0.082 (0.256) | 0.031 (0.279) | 1.378 (0.296) | 0.138 (0.278) | 0.323 (0.258) | 0.254 (0.277) | 0.381 (0.259) | 0.254 (0.277) | 0.062 (0.256) | 0.075 (0.279) |
| LEV | 0.316*** (0.053) | 0.121** (0.052) | 0.371*** (0.083) | 0.368*** (0.084) | 0.223*** (0.0719) | 0.195*** (0.069) | 0.201*** (0.062) | 0.195*** (0.069) | 0.031 (0.048) | 0.027 (0.047) |
| TAN | 1.369*** (0.261) | 0.816*** (0.271) | 0.012 (0.239) | 0.079 (0.240) | 0.136 (0.220) | 0.118 (0.243) | 0.121 (0.221) | 0.118 (0.243) | 0.896*** (0.222) | 0.900*** (0.282) |
| GROWTH | -0.031 (0.072) | -0.048 (0.042) | -0.050 (0.049) | -0.044 (0.042) | -0.059 (0.039) | -0.044 (0.043) | -0.030 (0.039) | -0.044 (0.043) | -0.014 (0.046) | -0.048 (0.042) |
| Constant | 1.7231*** (0.3224) | 1.338*** (0.338) | 0.742** (0.333) | 0.984*** (0.330) | 0.801*** (0.316) | 0.934*** (0.331) | 0.883*** (0.313) | 0.934*** (0.331) | 1.903*** (0.349) | 1.313*** (0.339) |
| N | 2086 | 2086 | 2086 | 2086 | 2086 | 2086 | 2086 | 2086 | 2086 | 2086 |
| Wald Chi² | 237.30*** | 182.60*** | 198.51*** | 180.46*** | 185.07*** | 178.30*** | 166.81*** | 164.30*** | 215.64*** | 181.41*** |

| | | | | | |
|--|---------|---------|---------|---------|---------|
| R² | 0.4893 | 0.4863 | 0.4713 | 0.452 | 0.4877 |
| Endogeneity Test(DWH) | (0.006) | (0.038) | (0.040) | (0.022) | (0.009) |
| Overidentification Test (Score Chi ²) | (0.132) | (0.367) | (0.264) | (0.196) | (0.239) |
| P value inverse Mills ratio | (0.000) | (0.026) | (0.043) | (0.019) | (0.005) |

Table 4.8 B. Single rating agency effect on SEO market -adjusted initial returns

This table reports the effect of the presence of a single rating on market-adjusted initial return for the whole sample and for each rating agency using Heckman and IV estimation. The dependent variable is MAIR. The standard errors that are reported below coefficients are robust to heteroscedasticity. SINGLE takes the value of 1 if the firm is rated by any of one agency in column 1; and by S&P, Moody's, Fitch and Dagong in columns 2, 3, 4, and 5, respectively. ***, **, and * indicate significance at the 1%, 5%, and 10% level. See Appendix A for the definition of variables.

| | All(1) | | S&P(2) | | Moody's(3) | | Fitch(4) | | Dagong(5) | |
|-----------------------------|-------------|-------------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Heckman | IV | Heckman | IV | Heckman | IV | Heckman | IV | Heckman | IV |
| SINGLE | -0.0931** | -0.0906** | -0.2003** | -0.2219** | -0.6199** | -0.7735** | -1.4423** | -1.2891** | -0.0663** | -0.0701** |
| | (0.0403) | (0.0362) | (0.0784) | (0.0881) | (0.2683) | (0.3098) | (0.7081) | (0.5162) | (0.0290) | (0.0281) |
| HOT | -0.0048 | -0.0006 | -0.0005 | -0.0006 | -0.0063 | -0.0006 | -0.0012 | -0.0006 | -0.0012 | -0.0006 |
| | (0.0074) | (0.0026) | (0.0056) | (0.0026) | (0.0045) | (0.0026) | (0.0062) | (0.0026) | (0.0059) | (0.0026) |
| SOE | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 | -0.0001 |
| | (0.0028) | (0.0026) | (0.0027) | (0.0027) | (0.0028) | (0.0027) | (0.0016) | (0.0027) | (0.0015) | (0.0027) |
| EXC | -0.0012 | -0.0013 | 0.0013 | -0.0013 | -0.0012 | -0.0012 | -0.0009 | -0.0013 | -0.0019 | -0.0013 |
| | (0.0026) | (0.0026) | (0.0026) | (0.0026) | (0.0026) | (0.0026) | (0.0026) | (0.0026) | (0.0028) | (0.0026) |
| AGE | -0.0045* | -0.0036** | -0.0510** | -0.0478** | -0.0041*** | -0.0032*** | -0.0012** | -0.0011*** | -0.0005* | -0.0005* |
| | (0.0026) | (0.0020) | (0.0197) | (0.0195) | (0.0017) | (0.0011) | (0.0006) | (0.0004) | (0.0003) | (0.0003) |
| TGAP | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 | 0.0001 |
| | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) | (0.0001) |
| UND | 0.0038 | 0.0047 | 0.0038 | 0.0047 | 0.0038 | 0.0047 | 0.0037 | 0.0047 | 0.0035 | 0.0047 |
| | (0.0152) | (0.0123) | (0.0156) | (0.0123) | (0.0226) | (0.0123) | (0.0254) | (0.0123) | (0.0254) | (0.0123) |
| ROE | -0.0291 | -0.0221 | -0.0212 | -0.0209 | -0.0213 | -0.0222 | -0.0229 | -0.0228 | -0.0223 | -0.0237 |
| | (0.0492) | (0.0470) | (0.0484) | (0.0471) | (0.0460) | (0.0469) | (0.0369) | (0.0469) | (0.0411) | (0.0468) |
| LEV | 5.62e-08*** | 5.96e-08*** | 0.0001** | 0.0001** | 1.15e-05*** | 1.17e-05*** | 4.40e-06*** | 4.40e-06*** | 5.62e-06*** | 4.76e-06*** |
| | (8.26e-07) | (8.37e-07) | (4e-05) | (3e-05) | (1.12e-06) | (1.14e-06) | (1.56e-06) | (1.56e-06) | (6.32e-07) | (7.77e-07) |
| TAN | 0.0125 | 0.0105 | -0.2628 | -0.2678 | -0.0038 | -0.0014 | -0.0341** | -0.0312** | 0.0061 | 0.0070 |
| | (0.0096) | (0.0094) | (0.2639) | (0.2660) | (0.0105) | (0.0076) | (0.0522) | (0.0516) | (0.0075) | (0.0087) |
| GROWTH | -0.0002 | -0.0001 | -0.1228** | -0.1228** | 0.0009 | 0.0015 | -0.0060** | -0.0060** | -0.0013 | -0.0006 |
| | (0.0019) | (0.0016) | (0.0430) | (0.0488) | (0.0032) | (0.0019) | (0.0029) | (0.0025) | (0.0041) | (0.0016) |
| Constant | -0.2012** | -0.1907** | -1.0512** | -14.9535** | -0.29805** | -0.3414** | -0.4266** | 0.5519** | -0.0856** | -0.0982** |
| | (0.0825) | (0.0818) | (0.4025) | (5.9875) | (0.1211) | (0.1400) | (0.2025) | (0.2223) | (0.0403) | (0.0486) |
| N | 625 | 625 | 625 | 625 | 625 | 625 | 625 | 625 | 625 | 625 |
| Wald Chi² | 68.96*** | 48.64*** | 52.61*** | 43.37*** | 51.89*** | 37.26*** | 47.85*** | 41.39*** | 57.16*** | 39.84*** |
| R² | | 0.240 | | 0.215 | | 0.194 | | 0.214 | | 0.254 |

| | | | | | |
|--------------------------------|---------|---------|---------|---------|---------|
| Endogeneity | (0.055) | (0.074) | (0.042) | (0.065) | (0.039) |
| Test(DWH) | | | | | |
| Overidentification | (0.325) | (0.208) | (0.185) | (0.317) | (0.399) |
| Test (Score Chi ²) | | | | | |
| P value inverse | (0.042) | (0.074) | (0.051) | (0.036) | (0.059) |
| Mills ratio | | | | | |

4.7. Dagong rating and multiple international ratings

In the previous section we have documented that the relation between the existence of credit ratings and the level of underpricing is negative and is attributed to the fact that firms with credit ratings reduces uncertainty about firm value. In this section, we try to shed light on the question of: how multiple international credit ratings (Moody, Fitch, S&P) is related with the level of underpricing in IPOs and SEOs?

4.7.1 Dagong and western ratings

Table 4.9 A reports how the presence of Dagong rating and the number of international rating is able to influence underpricing level for Chinese IPO. Consistent with our previous analysing, the presence of Dagong rating can contribute to lowering IPO initial return significantly. Further, the number of international rating agencies (Nu-InterCR) is also critical in reducing IPO initial return. More specific, firms rated by more international agencies will be underpriced less and the statistic level is 1% significant. Furthermore, the SEO market shows similar results with IPO, the level of SEO initial return is significantly influenced by the presence of international rating and the SEO will experienced less initial return when it rated by more international rating agencies. Also, we are able to confirm that the Dagong is able to influence SEO initial return as well. This suggests that the leading Chinese credit rating agent is considered as a reliable source of information and add incremental effect on the investor's side. The results are consistent with Table 8 A and Table 8 B. From the remaining control variables, state-owned enterprises, time gap, underwriter's nationality, firm age and company's financial leverage measured by D/E ratio are significant coefficients at conventional levels for IPOs analysis; Age, ROE and LEV are significantly related with underpricing level for SEOs analysis. Overall, the results imply that a decision to go public with more

than one credit agents constitutes a strategic advantage and can be used by issuers and underwriters as a mechanism to reduce underpricing.

Table 4.9 A. Dagong and Multiple international Credit Rating Agencies Effect on IPO Underpricing

The table presents the results of the OLS regression analyses based on the Chinese domestic rating agency (Dagong) and number of international rating agencies for a sample of Chinese IPOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | (1) |
|--------------------------|-----------------------|
| Dagong | -0.524*** (0.0005) |
| Nu-InterCR | -0.716*** (0.008) |
| SOE | 0.421*** (0.0004) |
| HOT | -0.28 (0.205) |
| EXC | 0.106 (0.511) |
| AGE | -0.031** (0.024) |
| TGAP | 0.0042*** (0.000) |
| UND | 0.610*** (0.000) |
| LEV | -0.0265* (0.0613) |
| TAN | -0.068 (0.773) |
| GROWTH | -0.058 (0.261) |
| Constant | 0.629*** (0.0007) |
| N | 2,096 |
| F-value | 165.20*** |
| Adj R² | 0.455 |

See Appendix A for the definition of variables

Table 4.9 B Dagong and Multiple international Credit Rating Agencies Effect on SEO Underpricing

The table presents the results of the OLS regression analyses based on the Chinese domestic rating agency (Dagong) and number of international rating agencies for a sample of Chinese SEOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | |
|--------------------------|------------------------|
| Dagong | -0.00251* (0.0685) |
| Nu-InterCR | -0.0171*** (0.001) |
| SOE | 0.0005 (0.753) |
| HOT | -0.0010 (0.616) |
| EXC | -0.0017 (0.463) |
| AGE | -0.0004* (0.073) |
| TGAP | 0.00025 (0.152) |
| UND | 0.0048 (0.193) |
| ROE | -0.0524*** (0.009) |
| LEV | 5.94e-07*** (0.000) |
| TAN | -0.0058 (0.286) |
| GROWTH | -0.0012 (0.773) |
| Constant | -0.0398 (0.654) |
| N | 625 |
| F-value | 101.48*** |
| Adj R² | 0.241 |

See Appendix A for the definition of variables

4.7.2 The effect of fourfold credit rating.

It would be difficult even as a guess that some IPOs would go public with ratings from all major credit agents. Table 4.10, specification (1) tests whether full credit rating would contribute on 'building the bridge' between offer and the after-market prices. The CR4 variable is negative and significant at 10% significance level for both IPO and SEOs in Table 4.10 A and Table 4.10 B. That is, credit rating from all agent is an indication for lower returns. In specification (2) we also control for all alternative scenarios. Despite, the listing with one credit rating cannot signal any improving trend, going public with two and more ratings helps on reducing the underpricing. The results from Table 4.10 are consistent with our conjecture that firm with multiple ratings will experience lower underpricing for both IPOs and SEOs.

Table 4.10 A. Multiple (four) Credit Rating Agencies Effect on IPO Underpricing

The table presents the results of the OLS regression analyses based on all credit rating agents evaluation and underpricing for a sample of Chinese IPOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | (1) | (2) |
|--------------------------------|------------------------|------------------------|
| One Rating Existence | | 0.187 (0.523) |
| Two Ratings Existence | | -0.466** (0.043) |
| Three Ratings Existence | | -1.558*** (0.0007) |
| Four Ratings Existence | -0.566* (0.079) | -0.948* (0.094) |
| SOE | 0.313*** (0.0004) | 0.317*** (0.0004) |
| HOT | -0.135 (0.156) | -0.138 (0.149) |
| EXC | -0.042 (0.624) | -0.049 (0.569) |
| AGE | -0.028** (0.047) | -0.026* (0.085) |
| TGAP | 0.003*** (0.000003) | 0.003*** (0.000003) |
| UND | 0.551*** (0.0007) | 0.507*** (0.0005) |
| LEV | -0.097*** (0.001) | -0.065* (0.081) |
| TAN | -0.081 (0.742) | -0.096 (0.710) |
| GROWTH | -0.051 (0.349) | -0.051 (0.351) |
| Constant | 0.699*** (0.0001) | 0.719*** (0.0002) |
| N. | 2,096 | 2,096 |
| F value | 105.71*** | 124.39*** |
| Adj R² | 0.477 | 0.478 |

Note: **One (Two, Three, and Four) Rating Existence** means firm only be rated by one (Two, Three, and Four) rating agency.

See Appendix A for the definition of variables

Table 4.10 B. Multiple (four) Credit Rating Agencies Effect on SEO Underpricing

The table presents the results of the OLS regression analyses based on all credit rating agents evaluation and underpricing for a sample of Chinese SEOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | (1) | (2) |
|--------------------------------|------------------------|------------------------|
| One Rating Existence | | 0.0093 (0.141) |
| Two Ratings Existence | | -0.0005** (0.013) |
| Three Ratings Existence | | -0.007* (0.083) |
| Four Ratings Existence | -0.0311* (0.064) | -0.0015* (0.081) |
| SOE | -0.0003 (0.992) | -0.0002 (0.959) |
| HOT | -0.009 (0.704) | -0.0011 (0.668) |
| EXC | -0.0013 (0.612) | -0.0017 (0.504) |
| AGE | -0.0006* (0.079) | -0.0006* (0.081) |
| TGAP | 0.0001 (0.185) | 0.0001 (0.161) |
| UND | 0.0055 (0.310) | 0.0047 (0.402) |
| ROE | -0.070*** (0.007) | -0.079*** (0.003) |
| LEV | 8.68e-07*** (0.000) | 9.07e-07*** (0.000) |
| TAN | -0.0062 (0.390) | -0.0086 (0.243) |
| GROWTH | -0.0003 (0.851) | -0.0003 (0.862) |
| Constant | 0.0127 (0.142) | 0.0115 (0.197) |
| N. | 625 | 625 |
| F value | 98.77*** | 124.85*** |
| Adj R² | 0.232 | 0.300 |

Note: **One (Two, Three, and Four) Rating Existence** means firm only be rated by one (Two, Three, and Four) rating agency.

See Appendix A for the definition of variables

4.7.3. Level of Underpricing and Credit Rating Levels

The results so far have shown that the existence of credit ratings reduces IPO underpricing. In this section, we examine if the credit rating levels also affect IPO and SEO pricing. To explore this inquiry, we create a variable CRGRD based on the credit rating data from Bloomberg, COMPUSTAT and GTA. CRGRD is a number ranging from 1 to 9, as shown in Table 4.2. A higher credit rating level corresponds to a larger number. For instance, the CRGRD is equal to 9 for an AAA rating and 1 for a C rating. Given that the highest rated IPO is AAA and the lowest rated IPO is C in the sample, we actually use all ranging information. We use five specifications to examine the impact of credit rating levels on IPO and SEO underpricing. The first model in uses only S&P rated Credit Levels as the explanatory variable, followed by Moody's (Specification 2), Fitch (Specification 3), Dagong (Specification 4) and all Credit rated IPOs (Specification 5) in Table 4.12.

Table 4.11A reports the results of regression equations of IPO underpricing on credit rating levels. Columns 1 and 2 show that Credit Level is significant at 1% conventional level for both S&P and Moody's. Those results signal that IPOs going public with high credit rating level experience even lower underpricing comparing with those firms which attempt to go public with lower credit rating levels. Specification (3) provide the results for Fitch credit levels but it does not give any support to the main hypothesis. Further we test in specification (4) if the credit Level of Chinese Credit Agent Dagong contributes on reducing the level of underpricing of Chinese IPOs and as expected a negative and significant coefficient at the 10% significance level is obtained. This suggests that credit level is an additional informational tool which is capable to indicate the trend of underpricing. In Table 4.11B, results indicated that rating level has significant negative relationship with SEOs underpricing in 10% level of confidence if

rating is from S&P and Dagong, and in 5% level of confidence if the rating is from Moody's. However, we did not find any evidence shows that rating level from Fitch can influence SEOs underpricing.

Consistent with Hypothesis 3 the results of specification 5 (i.e. total sample of credit ratings) suggest that IPOs with higher credit ratings are underpriced less than firms with lower ratings for both IPOs and SEOs in Chinese stock market. This research is able to confirm what matters is not only the existence of credit rating, but also the credit rating level. This finding supports the information asymmetry explanation (An and Chen (2008)) of IPO underpricing. Having a credit rating reduces uncertainty about firm value, thereby lowering IPO underpricing, though holding a high credit level reduces the initial returns to investors even more. It is the ranking of value in addition to the value uncertainty that matters.

Table 4.11 A. Effects of the Grade of Ratings on IPO Underpricing

The table presents the results of the OLS regression analyses based on all credit rating agents evaluation and underpricing for a sample of Chinese IPOs over the period 1990-2011. CRGRADE take value of 9 (8, 7 ...1) when firm get rating of AAA (AA, A ... C). Specification (1) is the S&P Credit Agency sample. Specification (2) is the Moody's Credit Agency sample. Specification (3) is the Fitch Credit Agency sample calculated as the average value of ratings from different agencies. Specification (4) is the Dagong Credit Agency sample. Finally specification (5) is all agencies rating grade. See Appendix A for definitions of the variables.***, (**), and (*) indicates significance at the 1%, (5%), and (10%) level, respectively. N denotes the number of observations..

| | S&P's | Moody's | Fitch | Dagong | All agencies |
|--------------------------|------------------------------------|------------------------------------|---------------------------------|----------------------------------|----------------------------------|
| | (1) | (2) | (3) | (4) | (5) |
| CRGRADE | -1.405*** (0.004) | -2.251*** (0.004) | -1.554 (0.114) | -1.177* (0.060) | -0.921* (0.091) |
| SOE | 0.917 (0.499) | 0.0113 (0.993) | 0.740 (0.450) | -0.442 (0.433) | -0.435 (0.382) |
| HOT | 1.317 (0.136) | 0.340 (0.814) | 2.170 (0.223) | -0.251 (0.638) | -0.176 (0.691) |
| EXC | 1.745 (0.101) | -0.367 (0.826) | 3.801 (0.224) | -0.0267 (0.971) | 0.147 (0.811) |
| AGE | 0.0218 (0.942) | 0.0044 (0.985) | 0.0032 (0.996) | 0.045 (0.707) | 0.014 (0.885) |
| TGAP | 0.0004 (0.810) | -0.0051 (0.280) | -0.0078 (0.789) | 0.009*** (0.0001) | 0.009*** (0.0001) |
| UND | -0.627 (0.634) | -0.842 (0.603) | -0.280 (0.837) | -0.938 (0.337) | -0.113 (0.822) |
| LEV | -0.0042 (0.958) | 0.054 (0.665) | 0.016 (0.897) | -0.043 (0.465) | 0.010 (0.796) |
| TAN | -2.738 (0.333) | -1.924 (0.592) | -1.995 (0.552) | 0.282 (0.840) | -0.672 (0.646) |
| GROWTH | -0.557 (0.548) | -2.113 (0.364) | 0.0389 (0.978) | 0.421 (0.545) | 0.448 (0.534) |
| Constant | 11.00** (0.0386) | 17.70** (0.0107) | 7.747 (0.374) | 9.794* (0.0649) | 7.710* (0.0747) |
| N | 24 | 18 | 21 | 112 | 130 |
| F value | 3.89* | 8.61* | 93.69** | 12.68*** | 10.65** |
| Adj-R² | 0.611 | 0.693 | 0.378 | 0.499 | 0.480 |

See Appendix A for the definition of variables

Table 4.11 B. Effects of the Grade of Ratings on SEO Underpricing

The table presents the results of the OLS regression analyses based on all credit rating agencies evaluation and underpricing for a sample of Chinese SEOs over the period 1990-2011. CRGRADE take value of 9 (8, 7 ...1) when firm get rating of AAA (AA, A ... C). Specification (1) is the S&P Credit Agency sample. Specification (2) is the Moody's Credit Agency sample. Specification (3) is the Fitch Credit Agency sample calculated as the average value of ratings from different agencies. Specification (4) is the Dagong Credit Agency sample. Finally specification (5) is all agencies rating grade. See Appendix A for definitions of the variables.***, (**), and (*) indicates significance at the 1%, (5%), and (10%) level, respectively. N denotes the number of observations..

| | S&P's | Moody's | Fitch | Dagong | All agencies |
|--------------------------|-----------------------------------|------------------------------------|----------------------------------|-----------------------------------|-----------------------------------|
| CRGRADE | -0.0037* (0.096) | -0.0094** (0.026) | -0.0075 (0.447) | -0.0090* (0.076) | -0.0016* (0.055) |
| SOE | 0.026 (0.151) | 0.0141 (0.616) | 0.1284* (0.096) | -0.0052 (0.528) | 0.0001 (0.896) |
| HOT | -0.026** (0.034) | -0.0076 (0.564) | -0.0441 (0.340) | 0.0081 (0.261) | -0.0003 (0.970) |
| EXC | -0.0022 (0.745) | -0.0297 (0.402) | 0.0320* (0.082) | 0.0155* (0.091) | 0.0105 (0.181) |
| AGE | -0.0009 (0.215) | -0.0026 (0.272) | -0.0004 (0.464) | 0.0026** (0.037) | 0.0013 (0.138) |
| TGAP | 0.0003 (0.209) | -0.0014 (0.162) | -0.0036 (0.361) | 0.0011*** (0.001) | 0.0007*** (0.004) |
| UND | 0.0193*** (0.005) | 0.0446 (0.235) | Omitted | Omitted | -0.0002 (0.994) |
| ROE | -0.2166*** (0.004) | -0.1211* (0.078) | -1.4172* (0.082) | -0.0757 (0.295) | -0.0934 (0.147) |
| LEV | 0.0008 (0.419) | 0.0003 (0.875) | 0.0117 (0.243) | -0.0037** (0.0121) | -0.0009 (0.582) |
| TAN | -0.0080 (0.419) | -0.0049** (0.038) | 0.01233 (0.498) | -0.0139 (0.521) | -0.0028 (0.870) |
| GROWTH | 0.0014 (0.866) | -0.0370 (0.480) | -0.01497 (0.369) | -0.0153** (0.034) | -0.0113 (0.102) |
| Constant | -0.0155 (0.423) | 0.0005 (0.995) | 0.1857 (0.252) | -0.0561* (0.051) | -0.0487 (0.181) |
| N | 19 | 14 | 12 | 55 | 67 |
| F value | 1.11 | 1.50 | 81.07** | 2.51** | 1.99** |
| Adj-R² | 0.536 | 0.786 | 0.198 | 0.372 | 0.285 |

See Appendix A for the definition of variables

4.8. Discussion

Although Lee (2006) and Asiamoney (2006) stated that Chinese rating agencies are more business oriented and are not capable to give correct rating level for firms, our results indicated that Chinese domestic rating still can reduce underpricing level, and this effect is the same as theoretical hypothesis. This means the ‘non-rating system’ in China still play a certain role in both IPO and SEO process. All of all of our tests used robust check. Additionally, in Table 4.8 we used Heckman and IV methods to test effect of credit rating from different rating agencies on underpricing and results are still consistent.

Additionally, there is number of regulation changes about the pricing models for IPO since Chinese stock market was established. For instance, the pre-fixed P/E ratio was used during January 1st 1990-July 27th 1999, and government sets P/E ratio and issuing price before IPO under this pricing model. However, this method ignoring the different values of firm and the different characteristics between different industries. Therefore, the presence of credit rating and the level of rating may not able to influence IPO underpricing because the pricing is set by Chinese government. Further, Cumulative price inquiry method during July 1st 2001-December 31 2004 put a cap on the IPO’s P/E ratio and applied in all industries. Similar with pre-fixed P/E ratio method, this method also ignoring the different characteristics between different industries and leads to the presence of credit rating not able to influence IPO initial return significantly. In order to fully control the regulation changes effect, this thesis divides the sample into four subsamples and conducts analysis respectively in section 4.9.2.

4.9. Additional Robustness Checks

In the previous analysis, we have provided evidence that firms with multiple credit rating and credit quality (holding a higher credit rating) are more likely to experience

lower level of underpricing when they go public. In this section, we offer additional auxiliary tests to check the validity of our findings.

4.9.1. Investment Grade vs Speculative Grade firms

In order to shed further light in the relation between credit ratings and the level of underpricing in IPOs and SEOs context, we investigate, for robustness reasons, the impact of investment grade credit ratings. Investment-grade firms are the ones rated with BBB or above as in Helwege and Turner (1999) and Blanco et al, (2005). These firms are, in general, of higher quality relative to the speculative-grade firms (i.e. those with a credit rating below BBB). In this context, Jorion et al. (2005) demonstrate that investment grade firms are associated with larger abnormal stock performance relative to the speculative grade ones. They report that that the effect of rating changes on stock prices has become more pronounced as a downgrade from investment grade to speculative grade will have strong negative reflection on the returns. Earlier evidence by Hand et al., (1992) and Ederington and Goh, (1998) indicate that stock prices react to downgrades but not to upgrades. Furthermore, the results by Kisgen and Strahan (2010.); Ellul, Jotikasthira, and Lundblad (2011); and Opp et al (2013) indicate the regulatory advantage is especially important around the investment-grade/junk threshold and at the Aaa vs. Aa threshold. Thus, we create the variable *Investment Grade* dummy taking the value of 1 for firms rated BBB and above, and 0 otherwise. Table 4.12 reports the results.

The coefficient of the *investment grade* carries in negative and significant coefficient in all specifications for both IPOs and SEOs apart from (3) i.e. credit rating by Fitch. These results add further support to our hypothesis that firms with high credit quality are more likely to experience lower underpricing in the immediate aftermarket.

Table 4.12 A: Regressions on the Level of IPO Underpricing based on the Investment Grade

The table presents the results of the OLS regression analyses based on all credit rating agents evaluation and underpricing for a sample of Chinese IPOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | S&P's (1) | Moody's (2) | Fitch (3) | Dagong (4) | All agencies (5) |
|---|----------------------------|-----------------------------|--------------------------|-----------------------------|---------------------------|
| Investment Grade | -1.369* (0.0991) | -3.318** (0.0292) | -0.332 (0.182) | -2.534** (0.0491) | -1.840* (0.092) |
| SOE | 0.311 (0.392) | 0.775* (0.0781) | -0.605** (0.0242) | -0.356 (0.555) | -0.215 (0.709) |
| HOT | -0.00639 (0.983) | 0.193 (0.602) | -0.358 (0.134) | -0.224 (0.691) | -0.271 (0.574) |
| EXC | -0.0367 (0.931) | -0.463 (0.461) | 0.329 (0.466) | -0.251 (0.670) | 0.0389 (0.943) |
| AGE | -0.0807 (0.306) | 0.0292 (0.760) | -0.101 (0.229) | 0.0607 (0.565) | 0.0307 (0.729) |
| TGAP | -0.00170 (0.171) | -0.00468* (0.0545) | -0.00816*** (0.00562) | 0.00959*** (0.00629) | 0.00985*** (0.00712) |
| UND | -0.160 (0.700) | -0.450 (0.410) | 0.418** (0.0208) | 0.139 (0.738) | 0.418 (0.209) |
| LEV | -0.00453 (0.811) | -0.0246 (0.402) | -0.00542 (0.706) | -0.0107 (0.825) | 0.0106 (0.714) |
| TAN | -0.804 (0.350) | -0.347 (0.830) | -0.932* (0.0530) | -1.731 (0.460) | -1.843 (0.392) |
| GROWTH | 0.829* (0.0922) | 0.890 (0.129) | -0.0517 (0.860) | 0.528 (0.528) | 0.492 (0.550) |
| Constant | 2.131** (0.0292) | 3.298*** (0.00664) | 2.062** (0.0156) | 4.293* (0.0845) | 3.122* (0.0812) |
| N | 24 | 18 | 21 | 112 | 130 |
| F value | 13.72*** | 19.64*** | 14.60* | 22.97*** | 8.36* |
| Adj-R² (Pseudo R²) | 0.219 | 0.402 | 0.347 | 0.431 | 0.417 |

See Appendix A for the definition of variables

Table 4.12 B: Regressions on the Level of SEO Underpricing based on the Investment Grade

The table presents the results of the OLS regression analyses based on all credit rating agents evaluation and underpricing for a sample of Chinese SEOs over the period 1990-2011. See Appendix A for definitions of the variables. All regressions control for year fixed effects whose coefficients are suppressed. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | S&P's (1) | Moody's (2) | Fitch (3) | Dagong (4) | All agencies (5) |
|---|---|-------------------------------------|----------------------------------|------------------------------------|------------------------------------|
| Investment Grade | -0.0687* ** (0.005) | -0.1795*** (0.001) | -0.7336 (0.168) | -0.1478** (0.035) | -0.0044** (0.026) |
| SOE | 0.0314** (0.018) | 0.0096 (0.619) | -0.2341* (0.056) | -0.0052 (0.476) | -0.0016 (0.834) |
| HOT | -0.0185* * (0.015) | -0.0042 (0.655) | -0.2978 (0.214) | 0.0082 (0.268) | 0.0017 (0.805) |
| EXC | -0.0009 (0.354) | -0.0284 (0.283) | -0.7938 (0.193) | 0.0146 (0.110) | 0.0089 (0.259) |
| AGE | -0.0011* (0.061) | -0.0011 (0.508) | 0.0044 (0.246) | 0.0028** (0.025) | 0.0011 (0.322) |
| TGAP | -0.0008** * (0.005) | -0.0013* (0.099) | -0.0229* (0.061) | 0.0011*** (0.000) | 0.0007** (0.014) |
| UND | 0.0239** (0.030) | 0.0255 (0.340) | Omitted | Omitted | 0.010 (0.432) |
| ROE | 0.0117 (0.885) | 0.5094 (0.175) | 7.5367 (0.182) | -0.0723 (0.302) | -0.0803 (0.210) |
| LEV | 0.0007 (0.375) | 0.0010 (0.462) | -0.1501 (0.740) | -0.0038** (0.014) | 0.003 (0.863) |
| TAN | 0.0119 (0.268) | -0.0127 (0.493) | 8.39e-10 (0.808) | -0.0103 (0.642) | -0.0029 (0.863) |
| GROWTH | -0.0067 (0.431) | -0.0474 (0.244) | -0.1171 (0.713) | -0.0139** (0.042) | -0.0109 (0.140) |
| Constant | -0.0481* * (0.044) | -0.1356 (0.235) | 0.7496** (0.0158) | -0.0515** (0.020) | -0.0435** (0.018) |
| N | 19 | 14 | 12 | 55 | 69 |
| F value | 9.20*** | 11.25* | 7.6 | 2.50** | 1.62 |
| Adj-R² (Pseudo R²) | 0.219 | 0.198 | 0.102 | 0.397 | 0.238 |

See Appendix A for the definition of variables

4.9.2. Effect of rating for different time periods

Regulations of IPO pricing are different in four time periods as we mentioned before (as explained in section 3.1). In this section, we evaluate whether credit rating presence effect from Chinese rating agency are different in different time period. IV method is applied in our test and the results are showed in Table 4.13. Results indicated that IPOs will be significantly less underpriced when firms have rating from Dagong in time period 2 and 3. This illustrates credit rating from Chinese domestic rating agency can lower information asymmetry level and reduce the magnitude of underpricing in the two periods even Chinese rating agencies are more business focused. However, no evidence shows presence of credit rating from Chinese domestic agency can reduce underpricing in time period 1 and 4. The reason for credit rating has no influence on IPOs in time period 1 can be explained that China's stock market was established until 1990, and credit rating is rare that Chinese investors has no knowledge about what credit rating is at that time, and Chinese government set IPO pricing with fixed P/E ratio.

However, it is still unknown why there is no effect for credit rating in time period 4 for IPOs. Unexpectedly, our result also indicated that presence of state shares can significantly increase underpricing level in time period 2 and 4. In other words, investors in China do not perceive state-owned enterprises as low-risk firms. Another interesting thing is "exchange dummy (EXC)" and "age" only matters in time period 1 and 4, and older firms can increase underpricing level in that period 1, however, this effect changes to negative in time period 4. Theoretical expectation for age effect on IPOs is not fitted in Chinese case in time period 1. Time gap, as we expected, has significantly positive relationship with underpricing level in Chinese stock market developing history, the longer time gap, the higher underpricing level will be for IPOs. Therefore, this result proved Chinese investors do take time gap as an important

uncertainty factor in process of IPOs. Furthermore, LEV and TAN have different influence on IPO underpricing in different time periods. To summarize, it would be interesting to conduct future research about why certain variables' effect on IPOs underpricing changed in different time periods.

The results in Table 4.13B indicated that the presence of credit rating can significantly reduce SEO underpricing in all time periods. Another factor consistently influence SEO underpricing over 4 time periods is HOT, firms doing SEOs in hot market will experience less underpricing in time period 1, 2 and 4, but this influence changes to positive in time period 3. Age of firm remains a negative relationship with SEO underpricing through Chinese stock market developing history. What is more, the effect of leverage ratio on SEOs underpricing experienced significantly changes over 4 time periods. The results from Table 4.13 should draw more attentions about time effect on IPOs and SEOs researches in the future.

Table 4.13 A. The effect of Chinese rating agencies on IPO underpricing

This table examines the influence of the presence of ratings conducted by Chinese agencies on MAIR using IV test (***) , (**), and (*) indicates significance at the 1%, (5%), and (10%) level, respectively. See Appendix A for the definition of variables. Time period 1 is 01.01.1990-27.07.1999; Time period 2 is 28.07.1999-30.06.2001; Time period 3 is 01.07.2001-31.12-2004; Time period 4 is 01.01.2005-31.12.2011.

| | Time period 1 | Time period 2 | Time period 3 | Time period 4 |
|-----------------------------|------------------------|------------------------|------------------------|-------------------------|
| | MAIR | MAIR | MAIR | MAIR |
| CRD | 0.374 (0.409) | -0.469*** (0.00301) | -0.629*** (0.00129) | 0.586 (0.167) |
| HOT | 0.0866 (0.615) | 0.0151 (0.905) | -0.0886 (0.457) | -0.161** (0.028) |
| SOE | -0.176 (0.444) | 0.380** (0.0117) | 0.107 (0.507) | 0.298*** (5.43e-05) |
| EXC | -0.289* (0.0915) | 0.176 (0.146) | 0.171 (0.153) | -0.408*** (0.000035) |
| AGE | 0.0911*** (0.00163) | -0.0877 (0.309) | 0.0571 (0.319) | -0.134*** (0.0008) |
| TGAP | 0.0036*** (0.0003) | 0.00172 (0.260) | 0.00525*** (0.0001) | 0.0113*** (0.004) |
| UND | - - | 0.480** (0.0172) | 0.639*** (0.00223) | 0.380*** (0.000006) |
| LEV | -0.274** (0.0259) | -0.0193 (0.397) | -0.222* (0.0593) | -0.0511*** (0.0005) |
| TAN | -0.506 (0.445) | -0.149 (0.568) | -0.779** (0.0137) | 0.556*** (0.005) |
| GROWTH | -0.0788 (0.231) | 0.167 (0.414) | 0.0300 (0.467) | 0.057 (0.577) |
| Constant | 1.417*** (7.52e-05) | 0.748 (0.286) | 0.495 (0.278) | 1.343*** (0.00002) |
| N | 831 | 258 | 227 | 780 |
| F-value | 25.88** | 8.07 | 11.17*** | 11.53*** |
| Pseudo R² | 0.4895 | 0.247 | 0.639 | 0.0912 |

See Appendix A for the definition of variables

Table 4.13 B. The effect of Chinese rating agencies on SEO underpricing

This table examines the influence of the presence of ratings conducted by Chinese agencies on SEO MAIR using IV test. (***) (**), and (*) indicates significance at the 1%, (5%), and (10%) level, respectively. See Appendix A for the definition of variables. Time period 1 is 01.01.1990-27.07.1999; Time period 2 is 28.07.1999-30.06.2001; Time period 3 is 01.07.2001-31.12-2004; Time period 4 is 01.01.2005-31.12.2011.

| | Time period 1 | Time period 2 | Time period 3 | Time period 4 |
|-----------------------------|------------------------|------------------------|----------------------|---------------------------|
| | MAIR | MAIR | MAIR | MAIR |
| CRD | -0.096* (0.053) | -0.0118*** (0.006) | -0.0131** (0.028) | -0.0065* (0.083) |
| HOT | -0.0031*** (0.0045) | -0.0018** (0.036) | 0.0108** (0.0123) | -0.0025*** (0.0085) |
| SOE | 0.0002 (0.426) | 0.0003 (0.143) | 0.0003 (0.186) | -0.0121 (0.172) |
| EXC | 0.0035 (0.142) | -0.0077 (0.136) | 0.0015 (0.196) | 0.0185** (0.061) |
| AGE | -0.0001*** (0.0008) | -0.0018*** (0.0007) | -0.0010** (0.012) | -0.0003** (0.026) |
| TGAP | 0.0002 (0.136) | 0.0003 (0.482) | 0.0004 (0.159) | 7.64e-06*** (0.0003) |
| UND | -0.0012** (0.0249) | -0.0006 (0.171) | 0.0193 (0.274) | 0.0193 (0.154) |
| ROE | -0.0472** (0.0429) | -0.0561 (0.586) | -0.0613 (0.1235) | -0.0081 (0.1059) |
| LEV | 0.0088*** (0.0044) | -0.0048*** (0.0075) | 0.0005** (0.0164) | 1.02e-06*** (4.42e-07) |
| TAN | 0.0003 (0.129) | -0.0282** (0.0117) | 0.0453** (0.0257) | -0.0234** (0.0123) |
| GROWTH | 0.0002 (0.124) | -0.0011 (0.325) | 0.0151* (0.089) | -0.0024*** (0.0051) |
| Constant | 0.2154*** (0.0015) | 0.568 (0.415) | 1.685 (0.879) | 0.548 (0.258) |
| N | 347 | 347 | 171 | 171 |
| F-value | 1.2 | 8.61** | 11.94** | 11.06** |
| Pseudo R² | 0.141 | 0.232 | 0.116 | 0.167 |

See Appendix A for the definition of variables

4.9.3. Endogeneity Control

In our analysis we treated the credit rating variables as exogenous to our model; that is the decision to obtain a credit rating, and the level of credit ratings are randomly allocated across our sample firms. However, Liu and Malatesta (2005) and An and Chan (2008) argue that firms determine, at least partially, whether to obtain a credit rating or have a higher rating level after considering the benefits against the potential costs. Therefore, it is likely that the decision to obtain a (high) credit rating is based on firm specific characteristics and failure to account for that would lead to biased estimates in our regressions. To test this hypothesis, we use an Instrumental Variables two-stage method, with the *Rating Existence* choice equation (Probit) being the reduced form, and the underpricing level of IPOs and SEOs (Tobit and Probit) being the structural form. For the probit model, the dependent variable will be 1 if IPOs/SEOs are underpriced, otherwise, 0.

In order to evaluate the probability of IPOs/SEOs holding a credit rating or having a high rating level, we follow Denis and Mihov (2003), Liu and Malatesta (2005), and Faulkender and Petersen (2006) and use variables that have been proposed to account for these effects. Specifically, it has been suggested that a firm is more likely to obtain a credit rating or to have a high rating if it is older, well known, it operates in an industry where the competitors have also credit ratings, it is more profitable, and it has a higher credit quality. Therefore, this research will use number of year before firm be rated as a proxy for firms' age; Log total assets, TAN, ROA, MB, Pstateshare and Z score will be used as control variables to proxy well know, profitability and firms' quality.

Table 4.14 presents the results of this analysis for all different methodologies we have used so far (i.e., Tobit and Probit). All the equation of the main control variable shows a negative relationship with our dependent variable and the results are still consistent with

Table 4.9. Specification 1 in Table 4.14 indicated that firm rated by Dagong will experience significantly lower underpricing for both IPOs and SEOs. Firms rated by more international rating agencies will experience less underpricing for both IPOs and SEOs. Table 4.15 indicated the results of four rating agents' presence and shows a significantly negative relationship with both IPOs and SEOs underpricing under probit analysis.

Table 4.14. Dagong and Multiple Credit Rating Agencies Effect on IPO Underpricing

This table presents the results of the Tobit and Probit regression analyses based on the combinations of *three* credit rating agents evaluation and underpricing for a sample of Chinese IPOs over the period 1990-2011. See Appendix A for definitions of the variables. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | IPO | | SEO | |
|-----------------------------|------------------------|-------------------------|-----------------------|----------------------|
| | Tobit | Probit | Tobit | Probit |
| Dagong | -1.716*** (0.00717) | -1.541*** (0.00189) | -0.0065** (0.0395) | -0.0323* (0.0954) |
| Nu-InterCR | -1.333** (0.0353) | -2.444*** (1.23e-05) | -0.0034* (0.0775) | -0.0568* (0.0610) |
| SOE | 0.320*** (0.000114) | 0.432*** (0.000110) | 0.0002 (0.953) | 0.0833 (0.484) |
| HOT | -0.144* (0.0756) | 0.0488 (0.658) | -0.0008 (0.734) | -0.08567 (0.448) |
| EXC | -0.0404 (0.612) | -0.340*** (0.00250) | -0.0014 (0.584) | -0.1927* (0.089) |
| AGE | -0.0270 (0.200) | -0.0235 (0.466) | -0.0006** (0.043) | -0.0268 (0.108) |
| TGAP | 0.00381*** (0) | -0.000106 (0.319) | 0.0001 (0.168) | 0.0003 (0.902) |
| UND | 0.558** (0.0400) | 0.588** (0.0237) | 0.0053 (0.659) | 0.6806 (0.282) |
| LEV | -0.0972** (0.0245) | -0.0651 (0.108) | 8.83e-07 (0.234) | 0.0445 (0.407) |
| TAN | -0.0771 (0.748) | 0.654* (0.0502) | -0.0069 (0.356) | -0.5992* (0.073) |
| GROWTH | -0.0518 (0.226) | -0.0413 (0.289) | -0.0003 (0.858) | -0.0218 (0.761) |
| Constant | 0.684** (0.0378) | 1.113*** (0.00302) | -0.0124 (0.365) | -0.9190 (0.186) |
| N. | 2,096 | 2096 | 625 | 625 |
| Pseudo R² | 0.1451 | 0.0618 | 0.183 | 0.0199 |

Table 4.15 A. Multiple (four) Credit Rating Agencies Effect on IPO Underpricing

This table presents the results of the Tobit and Probit regression analyses base on all credit rating agents evaluation and undunderpricing for a sample of Chinese IPOs over the period 1990-2011. See Appendix A for definitions of the variables. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | (1) | | (2) | |
|--------------------------------|-----------------------|------------------------|-----------------------|------------------------|
| | Tobit | Probit | Tobit | Probit |
| One Rating Existence | | | 0.194 (0.276) | -0.177 (0.447) |
| Two Ratings Existence | | | -0.418 (0.298) | -0.693* (0.0915) |
| Three Ratings Existence | | | -1.718*** (0.007) | -1.716*** (0.0005) |
| Four Ratings Existence | -0.0727 (0.938) | -2.019** (0.0116) | -0.235 (0.803) | -2.523*** (0.00315) |
| SOE | 0.313*** (0.0001) | 0.404*** (0.0002) | 0.319*** (0.0001) | 0.425*** (0.0001) |
| HOT | -0.135* (0.0948) | 0.0590 (0.592) | -0.137* (0.0901) | 0.0331 (0.768) |
| EXC | -0.0436 (0.585) | -0.349*** (0.00185) | -0.0480 (0.548) | -0.334*** (0.00324) |
| AGE | -0.0289 (0.170) | -0.0279 (0.385) | -0.0259 (0.220) | -0.0262 (0.421) |
| TGAP | 0.0038*** (0.0001) | -0.0001 (0.326) | 0.0038*** (0.0001) | -0.0001 (0.237) |
| UND | 0.581** (0.0388) | 0.341 (0.264) | 0.553** (0.0493) | 0.267 (0.388) |
| LEV | -0.0997** (0.0285) | -0.0238 (0.634) | -0.0816* (0.0902) | 0.0151 (0.782) |
| TAN | -0.0931 (0.699) | 0.717** (0.0339) | -0.0974 (0.689) | 0.897** (0.0112) |
| GROWTH | -0.0508 (0.236) | -0.0396 (0.310) | -0.0516 (0.227) | -0.0398 (0.310) |
| Constant | 0.673** (0.0453) | 1.360*** (0.000805) | 0.675** (0.0450) | 1.405*** (0.000671) |
| N. | 2,096 | 2096 | 2,096 | 2096 |
| Pseudo R² | 0.1443 | 0.0596 | 0.1454 | 0.0764 |

Table 4.15 B. Multiple (four) Credit Rating Agencies Effect on SEO Underpricing

This table presents the results of the Tobit and Probit regression analyses base on all credit rating agents evaluation and undunderpricing for a sample of Chinese SEOs over the period 1990-2011. See Appendix A for definitions of the variables. The symbols ***, ** and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. N denotes the number of observations.

| Variables | (1) | | (2) | |
|--------------------------------|----------------------|----------------------|-----------------------|----------------------|
| | Tobit | Probit | Tobit | Probit |
| One Rating Existence | | | -0.00927** (0.044) | -0.3968** (0.048) |
| Two Ratings Existence | | | -0.0005** (0.022) | -0.1639* (0.069) |
| Three Ratings Existence | | | -0.0076* (0.0538) | -0.0207* (0.097) |
| Four Ratings Existence | -0.0031* (0.069) | -0.0215** (0.021) | -0.0015* (0.09) | 0.0547** (0.020) |
| SOE | 0.0003 (0.991) | 0.0822 (0.491) | 0.0002 (0.955) | 0.0878 (0.464) |
| HOT | -0.0009 (0.714) | -0.0848 (0.453) | -0.0011 (0.680) | -0.0964 (0.398) |
| EXC | -0.0013 (0.613) | -0.1860 (0.101) | -0.0017 (0.501) | -0.2024* (0.076) |
| AGE | -0.0006 (0.123) | -0.0291* (0.082) | -0.0006 (0.126) | -0.0304* (0.072) |
| TGAP | 0.0001 (0.169) | 0.0005 (0.870) | 0.0001 (0.142) | -0.0006 (0.833) |
| UND | 0.0056 (0.651) | 0.726 (0.252) | 0.0047 (0.704) | 0.7020 (0.277) |
| ROE | -0.0697** (0.012) | -1.3303 (0.284) | -0.0787*** (0.005) | -1.6944 (0.181) |
| LEV | 8.68e-07 (0.242) | 0.0698 (0.284) | 9.07e-07 (0.221) | 0.0507 (0.416) |
| TAN | -0.0062 (0.404) | -0.5922* (0.077) | -0.0086 (0.250) | -0.7081** (0.038) |
| GROWTH | -0.003 (0.861) | -0.0230 (0.749) | -0.0003 (0.871) | -0.0237 (0.744) |
| Constant | -0.0127 (0.354) | -1.0041 (0.151) | -0.0115 (0.403) | -0.9545 (0.176) |
| N. | 625 | 625 | 625 | 625 |
| Pseudo R² | 0.1992 | 0.0203 | 0.1646 | 0.0253 |

See Appendix A for the definition of variables

Table 4.16 A. Endogeneity control for credit rating level (IPO)

The table presents the results of the IV regression procedure to control for the potential endogeneity of credit rating level for Chinese IPOs over the period 1990-2011. CRGRADE take value of 9 (8, 7 ... 1) when firm get rating of AAA (AA, A ... C). Specification (1) is the S&P Credit Agency sample. Specification (2) is the Moody's Credit Agency sample. Specification (3) is the Fitch Credit Agency sample calculated as the average value of ratings from different agencies. Specification (4) is the Dagong Credit Agency sample. Finally specification (5) is all agencies rating grade. See Appendix A for definitions of the variables. ***, **, and * indicates significance at the 1%, (5%), and (10%) level, respectively. N denotes the number of observations..

| | S&P's | | | Moody's | | | Fitch | | | Dagong | | All agencies | | | |
|-----------------------------|---------------------|----------------------|--------------------|----------------------|------------------------|--------------------|-----------------------|------------------------|--------------------|------------------------|-------------------|---------------------|----------------------|-------------------|---------------------|
| | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit |
| CRGRADE | | -0.254 (0.255) | 0.697 (0.571) | | -0.893 (0.621) | -0.495 (0.587) | | 0.0468 (0.547) | 0.833 (0.317) | | -0.405 (0.187) | -0.345 (0.192) | | -0.605 (0.179) | -0.218 (0.600) |
| LogTA | 0.598* (0.073) | | | 2.129* (0.0888) | | | 0.377* (0.0654) | | | -0.639 (0.201) | | | -0.527 (0.187) | | |
| AGE | -0.230* (0.072) | | | 0.0462 (0.881) | | | -0.176 (0.131) | | | 0.0955 (0.147) | | | 0.0599 (0.353) | | |
| LEV | -0.0848 (0.115) | | | -0.135* (0.0949) | | | -0.0690* (0.0817) | | | 0.0951 (0.410) | | | 0.0978 (0.319) | | |
| TAN | -0.309 (0.700) | | | -5.704 (0.156) | | | -1.023** (0.0409) | | | 0.0542 (0.960) | | | 0.0156 (0.986) | | |
| ROA | -1.687 (0.802) | | | 51.78 (0.205) | | | -8.571* (0.0792) | | | 1.514 (0.819) | | | 1.686 (0.789) | | |
| MB | 1.404 (0.255) | | | 4.176 (0.180) | | | 0.521* (0.0559) | | | -0.760*** (0.00909) | | | -0.729** (0.0104) | | |
| Pstatashare | -0.628 (0.360) | | | 3.919 (0.253) | | | -0.0790 (0.817) | | | -0.251 (0.726) | | | -0.379 (0.551) | | |
| Z score | -0.159 (0.331) | | | -2.202 (0.241) | | | -0.0639 (0.556) | | | -0.217 (0.203) | | | -0.205 (0.181) | | |
| HOT | -0.479 (0.364) | -0.180 (0.579) | 0.625 (0.651) | -1.026 (0.139) | -0.540* (0.0802) | 0.833 (0.329) | -0.707** (0.0490) | -0.118 (0.387) | -2.168 (0.251) | 0.00414 (0.990) | 0.156 (0.680) | -0.114 (0.765) | -0.000575 (0.998) | 0.0733 (0.821) | 0.00539 (0.988) |
| EXC | -0.314 (0.561) | -0.0495 (0.897) | - (0.339) | -0.744 (0.339) | -0.410 (0.211) | - (0.505) | -0.240 (0.249) | -0.232 (0.249) | - (0.505) | -0.444 (0.242) | -0.436 (0.306) | - (0.555) | -0.206 (0.555) | -0.236 (0.522) | - (0.522) |
| TGAP | -0.00194 (0.231) | -0.000706 (0.459) | -0.0501 (0.341) | -0.000605 (0.796) | -0.00355** (0.0112) | 0.00230 (0.823) | -0.0154** (0.0115) | -0.00429** (0.0171) | -0.0654 (0.579) | 0.00962*** (0) | 0.00992*** (0) | 0.00035 (0.627) | 0.00961*** (0) | 0.00988*** (0) | 0.000235 (0.736) |
| UND | 0.216 (0.551) | -0.0631 (0.859) | 0.283 (0.815) | 2.442 (0.175) | -0.297 (0.377) | 0.601 (0.460) | 0.520 (0.105) | 0.433** (0.0326) | 3.699 (0.227) | -0.302 (0.622) | 0.161 (0.828) | 1.019** (0.0477) | -0.216 (0.620) | 0.142 (0.809) | 0.779* (0.0887) |
| GROWTH | 0.720 (0.189) | 1.107** (0.0220) | 6.839* (0.0942) | -0.843 (0.547) | 0.949* (0.0775) | 2.350 (0.168) | 0.171 (0.674) | -0.0214 (0.929) | -2.000 (0.461) | -0.201 (0.393) | -0.286 (0.283) | -0.0148 (0.949) | -0.210 (0.338) | -0.285 (0.249) | -0.0220 (0.925) |
| Constant | -1.942 (0.488) | 2.104 (0.194) | -5.157 (0.613) | -14.65 (0.187) | 6.886*** (0.00512) | 3.520 (0.597) | 0.375 (0.676) | -0.0419 (0.937) | -2.781 (0.665) | 4.891** (0.0261) | 3.660 (0.103) | 2.772 (0.158) | 4.367** (0.0104) | 4.721 (0.117) | 2.171 (0.446) |
| N | 24 | 24 | 17 | 18 | 18 | 18 | 21 | 21 | 16 | 112 | 112 | 81 | 130 | 130 | 92 |
| Pseudo R² | 0.2678 | 0.185 | 0.492 | 0.4289 | 0.0414 | 0.3666 | 0.5705 | 0.0605 | 0.4373 | 0.6830 | 0.2297 | 0.1334 | 0.6831 | 0.2330 | 0.0755 |
| F test | | 0.36 | 1.51 | | 8.12 | 2.52 | | 0.11 | 0.47 | | 0.57 | 0.77 | | 1.24 | 0.52 |
| DWH test | | 0.5594 | 0.2193 | | 0.0172 | 0.01126 | | 0.7418 | 0.4947 | | 0.4504 | 0.3804 | | 0.2679 | 0.4716 |

Table 4.16 B. Endogeneity control for credit rating level (SEO)

The table presents the results of the IV regression procedure to control for the potential endogeneity of credit rating level for Chinese SEOs over the period 1990-2011. CRGRADE take value of 9 (8, 7 ... 1) when firm get rating of AAA (AA, A ... C). Specification (1) is the S&P Credit Agency sample. Specification (2) is the Moody's Credit Agency sample. Specification (3) is the Fitch Credit Agency sample calculated as the average value of ratings from different agencies. Specification (4) is the Dagong Credit Agency sample. Finally specification (5) is all agencies rating grade. See Appendix A for definitions of the variables.***, **, and * indicates significance at the 1%, (5%), and (10%) level, respectively. N denotes the number of observations..

| | S&P's | | Moody's | | | Fitch | | | Dagong | | | All agencies | | | |
|---------------------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit | Reduced | Tobit | Probit |
| CRGRADE | | -0.0034** (0.022) | -0.0023* (0.094) | | -0.0063** (0.023) | -0.0793* (0.069) | | -0.104* (0.091) | -0.0821* (0.084) | | -0.0005* (0.090) | -0.4943** (0.048) | | -0.0028* (0.055) | -0.9289* (0.066) |
| LogTA | -0.0005 (0.517) | | | -0.0004 (0.865) | | | -0.0059* (0.0680) | | | -0.0016 (0.776) | | | 0.0083 (0.225) | | |
| AGE | 0.0005** (0.019) | | | 0.0005 (0.210) | | | -0.0009 (0.198) | | | -0.0023* (0.085) | | | 0.0029** (0.034) | | |
| LEV | -0.0008 (0.420) | | | 1.05e-06 (0.159) | | | 0.0140 (0.254) | | | -0.0032 (0.361) | | | 0.0057 (0.568) | | |
| TAN | 0.0117 (0.177) | | | 0.0003 (0.975) | | | 0.0691 (0.3204) | | | -0.0082 (0.697) | | | 0.0034 (0.884) | | |
| ROA | -0.1882** (0.028) | | | -0.0677* (0.081) | | | -0.5603* (0.0869) | | | -0.0999 (0.322) | | | -0.1056 (0.346) | | |
| MB | 0.0185 (0.855) | | | -0.0024* (0.097) | | | 0.0841** (0.048) | | | 0.0005** (0.024) | | | 0.0194 (0.206) | | |
| Pstateshare | 0.0262* (0.060) | | | -0.0052 (0.332) | | | -0.2308 (0.529) | | | -0.0241 (0.113) | | | -0.0382** (0.014) | | |
| Z score | 0.0082 (0.805) | | | 0.0062*** (0.001) | | | -0.1030 (0.2368) | | | 0.0015 (0.762) | | | 0.0033 (0.522) | | |
| HOT | -0.0120 (0.694) | -0.004 (0.892) | -0.0584 (0.606) | -0.0002 (0.942) | -0.00569 (0.453) | -0.0436 (0.701) | -0.0035 (0.2604) | -0.0268 (0.278) | -0.0645 (0.204) | 0.0061 (0.429) | 0.0055 (0.432) | 0.2893 (0.446) | 0.0003 (0.792) | 0.0057 (0.414) | 0.3214 (0.404) |
| EXC | -0.0218** (0.026) | -0.0016* (0.054) | -0.1987* (0.084) | -0.0037 (0.328) | -0.0259*** (0.006) | -0.1822 (0.115) | -0.0512 (0.120) | -0.601 (0.480) | -0.0462 (0.139) | 0.0201** (0.033) | 0.0148* (0.082) | 0.1190 (0.789) | 0.0281*** (0.008) | 0.0154* (0.074) | 0.1963 (0.665) |
| TGAP | -0.0002 (0.774) | -0.0007 (0.282) | -0.0004 (0.901) | 0.0001 (0.323) | -0.0006** (0.046) | -0.0006 (0.844) | 0.0047* (0.060) | 0.0401* (0.071) | 0.0439* (0.051) | 0.0010*** (0.001) | 0.0009*** (0.001) | 0.01389 (0.313) | 0.0011*** (0.001) | 0.0009*** (0.001) | 0.0175 (0.200) |
| UND | 0.0108 (0.870) | 0.0019 (0.888) | 0.4146 (0.521) | 0.0011 (0.938) | 0.0145 (0.290) | 0.3803 (0.557) | Omitted | Omitted | - | - | - | - | - | - | - |
| ROE | -0.1486 (0.462) | -0.0676** (0.017) | -1.2847** (0.030) | -0.0502 (0.112) | -0.358 (0.156) | -1.7031 (0.179) | 0.9027 (0.216) | 0.0268 (0.108) | 0.1051 (0.627) | -0.0981 (0.185) | -0.0906 (0.155) | -6.0312* (0.053) | 0.0212 (0.807) | -0.0949 (0.144) | -7.8122* (0.094) |
| GROWTH | -0.0164 (0.589) | -0.0009* (0.072) | -0.0426 (0.560) | -0.0006 (0.676) | -0.03753* (0.062) | -0.0322* (0.053) | -0.0036** (0.038) | -0.0081* (0.0613) | -0.0162* (0.0513) | -0.0146* (0.052) | -0.0129* (0.062) | 0.0633 (0.860) | -0.0146* (0.093) | -0.0130* (0.059) | 0.0825 (0.818) |
| Constant | -0.0296 (0.900) | -0.0074 (0.607) | -0.5825 (0.396) | -0.0099 (0.551) | -0.0109 (0.825) | -0.0366 (0.964) | -0.2190 (0.531) | -0.4680 (0.156) | -0.0895 (0.264) | -0.0416 (0.213) | -0.0439 (0.291) | 2.7096 (0.277) | -0.1299** (0.012) | -0.02922 (0.594) | 5.3371 (0.115) |
| N | 18 | 18 | 18 | 24 | 24 | 17 | 11 | 11 | 11 | 53 | 53 | 53 | 53 | 53 | 53 |
| Adj/Pseudo R² | 0.468 | 0.165 | 0.097 | 0.279 | 0.158 | 0.096 | 0.091 | 0.107 | 0.121 | 0.293 | 0.129 | 0.094 | 0.388 | 0.182 | 0.104 |
| F test | | 13.20 | 11.58 | | 29.13 | 17.21 | | 13.10 | 9.82 | | 36.41 | 31.05 | | 31.24 | 36.91 |
| DWH test | | 0.001 | 0.002 | | 0.000 | 0.000 | | 0.000 | 0.001 | | 0.000 | 0.000 | | 0.000 | 0.000 |

With regards to the correction for endogeneity in the case of the continuous variable Rating Level, we apply an Instrumental Variables two-stage method. Table 4.16 shows the results for this analysis. All the results in Table 4.16A indicated that credit rating level has no influence on IPO underpricing at all no matter which Rating Agent is. However, the lower part of Table 4.16 A shows DWH test for endogeneity does not reject the null hypothesis of no endogeneity of main variable of interest for all rating agents(except Moody's). Table 4.16 B shows credit rating level can significantly lower SEO underpricing for all rating agents, and the lower part of Table 4.16 B indicated that there is endogeneity existed and we should rely on the results in Table 4.16 B. Interestingly, we can still get results that rating level has significantly negative relationship with SEOs underpricing.

4.10. Conclusion

In this chapter we present a direct empirical analysis of the relation between multiple credit ratings and IPOs/SEOs underpricing in Chinese stock market. Consistent with the theoretical model of information production by financial intermediaries, this chapter provides new evidence on the role of Credit Ratings in IPOs and SEOs. In particular, we examine how different rating existence and on a multi rating level affect the returns to the investors in the immediate aftermarket. In our empirical analysis, we use different econometric approaches to examine this relationship, and we are able to confirm our hypotheses establishing a negative relation between multiple credit ratings and IPO/SEO underpricing. Specifically, both rating existence and rating level are negatively associated to investors' returns during IPOs and SEOs. The results are attributed to the increased information revelation/reduced information asymmetry among investors in the IPO and SEO market, which provide confidence. Our investment

grade results also confirm the findings on rating level analysis corroborating the view that reducing level of underpricing is an increasing function of credit quality. Further, specific credit agents combination appears to determine the reduction of the initial returns lending support to the relationship of credit ratings with IPOs and SEOs underpricing. Moreover, our results are robust even after controlling for endogeneity issues regarding the main variables of interest.

In response to the questions raised in the introduction, the findings of this chapter imply that: (1) Listing with a credit ratings can operate as an solution on resolving underpricing phenomenon in a highly historical underpriced market as China; (2) Chinese IPOs/SEOs select their local leading rating agent Dagong for s credit rating rather than by U.S. S/P, Moody's and Fitch (3) Firms listing with one credit rating are not necessarily underpriced less (i.e. it is with U.S. credit agents but not with Chinese Dagong) but going public with more than one credit ratings leads to lower IPO/SEO underpricing; and (4) IPO/SEO firms with higher credit ratings are underpriced less than lower rated firms; Moreover, our results are robust even after controlling for endogeneity issues regarding the main variables of interest.

Contrary to prior findings, but consistent with the theoretical model this chapter provides evidence on credit rating effect on IPOs and SEOs in the scope of underpricing, rating level effect and the relation between international rating agencies and Chinese domestic rate agencies. In particular, we report that the effect of having ratings on IPOs is difference in various time periods.

5. Effectiveness, Determinants and Performance of Different IPO Allocation Mechanisms

5.1. Introduction

One of the challenges to the IPO issuer is to find out the “optimal” offering price to maximize the IPO value keeping the likelihood of the IPO “failure” within “sensible” limits, being conscious that a too high offering price increases the likelihood of not selling all IPO shares (failure), which can threaten her reputation and future performance, and a too low offering price increases the IPO cost, leading to a loss of financial resources that otherwise could be used to financing future investments.

IPO underpricing has been reported for almost all countries and is usually referred as one of the financial theory related unsolved “puzzles” (see, for instance, Loughran et al., 1994; Loughran and Ritter, 1995; Jenkinson, 2001; Ritter and Welch, 2002; and Ritter, 2003). Several research hypotheses have been developed to examine the determinants of the allocation mechanism choice and the association between underpricing and the usage of specific IPO allocation mechanisms (see, among others, Benveniste and Busada, 1997; Wu, 2004; Ma and Faff, 2007; and Kucukkocaoglu and Alp, 2012). Attempts have also been made to theorize on the reason(s) underlying underpricing, usually based on “information asymmetry” related hypotheses, such as the “winner’s curse”, “signalling”, “market feedback” and the “bandwagon” hypotheses.

A significant part of the IPO literature provides statistics on the usage of specific IPO allocation mechanisms for particular IPO markets and examines the degree of underpricing that is associated with the usage of each allocation mechanism and the popularity of those allocation mechanisms over time (see, Leleux and Paliard, 1996; Sherman, 2001; Derrien and Womack, 2003; and Ma and Faff, 2007, among others).

It has been suggested that the choice of the IPO allocation mechanism as well as the degree of underpricing associated with the usage of each allocation mechanism vary across countries (see, for instance, Loughran et al., 1994; Chowdhry and Sherman, 1996; Ritter, 2003; Derrien and Womack, 2003; and Moshirian et al. 2010), and is affected by the market conditions, such as market return and volatility, and the stage of the financial market development (see Ibbotson, 1994; Kaneko and Pettway, 2003; Derrien and Womack, 2003; and Ljungqvist and Wilhelm, 2003; Vandemaele, 2003; Chiou et al. 2010, for instance), the regulatory rules in place at the moment of the IPO (see, among others, Benveniste and Wilhelm, 1990; Tian, 2003; Cheung et al., 2009; and Tian, 2011), the reputation of the underwriter or the auditor (see Beatty and Ritter, 1986; and Beatty, 1989; and Carter and Manaster, 1990, for instance); and the firm's ownership structure at the moment of the IPO and or her (publicly known) objectives for the post-IPO ownership structure (see Booth and Chua, 1996; Mello and Parsons, 1998; Stoughton and Zechner, 1998; Pham et al. 2003; among others).

For instance, in the US, in the last two decades, IPOs are primarily based on the “bookbuilding” (BB) allocation mechanism, whereas in Europe, for instance in France, the “auction” (AU) and the “fixed price” (FP) allocation mechanisms are also popular¹²,

¹² In the “*bookbuilding*” (BB) allocation mechanism, the issuer and the underwriter agree with a price range which once set is used to seek feedback from potential investors regarding the number of shares they are willing to buy. The offering price is determined by the bids from the investors.

In the “*auction*” (AU) allocation mechanism, investors submit their bids, specifying the preferred share quantities and respective prices, after which the offers are ranked from the highest bid price to the lowest bid price and the price to be paid for the shares equals the bid price corresponding to the last share to be sold plus a margin -which needs to be authorised by the Government.

In the “fixed price” (FP) mechanism, the issuer and the underwriter agree ex-ante with a fixed price for the IPO. Once the offering price is disclosed to the market investors set their orders paying, usually, in advance. The FE encompasses six (slightly) different procedures in China. Early 1990s, the IPO allocation followed a quota system, but the high level of underpricing and a few other investment instruments available in China always resulted in oversubscription. Investors thus had to buy subscription warrants or deposit a certain amount of funds in a specific savings account to apply for IPOs, and a lottery mechanism was then used to determine who could purchase the shares. The mechanism investors need to buy subscription warrants called i); selling subscription warrants mechanism (SW) and the other one that investors needs to pay deposit for certain amount of funds called ii); saving linkage offering mechanism (SL). Both SW and SL mechanism belongs to offline fixed price mechanism. After an

the FP is the most effective allocation mechanism for the French IPO market (see Vandemaele, 2003), whereas the AU is the most effective allocation mechanism in the Japanese IPO market (see Kaneko and Pettway, 2003), and the average IPO return in the first day of trading for China, Malaysia and Brazil are 256.9%, 104.1% and 78.5%, respectively, for the time periods over 1990-2000, 1980-1998 and 1979-1990, respectively, whereas for Kong Kong and the US are 17.3% and 18.4%, respectively, for the time periods over 1960-2001 and 1980-2001, respectively (see Ritter, 2003, pp. 423-424).

Most of the IPO literature focuses on IPOs of countries with well-developed financial markets, for instance the US and the EU markets. Yet, less developed financial markets such as that of China have had an enormous IPO activity in the last two decades.¹³ This very high IPO activity along with the wide range of different allocation mechanisms used, provide a unique opportunity to update the statistics on the popularity of each allocation mechanism and examine the determinants of the allocation mechanism choice as well as the efficiency of each allocation mechanism in reducing underpricing.

The stock market in China started in Shanghai and Shenzhen in 1990 and 1991, respectively. Before 1990, firms owned by the government were sold to private

online trading system was introduced into the secondary market, IPO shares, since June 1995, started to be allocated by that system with a fixed price. This was called the iii): online fixed price offering mechanism (OL). However, due to high level of IPO underpricing, there was too much capital being “frozen” to subscribe to new issuing shares, resulting in too few investors participating in the secondary market. Further, Chinese government would like to reduce the proportion of state-owned share and increase share supply in secondary stock market. The SCRC would like to encourage individual investors to participate in and benefit from secondary stock market. A new mechanism was set that the number of IPO shares which investors can subscribe to was set according to the market value of shares held by the same investors on the secondary market, called the iv): secondary market proportional offering(SM). The mixed mechanism that individual investors can decide whether they want online trading or through secondary market subscription was called v): online fixed price plus secondary market proportion (OLSM). For vi): “private placement” (PP), where share prices and quantities are dealt individually with preferred investors such as employees, local publics and government offices, or institutions which have had business relations with the issuer or are seen by the issuer as strategic shareholders partners for the business development in the future;(for further information see <http://www.cninfo.com.cn/>, Jiu Chao Information Company).

¹³ With about 2,096 IPOs - see Table 5.2.

investors using the “private placement” (PP) allocation mechanism - without the interference of underwriters. With the arrival of stock exchanges, several (more “sophisticated”) allocation mechanisms were being progressively adopted. More specifically, the AU and the PP were the most popular allocation mechanisms (roughly) over the time period of 1990-1995; within the FP allocation mechanism, the “online fixed price” (OL) procedure was quite popular over the time period of 1996-2001; the “online fixed price plus secondary market proportional” (OLSM), the “saving linkage” (SL) and the “secondary market proportional” (SM) procedures were only used over the time periods of 1998-2000, 1996-1997 and 2002-2005, respectively; the “subscription” (SSW) procedure was only slightly used over the time period of 1992-1994; and the BB mechanism is the most popular allocation mechanism since 2006 (see Table 5.2).

There are few studies on the Chinese IPO market. Among the few exceptions are Mok and Hui (1998), who, using a dataset from the first half of the 1990s, among other results, find that the “Chinese characteristics” of high equity retention by the state and legal-entity stocks and a long time lag between the offering date and the listing date are key determinants of the underpricing. Their results also show that A-shares in the Shanghai stock exchange are 298% underpriced whereas B-shares are only 26% underpriced and less volatile than A-shares; Ti (2003), who, using a data sample of 354 IPOs collected from the time period over 1999-2002, shows that the BB allocation mechanism is more efficient than the FP allocation mechanism in reducing the adjusted initial return on the day of listing; Chan et al. (2004), who study long-term return performance for A and B shares using a data collected for the time period over 1993-1998, and, among other results, find that the average underpricing for A and B shares are 178% and 11.6%, respectively, and the underpricing of A-shares is positively

associated with the time lag between the offering date and the listing date; and Ma and Faff (2007), who investigate the impact of market conditions on the IPO allocation mechanism choice, using a sample of 942 IPOs collected over the time period of 1994-2003. Their results show that larger firms prefer the BB allocation mechanism and that the BB allocation mechanism, although slightly less efficient than the AU allocation mechanism, is still reasonably efficient in reducing underpricing and counteracting adverse market conditions.

Also, Cheung et al. (2009), who describe the IPO market deregulation developments, examine underpricing for A-shares and investigate the effect of regulation reforms on underpricing, relying on a sample collected over the time-period of 1992-2006. Their findings suggest that the IPO pricing method before the regulation changes, which was based on a fixed P/E ratio pre-determined by regulators, contributed significantly to the IPO underpricing in China; and Chiou et al. 2010, who examine whether changes in pricing and allocation mechanisms significantly affect the Chinese IPO market. Their research is focused on four allocation mechanism used within the time period between 1995 and 2007, more specifically: (i) the “quota system”, which was introduced in the beginning of the IPO market, (ii) the “online with a fixed price offering method”, used until 1998, (iii) the “secondary market proportional offering”, used since May 2002, and (iv) the “BB allocation mechanism”, introduced in August 2004. Their findings show that as these allocation mechanisms evolved the average and variance of the IPO underpricing became smaller.

In the current IPO literature, the effect of the industry on the degree of underpricing and the choice of the IPO allocation mechanism is neglected. Nevertheless, in countries where the importance, or the characteristics of a specific industry are very distinct from

those of the other industries, for instance, in terms of the impact on the economic development, or the contribution to the GDP or to the GDP growth, or where it accounts for a very high proportion of the job market, or is guided by different tacit or explicit management rules or regulations, or uses slightly different corporate governance policies, it may be sensible to examine IPO related phenomena controlling for the industry-effect. The Chinese manufacturing sector fits some of the above characteristics¹⁴.

We study the determinants of the IPO allocation mechanism choice for the Chinese market and the underpricing level that is associated with the usage of each allocation mechanism, using a sample that comprises 2,029 IPOs collected over time period of 1990 to 2011, organized according to two subgroups: manufacturing and non-manufacturing firms. We also investigate the association between market conditions, such as the market return and volatility, and corporate governance policies, such as the size of the board of directors and the proportion of the number of external directors as a proportion of the total number of board of directors, on both the IPO allocation mechanism choice and the underpricing for the short-term (10 days) and the long-term (12, 24 and 36 months).

We raise several research questions on allocation mechanism Chinese IPO market context: Which one is the most effective allocation mechanism among several allocation mechanism choices? What are the determinations of choosing mechanism choice in

¹⁴ The manufacturing sector in China provided about 39.89% of the job opportunities in 2013. Also, more than 62% of the listed firms in the Shanghai and the Shenzhen stock exchanges are from the manufacturing sector, accounting for about 70% of the total market value. Furthermore, it has developed at an average 12% annual growth rate in the last two decades, exporting 9 billion dollars in 1980 (41.3% of the total Chinese exports) and 4.14 trillion dollars in 2013 (91.2% of the total Chinese exports), and contributed to about 40% of the GDP in 1980s and 30% of the GDP in 2010 - a percentage that is well above those of the US, Japan and Germany, where, in 2010, the manufacturing sectors account for only 12%, 17% and 19%, respectively. Also, due to its nature, it tends to operate under slight different financial conditions such as higher working capital ratios and investment capital, and may use slight different financial related policies such as capital structure and governance policy.

Chinese stock market? Can corporate governance factors influence allocation mechanism decision, if yes, what extend corporate governance factors can contribute to allocation mechanism decision? Are there any differences among the determinations regarding the allocation mechanisms among manufacturing industry and non-manufacturing industry? How the firm's long term and short term performance will be under each allocation mechanism?

Our main hypotheses are summarized as follows: 1) Older firms are more likely to use bookbuilding mechanism. 2) Firms with large market capitalization are more likely to use the bookbuilding mechanism. 3) Firms with high market to book ratio based on IPO day are more likely to use Bookbuilding mechanism. 4) Firms with high ratio of public tradable shares are less likely to use the bookbuilding mechanism. 5) a: Firms are more willing to use fixed price mechanism when there is higher market return. b: Firms are more willing to use a fixed price mechanism when there is lower market volatility. 6) Corporate governance can significantly influence allocation mechanism decision. The more detailed hypotheses are a): Firms with larger board size are more likely to use bookbuilding mechanism. b): Firms with relatively more outsiders in the board are more likely to use bookbuilding allocation mechanism. c): Firms with higher proportion of legal personal share are less likely to use bookbuilding mechanism. d): Firms with higher concentrated ownership are less likely to use bookbuilding mechanism. The detailed information of how each hypothesis developed is explained in the "Hypothesis Development" section.

The main contribution of this chapter is based on investigating IPO allocation mechanisms from corporate governance aspect and different industries effects. Allocation mechanism, as a critical issue in IPO processing, is prone to be influenced by

corporate governance factors. To the best of our knowledge, no other research has examined this aspect of the IPO allocation mechanism; thus, this research could fill this gap in the literature. In addition, we examine if there are different patterns for IPO allocation mechanism decisions in manufacturing and non-manufacturing industries. Further, this research uses data from 1990 until 2011, which covers the entire history of Chinese stock market development and it enables us to provide more reliable and comprehensive results. This study also considers the IPO performance in the short-term and long-terms across different allocation mechanisms, which is ignored by the majority extant studies.

This research reports several findings: Our results show that the “bookbuilding” (BB) is the most effective allocation mechanism in reducing underpricing and that the market conditions, level of risk and information asymmetry and capital demand affect the IPO allocation mechanism choice. Additionally, we find that firms with larger board size and or higher proportion of legal person share ownership are less likely to choose the BB allocation mechanism and that a higher proportion of tradable shares is associated negatively with the usage of the BB allocation mechanism. Finally, we show that short-term and long-term underpricing varies significantly across the allocation mechanisms.

This chapter is organized as follows: A literature review is presented in section 5.2; and in section 5.3 we introduce the allocation mechanism situation in the Chinese stock market. Section 5.4 is about how we developed our hypothesis. Section 5.5 is about data and method. Following that, we describe statistics in section 5.6. We present our regression analysis results in Section 5.7 which is about the effectiveness of each allocation mechanism and the determinations of the allocation mechanism. Additionally,

the short-term and long-term performance for different allocation mechanisms is discussed in this section. Finally, a conclusion will be conducted in Section 5.9.

5.2. Literature review

Fixed price, bookbuilding and auctions are the three most common allocation mechanisms used in IPO processes. In the situation of using fixed price, the issuer and underwriter will set up a fixed price before IPO listing on the stock market, while the book building mechanism is slightly different. For the book building mechanism, a negotiated price range will be set by issuers and underwriters of IPO; following that, they will seek feedback from potential investors about how much and how many shares investors are willing to purchase. For the offering price range, it is conducted in the process of price discovery which is the demand situation of the IPO at different price levels. At the end, the issuer and underwriter will set a minimum reasonable price; however, the offering price is determined through bids from different investors. In the auction-like process, issuers and underwriters would set up an IPO price based on P/E ratio. Investors would bid for IPO shares by offering their demand volume and price for these shares. Finally, the offering would be determined by issuers and their underwriter would add a margin into the base price to get the offering price. However, all of this required the permission of the government in Chinese stock market. The volume of IPO shares that bidders could purchase was negotiated.

5.2.1. Effectiveness of allocation mechanism

Loughran and Ritter (2002) stated the effective allocation mechanism should be the one can minimize the amount of money left on the table which means a lower IPO underpricing level. In order to make market more efficiency, the regulators of market in

the worldwide have tried to use different allocation mechanisms and this leads to three mainly used approaches: Bookbuilding mechanism, fixed price mechanism and auction mechanism. In recently decades, a large number of researches are conducted and try to analyze whether the different allocation mechanisms work in reducing underpricing level. For instance, Derrien and Womack (2003) conducted analysis of auction mechanism using sample from French stock market and provided results that auction mechanism is able to reduce underpricing level of IPO no matter in hot market or cold market. Additionally, Derrien and Womack stated that the reason of using less effective mechanism in IPO process could be the target of different type of investors. For the situation in other countries like Japanese, Kutsuna and Smith (2004) confirmed that bookbuilding mechanism is more able to reduce the amount of money left on the table when comparing with auction mechanism. Similar researches were conducted before, Kandel et al (1999) focus on Israeli market using the data from 1993 to 1996, and they got results that IPO underpricing is significantly reduces when auction mechanism is adopted in Israeli stock market. Degeorge et al. (2010) also obtained evidence that initial public offerings can yield higher price discovery allowing institutional investors to extract informational rents when auction mechanism is adopted. Sherman (2005) and Ljungqvist (2007) find that there is an increasing use of bookbuilding mechanism in IPO market because of the significant effect on reduce underpricing level.

Benveniste and Spindt (1989) argued that the effective use of the book building allocation mechanism in the United States can reveal investors' beliefs about IPO shares. For the auction mechanism, it enables asymmetrically informed investors to show their awareness to the underwriter; then, the regular investors from the underwriter will have the priority of share allocation. Finally, Welch (1992) stated that

the use of fixed price allocation mechanism by certain nations in Europe can lead to “informational cascades”. Investors would stronger their faith of what share values are through refer previous investment of other investors. Certain researches showed the relationship between IPO underpricing and share allocation mechanism. For instance, Leleux and Paliard’s (1996) research stated that the IPOs’ underpricing levels are more significant when they applying fixed pricing mechanism instant of auction mechanism. Other empirical researches, such as Ljungqvist et al. (2003), compared the book building and public offering IPOs of many other nations, and get results that public offering is cheaper than the book building mechanism; however, the bookbuilding mechanism showed no sign of a lower underpricing level. Other researches indicated that using the auction mechanism of IPOs would lead to less underpricing, while the difference in the first day’s returns would be lower as well (Derrien and Womack 2003). They also stated that auction seems concern recent market information and show them into IPO pricing, but other mechanisms do not do so. Su and Fleisher (1999) carried out empirical research on Chinese IPOs during the period 1987 to 1995, the results of which show that the lottery mechanism in the IPO market experiences a higher means of underpricing than auctions. More recent research by Ti (2003), which tested 354 firms during the period 1999 to 2002, indicated that, compared with the bookbuilding mechanism, the fixed price mechanism experienced less odds adjusted initial return at the first day of listing. Therefore, investors have different attitudes about the most effective allocation mechanism in worldwide.

5.2.2. Determinants of different allocation mechanism choices

In addition to the allocation mechanism effects of IPO underpricing, other researchers are attempting to determine the allocation mechanism in the IPO market. In the

literature, valuation uncertainty and information asymmetry are always referred to as the important concerns for a firm when choosing an IPO allocation procedure (Ma and Faff, 2007). When firms are confronted with more price uncertainty, they are more likely to prefer fixed prices to bookbuilding and auction. The price discount is higher in private placements than in public offerings, and fixed price than in book building and auction. High returns are seen as compensation for investors who are willing to undertake risks (Loughran and Ritter, 2002). For information asymmetry, a firm with serious information is more likely to prefer private placements and fixed price than others. High underpricing is used to attract the uninformed investors because of the “winner’s curse”. Private placement involves fewer investors than public offering. The former incurs lower information production cost at a given level of information asymmetry. Therefore, firms with high levels of information asymmetry have stronger incentives to reduce information production cost by utilizing the fixed price process (Wu, 2004).

Additionally, many researches in recent decades argue that bookbuilding mechanism can be used for the purposes of signaling to lower the issuing cost to large issuers, such as Allen and Faulhaber (1989), Wilhelm (2005), and Degeorge et al., (2007), another argument about bookbuilding mechanism is that underwriters pay much attention on the information revealed by institution investors during the road shows of bookbuilding mechanism (For example Fernando et al., (2007)). Regarding auction mechanism, Sherman (2005) and Wilhelm (2005) does not concern auction mechanism is better than bookbuilding mechanism, the reason is that the process of auction mechanism is so complicated and it imposes more caution on retail investors, consequently, the price revelation will not be efficient enough for auction mechanism. As Bonini and Voloshyna (2011) stated, intermediaries offer asymmetric information protection role to investors,

however, auction mechanism are not able to do so. This will leads the too much uncertainty about firm's true value. Vandemaele (2003)'s research does not provide any support for Bonini and Voloshyna(2011)'s statement, additionally, Vandemaele (2003) proves that firms are more likely to use auction mechanism when there is high valuation uncertainty. Vandemaele (2003)'s research also shows that the reputation of bank can significantly influence firm's allocation mechanism decision, firm are more likely to use auction mechanism when the bank has lower reputation. Jagannathan and Sherman (2005) confirm that market conditions and the quality of issuer's can influence allocation mechanism decision.

Benventiste and Busaba (1997) stated that IPOs are more willing to use fixed pricing offering mechanism when there are more risks and pricing uncertainty. However, firms would wish to use the book building mechanism when they have more capital demand potential. Market conditions can influence the pricing of Initial public offer, as well as its procedures. Hot issue markets, as explained by Ritter (1984), are when large volumes of IPOs occur and high levels of IPO underpricing are experienced. Firms will go public based on stock market temperature, as stated by Ibbotson et, al (1994). The different market temperatures can affect IPO selling; for example, it would be hard to sell firms' IPO shares when they are experiencing a cold market, even at a very low price. However, this situation does not always happen in a hot market. Kaneko and Pettway's (2003) research showed IPOs will be significantly underpriced when applied with the book building process in a hot market. Vandemaele (2003) stated there appears to exist a positive relationship between valuation uncertainty and the use of auction-like procedures in the IPO market. The possibility of applying an auction-like procedure reduces when the investment banks' reputation upgrades, and the possibility will be

higher when venture capitalists and investment banks sell more volumes of secondary shares. However, the truth is that the factors involved when choosing an allocation mechanism may differ according to different countries.

5.3. Allocation mechanism in Chinese stock market

The official stock market was established in Shanghai and Shenzhen in 1990 and 1991 respectively. However, before the official stock market was established, some firms went public from a stated owner enterprise to a share owner firm for economic reform. The process of going public at the time was done by private placement to employee and public through various agencies, as there were no underwriters at all. After the establishment of the stock market, this situation changed. Several allocation mechanisms were adopted in the Chinese stock market during different time periods. In more detail, firms could choose a private placement mechanism or local public offering, which was a diversification of fixed price allocation mechanism from January 1991 until April 1994. Following that, during May 1994 until April 1998, there were two other additional options firms could choose, which were national public offering and local public offering, both of which were a diversification of the fixed price mechanism. Most recently, from November 1999 to October 2011, firms were able to do IPOs through a national public offering and book building mechanism.

Regarding the local and national public offering mechanism, several other diversifications are generated. These are (1) Online fixed price offer; (2) Saving linkage offering ;(3) Online fixed price offer, plus secondary market proportional offering; (4)Secondary market proportional offering; (5)Private placement; (6)Selling subscription warrants (Ma and Faff, 2007).

Within this research, we would like to analyse the bookbuilding mechanism, auction mechanism and the six diversification allocation mechanism of fixed price mechanism in Chinese stock market. These 8 allocation mechanisms covers all the mechanisms Chinese listing firms used from 1990 till 2011.

5.4. Hypothesis Development

5.4.1. Allocation mechanism efficiencies

Since many allocation mechanisms are used around the world, there are still no certain answer about which mechanism is the most effective one. The effectiveness of an IPO allocation mechanism is measured by the level of underpricing for a given time period, where the lower the underpricing level the more efficient is the allocation mechanism (see Vandemaele (2003); and Kaneko and Pettway, 2003, for instance). Benveniste et al. (1997) carried out research on the US stock market and found that the book building mechanism generates higher expected proceeds but exposes the issuer to greater uncertainty, and that it provides the option to sell additional shares that are not underpriced on the margin. Loderer, Sheehan and Kadlec (1991) and Ti (2003) also found that, as opposed to other allocation mechanisms, the book building process shows the true value of firms. However, Vandemaele (2003) highlighted that the most effective one should be the fixed price mechanism when they do analysis using France's samples. Kaneko and Pettway (2003) found that auction mechanism can conduct the lowest underpricing level than the bookbuilding mechanism in Japan. All of their researches indicated that the most effective IPO processes are different around the world. Therefore, Chinese case may also different from others. We aim to identify the most

effective IPO allocation mechanism in Chinese stock market. Consequently, our first research question is:

Which allocation mechanism is the most effective one in Chinese stock market?

5.4.2. Firm age

Firm age is defined as the “time period between the date where she is created and the date of the IPO”. Usually, the older the firm the less is the information asymmetry between the issuer and the investors. This is because, usually, investors accumulate more knowledge about old firms than about new firms (see, for instance, Wu, 2004). In the IPO literature, firm age and market value capitalization are commonly used as proxies for information asymmetry (see Parson and Artur, 1985; Su and Fleisher, 1999; and Corwin, 2003, among others). More specifically, according to Wu (2004) results, firms with a lower level of information asymmetry are more likely to use the BB allocation mechanism. Consequently, we expect a positive sign for the relationship between firm age and the usage of the BB allocation mechanism.

Also, it is suggested by Ma and Faff (2007) that both the information asymmetry and the market value uncertainty play a role on the IPO allocation mechanism choice. Additionally, according to Wu (2004), informationally advantaged firms tend to avoid the FP allocation mechanism due to information spill over and informationally disadvantaged firms are more likely to use the private placement and the FP mechanism.

The case in China is that Tian (2011) reports that older firms are experiencing lower level of information asymmetry and lower level of IPO underpricing. Therefore, older Chinese firms can also be traded as having informationally advantaged firms.

Therefore, our first hypothesis would be:

H1: Older firms are more likely to use bookbuilding mechanism in Chinese stock market.

5.4.3. Market capitalization

Market capitalization tends to reduce the level of information asymmetry between the issuer and the investors and firm size is usually associated with prestige and reliability. It has been suggested that larger market value capitalization tend to lead to lower underpricing (see, Mok and Hui, 1998, for instance), possibly, because of the investors' perception that, *ceteris paribus*, the level of asymmetric information is lower and so does the risk. Wu (2004) reports evidence for the Chinese market showing that informationally disadvantaged firms are more likely to use the FP allocation mechanism.

For the case in China, Su and Brookfield (2013) and Tian (2011) also discovered there is significantly information advantage and experiencing lower level of information asymmetry, leading to less IPO underpricing in China. We trade the firm with large market capitalization in China as lower information asymmetry and riskless firms.

Thus, our next hypothesis would be:

H2: Firms with large market capitalization are more likely to use the bookbuilding mechanism in Chinese stock market.

5.4.4. Market to book ratio based on IPO offering price

As we discussed before, uncertainty could also determinate the choice of IPO allocation mechanism. Benventiste and Busaba (1997) results suggest that IPOs are more willing to use fixed pricing offering mechanism when there are more risks and pricing

uncertainty. Chan, Wei, and Wang (2004) indicates that firms with higher market to book ratio will experience higher post IPO performance in Chinese stock market, and the firms with higher market to book ratio normally have lower risk in Chinese stock market. Fan, Wong and Zhuang (2007) also get the similar results support the firm with higher market to book ratio are less risky in China.

Ma and Faff (2007) also found that, when firms are confronted with more price uncertainty, the firms are more likely to prefer fixed prices to Bookbuilding and Auction. Market to book ratio base on IPO day can indicate a firm's future development potential and value uncertainty. Firms with a higher level of market to book ratio will experience less risk and uncertainty. Since the uncertainty can affect the IPO process, we therefore deliver our next hypothesis:

H3: Firms with high market to book ratio based on the opening price on the IPO day are more likely to use the BB mechanism in Chinese stock market.

5.4.5. Proportion of public tradable shares

The proportion of public tradable shares are a good proxy for the firm's value uncertainty because issued shares are associated with the financing of new projects which bring both risks and value creation opportunities. Tian (2011) and Bai, Liu, Lu, Song and Zhang (2004) argue that Chinese firms with higher proportion of public tradable shares are more underpriced in Chinese stock market because of higher risk level. Further, Kucukkocaoglu and Alp (2012) study the Turkish IPO market and conclude that the FP allocation mechanism is the most preferred one when there is a high ratio of public tradable share over the total number of shares. Again, firms with higher risks are more likely to use a fixed price process (Ma, 2007), thus the next

hypothesis would be:

H4: Firms with high ratio of public tradable shares are less likely to use the bookbuilding mechanism in Chinese stock market.

5.4.6. Market conditions

Ma and Faff (2007) provides results showing that firms are more likely to use the FP allocation mechanism when market returns are higher. Also, Derrien and Womack (2003) also reports the similar results. Market uncertainty usually leads to higher winner's curse and, consequently, to higher IPO underpricing. Vandemaele (2003) advocates that firms with higher stock price volatility are more committed to obtain information on the state of the stock demand. We use the market return as a proxy for the market conditions, following Derrien and Womack (2003). We compute market return using different market composite indexes, creating a three-month weighted market return as a weighted average of the buy-and-hold monthly returns on the market index in the three months prior to the offering date.

The case in China is that Ma and Faff (2007) provide significantly empirical results that the determinants of allocation mechanism in China can be influenced by market condition (including market return and market volatility prior firm be listed). Further, they also argue that firms do not need to collect market feedback through bookbuilding mechanism when there is a higher market return in Chinese stock market.

Consequently, we present our next hypothesis:

H5a: Firms are more willing to use fixed price mechanism when there is higher market return in Chinese stock market.

Additionally, we use the market volatility as a proxy for the market condition, following Derrien and Womack (2003). We compute the market volatility (i.e. the standard deviation of the daily return of the relevant market index where the firm is listed for the two months prior to the offering date) using data from the Shanghai or Shenzhen stock exchange markets depending on which of these two exchange market firms are listed. Consequently, we also hypothesize that:

H5b: Firms are more willing to use a fixed price mechanism when there is lower market volatility in Chinese stock market.

5.4.7. Corporate governance

Good corporate governance tends to lead to a more effective alignment of the interests of the managers with those of the investors, and reduces the information asymmetry between the issuer and the investors. Hence, it makes sense to examine the effect of corporate governance on the IPO allocation mechanism choice. Yet, the effects of corporate governance on a firm's performance are not yet clear. On one hand, as suggested by Wu (2004), corporate governance can provide better monitoring incentives leading to better performance, and, on the other hand, it may extract private benefits of minority shareholders by controlling block holders. Consequently, a priori it is not clear which sign to assign to the association between corporate governance and firm's performance.

For the case in China, Bai, Liu, Lu, Song and Zhang (2004) reports that the market value will be higher for these firm will effective corporate governance in China. An effective corporate governance is believed can be able to reduce the level of risk and information asymmetry level between majority shareholders and individual shareholders. And the risk level and information asymmetry level can influence the

choice of allocation mechanism significantly (For instance, see Ma and Faff, 2007; Derrien and Womack, 2003), consequently, we believe the corporate governance in China can also influence the determinants of allocation mechanism.

5.4.7.1. Board Size

Although it is not clear how the effect of corporate governance on firm's performance would be, all of results of these researches (Kiel and Nicholson (2003).etc.) indicate that corporate governance does can influence firms' performance; thus, it is reasonable to assume that corporate governance can contribute to a firm's information asymmetry and value uncertainty. Board size, as a main factor in corporate governance, is the number of people on the Board. Yermack (1996) highlighted that corporate governance affects asset return and firm value. Wang (2005) found ownership structure affects the performance of Chinese A share. Coles et al. (2008) report evidence that there is a U-shaped relationship between firm value and board size. Following Yermack (1996), we use Board Size as a proxy for corporate governance in the allocation mechanism analysis. Boards of directors may have a difficulty communicating with each other in a large sized board, which is of great detriment to the firm's performance. Yermack (1996), Eisenberg et al. (1998) and Singh and Davidson (2003) shows evidence that board size has a negative relationship with firm performance. Nevertheless, Bacon (1973) holds an opposite opinion in that a larger board implies members with diverse backgrounds and viewpoints, which is beneficial when it comes to the quality of decisions; additionally, a wide range of their interests may neutralize decisions. Also, Zahra and Pearce (1989) and Kiel and Nicholson (2003) reveal board size is positively related to corporate performance.

The case in China is that Bai, Liu, Lu, Song and Zhang (2004) and Delios and Wu

(2005) reports that among several factors in corporate governance, firms with larger board size will normally experiencing higher market valuation, and they argue that this is because that larger board size in China can provide more effective monitoring, and the investment decision made by managers will be seriously evaluated by Board Members, therefore, the risk level will be reduced.

Based on Wu's (2004) argument, that information asymmetry and value uncertainty can determinate the choice of IPO process, and we accept Bocan's (1973) statement, our next hypothesis will be:

H6: Firms with larger board size are more likely to use bookbuilding mechanism in Chinese stock market.

5.4.7.2. Board composition

Board composition is the defined as the ratio of outside directors to total directors. It is usually assumed that a board with more outsiders involved is more likely to lead to better monitoring. Shleifer and Vishny (1997) advocate that firms' value and risk can be influenced by the quality of the decision making and monitoring from the board of directors. According to Demb and Neubauer (1992), higher board composition can lead to better board monitoring and lower information asymmetry, and firms with lower level of information asymmetry are more likely to choose the BB allocation mechanism.

Regarding China, Bai, Liu, Lu, Song and Zhang (2004) evaluated the corporate governance and market valuation in China, they found that outsiders in the board can effectively monitoring firm's performance and lower firm's risk. Therefore, we following Bai, Liu, Lu, Song and Zhang (2004) in Chinese case, and trade the outsiders in boards as a determinants of allocation mechanism in Chinese stock market.

Therefore, our next hypothesis is:

H7: Firms with relatively more outsiders in the board are more likely to use bookbuilding allocation mechanism.

5.4.7.3. Proportion of legal person share

Delios and Wu (2005)'s reported that legal person ownership is the second largest ownership identity in China's listing firms. The legal person identity was created by Chinese government to aid the transition of China's companies from state-owned to private-owned. As Delios and Wu (2005) highlighted, although legal person shareholders are analogous to institutional shareholders, legal person shareholders tend to have strong state-related roots in Chinese stock market.

The legal person shareholder category is a mix of various domestic institutions. It comprises private companies, state-owned enterprises and non-bank financial institutions such as investment funds and security companies (Xu and Wang, 1997). The key shared quality across these different types of legal person shareholders is that each is economically oriented and geared towards profit seeking, and each has relatively more freedom than state shareholders in deciding how to allocate profits and formulate and implement firm strategy.

High ratios of legal personal share means less board monitoring needed. Leleux and Paliard (1995) study for the French IPO market the association between the level of monitoring and the choice of less efficient IPO allocation mechanism, and conclude that firms with higher ratios of legal shares are more willing to choose less efficient FP allocation mechanism related procedures. Mak et al. (2003) find a negative relationship for the association between the legal person ratio and the underpricing level. Alavi et al.

(2008) shows that firms with larger percentage legal person shares intended to lower the cost of going public and chose a less expensive allocation mechanism. Wu (2004) stated that a higher underpricing level mean higher information asymmetry and value uncertainty, thus we expect a negative relationship with probability of using bookbuilding mechanism. Our next hypothesis would be:

H8: Firms with higher proportion of legal personal share are less likely to use bookbuilding mechanism in Chinese stock market.

5.4.7.4. Ownership Concentration

Board concentration is defined as the proportion of the top three shareholders' holdings on the firm's total share outstanding. A higher proportion tends to give these shareholders a disproportionate influence on the firm management which tends to lead to the extraction of significant (unjustified) private benefits from the firm, increasing the risk and the information asymmetry.

The case in China is similar with the situation this thesis mentioned above, Wang (2005) studies about the ownership and operating performance of Chinese IPOs, he find that investors in China seems concern the firms with higher concentrated ownership as a higher risk firm, and worry about the higher proportion shares situation can lead to the extraction of private benefits from the firm.

Consequently, we expect a negative relationship between the usage of the BB mechanism and the "concentration" variable. Our next hypothesis is:

H9: Firms with higher concentrated ownership are less likely to use bookbuilding mechanism in Chinese stock market.

In analyses on the effect of the corporate governance on the allocation mechanism choice, we use the degree of board size, ratio of legal person, concentration, and board composition as proxies for the corporate governance. Additionally, we also include some control variables, such as the “percentage of state share”. In China, the state shares are converted from the existing stated-owned assets of the firms, which represent the retained ownership. Keasey and Short (1992) stated that a high percentage of equity retention by original owners may signal a high ex-ante uncertainty of firms’ operation and low marketability of the stock. In contrast, Beatty (1989) suggests that the high equity retention may reflect the firm’s faith in the business future prospects and cash flows. Hence, high equity retention can mitigate uncertainty and information asymmetry.

5.4.8. Control variables

As control variable, in addition to the “*percentage of state share*”, we also include the “*reputation of the underwriter*”. The reputation of the underwriter is seen as playing an important role in mitigating informational frictions in IPO issues (see, Booth and Smith, 1986; Beatty and Ritter, 1986; Carter and Manaster, 1990; Dunbar, 2000, among others). We use a dummy variable to measure the reputation of the underwriter. Also, Habib and Ljunqvist (2001) advocate that a good reputation of underwriters encourages uninformed investors to participate in the IPO. Furthermore, reputable underwriters often have more research capability enabling them to better certify issues themselves, which tends to reduce the need for collecting demand information leading to the FP allocation mechanism being the preferred one. It takes the value of “1” if the firm uses the top 10 underwriters in China and “0” otherwise.

The third controlling variable is “*leverage ratio*”, used as proxies for risk in several researches. We conjecture that the leverage ratio may affect the allocation mechanism choice, where leverage is defined as “total debt/total equity”.

Finally, we use two additional dummy variables to account for the “stock exchange where the IPO takes place”, taking the value of “1” if the IPO is sold in the Shanghai exchange and “0” otherwise; and the “employee shares”, which take the value of “1” if the firm gives shares to its employees and “0” otherwise.

5.5. Data and Method

Our data sample covers the Chinese IPO market from 1990 to 2011. The identification of the IPO allocation mechanisms used over this period was obtained from Ju Chao, Shen Zhen Technology¹⁵ and the remaining data used in this research was collected from GTA¹⁶. Our sample comprised 2,096 IPOs initially, but we could not get information about the allocation mechanism used in 67 of those IPOs¹⁷, which reduced the sample size to 2,029 IPOs, where three allocation mechanisms were used: the BB, the AU and the FP allocation mechanism, with the last encompassing six different procedures: (i) the “online fixed price offer” (OFP), (ii) the “saving linkage offerings” (SL), (iii) the “online fixed price offer plus secondary market proportional offering” (OLSM), (iv) the “secondary market proportional offering” (SM), (v) the “private placement” (PP), and (vi) the “selling subscription warrants” (SSW).

¹⁵ Website address of Ju Chao www.cninfo.com.cn/

¹⁶ GuoTaiAn Information Technology Company Limited, providing data about all Chinese listing firm’s financial ratio, firm’s shareholders, trading information, etc. This database has been widely used by researches for Chinese case, such as Cheung, OUYANG and TAN (2009); Chi and Pedgett (2005).

¹⁷ Ju Chao does not provide allocation mechanism information for these 67 firms, and GTA also not able to provide the full information for these firms. Although we try other database, such as DataStream, still we cannot get the information we need. Therefore, these 67 firms will be excluded in our analysis.

To identify the determinants of the IPO allocation mechanism choice, a dummy variable is used for our dependent variable. For instance, BB takes a value of 1 if IPO is using a BB mechanism, otherwise, 0. See Table 5.1 for the construction of other dependent variables in the same manner and the definition of all variables. Due to the nature of our dependent variable, a logit analysis can be applied¹⁸. Following a similar style with Ma and Faff (2007), we employ the following regression model for the determinants of choosing among allocation mechanisms:

$$\begin{aligned} AllocationType_i = & \alpha + \beta_1 AGE_i + \beta_2 Ln\ Size_i + \beta_3 M/B\ ratio_i + \beta_4 Underwriter_i \\ & + \beta_5 MR + \beta_6 MV + \beta_7 State\ shares_i + \beta_8 Tradable\ shares_i + \beta_9 Board\ size_i + \beta_{10} Concentration_i \\ & + \beta_{11} Composition_i + \beta_{12} Legal\ person\ shares_i + \beta_{13} Employee_i + \beta_{14} Leverage_i + \beta_{15} Exchange_i + \varepsilon \end{aligned} \quad (1)$$

Where the dependent variable is binary dummy variable for the choice of allocation mechanisms. The explanatory variables are based on the issues related to information asymmetry (AGE, Ln Size) uncertainty (M/B ratio), corporate governance (State shares, Tradable shares, Board size, Concentration, Composition, Legal person shares), market conditions (MR, MV), including also some control variables (Underwriter, Employee, Leverage, Exchange). ε is the error term.

For the effectiveness of allocation mechanisms, we run the following model:

$$\begin{aligned} MAIR_i = & \alpha + \beta_1 Exchange_i + \beta_2 Ln\ Size_i + \sum \lambda_m AllocationType_i + \sum \gamma_m AllocationType_i * MR \\ & + \sum \phi_m AllocationType_i * MV + \varepsilon_i \end{aligned} \quad (2)$$

λ_m , γ_m and ϕ_m are estimable parameters where m takes the value of 1 until 8 to represent the types of the allocation mechanisms. Therefore, in this model we also have interaction variables.

For the performance of the IPOs across different allocation mechanisms, we run the following model:

¹⁸ The Probit results are qualitatively very similar to the Logit counterparts, hence not reported to conserve space.

$$\text{Performance}_i = \alpha + \beta_1 \text{Exchange}_i + \beta_2 \text{Ln Size}_i + \beta_3 \text{Age}_i + \beta_4 \text{ROA}_i + \beta_5 \text{Sales Growth}_i + \sum \lambda_m \text{AllocationType}_i + \varepsilon_i \quad (3)$$

5.6. Descriptive analysis

Table 5.1 reports statistics on the IPO sample, showing that, in average, ratio of state share is 23%. Some firms even got 100% of state share and the 100% of state share are subscribed by other government owned institutions; this situation is impossible to happen in other countries' stock markets and it was unique in the Chinese case. However, this situation is not so common at present. The average ratio of public tradable share is only 27.86%, and the value of market to book ratio experienced a mean value of 1.715. For corporate governance factors, the minimum number of board size Chinese listing firm have is 5 and the maximum number is 19. The mean value of concentration in Chinese listing firm is 64.7% which is common comparing with other countries' situations. Board Composition experienced a mean value of 29.2%. Additionally, regarding to the short term and long term performance for Chinese listing firms, the mean value for short term return (10 days after IPO) indicated that Chinese firms experience a positive short term return with the mean value of 1.9%. However, with the time developing, the mean value of long term return for 12 month, 24 month and 36 month changes to -12.8%, -28.% and -31.1%. Results suggest that Chinese firms experienced long term underperformance. Additionally, the long term performance will become poorer with time developing.

In Table 5.2, panel A, we provide information on the usage of each allocation mechanism *per* stock exchange, showing that Shenzhen was the most used stock exchange for marketing IPOs - with 1,171, followed by the Shanghai stock exchange

with 858 IPOs. Yet, the Shanghai stock exchange is the most popular place for IPOs that use the AU mechanism, with 144 IPOs, and for the OL and the SM mechanisms, with 284 and 168 IPOs respectively. The other versions of the FP mechanism are used more or less with the same frequency in both stock exchanges, with the exception of the SL mechanism which is used more frequently in the Shenzhen stock exchange (in 70 IPOs). Finally, the BB mechanism is much more popular in the Shenzhen stock exchange (used in 694 IPOs) than in the Shanghai stock exchange (used in 110 IPOs only).

Analysing the results over time, we can see that the AU mechanism was the most popular allocation mechanism during the 1990s (used in 198 IPOs) but was completely replaced by the BB and the FP mechanisms from 2000 onwards. More specifically, the BB mechanism was used in 804 IPOs between 2000 and 2011, where more than half of these IPOs took place over the period between 2007 and 2010; and the OLSM and the SM were the two most popular FP-related mechanisms, with the former used mainly over the time period of 1998-2000, and, the latter, was used mainly over the time-period of 2002-2005. Additionally, although the FP is the most popular IPO allocation mechanism in China over the time period of 1990-2011 (used in 1,027 IPOs), some forms of FP-related allocation mechanisms appear to have lost definitely their popularity. For instance, the OL, PP, SL, SM and SSW mechanisms were not used in any IPO in China since 2003, 2003, 1999, 2006 and 2006, respectively.

In Table 5.3 we report our results for the correlation between the variables used in our regression analysis. We performed the VIF test which indicates that the correlations between the independent variables used in our regression models are not significant.

The results reported in Table 5.4 relate the MAIR, firm size, MR, MV, state share ratio and tradable share ratio with each of the IPO allocation mechanism used in the Chinese

market. More specifically, these results reveal that the MAIR mean for the AU and the BB mechanisms are 230% and 81.2%, respectively, and that, within the FP-related mechanisms, the MAIR mean of the OL, OLSM, PP, SL, SM and SSW are 139%, 114.5%, 880%, 150%, 82.7% and 246%, respectively. All mechanism together comprises 2,029 IPOs which in average generated an MAIR of 144%, with a maximum of 1,900% and a minimum of -77%. Additionally, our results show that the BB mechanism is clearly more efficient than the AU mechanism, i.e. the former leads to an MAIR mean of 81.2% whereas the latter leads to an MAIR mean of 230%, and that, within the FP-related mechanisms, the SM is the more advantageous for the issuer with an MAIR mean of 82.7%, and the PP is the less efficient mechanism leading to an MAIR mean of 880%, with a maximum and minimum of 1,900% and -500% respectively. This last result is indeed rather unexpected given that the MAIR mean is obtained from a sample of 65 IPOs. The reason why the PP leads to huge underpricing is because this mechanism tends to allocate shares mainly to managers, employees and institutional investors and so the incentive to reduce information asymmetry is very low.

Table 5.1: Descriptive statistics and variable definitions

| Variables | Min | Max | Median | Mean | SD |
|----------------------------|--------|---------|--------|----------|----------|
| Allocation Type | | | | | |
| D_{AU} | 0 | 1 | 0 | 0.098 | 0.297 |
| D_{BB} | 0 | 1 | 0 | 0.396 | 0.476 |
| D_{OL} | 0 | 1 | 0 | 0.229 | 0.420 |
| D_{OLSM} | 0 | 1 | 0 | 0.061 | 0.239 |
| D_{PP} | 0 | 1 | 0 | 0.032 | 0.176 |
| D_{SL} | 0 | 1 | 0 | 0.056 | 0.229 |
| D_{SM} | 0 | 1 | 0 | 0.107 | 0.309 |
| D_{SSW} | 0 | 1 | 0 | 0.021 | 0.144 |
| $MAIR$ | -0.770 | 19.000 | 2.61% | 1.440 | 2.324 |
| AGE | 0.005 | 26.370 | 2.15% | 3.720 | 4.380 |
| Size (RMB - million) | 2.310 | 21,350 | 810.36 | 729.5 | 1,673.8 |
| State shares | 0 | 100% | 3.05% | 23% | 0.280 |
| Tradable shares | 0 | 72% | 10.36% | 27.86% | 0.105 |
| M/B ratio | 1.200 | 12.98 | 2.31 | 1.715 | 0.867 |
| Sales growth | -97.5% | 921.6% | 12.64% | 27% | 0.567 |
| Board size | 5 | 19 | 7 | 9.27 | 2.1 |
| Concentration | 0.00% | 98.9% | 52.74% | 64.7% | 0.198 |
| Composition | 13.6% | 54.5% | 31.10% | 29.2% | 0.064 |
| Legal person shares | 0.00% | 95.2% | 0.00% | 4.23% | 0.116 |
| Underwriter | 0 | 1 | 0 | 0.31 | 0.46 |
| Total assets (Million RMB) | 91.33 | 706,000 | 9051.6 | 11,209.9 | 205,93.2 |
| Exchange | 0 | 1 | 0 | 0.357 | 0.479 |
| Leverage | 0.005 | 14.946 | 0.263 | 0.399 | 0.883 |
| Employee | 0 | 1 | 0 | 0.036 | 0.187 |
| ROA | -3.20% | 55.8% | 6.31% | 5.50% | 0.044 |
| MR | -4.00% | 8.00% | 0.68% | -1.50% | 0.012 |
| MV | 0.004 | 0.030 | 0.016 | 0.011 | 0.004 |

Note: This table reports the minimum, maximum, mean and standard deviation for the variables used in our analysis, for the period between 1990 and 2011. D_{AU} equals “1” if the firm uses the AU allocation mechanism and “0” otherwise; D_{BB} equals 1 if the firm uses the BB mechanism and “0” otherwise; D_{OL} equals “1” if the firm uses online fixed price mechanism and “0” otherwise; D_{OLSM} equals “1” if the firm uses OLSM mechanism and “0” otherwise; D_{PP} equals “1” if the firm uses the PP mechanism and “0” otherwise; D_{SL} equals “1” if the firm uses the SL mechanism and “0” otherwise; D_{SM} is “1” if the firm uses the SM mechanism and “0” otherwise; and D_{SSW} equals “1” if the firm uses the SSW mechanism and “0” otherwise. “ $MAIR$ ”, is the market adjusted return on the first day of trading, a proxy for underpricing. “ AGE ”, is the annualized day difference between the day the firm was established and the IPO day. $Ln\ Size$ is the natural logarithm of the number of shares outstanding after the IPO multiplied by the share price. “ $State\ shares$ ”, is the ratio of number of shares held by the state over the number of new shares issued in the IPO. “ $Tradable\ shares$ ”, is the publicly tradable shares as a proportion of the total shares. $M/B\ ratio$ is the market-to-book ratio measured as the market value of equity less the book value of equity plus total assets, standardized by the total assets. $Sales\ growth$ is the sales growth rate given as a percentage change in sales from the previous year. $Board\ size$ represents the number of members of the board of directors. $Concentration$ is the sum of the percentages of the top three shareholders’ holdings. $Composition$ is ratio of outside directors to total directors in the board of directors. LSP is the proportion of legal person shares held over total shares issued in the IPO. $Underwriter$ equals “1” if the firm uses one of the top five underwriters in China, and “0” otherwise. $Affordability$ is the natural logarithm of the total assets. The $exchange$ variable equals “1” if the firm IPO takes place in the Shanghai stock market, and “0” otherwise. $Leverage$ is total debt over total equity. $Employee$ equals “1” if employees held shares on the firm, and “0” otherwise. ROA is the return on assets, measured as the net income divided by the total assets. MR is the three-month weighted average of the buy-and-hold monthly returns on the market index in the three months prior to the offering date. MV is standard deviation of the daily returns of the relevant stock market index in the two months prior to the offering date.

Table 5.2. Breakdown of each allocation mechanism across time and stock exchanges

This table provides the underpricing level (i.e. the “market adjusted initial return” – MAIR) and the “frequency” (N) of the usage of different types of IPO allocation mechanisms for the Shanghai and the Shenzhen stock exchanges (Panel A), and over time (Panel B). Our results show that the following allocation mechanisms were used: “auction mechanism” (AU), “bookbuilding” (BB), “online fixed price mechanism” (OL), “online fixed price plus secondary market proportional mechanism” (OLSM), “private placement mechanism” (PP), “saving linkage mechanism” (SL), “secondary market proportional mechanism” (SM) and “subscription mechanism” (SSW). For instance, the results provided for the AU mechanism show that it was used in 144 IPOs in the Shanghai stock exchange leading to an MAIR of 219% and in 54 IPOs in the Shenzhen stock exchange leading to an MAIR of 261%. N/A means that information was “not available”. See Appendix B for the definition of variables

| | AU | | BB | | OL | | OLSM | | PP | | SL | | SM | | SSW | |
|--|------------|------------|--------------|------------|-------------|------------|--------------|------------|------------|-----------|------------|------------|--------------|------------|-------------|-----------|
| | MAIR | N | MAIR | N | MAIR | N | MAIR | N | MAIR | N | MAIR | N | MAIR | N | MAIR | N |
| Panel A: IPOs by Stock Exchange | | | | | | | | | | | | | | | | |
| Shanghai | 2.19 | 144 | 0.795 | 110 | 1.413 | 284 | 1.051 | 62 | 7.32 | 38 | 1.352 | 43 | 0.878 | 168 | 1.489 | 9 |
| Shenzhen | 2.61 | 54 | 0.815 | 694 | 1.353 | 181 | 1.241 | 61 | 10.88 | 27 | 1.586 | 70 | 0.659 | 50 | 2.715 | 34 |
| Panel B: IPOs by year | | | | | | | | | | | | | | | | |
| 1990 | 2.59 | 2 | N/A | 0 | N/A | 0 | N/A | 0 | 2.28 | 3 | 0.8 | 1 | N/A | 0 | 3.58 | 1 |
| 1991 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | 14.98 | 1 | N/A | 0 | N/A | 0 | 13.58 | 1 |
| 1992 | 1.95 | 21 | N/A | 0 | N/A | 0 | N/A | 0 | 13.08 | 5 | N/A | 0 | N/A | 0 | 5.04 | 8 |
| 1993 | 1.53 | 75 | N/A | 0 | N/A | 0 | N/A | 0 | 7.92 | 9 | N/A | 0 | 2.71 | 1 | 2.45 | 10 |
| 1994 | 1.34 | 75 | N/A | 0 | 0.52 | 1 | N/A | 0 | 3.24 | 10 | 2.17 | 1 | N/A | 0 | 0.87 | 13 |
| 1995 | 4.62 | 10 | N/A | 0 | 1.47 | 4 | 0.28 | 1 | 10.55 | 3 | N/A | 0 | N/A | 0 | N/A | 0 |
| 1996 | 8.81 | 8 | N/A | 0 | 1.13 | 101 | N/A | 0 | 9.49 | 22 | 1.35 | 43 | N/A | 0 | N/A | 0 |
| 1997 | 14.01 | 1 | N/A | 0 | 1.45 | 122 | N/A | 0 | 11.85 | 9 | 1.54 | 62 | N/A | 0 | N/A | 0 |
| 1998 | 11.49 | 4 | N/A | 0 | 1.36 | 73 | 1.1 | 11 | 10.46 | 2 | 1.75 | 6 | N/A | 0 | N/A | 0 |
| 1999 | 8.9 | 2 | N/A | 0 | 1.43 | 39 | 0.78 | 43 | N/A | 0 | N/A | 0 | N/A | 0 | 1.68 | 1 |
| 2000 | N/A | 0 | 1.10 | 11 | 1.65 | 62 | 1.47 | 60 | N/A | 0 | N/A | 0 | N/A | 0 | 0.7 | 2 |
| 2001 | N/A | 0 | 1.02 | 13 | 1.46 | 62 | 0.77 | 1 | N/A | 0 | N/A | 0 | -0.13 | 1 | N/A | 0 |
| 2002 | N/A | 0 | 1.41 | 22 | 0.78 | 1 | N/A | 0 | 13.56 | 1 | N/A | 0 | 1.31 | 44 | 0.64 | 4 |
| 2003 | N/A | 0 | N/A | 0 | N/A | 0 | 0.28 | 1 | N/A | 0 | N/A | 0 | 0.74 | 61 | 0.11 | 1 |
| 2004 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | 0.7 | 99 | 4.45 | 1 |
| 2005 | N/A | 0 | N/A | 0 | N/A | 0 | 0.79 | 1 | N/A | 0 | N/A | 0 | 0.48 | 12 | 2.17 | 1 |
| 2006 | N/A | 0 | 0.86 | 64 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 |
| 2007 | N/A | 0 | 1.95 | 114 | N/A | 0 | 1.04 | 3 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 |
| 2008 | N/A | 0 | 1.17 | 74 | N/A | 0 | 0.42 | 1 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 |
| 2009 | N/A | 0 | 0.75 | 73 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 |
| 2010 | N/A | 0 | 0.44 | 343 | N/A | 0 | 1.25 | 2 | N/A | 0 | N/A | 0 | N/A | 0 | N/A | 0 |
| 2011 | N/A | 0 | 0.13 | 66 | N/A | 0 | N/A | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| Total | 2.3 | 198 | 0.812 | 804 | 1.39 | 465 | 1.145 | 123 | 8.8 | 65 | 1.5 | 113 | 0.827 | 218 | 2.46 | 43 |

Table 5.3 - Correlation matrix

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | |
|--------------------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|------|--|
| MAIR (1) | 1 | | | | | | | | | | | | | | | | | | | |
| AGE(2) | 0.024 | | | | | | | | | | | | | | | | | | | |
| Size (3) | -0.550*** | 0.166*** | | | | | | | | | | | | | | | | | | |
| State shares (4) | 0.031 | -0.324*** | 0.051** | | | | | | | | | | | | | | | | | |
| Tradable shares (5) | 0.175*** | -0.179*** | -0.357*** | 0.071*** | | | | | | | | | | | | | | | | |
| M/B ratio (6) | -0.161*** | 0.060*** | 0.240*** | -0.155*** | 0.012 | | | | | | | | | | | | | | | |
| Sales growth (7) | -0.047** | -0.025 | 0.034 | -0.043* | 0.014 | 0.049** | | | | | | | | | | | | | | |
| Board size (8) | -0.002 | 0.006* | 0.062 | 0.155*** | 0.089** | -0.017 | 0.017 | | | | | | | | | | | | | |
| Concentration (9) | -0.194*** | 0.373*** | 0.305*** | -0.265*** | -0.321*** | 0.147*** | 0.058* | -0.112*** | | | | | | | | | | | | |
| Composition (10) | 0.043* | -0.042* | -0.052* | 0.160*** | 0.058*** | -0.087*** | -0.040* | -0.377*** | -0.090 | | | | | | | | | | | |
| Legal person shares (11) | 0.142*** | 0.043* | -0.282* | -0.131*** | 0.183*** | -0.059*** | -0.016 | 0.108*** | -0.179 | -0.002 | | | | | | | | | | |
| Underwriter (12) | -0.065*** | 0.060*** | 0.042*** | -0.100*** | -0.117*** | 0.022 | 0.008 | -0.051** | 0.034 | -0.013 | -0.037* | | | | | | | | | |
| Affordability (13) | -0.296*** | 0.548*** | 0.614*** | -0.168*** | -0.527*** | 0.082*** | 0.000*** | -0.049** | 0.584 | -0.070*** | -0.327*** | 0.022 | | | | | | | | |
| Exchange (14) | 0.059*** | -0.181*** | -0.043* | 0.361*** | 0.261*** | -0.058*** | 0.061*** | 0.171*** | -0.163 | 0.082*** | 0.106*** | -0.209*** | -0.146*** | | | | | | | |
| Leverage (15) | 0.0001 | 0.015*** | 0.179*** | 0.149*** | 0.024 | -0.124*** | -0.012 | 0.224*** | -0.172 | 0.009 | 0.123*** | 0.010* | 0.022 | 0.127*** | | | | | | |
| Employee (16) | 0.007 | 0.116*** | -0.012 | 0.026 | 0.036 | -0.032 | -0.006 | 0.025 | 0.010 | -0.012 | 0.085*** | 0.007 | 0.066*** | 0.093*** | 0.003 | | | | | |
| ROA (17) | -0.027 | -0.048** | 0.038 | -0.131*** | -0.036* | 0.308*** | 0.027 | -0.064*** | 0.006 | -0.068*** | -0.024 | 0.073*** | -0.108*** | -0.129*** | -0.117*** | -0.095*** | | | | |
| MR (18) | 0.055** | -0.193*** | -0.035 | 0.319*** | 0.281*** | -0.052** | 0.077*** | 0.155*** | -0.177 | 0.069*** | 0.085*** | -0.204*** | -0.157*** | 0.830*** | 0.125*** | 0.068*** | -0.089*** | | | |
| MV (19) | 0.152*** | -0.287*** | -0.259*** | 0.093*** | 0.233*** | -0.021*** | 0.061*** | 0.047** | -0.311 | -0.083*** | 0.203*** | -0.022 | -0.506*** | 0.213*** | 0.050** | -0.050** | 0.115*** | 0.204*** | | |

Notes: This table reports the correlation coefficients among the variables used in the regression models. We also performed the variance-inflation factor (VIF) tests, which indicate that there is no multicollinearity as all VIFs are lower than 10. The definitions of these variables are provided in Table 1. The asterisk * (**) (***) shows that the correlation coefficient is significant at the 10% (5%) (1%) level, respectively.

Table 5.4: Basic statistic for different IPO allocation mechanisms

This table provides 2029 IPOs from 1990 to 2011 listing in Shanghai and Shenzhen Stock Exchange Market. Except Auction (AU) and Bookbuilding (BB) Mechanism, all others are fixed price mechanism. OL is online fixed price mechanism, OLSM online fixed price plus secondary market proportional mechanism. PP is private placement mechanism. SL is saving linkage mechanism. SM is secondary market proportional mechanism. SSW is subscription mechanism. *, **, and *** stands for significantly different from 0 at level at 1%, 5% and 10%, assuming independence cross IPOs .

| Allocation mechanism | | Observation | MAIR | Size | MR | MV | State share Ratio | legal person share | Tradable share Ratio |
|----------------------|------|-------------|---------|-----------|---------|---------|-------------------|--------------------|----------------------|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| AU | Mean | 198 | 2.30* | 421.04 | -0.002* | 0.03 | 0.307 | 0.119* | 0.435* |
| | SD | | 3.55 | 1799.08 | 0.005 | 0.014 | 0.23 | 0.165 | 0.126 |
| | Min | | -0.73 | 8 | -0.036 | 0.0006 | 0 | 0 | 0.087 |
| | Max | | 17.89 | 23077 | 0.10 | 0.068 | 0.758 | 0.706 | 0.715 |
| BB | Mean | 804 | 0.812* | 1551.66** | -0.02** | 0.012** | 0.148 | 0.003** | 0.242** |
| | SD | | 0.870 | 5152.17 | 0.01 | 0.004 | 0.253 | 0.043 | 0.10 |
| | Min | | -0.17 | 90.45 | -0.042 | 0.004 | 0 | 0 | 0 |
| | Max | | 5.83 | 66800 | 0.078 | 0.029 | 1 | 1 | 0.72 |
| OL | Mean | 465 | 1.390** | 367.33* | -0.01* | 0.015* | 0.395 | 0.062* | 0.388 |
| | SD | | 0.994 | 364.83 | 0.014 | 0.007 | 0.249 | 0.129 | 0.099 |
| | Min | | -0.77 | 20.8 | -0.041 | 0.004 | 0 | 0 | 0.15 |
| | Max | | 11.35 | 4236.127 | 0.006 | 0.066 | 0.85 | 0.729 | 0.70 |
| OLSM | Mean | 123 | 1.145* | 789.92 | -0.008* | 0.011* | 0.442 | 0.029 | 0.365 |
| | SD | | 0.77 | 1269.59 | 0.01 | 0.006 | 0.272 | 0.12 | 0.092 |
| | Min | | -0.26 | 163.35 | -0.031 | 0.004 | 0 | 0 | 0.15 |
| | Max | | 4.69 | 8162.43 | 0.004 | 0.03 | 0.85 | 1 | 0.659 |
| PP | Mean | 65 | 8.8* | 69.62** | -0.009* | 0.023 | 0.3* | 0.12* | 0.417* |
| | SD | | 5.513 | 113.08 | 0.014 | 0.012 | 0.23 | 0.146 | 0.119 |
| | Min | | -5 | 12.5 | -0.039 | 0.001 | 0 | 0 | 0.203 |
| | Max | | 19 | 810.93 | 0.005 | 0.058 | 0.748 | 0.645 | 0.757 |
| SL | Mean | 113 | 1.5* | 221.35* | -0.018 | 0.02* | 0.316 | 0.09 | 0.422 |
| | SD | | 0.825 | 157.64 | 0.017 | 0.008 | 0.25 | 0.154 | 0.119 |
| | Min | | 0.31 | 44.8 | -0.04 | 0.005 | 0 | 0 | 0.213 |
| | Max | | 3.89 | 930 | 0.021 | 0.068 | 0.735 | 0.602 | 0.767 |
| SM | Mean | 218 | 0.827* | 500** | -0.004* | 0.01 | 0.318 | 0.035 | 0.339* |
| | SD | | 0.648 | 1284 | 0.007 | 0.004 | 0.279 | 0.122 | 0.068 |
| | Min | | -0.44 | 91.8 | -0.02 | 0.005 | 0 | 0 | 0.163 |
| | Max | | 4.28 | 11816 | 0.004 | 0.051 | 0.774 | 0.743 | 0.594 |
| SSW | Mean | 43 | 2.46* | 606.49 | -0.001 | 0.025 | 0.28 | 0.034* | 0.409 |
| | SD | | 2.75 | 1555.36 | 0.006 | 0.021 | 0.277 | 0.065 | 0.149 |
| | Min | | 0.05 | 2.31 | -0.028 | 0.001 | 0 | 0 | 0.212 |
| | Max | | 13.58 | 8887.68 | 0.006 | 0.069 | 0.752 | 0.309 | 0.724 |
| Total sample | Mean | 2029 | 1.44 | 869.12 | -0.013 | 0.015 | 0.273 | 0.042 | 0.331 |
| | SD | | 2.24 | 3391.63 | 0.013 | 0.01 | 0.277 | 0.116 | 0.127 |
| | Min | | -0.77 | 2.31 | -0.042 | 0.001 | 0 | 0 | 0 |
| | Max | | 19 | 66800 | 0.021 | 0.069 | 1 | 1 | 0.767 |

See Appendix B for the definition of variables

5.7. Regression Results

5.7.1. The effectiveness of each allocation mechanism

In addition to compare the mean value of underpricing level for each allocation mechanism, we following Derrien and Womack (2003) that another criterion of an efficient IPO allocation mechanism is the ability to counteract adverse market conditions. Therefore, we include two sets of market conditional IPO allocation procedure (interaction) variables. First set of variables are the products of market return with each allocation procedure dummy ($MR * D_{AU}$, $MR * D_{BB}$, $MR * D_{OL}$, $MR * D_{OLSM}$, $MR * D_{PP}$, $MR * D_{SL}$, $MR * D_{SM}$, $MR * D_{SSW}$) to indicate recent market performance. Another set of variables are the produce of market volatility with each allocation mechanism dummy ($MC * D_{AU}$, $MV * D_{BB}$, $MV * D_{OL}$, $MV * D_{OLSM}$, $MV * D_{PP}$, $MV * D_{SL}$, $MV * D_{SM}$, $MV * D_{SSW}$) to reflect market risk. With the respect to Derrien and Womack (2003) and Ma and Faff (2007), we use market capitalization (Ln size) and exchange dummy (Exchange) as control variables where exchange dummy takes value of 1 if the firm is listing in Shanghai stock exchange market, otherwise, 0; and market capitalization is the logarithm of total capital raised from IPO. The results are presented in Table 5.5.

According to the available literature the larger the firm's size (i.e. the market capitalization) the lower is the IPO underpricing. Also, it has been reported that market conditions affect the level of underpricing. Our results show, however, that, for model 1, the MR is not relevant for the level of underpricing and that the MV has a negative and statistically significant at 1% level effect on the level of underpricing, with a coefficient of -0.0197 and a standard error of 0.047 (i.e. one percent increase for market volatility before IPO listing

date will leads to 1.97% decreasing for IPO underpricing).

Our results in Table 5.4 suggest that the PP is the most ineffective mechanism which generates the highest underpricing level (880%), we use PP procedure as benchmark in model 1 of Table 5.5 to comparing the effectiveness of each IPO procedure under the condition of controlling market conditions. An important result we find is that the all the allocation mechanisms can influence IPO underpricing (i.e. the coefficient for each dummy procedure variable is significantly at 1%). Results indicate that, comparing with PP, the underpricing underlying the usage of the AU, BB, OL, OLSM, SL SM, and SSW will be reduced by 561%, 587%, 606.92%, 585.61%, 616.35%, 663.37%, and 505.81% separately. The reason why the coefficient value is extremely high maybe due to the fact we use the PP mechanism as a benchmark in our analysis and the underpricing level under PP mechanism is reaching 880%.A different test report the coefficient between each allocation choice dummy variable is significantly different at 1%, therefore, we are able to confirm that SM is the most effective mechanism with the control of market conditions.

Regarding the attached market return impact on IPO underpricing, we report that the attached market return for AU, BB, PP and SM has significantly influence on the initial return. According to our estimated model, a one percentage point increase in market return before listing can relates to -15.22%, 3.28%, -12.92% and 5.45% first day returns for these mechanisms, respectively. On the other hand, our model 2 indicates that market return under OL, OLSM, SL, and SSW mechanism has lack influence on the first day return.

Moving to the impact on IPO underpricing from market volatility, our model indicates that market volatility under AU, BB, OL, PP, SL and SM mechanism experiencing coefficients

of -0.0278, -0.03998, -0.0331, 0.1575, -0.035 and -0.0633 at 1% level of significance. Moreover, these effects are economically important: a one percent increase in market volatility before IPO date will leads to -2.78%, -3.998%, -3.31%, 15.75%, -3.5% and 6.33% change for the IPO initial return. Therefore, the first day returns of IPO with these 6 allocation mechanisms are more sensitive to market volatility, than the OLSM and SSW mechanism. Our results are different from Ma and Faff (2003)'s which find market volatility under OLSM mechanism can significantly influence IPO aftermarket return.

Based on Derrien and Womack (2003) that another criterion of an efficient IPO allocation mechanism is the ability to counteract adverse market conditions, collectively from a conditional point of view, we are able to confirm that OLSM and SSW are more effective than others in the aspect of “immune” influence from market condition (both market return and market volatility). Furthermore, other results we provide are: initial return of IPO under AU, BB, PP and SM procedure are sensitive about market return and market volatility prior IPO date, and the initial returns under OL and SL are only sensitive about market volatility prior IPO date.

Table 5.5. Regression of allocation mechanism effect on IPO initial return (MAIR)

In this table we report our results for the regression analyses where the dependent variable is the MAIR. See Appendix B for variable definitions. The regression models 1 and 2 study the IPO underpricing controlling for the stock exchange where the IPO takes place and the firm's size (i.e. the logarithm of firm's market capitalization). More specifically, model 1 studies the individual effect of the AU, BB, OL, OLSM, PP, SL, SM and SSW mechanisms on the IPO underpricing, controlling, apart from the above variable, for the market conditions (i.e. MR and MV); model 2 studies the joint effect of the market conditions (i.e. MR and MV) and each of the allocation mechanisms on the IPO underpricing. The asterisk * (**) (***) shows that the coefficient is significant at 10% (5%) (1%) level, respectively.

| | Model 1 | Model 2 |
|----------------------------|------------------------|------------------------|
| Intercept | 17.438*** (0.4951) | 13.114*** (0.5099) |
| Exchange | 0.3479** (0.1391) | 0.0918 (0.1446) |
| Ln Size | -0.7931*** (0.0400) | -0.8994*** (0.0379) |
| D_{AU} | -5.610 (0.2293) | |
| D_{BB} | -5.870*** (0.456) | |
| D_{OL} | -6.0692*** (0.2249) | |
| D_{OLSM} | -5.8561*** (0.2675) | |
| D_{PP} | Omitted (0.000) | |
| D_{SL} | -6.1635*** (0.2556) | |
| D_{SM} | -6.6337*** (0.2440) | |
| D_{SSW} | -5.0581*** (0.3260) | |
| MR | -0.0037 (0.0053) | |
| MR.D_{AU} | | -0.1522*** (0.0217) |
| MR.D_{BB} | | 0.0328*** (0.0069) |
| MR.D_{OL} | | 0.0059 (0.0007) |
| MR.D_{OLSM} | | 0.0062 (0.0140) |
| MR.D_{PP} | | -0.1292*** (0.0127) |
| MR.D_{SL} | | 0.0033 (0.0081) |
| MR.D_{SM} | | 0.0545*** (0.0151) |
| MR.D_{SSW} | | 0.0369 (0.0413) |
| MV | -0.0197*** (0.0047) | |
| MV.D_{AU} | | -0.0278*** (0.0049) |
| MV.D_{BB} | | 0.03998*** (0.0111) |
| MV.D_{OL} | | -0.0331*** (0.0072) |
| MV.D_{OLSM} | | -0.0082 (0.0139) |
| MV.D_{PP} | | 0.1575*** (0.00883) |
| MV.D_{SL} | | -0.035*** |

Table 5.5 Continued

| | | |
|-----------------------|-----------|------------|
| | | (0.00914) |
| MV.D _{SM} | | -0.0633*** |
| | | (0.0131) |
| MV.D _{SSW} | | -0.0108 |
| | | (0.0078) |
| Adjust R ² | 0.510 | 0.538 |
| F value | 190.53*** | 131.93*** |
| N | 2029 | 2029 |

See Appendix B for the definition of variables

5.7.2. The determinants of allocation mechanism

Firms' corporate governance policy is prone to affect the IPO allocation mechanism choice. In this section, we performed two logit analyses where we exclude (Table 5.6A) and include (Table 5.6B) a few relevant corporate governance variables and confirm the above intuition. More specifically, our results stated in Table 5.6B show that a large board size reduces significantly the likelihood of the BB mechanism choice, and that a lower level of legal person share and tradable shares increase the likelihood of the BB mechanism choice. Notice that the higher the percentage of tradable shares the higher is the risk. Therefore, firms with more risk are more likely to choose a FP related mechanism than the BB mechanism. In addition, a higher level of legal person share means lower monitoring and Leleux and Paliard (1995) advocate that firms are more likely to choose less efficient allocation mechanisms when there is a higher legal person share ratio. Our results show that this is also the case for the Chinese market.

There is no effect on the choice of the allocation mechanism for concentration and state share. The MR and the MV have a negative and positive statistically significant (at 1% level) association with the choice of the BB mechanism, respectively. The MR and the MV are associated with the stock market risk. High market volatilities mean high uncertainty

and, it appears that, when faced with high market valuation uncertainty, firms find appropriate to collect more information about stocks demand and price, choosing therefore the BB mechanism. Our results also confirm our hypothesis that “firms are more willing to use FP mechanism when there is higher market return or lower market volatility”.

While without concerning about corporate governance, Table 5.6A indicate that firms are less likely to use bookbuilding mechanism when market return is high, but they are more willing to choose bookbuilding mechanism when there is a high level of market volatility, These results confirm Derrien and Womack (2003)’s conjecture. Additionally, *Size* has a statistically significantly positive relationship with the choice of the BB mechanism. Also, older firms appear to be more prone to choose the BB mechanism. There is a positive and statistically significant (at 1% level) association between a high ROA and the choice of the BB mechanism. Moreover, the BB mechanism is also preferred mechanism for when top underwriters are used in the process of IPO.

Regarding other allocation mechanisms, results indicated that market condition has a significant effect on the choice of allocation mechanism (see as Table 5.6A). More specifically, the market return has a positive relationship with the possibility of choosing AU, OLSM, SM, and SSW mechanism, but the effect is negative with the possibility of choosing OL, PP and SL mechanism.

Additionally, AU and PP mechanism are preferred when there is high level of market volatility. Firms with large market capitalization are more likely to use the OL, OLSM and the SL mechanisms. The other mechanisms, such as AU, PP and SM, are preferred when market capitalization is small. Younger firms are more likely to use the OLSM and the

SSW mechanisms, and the AU, PP and the SM mechanisms are more used by firms with high leverage ratio and the OL and the SL mechanisms are the preferred mechanisms when the leverage ratio is lower. Moreover, we find that ROA is positive (negative) associated with the AU and the SSW mechanisms (the OL, OLSM and SL mechanisms) and statistically significant at 1% and 5% level, respectively. Further, the market to book ratio, do affect several allocation mechanism.

Finally, Table 5.6A results also show that the AU mechanism is preferred when a firm have a relatively high market-to-book ratio and that firms with lower market-to-book ratio are more prone to choose the PP, SL and the SSW mechanisms; firms using top underwriters are less likely to use the OL and the PP mechanism preferring the SSW mechanism.

The variable Ln Size is positively associated with the choice of the BB mechanism; the capitalization is seen as prone to reduce the level of information asymmetry and so firms with lower risk and facing lower levels of information asymmetry are more likely to use the BB mechanism. Our results show that we should accepted the hypothesis that “firms with large market capitalization are more likely to use the BB mechanism”. Additionally, the firm’s age is positively associated with our dependent variables (Model 2), showing that the older the firm the more likely is to choose the BB mechanism. Hence, we accept our hypothesis that older firms are more likely to use the BB mechanism. Somewhat surprisingly, although the regression coefficient for the market-to-book ratio is positive the effect, it is not statistically significant. This indicated that we should reject our hypothesis that “firms with high market to book ratio prior to IPO are more likely to use bookbuilding mechanism”.

Table 5.6 A: Logit analysis of determination of different allocation mechanism without corporate governance

This table provides the logit analysis result of the determination of different IPO allocation mechanism in Chinese stock market from 1990 to 2011. Dependent variable in this table is dummy variable. In model 1, the dependent variable is Dummy AU that takes value of 1 if IPO is listing through auction mechanism, otherwise, 0. In model 2 (3, 4, 5, 6, 7 and 8), dependent variable is dummy BB (OLSM, PP, SL, SM, and SSW). However, the sample size of BB is different from other mechanism. Since BB process is just available from 1999, thus, the sample for BB will just include IPOs from 1999 till 2011. See appendix for definition of each variable. *, **, and *** stands for the level of significant is at 10%, 5% and 1% level.

| | AU | BB | OL | OLSM | PP | SL | SM | SSW |
|-----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Intercept | 4.5415*** (1.277) | -31.858*** (3.022) | -4.040*** (0.998) | -3.809*** (1.473) | 10.951*** (2.579) | -5.682*** (1.837) | 14.59*** (2.062) | 7.527*** (2.811) |
| MR | 0.677*** (0.125) | -1.893*** (0.361) | -0.553*** (0.105) | 0.715*** (0.182) | -0.192 (0.171) | -0.622*** (0.136) | 1.672*** (0.304) | 2.196*** (0.359) |
| MV | 0.194** (0.081) | 2.986*** (0.389) | -0.791*** (0.108) | -1.085*** (0.200) | 0.338** (0.141) | 0.171 (0.120) | -0.561** (0.273) | 0.002 (0.137) |
| Lnsize | -0.469*** (0.114) | 1.004*** (0.265) | 0.647*** (0.079) | 0.582*** (0.116) | -1.104*** (0.265) | 0.772*** (0.290) | -2.127*** (0.214) | -0.392 (0.242) |
| AGE | -0.025 (0.046) | 0.998*** (0.152) | -0.056 (0.037) | -0.187*** (0.066) | 0.559*** (0.152) | 0.019 (0.050) | 0.060 (0.136) | -0.314*** (0.114) |
| LEV | 0.351*** (0.106) | -0.074 (0.099) | -1.652*** (.269) | -0.176 (0.125) | 0.493*** (0.150) | -0.954* (0.548) | 0.261** (0.119) | 0.096 (0.133) |
| ROA | 8.857*** (2.147) | 8.892** (4.038) | -12.47*** (2.175) | -16.85*** (3.971) | 3.434 (4.580) | -6.918** (3.545) | -2.000 (3.588) | 11.012** (4.948) |
| M/B ratio | 0.601*** (0.193) | 0.722 (0.457) | -0.809 (0.247) | -0.535 (0.414) | -3.474** (1.746) | -1.096* (0.621) | 0.553 (0.262) | -3.228*** (1.190) |
| Underwriter | 0.109 (0.210) | 0.421* (0.256) | -0.300** (0.148) | -0.199 (0.239) | -1.898*** (0.521) | 0.230 (0.228) | -0.020 (0.236) | 0.695* (0.407) |
| Exchange | 0.057 (0.246) | -0.596 (0.749) | 2.438*** (0.299) | -1.115*** (0.388) | 0.558 (0.474) | 0.849** (0.434) | -0.939 (0.593) | -3.912*** (0.587) |
| Obs | 2029 | 1234 | 2029 | 2029 | 2029 | 2029 | 2029 | 2029 |
| LR chi2 | 552.24 | 982.70 | 597.74 | 141.38 | 319.32 | 289.81 | 610.40 | 177.63 |
| Log likelihood | -372.54 | -307.02 | -793.04 | -393.22 | -127.91 | -291.17 | -386.85 | -119.43 |
| Pseudo R2 | 0.4257 | 0.6164 | 0.2737 | 0.1524 | 0.5552 | 0.3323 | 0.4410 | 0.4265 |

See Appendix B for the definition of variables

Table 5.6B: Logit analysis of determination of different allocation mechanisms with corporate governance

This table provides the logit analysis result of the determination of different IPO allocation mechanism in Chinese stock market from 1990 to 2011. Dependent variable in this table is dummy variable. In model 1, the dependent variable is Dummy AU that takes value of 1 if IPO is listing through auction mechanism, otherwise, 0. In model 2 (3, 4, 5, 6, 7 and 8), dependent variable is dummy BB (OLSM, PP, SL, SM, and SSW). However, the sample size of BB is different from other mechanism. Since BB process is just available from 1999, thus, the sample for BB will just include IPOs from 1999 till 2011. See appendix for definition of each variable. *, **, and *** stands for the level of significant is at 10%, 5% and 1% level.

| | AU | BB | OL | OLSM | PP | SL | SM | SSW |
|-----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Intercept | 4.832*** (1.512) | -25.500*** (3.579) | -6.053*** (1.137) | -7.847*** (1.742) | 10.205*** (2.849) | -7.086*** (2.069) | 14.12*** (2.336) | 6.267** (3.133) |
| Composition | -4.593*** (1.317) | -2.628 (1.946) | 3.526*** (0.968) | 0.936 (1.556) | 3.548 (2.399) | 1.447 (1.569) | -1.119 (1.537) | 1.734 (2.891) |
| Board size | -0.005 (0.036) | -0.210*** (0.065) | 0.024 (0.029) | 0.006 (0.047) | 0.135** (0.059) | 0.042 (0.044) | 0.190*** (0.050) | -0.111 (0.091) |
| Legal person | 2.696*** (0.730) | -5.620*** (1.660) | 1.062* (0.579) | 1.786* (1.070) | -2.532** (1.209) | -0.368 (0.840) | 1.325 (0.967) | -2.472 (2.546) |
| Tradable share | 2.767*** (0.885) | -9.176*** (1.343) | 1.730*** (0.631) | 4.156*** (1.016) | -2.813** (1.491) | 0.160 (1.032) | 1.692 (1.080) | 1.775 (1.687) |
| Concentration | -0.520 (0.459) | -0.380 (0.700) | -0.265 (0.341) | 1.299** (0.519) | 1.567* (0.853) | 0.759 (0.513) | -0.676 (0.592) | -0.797 (1.013) |
| State share | 1.273** (0.502) | -0.320 (0.498) | 1.364*** (0.286) | 2.024*** (0.469) | 0.746 (0.923) | -0.766 (0.526) | -1.073*** (0.404) | -0.525 (0.866) |
| MR | 0.712*** (0.129) | -1.302*** (0.420) | -0.524*** (0.104) | 0.566*** (0.180) | -0.203 (0.181) | -0.633*** (0.136) | 1.604*** (0.317) | 2.102*** (0.373) |
| MV | 0.165** (0.083) | 3.220*** (0.439) | -0.679*** (0.109) | -1.078*** (0.203) | 0.462*** (0.158) | 0.195 (0.123) | -0.482* (0.286) | 0.010 (0.150) |
| Lnsize | -0.511*** (0.124) | 0.808** (0.338) | 0.560*** (0.082) | 0.608*** (0.121) | -1.373*** (0.290) | 0.821*** (0.281) | -2.248*** (0.228) | -0.263 (0.256) |
| AGE | -0.079 (0.053) | 1.191*** (0.187) | -0.064 (0.041) | -0.189*** (0.072) | 0.666*** (0.163) | -0.006 (0.057) | -0.104 (0.155) | -0.326*** (0.125) |
| LEV | 0.252** (0.103) | 0.185 (0.148) | -1.795*** (0.286) | -0.180 (0.105) | 0.599*** (0.170) | -0.968* (0.554) | 0.068 (0.184) | 0.135 (0.150) |
| ROA | 9.565*** (2.205) | 3.358 (4.224) | -11.59*** (2.213) | -16.79*** (4.066) | 3.834 (4.615) | -7.621** (3.589) | 0.380 (3.600) | 10.872** (5.335) |
| M/B ratio | 0.567*** (0.219) | 1.324 (0.543) | -0.588*** (0.213) | -0.465 (0.394) | -2.431 (1.734) | -1.146 (0.614) | 0.552** (0.235) | -3.130** (1.318) |
| Underwriter | 0.233 (0.220) | 0.293 (0.291) | -0.307** (0.152) | -0.119 (0.247) | -2.237*** (0.567) | 0.268 (0.231) | -0.079 (0.250) | 0.558 (0.429) |
| Exchange | 0.044 (0.257) | -1.235 (0.877) | 2.077*** (0.297) | -1.257*** (0.393) | 0.515 (0.507) | 0.859** (0.435) | -0.803 (0.613) | -3.741*** (0.593) |
| Employee | -0.458 (1.098) | -0.758 (0.586) | 0.313 (0.349) | -0.995 (0.777) | 0.826 (1.142) | 0.406 (0.723) | 0.367 (0.409) | 2.101*** (0.759) |
| Obs | 2029 | 1228 | 2029 | 2029 | 2029 | 2029 | 2029 | 2029 |
| LR chi2 | 585.59 | 1083.76 | 646.60 | 183.06 | 336.33 | 295.02 | 648.87 | 190.31 |
| Log likelihood | -352.92 | -252.06 | -766.78 | -371.95 | -119.18 | -288.16 | -364.70 | 190.31 |
| Pseudo R2 | 0.4534 | 0.6825 | 0.2966 | 0.1975 | 0.5852 | 0.3386 | 0.4708 | 0.4573 |

See Appendix B for the definition of variables

Beyond analysing the BB mechanism, we also examine seven other allocation mechanisms with concern of corporate governance in the Chinese stock market. They are introduced in model 1, 3, 4, 5, 6, 7 and 8. Table 5.6B shows that composition only has effect on AU and OL mechanism. More specifically, firms with more outsiders on the board are more like to choose the OL mechanism, while the AU mechanism is preferred when there are fewer outsiders on the board. The *Board size*, is also an important factor in corporate governance and affects the choice of the PP and the SM mechanism. The percentage of legal person share only affects the likelihood of choosing the AU, OL, OLSM and the PP mechanism, having a positive effect on the choice of the AU, OL and the OLSM mechanisms and a negative effect on the choice of the PP mechanism. In addition, firms are more likely to use the AU, OL and the OLSM if there is higher percentages of tradable shares, and the PP mechanism is preferred if the opposite occurs. The concentration has a positive effect on the choice of the OLSM and the PP mechanism.

Regarding the state share characteristic, AU, OL, OLSM mechanisms will be preferred for firms with government background; otherwise, SM mechanism will be more likely to be used. Market conditions seem to be relevant in all processes. Table 5.6 B indicated that market return has a significantly positive relationship with other allocation mechanisms except OL (significantly negative) and PP mechanism. For market volatility, the relationship still remains positive for AU and PP allocation mechanism and negative with OL, OLSM and SM, while no effect shows for SL and SSW mechanisms in our analysis. Firms are more willing to use OL, OLSM, and SL mechanisms when there is large capital demand. Conversely, AU, PP, and SM mechanisms will be preferred for firms with less capital demand.

There is no evidence shows that capital demand has any influence over the likelihood of the SSW mechanism choice. Our results also indicated that older firms are more willing to use PP mechanisms, while younger firms are more willing to use OLSM and SSW mechanisms when including corporate governance factors into the analysis. Leverage ratio only has an effect on AU (+), OL (-), PP (+) and SL (-). For the factor profitability, the possibilities of using AU and SSW are significantly increased when ROA is higher; in contrast, firms prefer to use OL, OLSM and SL mechanisms. Although the market to book ratio is an important factor proxy for risk, it only influences the choice of AU (+), OL (-), SM (+) and SSW mechanism (-). Another interesting fact is that firms are less likely to adopt OL and PP mechanisms when top underwriters are used in IPO. The exchange dummy effect is the same as before when we do not add corporate governance into the analysis.

Finally, firms with employee shares are only willing to use the SSW mechanism. We compared the good fitness for our model between doing an analysis with or without corporate governance. The R^2 value in Table 5.6B is significantly increased compared with Table 5.6A which means that corporate governance can affect the choice of allocation mechanism.

5.7.3. Industry factor effect on the choice of allocation mechanism

The manufacturing sector in China has a plays a very important role on the evolution of the Chinese economy. More than 62% listing firms in Shanghai and Shenzhen stock exchange market are belong to manufacturing firms and the market value of manufacturing firm takes about 70% of the total market value for all listing firms. Hence, we split our sample in two subgroups: manufacturing and non-manufacturing sectors to examine whether there

significant differences between these two groups in terms of the allocation mechanisms and the factors that affected the choice of the allocation mechanism. Further, this research also divides the non-manufacturing sample into two subgroups (Financial firms and non-financial firms) to evaluate the differences between financial firms and non-financial firms' attitudes about each allocation mechanism.

5.7.3.1. Manufacturing and Non-manufacturing industry choice about allocation mechanism

For the allocation mechanism choice in manufacturing sector, this research finds there are many differences with our full sample analysis with corporate governance in Table 5.6B. As Table 5.7A indicated, the most significant change would be PP mechanism. More specifically, the positive effect of board size disappears. Additionally, legal person effect disappears on the probability of choosing AU and PP mechanism for manufacturing industry. The significant relationship between tradable share and the probability of using PP mechanism also disappears. Concentration influence also changes to insignificant for OLSM and PP mechanism. Regarding market conditions, market return and market volatility remain the same for OL and OLSM mechanism. Again, for the PP mechanism, market return effect becomes negative and significant and market return effect disappears. Size and leverage effects disappear for manufacturing industry with AU mechanism.

Furthermore, the history effect changes to insignificant for OLSM. Regarding leverage ratio, the effect reduces to insignificant (significant) for AU (SM) mechanism; additionally, the effect of leverage ratio becomes more significant for the SM mechanism. ROA effect seems not to change for AU, BB, OL and OLSM. Market to book ratio effect seems remain

the same for most procedures except AU where the effect disappears. Regarding underwriters, only one mechanism which is OL changed to insignificant relationship. The exchange dummy changes to negative for the AU mechanism. Finally, the employee share dummy effect seems not change.

Table 5.7 A: Logit analysis of determination of different allocation mechanism for Manufacturing industry

This table provides the logit analysis result of the determination of different IPO allocation mechanism in Chinese stock market from 1990 to 2011. Dependent variable in this table is dummy variable. In model 1, the dependent variable is Dummy AU that takes value of 1 if IPO is listing through auction mechanism, otherwise, 0. In model 2 (3, 4, 5, 6, 7 and 8), dependent variable is dummy BB (OLSM, PP, SL, SM, and SSW). However, the sample size of BB is different from other mechanism. Since BB process is just available from 1999, thus, the sample for BB will just include IPOs from 1999 till 2011. See appendix for definition of each variable. *, **, and *** stands for the level of significant is at 10%, 5% and 1% level.

| | AU | BB | OLSM | PP | SL | SM | SSW | |
|-----------------------|---------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Intercept | 2.676 (2.061) | -15.713*** (4.285) | -7.118*** (1.548) | -8.424*** (2.126) | 17.437*** (5.949) | -4.209* (2.327) | 15.242*** (3.149) | 1.930 (4.486) |
| Composition | -4.066** (1.889) | -1.650 (2.509) | 3.970*** (1.307) | 0.196 (2.019) | -2.329 (4.291) | 2.178 (2.057) | -1.053 (2.004) | 5.246 (4.132) |
| Board size | 0.075 (0.051) | -0.246*** (0.083) | 0.035 (0.037) | -0.048 (0.061) | -0.081 (0.123) | 0.042 (0.056) | 0.231*** (0.066) | -0.087 (0.129) |
| Legal person | 1.146 (1.313) | -6.093** (2.741) | 2.430*** (0.892) | -0.857 (2.523) | -2.275 (2.254) | 0.026 (1.246) | 1.150 (1.314) | 2.314 (2.932) |
| Tradable share | 2.986** (1.270) | -9.645*** (1.691) | 1.751* (0.908) | 3.186** (1.304) | -1.879 (3.059) | -0.430 (1.405) | 2.779** (1.420) | 2.821 (2.571) |
| Concentration | -0.659 (0.669) | -1.034 (1.100) | 0.047 (0.475) | 0.114 (0.751) | 1.461 (1.870) | 0.842 (0.722) | -0.258 (0.846) | -0.739 (1.438) |
| State share | -0.129 (0.658) | -0.273 (0.650) | 2.091*** (0.373) | 2.102*** (0.582) | 1.434 (1.712) | -0.068 (0.665) | -1.614*** (0.537) | 0.786 (1.234) |
| MR | 0.949*** (0.190) | -1.488*** (0.498) | -0.619*** (0.145) | 0.636*** (0.240) | -0.841** (0.381) | -0.659*** (0.186) | 1.468*** (0.432) | 2.698*** (0.653) |
| MV | 0.412*** (0.145) | 2.960*** (0.563) | -0.840*** (0.161) | -0.666*** (0.252) | 0.343 (0.299) | 0.071 (0.176) | -1.260*** (0.282) | 0.222 (0.291) |
| Lnsiz | -0.234 (0.153) | 1.918*** (0.465) | 0.526*** (0.108) | 0.642*** (0.153) | -2.292*** (0.505) | 0.307* (0.181) | -2.439*** (0.299) | -0.520 (0.409) |
| AGE | -0.091 (0.074) | 1.340*** (0.241) | -0.082 (0.055) | -0.071 (0.096) | 0.643** (0.277) | -0.042 (0.071) | -0.179 (0.214) | -0.494** (0.210) |
| LEV | 0.167 (0.175) | -0.094 (0.759) | -1.795*** (0.388) | -0.627 (0.486) | 2.359** (1.109) | -0.497 (0.571) | 0.613* (0.370) | 0.600 (0.431) |
| ROA | 9.498*** (3.233) | -1.581 (5.142) | -10.88*** (2.878) | -15.36*** (4.920) | 18.130** (9.054) | -6.568 (4.502) | 5.746 (4.817) | 7.439 (7.142) |
| M/B ratio | 0.203 (0.206) | -0.155 (0.435) | -0.650*** (0.217) | 0.318 (0.197) | -0.298 (0.676) | -0.023 (0.267) | 0.782** (0.331) | -0.675 (0.756) |
| Underwriter | -0.072 (0.311) | -0.035 (0.371) | -0.296 (0.204) | -0.148 (0.316) | -2.646** (1.105) | 0.451 (0.293) | -0.037 (0.327) | 0.730 (0.630) |
| Exchange | -0.782** (0.369) | -0.979 (1.040) | 2.484*** (0.415) | -1.254** (0.523) | 1.704 (1.136) | 1.066* (0.596) | -0.208 (0.836) | -4.540*** (0.971) |
| Employee | 0 (omitted) | -0.185 (0.725) | 0.341 (0.445) | -0.403 (0.809) | 0 (omitted) | -0.716 (1.145) | 0.027 (0.571) | 2.442*** (0.945) |
| Obs | 1234 | 829 | 1267 | 1267 | 1234 | 1267 | 1267 | 1267 |
| LR chi2 | 327.72 | 721.85 | 447.65 | 93.15 | 189.18 | 191.69 | 460.96 | 106.70 |
| Log likelihood | -175.93 | -167.21 | -440.28 | -232.62 | -39.09 | -174.90 | -228.32 | -57.63 |
| Pseudo R2 | 0.482 | 0.683 | 0.337 | 0.167 | 0.708 | 0.354 | 0.502 | 0.481 |

See Appendix B for the definition of variables

For the non-manufacturing sector, there are several changes for determination of allocation mechanism comparing with manufacturing industry. Firstly, Table 5.7B indicated that composition effect on the choice of BB mechanism become significantly negative in 10 percent level, and the effect on PP mechanism changes from insignificantly negative to significantly positive which shows the differences between manufacturing and non-manufacturing industry on allocation mechanism choice. There are also some significant changes for board size in non-manufacturing industry, the effect of board size become positive on PP mechanism and the influence on SM disappears. Additionally, legal person starting influence AU, OLSM, and SSW mechanism, and the effect of legal person share gone for OL mechanism.

Table 5.7B also indicated that tradable share start influence the choice of PP mechanism and there is no influence on OL and SM mechanism any more comparing with manufacturing industry in Table 5.8. Concentration has no effect on the choice of mechanism at all for manufacturing industry, however, it becomes more important for our second group (non-manufacturing industry). There is a negative relationship with OL mechanism and positive relationship with OLSM and PP mechanism. Firms are more willing to use AU and OLSM mechanism when government share is high. State share firms are not willing to use OL mechanism any more for non-manufacturing industry. Market return does not affect the choice of PP mechanism any more. When there is high level of market volatility, firms starting prefer BB and PP mechanism. Size starting influences the choice of AU mechanism and history effect starting a negative relationship with OLSM mechanism for non-manufacturing industry.

Firms with higher leverage ratio are more willing to use SSW mechanism and less like to

adopt OL mechanism. AU and BB mechanism are preferred when there is high ratio of ROA, otherwise, OL and OLSM mechanism will be preferred. Market to Book ratio only can influence OLSM mechanism but not others. Firms are more willing to use AU and BB mechanism when top underwriters are involved. For less reputational underwriters, firms will prefer PP mechanism. Firms listed in the Shanghai stock market are more willing to use AU and OL mechanisms, while firms listed in the Shenzhen stock market are more willing to use OLSM and SSW mechanisms. The effect of employee share totally disappeared in the choice of allocation mechanism.

Table 5.7B: Logit analysis of determination with different allocation mechanism for non-manufacturing industry

This table provides the logit analysis result of the determination of different IPO allocation mechanism in Chinese stock market from 1990 to 2011. Dependent variable in this table is dummy variable. In model 1, the dependent variable is Dummy AU that takes value of 1 if IPO is listing through auction mechanism, otherwise, 0. In model 2 (3, 4, 5, 6, 7 and 8), dependent variable is dummy BB (OLSM, PP, SL, SM, and SSW). However, the sample size of BB is different from other mechanism. Since BB process is just available from 1999, thus, the sample for BB will just include IPOs from 1999 till 2011. See appendix for definition of each variable. *, **, and *** stands for the level of significant is at 10%, 5% and 1% level.

| | AU | BB | OL | OLSM | PP | SL | SM | SSW |
|-----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Intercept | 2.622 (2.011) | -27.585*** (5.537) | -3.867** (1.663) | -6.921** (2.911) | 6.575* (3.624) | -5.926** (2.924) | 10.811*** (3.846) | 6.848 (4.941) |
| Composition | -6.111*** (1.871) | -6.610* (3.506) | 3.106** (1.438) | 2.097 (2.619) | 9.938*** (3.530) | 1.748 (2.489) | 0.003 (2.533) | -0.686 (4.499) |
| Board size | -0.058 (0.051) | -0.219* (0.118) | 0.001 (0.044) | 0.102 (0.081) | 0.245*** (0.073) | 0.017 (0.072) | 0.119 (0.082) | -0.183 (0.153) |
| Legal person | 3.799*** (1.048) | -5.220** (2.189) | -0.030 (0.797) | 2.810** (1.381) | -3.262* (1.683) | -0.140 (1.231) | 1.425 (1.592) | -9.492* (5.637) |
| Tradable share | 3.378*** (1.279) | -8.211*** (2.427) | 1.148 (0.900) | 4.708*** (1.650) | -3.386* (2.004) | 0.401 (1.497) | 1.037 (1.819) | 2.029 (2.443) |
| Concentration | -0.220 (0.625) | -1.057 (1.222) | -0.850* (0.501) | 2.325*** (0.856) | 2.588** (1.121) | 0.312 (0.799) | 0.327 (1.004) | -2.201 (1.684) |
| State share | 2.720*** (0.879) | -0.281 (0.874) | 0.636 (0.454) | 2.510*** (0.801) | 0.752 (1.227) | -1.389 (0.922) | -0.841 (0.658) | -2.191 (1.354) |
| MR | 0.537*** (0.180) | -1.626** (0.823) | -0.386*** (0.149) | 0.823** (0.326) | -0.089 (0.258) | -0.577*** (0.208) | 1.638*** (0.508) | 2.711*** (0.745) |
| MV | 0.171 (0.115) | 3.597*** (0.720) | -0.546*** (0.141) | -1.726*** (0.362) | 0.629*** (0.221) | 0.217 (0.172) | 0.032 (0.326) | -0.201 (0.228) |
| Lnsize | -0.371** (0.148) | 0.980** (0.415) | 0.415*** (0.117) | 0.499** (0.201) | -1.513*** (0.276) | 0.477** (0.213) | -1.788*** (0.329) | -0.339 (0.378) |
| AGE | 0.033 (0.081) | 1.173*** (0.357) | -0.090 (0.064) | -0.339*** (0.118) | 0.570*** (0.205) | -0.005 (0.101) | -0.107 (0.234) | -0.320* (0.190) |
| LEV | 0.144 (0.129) | 0.053 (0.185) | -1.425*** (0.376) | -0.156 (0.121) | 0.466 (0.292) | -1.463 (0.919) | -0.040 (0.267) | 0.332* (0.182) |
| ROA | 12.191*** (3.523) | 19.16** (7.936) | -13.91*** (3.422) | -27.44*** (7.682) | -4.581 (7.499) | -11.660* (6.430) | 0.861 (6.236) | 10.266 (6.332) |
| M/B ratio | 0.023 (0.093) | 0.073 (0.300) | -0.006 (0.065) | 0.174** (0.086) | -0.295 (0.403) | 0.027 (0.075) | -0.138 (0.186) | -1.401 (0.855) |
| Underwriter | 0.544* (0.328) | 0.959* (0.517) | -0.206 (0.232) | -0.256 (0.419) | -2.299*** (0.754) | -0.007 (0.402) | -0.097 (0.427) | -0.111 (0.687) |
| Exchange | 0.658* (0.381) | -0.735 (1.680) | 1.462*** (0.423) | -1.997*** (0.659) | 0.240 (0.677) | 0.241 (0.648) | -1.000 (0.952) | -4.101*** (0.946) |
| Employee | 0.195 (1.227) | -1.756 (1.162) | 0.239 (0.570) | 0 (omitted) | 1.660 (1.269) | 1.684 (1.104) | 0.952 (0.640) | 0 (omitted) |
| Obs | 754 | 399 | 754 | 732 | 754 | 754 | 754 | 732 |
| LR chi2 | 252.00 | 376.45 | 205.35 | 110.19 | 157.29 | 103.78 | 207.41 | 96.99 |
| Log likelihood | -169.08 | -76.43 | -321.88 | -127.34 | -69.00 | -113.02 | -124.73 | -46.78 |
| Pseudo R2 | 0.427 | 0.711 | 0.242 | 0.302 | 0.533 | 0.315 | 0.454 | 0.509 |

See Appendix B for the definition of variables

5.7.3.2. Financial firms and non-financial firms' choice about allocation mechanism

Many researches will divided their sample into financial firms and non-financial firms since there are significantly different characteristics between them. However, within Chinese case, majority of financial firms and reputational firms are listing in Hong Kong Stock Exchange Market instead of Shanghai Stock Exchange Market and Shenzhen Stock Exchange Market. For instance, Bank of China, as one of the biggest bank in China, is listing in Hong Kong. The three most important reasons for that are: 1) Chinese government set up a complex approval system about IPOs and SEOs, this will leads to longer waiting time and higher uncertainty. 2) Too much interventions from government in Chinese domestic Stock Exchange Markets. For example, Chinese government bans IPO or SEO activities in 2012. This will makes firms not able to get capital supports from equity market when they need financing in the future. 3) Listing in Hong Kong Stock Market can get more international investment than listing in Chinese domestic stock exchange markets. There is only 20 financial firms within our sample are listed in Chinese domestic exchange market and some allocation mechanisms is never used by financial firms, for instance, SM and SW allocation mechanism (showed as Table 5.8). Therefore, we are not able to conduct analysis for the allocation mechanism choice for financial firms because of the sample size and the allocation mechanism distribution for financial firms. Otherwise, the results will be misleading and having no sense. Regarding non-financial firms under non-manufacturing industry, the results are presented in Table 5.9.

Results in Table 5.9 indicated that non-financial firms with higher level of composition are less likely to use AU mechanism. Additionally, the level of composition can also influence

the choice of OL mechanism and PP mechanism. Regarding board size, we are able to confirm that non-financial firms with larger board size have more possibility to use PP mechanism, SM mechanism, but less likely to use SSW mechanism. Another interesting thing we would like report is non-financial firms with large proportion of legal person share or Tradable shares are more likely to use AU mechanism, but they are less likely to use BB mechanism (model 1 and 2 in Table 5.9). Non-financial firms with higher proportion of legal person shares is not interesting in PP mechanism, however, the tradable share proportion can contribute to the likelihood of choosing OLSM mechanism. Results also indicated that concentration has a negative relationship with the likelihood of using BB.

Regarding the proportion of state share, Table 5.9 also shows some significantly results. To be more specific, non-financial firms with higher proportion of state shares are more likely to use AU mechanism (model 1). OLSM mechanism (model 4), however, these non-financial firms with higher proportion of state shares are less likely to use SL mechanism (model 6). Regarding market condition factors' effect, we discover that market return (MR) is the quite important and market return can significantly influence the choice of AU mechanism, OL mechanism, OLSM mechanism, SL mechanism, SM mechanism and SSW mechanism. For other market condition factor, Market volatility (MV), the results in Table 5.9 indicate market volatility able to influence the choice of all allocation mechanism with an exception of AU mechanism, SM mechanism and SSW mechanism.

Regarding other firms' characteristics influence on the choice of allocation mechanism, Table 5.9 indicates that non-financial firms' market capitalization size can significantly influence all allocation mechanism decision except SSW mechanism. Additionally, we are able to confirm that non-financial firms with longer history are more likely to use BB

mechanism, this maybe because that older firm are more likely to experience lower information asymmetry level, and firms with lower information asymmetry level are more prefer to use bookbuilding mechanism. Additionally, history of non-financial firms can also contribute to the choice of OLSM mechanism and PP mechanism as well. More importantly, other control variables be proved that they can influence the likelihood of using different allocation mechanism.

Table 5.8: Distribution of firms for financial firms and non-financial firms under non-manufacturing category

| Panel A: Distribution of financial firms and non-financial firms under non-manufacturing industry | | |
|--|-----|------------|
| | No | Percentage |
| Financial Firms | 20 | 2.65% |
| Non-Financial Firms | 735 | 97.35% |

| Panel B: Allocation mechanisms distribution of firms for Financial firms | | |
|---|----|------------|
| Allocation mechanism | No | Percentage |
| AU | 1 | 0.13% |
| BB | 8 | 1.06% |
| OL | 5 | 0.66% |
| OLSM | 2 | 0.26% |
| PP | 2 | 0.26% |
| SL | 1 | 0.13% |
| SM | 0 | 0% |
| SSW | 1 | 0.13% |
| SW | 0 | 0% |
| Total | 20 | 2.65% |

| Panel C: Allocation mechanisms distribution of firms for non-Financial firms | | |
|---|-----|------------|
| Allocation mechanism | No | Percentage |
| AU | 100 | 13.25% |
| BB | 246 | 32.58% |
| OL | 189 | 25.03% |
| OLSM | 50 | 6.62% |
| PP | 37 | 4.90% |
| SL | 43 | 5.70% |
| SM | 69 | 9.14% |
| SSW | 3 | 0.40% |
| SW | 18 | 2.38% |
| Total | 735 | 97.35% |

See Appendix B for the definition of variables

Table 5.9: Logit analysis of determination of different allocation mechanism for non-financial firms

This table provides the logit analysis result of the determination of different IPO allocation mechanism in Chinese stock market from 1990 to 2011. Dependent variable in this table is dummy variable. In model 1, the dependent variable is Dummy AU that takes value of 1 if IPO is listing through auction mechanism, otherwise, 0. In model 2 (3, 4, 5, 6, 7 and 8), dependent variable is dummy BB (OLSM, PP, SL, SM, and SSW). However, the sample size of BB is different from other mechanism. Since BB process is just available from 1999, thus, the sample for BB will just include IPOs from 1999 till 2011. See appendix for definition of each variable. *, **, and *** stands for the level of significant is at 10%, 5% and 1% level.

| | AU | BB | OL | OLSM | PP | SL | SM | SSW |
|-----------------------|-----------------------|------------------------|------------------------|-----------------------|-----------------------|----------------------|----------------------|----------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Intercept | 4.656** (2.369) | -69.880*** (14.223) | -4.250** (1.474) | -5.049 (3.189) | 5.437 (3.957) | -10.01*** (3.461) | 10.29*** (3.855) | 8.893 (5.511) |
| Composition | -5.234*** (1.9805) | -3.295 (4.097) | 3.064** (1.474) | 1.827 (2.7208) | 9.676*** (3.551) | 0.820 (2.537) | 0.678 (2.564) | -1.783 (4.862) |
| Board size | -0.0722 (0.0535) | -0.1049 (0.1287) | 0.00646 (0.046) | 0.0594 (0.0872) | 0.243*** (0.078) | 0.0392 (0.076) | 0.137* (0.083) | -0.308* (0.173) |
| Legal person | 5.097*** (1.1893) | -1.092*** (0.3964) | -0.0883 (0.801) | 1.485 (1.7486) | -3.036* (1.761) | -0.397 (1.259) | 1.846 (1.635) | -6.108 (4.795) |
| Tradable share | 4.383*** (1.4436) | -12.212*** (3.3426) | 1.414 (0.9158) | 5.236*** (1.7836) | -3.042 (1.991) | 0.513 (1.595) | 0.672 (1.865) | 1.751 (2.436) |
| Concentration | -0.477 (0.6795) | -3.5334* (2.0153) | -0.686 (0.509) | 1.254 (1.0754) | 2.242** (1.125) | 0.680 (0.799) | 1.765 (1.305) | 0.823 (1.804) |
| State share | 3.321*** (0.9759) | -1.7073 (1.0574) | 0.413 (0.460) | 2.179*** (0.8400) | 0.826 (1.233) | -1.568* (0.937) | -0.786 (0.677) | -0.782 (1.475) |
| MR | 0.5764*** (0.1972) | -0.9889 (0.9479) | -0.3678** (0.151) | 0.8998** (0.3717) | -0.0813 (0.263) | -0.737*** (0.227) | 1.832*** (0.527) | 1.844*** (0.566) |
| MV | 0.0813 (0.1233) | 5.001** (1.0033) | -0.5589*** (0.1481) | -1.748*** (0.3955) | 0.609*** (0.223) | 0.319* (0.181) | 0.075 (0.347) | -0.226 (0.227) |
| Lnsiz | -0.757*** (0.1989) | -3.0168** (1.2578) | 0.507*** (0.1257) | 0.557*** (0.2148) | -1.395*** (0.3045) | 1.063*** (0.411) | -1.990*** (0.362) | -0.224 (0.424) |
| AGE | -0.0624 (0.0893) | 0.9624** (0.4111) | -0.0714 (0.0654) | -0.318** (0.1243) | 0.646*** (0.2289) | 0.0366 (0.102) | -0.0672 (0.241) | -0.304 (0.194) |
| LEV | 1.799*** (0.4163) | -2.4649** (1.2199) | -1.621*** (0.4038) | -1.395* (0.7271) | 0.0555 (0.801) | -1.876* (1.037) | 1.187** (0.592) | 1.057 (0.691) |
| ROA | 11.63*** (3.780) | 17.739* (9.3790) | -14.52*** (3.6791) | -31.15*** (8.6279) | -4.415 (8.034) | -6.259 (6.408) | -1.187 (5.950) | 19.61** (8.886) |
| M/B ratio | 1.055*** (0.3343) | 6.0451*** (1.9498) | -0.472** (0.2354) | -0.770 (0.8001) | -0.303 (0.746) | -1.424* (0.841) | 0.661** (0.337) | -3.158 (2.042) |
| Underwriter | 0.681* (0.3513) | 0.9658 (0.6195) | -0.245 (0.2371) | -0.237 (0.4388) | -2.087*** (0.742) | -0.183 (0.410) | -0.222 (0.432) | 0.594 (0.683) |
| Exchange | 0.567 (0.4016) | -2.7036 (2.0010) | 1.511*** (0.4280) | -2.064*** (0.7310) | 0.1000 (0.682) | 0.781 (0.690) | -1.322 (0.985) | -3.736*** (0.851) |
| Employee | 0.515 (1.2048) | -0.6208 (1.2931) | 0.227 (0.5692) | 0 (omitted) | 1.499 (1.248) | 1.871 (1.149) | 0.926 (0.649) | 0 (omitted) |
| Obs | 735 | 387 | 735 | 712 | 735 | 735 | 735 | 712 |
| LR chi2 | 277.38 | 396.52 | 204.35 | 112.46 | 145.86 | 109.21 | 210.30 | 96.33 |
| Log likelihood | -151.64 | -158.71 | -331.32 | -119.56 | -67.732 | -106.32 | -121.37 | -42.999 |
| Pseudo R2 | 0.478 | 0.672 | 0.247 | 0.320 | 0.519 | 0.339 | 0.464 | 0.528 |

See Appendix B for the definition of variables

5.7.4. Short term and long term performance for different allocation mechanism

In this section we present our results for the effect of the IPO mechanism selected on the MAIR for the following time-periods: 10 days, 12-month, 24-month and 36-month. Derrien and Womack (2003) study the IPOs that took place in the French stock market, evaluate the effect of the IPO allocation mechanism choice on the short-term and the long-term stock return performance but no 36 months term. Their results show that all the allocation mechanisms lead to some level of underpricing in the short-term (i.e. 10 days after the IPO). More specifically, the BB mechanism leads to the highest underpricing (about 19.0%), followed by the AU and the FP mechanisms, with an underpricing of 14.2% and 12.99%, respectively.

Yet, this results change significantly when the authors consider the long-term performance (i.e. 12 months after the IPO), where the underpricing for the BB and the FP mechanisms become negative, more specifically, -4.96% and -0.59%, respectively. According to the above results the BB mechanism is prone to lead to the highest IPO underpricing. Nevertheless, Derrien and Womack (2003) provide results for 12 months only and their regression model compares the underpricing means for each allocation mechanism only, neglecting the fact that there may be a correlation between the usage of each allocation mechanism and the short-term and the long-term underpricing.

There is empirical evidence showing that IPOs are prone to provide excellent short-term stock return performance and very poor long-term stock return performance (see, among others, Jenkinson and Ljungqvist, 1996; Ritter, 1991; Levis, 1993; and Espenlaub et al.

1998). It is possible that IPOs long-term underpricing is affected by managerial decisions that are taken before the IPO and the firm financial performance before the IPO (see Khurshed et al. 1999, among others).

Guided by previous literature, such as Khurshed et al. (1999), Loughran and Ritter (1984, 1995), Levis (1993); Carter et al., 1998, Singh and Whittington (1968), Geroski and Jacquemin (1988), and Machin and Van Reenen (1993) we use in our regression model the following control variables: Ln size, Age, ROA, Sale Growth and Exchange. More specifically, Loughran and Ritter (1995) uses the “buy and hold abnormal return” (BHAR) to measure IPO short-term and long-term underpricing; Levis (1993) advocates that the IPO gross proceeds is a good proxy for risk; Khurshed et al. (1999) find empirical evidence that the size of the firm has a positive relationship with the IPO long-term underpricing; Ritter (1984), Carter et al. (1998) advocates that the age of the firm is an important factor in determining the level of IPO underpricing; and Ritter (1991) report evidence that firm’s age is the main factor influencing the IPO long-term underpricing; Singh and Whittington (1968), Geroski and Jacquemin (1988), and Machin and Van Reenen (1993), see the sales growth rate as a good proxy for risk and find that the higher the sales growth ratio the higher is the long-term performance. Finally, we also include in our regression model a dummy variable for the exchange where the IPO takes place.

There are two commonly used approach in finance to calculate the long term return. One is cumulative abnormal return, and another one is buy and hold abnormal return. The convention is much of the research that analyses abnormal returns has been to sum either daily or monthly abnormal returns over time. Define R_{it} as the month t simple return on a

sample firm. $E(R_{it})$ as the month t expected return for the sample firm, and $AR=R_{it}-E(R_{it})$ as the abnormal return in month t . Cumulating across π periods yields a cumulative abnormal return (CAR):

$$CAR_{it} = \sum_{t=1}^{\pi} AR_{it}$$

In contrast, the return on a buy and hold investment in the sample firm less the return on a buy and hold investment in an asset with an appropriate expected return (BHAR) is:

$$BHAR_{it} = \prod_{t=1}^{\pi} [1 + R_{it}] - \prod_{t=1}^{\pi} [1 + E(R_{it})]$$

However, Barber and Lyon (1997) reports that cumulative abnormal returns are a biased predictors of long-run buy-and-hold abnormal returns. Further, the buy and hold abnormal return is more accurate in predicting the long term performance, such as one year, three years, or five years. Therefore, in the analysis of long term performance, this thesis use the buy and hold abnormal return.

Table 5.10A results show that only the OLSM and PP mechanism has a significant and positive relationship with short-term return. Other mechanisms seem to have no influence on short-term return at all. Unexpectedly, for other control variables, only the exchange dummy contributed to high short-term return. Next, we move to 12 months long-term return. We find that the AU and SM mechanism can reduce long-term return in 1 per cent level of significant level, and firms with OL, OLSM and SL can make a 12 month long-term return increase significantly. The effect of size becomes significantly negative and older firms are more likely to produce less long-term return. As with short-term return,

firms listing on the Shanghai stock market have a positive relationship with long-term performance for 12 months.

Moving to a 24-month long-term performance, our results prove that AU mechanism remains a negative relationship with long-term performance; however, OL, OLSM, PP and SL mechanisms can all contribute to a higher long-term performance. Size and age effect remain the same with 12-month long-term performance, but the exchange dummy effect disappears. Finally, regarding a 36-month long-term performance, we find that the effect of AU mechanism changes from a negative to positive significant. Additionally, other allocation mechanisms all have a significant positive relationship with 36 months long-term return except SSW mechanism. Size and age effect remain the same, with 12 and 24-month long-term performance. Unexpectedly, firms listed in the Shenzhen stock market experience a less long-term performance than firms listed in the Shanghai stock market.

We evaluate the BB mechanism effect on short-term and long-term performance effect separately from other mechanisms because of the different time period in Table 5.10B. The result reported that BB mechanism has no effect on short-term performance; however, the relationship is positive and significant for a 12-month long-term performance. Interestingly, the effect disappears for 24 months, to change to significantly negative for a 36-month long-term performance. Size only matters for a 24 and 36-month long-term performance. Older firms will experience less long-term performance from a 12 to 36-month long-term performance. Sales growth rate can only increase the long-term return for 12 months and exchange dummy matters for a 12 and 24-month long-term performance. The R2 shows the fitness of our sample was improved with time development.

Table 5.10 A: Regression of short term and long term IPO performance with different allocation mechanism

This table reports the regression analysis short term and long term IPO performance (following Barber and Lyon, 1997). Model 1 is short term performance takes buy and hold return of 10 days after listing and Model 2 is long term performance takes buy and hold return of 12 months after listing. See appendix for definition of each variable. *, **, and *** stands for the level of significance is at 10%, 5% and 1% level.

| | Short term (10 days) | Long term (12 months) | Long term (24 months) | Long term (36 months) |
|-------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Intercept | 0.136 (0.145) | 0.412** (0.187) | 0.642*** (0.108) | 1.012*** (0.154) |
| D_{AU} | -0.056 (0.040) | -0.349*** (0.048) | -0.149*** (0.041) | 0.196*** (0.046) |
| D_{OL} | -0.003 (0.031) | 0.093** (0.034) | 0.290*** (0.039) | 0.360*** (0.034) |
| D_{OLSM} | 0.104** (0.039) | 0.270*** (0.052) | 0.471*** (0.046) | 0.331*** (0.029) |
| D_{PP} | 0.150** (0.058) | 0.099 (0.076) | 0.146** (0.068) | 0.255*** (0.072) |
| D_{SL} | -0.019 (0.063) | 0.132** (0.057) | 0.324*** (0.050) | 0.479*** (0.062) |
| D_{SM} | -0.050 (0.029) | -0.212*** (0.044) | 0.040 (0.039) | 0.492*** (0.048) |
| D_{SSW} | -0.021 (0.067) | 0.020 (0.083) | 0.109 (0.074) | 0.105 (0.090) |
| SIZE | -0.012 (0.010) | -0.034*** (0.013) | -0.061*** (0.011) | -0.091*** (0.014) |
| AGE | 0.001 (0.006) | -0.018** (0.007) | -0.038*** (0.007) | -0.051*** (0.008) |
| ROA | 0.301 (0.211) | -0.212 (0.262) | -0.186 (0.233) | 0.150 (0.286) |
| Sale Growth | 0.002 (0.010) | 0.010 (0.013) | 0.001 (0.011) | -0.005 (0.014) |
| EXCHANGE | 0.051** (0.024) | 0.072*** (0.027) | 0.036 (0.024) | -0.075** (0.030) |
| Obs | 2029 | 2029 | 2029 | 2029 |
| F value | 2.96*** | 17.75*** | 46.85*** | 52.36*** |
| Adjusted R² | 0.004 | 0.090 | 0.216 | 0.236 |

See Appendix B for the definition of variables

Table 5.10B: Regression of short term and long term IPO performance with Bookbuilding mechanism

This table reports the regression analysis short term and long term IPO performance (following Barber and Lyon, 1997). Model 1 is short term performance takes buy and hold return of 10 days after listing and Model 2 is long term performance takes buy and hold return of 12 months after listing. See appendix for definition of each variable. *, **, and *** stands for the level of significance is at 10%, 5% and 1% level.

| | Short term (10 days) | Long term (12 months) | Long term (24 months) | Long term (36 months) |
|-------------------------------|-------------------------|--------------------------|--------------------------|--------------------------|
| Intercept | 0.079 (0.362) | -0.030 (0.258) | 0.370* (0.199) | 1.474*** (0.288) |
| DBB | 0.015 (0.046) | 0.112*** (0.042) | -0.050 (0.033) | -0.225*** (0.047) |
| SIZE | -0.007 (0.016) | 0.002 (0.017) | -0.025* (0.013) | -0.106*** (0.019) |
| AGE | -0.010 (0.024) | -0.040** (0.019) | -0.063*** (0.014) | -0.061*** (0.021) |
| ROA | 0.457* (0.240) | -0.394 (0.304) | -0.266 (0.234) | 0.044 (0.339) |
| Sale Growth | 0.006 (0.021) | 0.086*** (0.028) | 0.019 (0.022) | 0.028 (0.032) |
| EXCHANGE | 0.063** (0.031) | 0.117*** (0.040) | 0.091*** (0.031) | 0.037 (0.045) |
| Obs | 1235 | 1235 | 2029 | 2029 |
| F value | 1.78 | 4.78*** | 13.64*** | 23.53*** |
| Adjusted R² | 0.008 | 0.018 | 0.058 | 0.103 |

See Appendix B for the definition of variables

5.8. Conclusion

We examine the determinants of the allocation mechanisms choice for the Chinese market and the effectiveness of each allocation mechanism in reducing the IPO underpricing, using a sample that comprises information for the time over 1990-2011. Additionally, we study the effect of market conditions such as market return and volatility on the allocation mechanism choice and underpricing, as well as the effect of corporate governance policy. The above analyses were also done for two subgroups, manufacturing and non-manufacturing, which provide significant results that there are different determinants on allocation mechanism among different industries, a unique contribution.

Our results show that the BB allocation mechanism is the most effective in reducing the underpricing, and that market conditions, risk and information asymmetry level and capital demand affect the IPO allocation mechanism choice. We also find that the usage of BB mechanism is associated with an increase in the 12-month stock return and a decrease in the 36-month return; the AU allocation mechanism is associated with a decrease in the 12-month and 24-month stock return and an increase in the 36-month stock return; the OL and the OLSM allocation mechanisms are related to a significant increase in the 12-month, 24-month and 36-month return; the PP allocation mechanism is associated with an increase in the 24-month and 36-month stock return and is the only allocation mechanism that increases the 10-day stock return; the SL allocation mechanism is associated with an increase in the 12-month, 24-month and 36-month stock return, and the SM allocation mechanism is associated with a decrease in the 12-month stock return and with an increase in the 36-month return.

Furthermore, our results show that firms with larger board size and or higher proportion of legal person share ownership are less likely to choose the BB allocation mechanism; higher proportion of tradable shares is negatively associated with the BB allocation mechanism choice, and the short-term and the long-term performance of IPOs vary significantly across the allocation mechanisms. Also, we find that board concentration has no effect on the BB allocation mechanism choice and firms are more/less likely to use the BB allocation mechanism when the volatility and or market return are high.

Finally, we find that market conditions such as the level of pre-IPO market return and volatility affect the choice of the allocation mechanism and that the BB allocation

mechanism is the most effective allocation mechanism to minimizing underpricing but it is less likely to be chosen by firms with larger board size and or higher proportion of legal person share ownership.

6. The link between IPOs and SEOs and factors affecting SEO issues

6.1 Introduction

Google went public on 19th of August 2004 raised 1.666 billion dollars with opening price of 85 dollars and closing price of 100.34 dollars (18.5% initial return). One year later, Google financed another 4.2 billion (2.52 times of its IPO capitalization) through seasoned equity offering with opening price of 295 dollars and closing price of 306.62 dollars (only 0.1899% initial return), this is perfect fit with the signalling theory that firms will underpricing their IPOs as signalling of high quality and compensating their losses through forthcoming SEO offerings with larger capitalization and higher pricing (Allen and Faulhaber (1989), Welch (1989) and Grinblatt and Hwang (1989)). However, Amazon, as another famous example of IPO, shows a totally different situation that this firm went public on 16th May of 1997 with opening price of 23.63 dollars and closing price of 20.75 dollars (-12.19% initial return). The fact is that, Amazon, instead of underpricing its IPO, overpriced its initial offering for 12.19% which indicates that this firm obviously did not use IPO underpricing as tool to show its value. The two cases above show totally different situations of whether firm use IPO underpricing as signalling to promote investors' confidences for firms and increase the possibility of success for SEOs. This will lead to further concerns: is there really any links between IPO and SEO? and is SEO offering significantly influenced by IPO offering?

Although seasoned equity offerings (SEOs) have drawn much attention among financial economists recently (Altinkilic and Hansen, 2003; Corwin, 2003; Safieddine and Wilhelm, 1996; Howe and Zhang, 2010), the majority of these studies focus on SEOs pricing and

reasons for doing SEOs and developing several explanations, such as firms may conduct SEOs for financing their investments and growths, the trade-off theory, market timing and agency theory. However, rarely do researches address how IPOs factors can affect SEOs decisions. As Ratter (1998) highlighted, if firms conduct IPOs as a strategy for following SEOs, then there are must be certain factors (not only IPO underpricing) from IPOs that can influence SEOs decisions. To be more specific, if the signally theory existed, firms would already know that they want to do SEOs in the future. Therefore, firms will pay more attention to their IPOs in the first stage and make IPOs good enough to influence investors' view about firms' forthcoming SEOs. Apart from using IPO underpricing, firms may use top underwriters, top auditors or other tools in IPOs to achieve the goal. Within our chapter, we would like to investigate how certain factors from IPOs can influence SEOs. In addition to that, the board of directors in China has authority to decide on issuing debt or seasonal equity offering in China, therefore, corporate governance, as an important role in enterprises, also be concerned in our analysis and this is the very first time that research of SEOs has concerned itself with corporate governance, our results strongly support our conjectures as we find significantly relationship between corporate governance factors and SEOs decision.

Furthermore, Chen (2004) argues that compared with other countries, firms listed in China are more interested in getting financial support from equity issuing, although firm can enjoy tax benefit from using debt finance, it still not able to attract Chinese firm to raise debt. Besides, there are special requirements for Chinese firms doing SEOs, such as firms trying do SEOs must have a certain level of ROE, and China made a huge change that encouraging stated owned firm to do SEOs after 2005. Therefore, conducting this research

into the Chinese case will be special and contributable.

The objective of this research is to discover the relationship between IPO and SEO in terms of how IPO characteristics can contribute to time duration between IPOs and firms' first SEOs, SEOs capital size demands and initial return of SEOs. Although Ghosh, Nag and Sirmans (2000) tried to use signalling theory to explain how IPOs can influence SEOs decisions, they ignored several important factors, such as corporate governance and accounting auditor which have been proved have significant effects on SEOs decision in our research. More importantly, they ignored the endogeneity issues. For instance, there are several factors which might influence IPO underpricing and these factors might also influence SEO decision, simply putting IPO underpricing as a reason to explain SEO activities may lead to inconsistent results. This issue is fully controlled in our research. Within our research, it also provides a comprehensive analysis of the incentive of SEOs for Chinese listing firms. Although Bo, Huang and Wang (2011) studied the incentives of SEOs in China, they simply include all SEOs activities into instant analysis of firms' first SEO activities; What is more, they also ignored the rule of IPO in the incentives of SEOs analysis. SEOs in China, compared with mature stock markets such as the UK, USA, and Japan, have certain different characteristics, such as government participation, SEO reform regulations, et al., which may make the results different from other countries. Therefore, it will be interesting to study the IPO-SEO relationship in the Chinese case.

Our research is mainly related to signalling theory, information asymmetry and agency theory. The signalling theory argues that firms will underprice their IPOs as signals to show quality of firms, and attract more investors in forthcoming SEO activities. Based on this

theory, we developed our own hypotheses and evaluate whether signalling theory is able to explain the link between IPOs and SEOs in China with the concern of other IPO factors and corporate governance factors. Explanations of information asymmetry theory about SEOs underpricing are similar to the IPOs case. Unbalanced sources of information also exist between internal and external investors, or institutional investors and individual investors in SEO activities. Firms tend to underprice their SEOs as well as compensate those investors who have difficulties in obtaining information resources. Although signalling theory states firms will overprice its SEO, and information asymmetry theory supports that firms will underprice its SEO, there is no conflict between these two theories. Instead, these two theories just explain IPO/SEO activities from two viewpoints. Regarding the agency theory, it suggests that major shareholders trying to transfer wealth from minority shareholders and using SEO as a weapon to achieve this (Aharony, 2000; Jian and Wong, 2004; Lin, 2007). Therefore, legal persons, CEO and Concentration should be concerned when doing SEO researches. Unfortunately, majority researches about SEO ignore this fact. In our research, all of these theories will be combined as proxies by certain control variables and evaluated.

We raise several research questions on the IPO and SEO context: i): Does firm use IPO as a strategy for forthcoming SEO? ii): Will SEO decision be influenced by IPO characteristics, such as IPO underpricing, underwriter in IPO process, auditor in IPO process, size of IPO? iii): To SEO, will the influence of IPO change after different time lengths, such as firm do SEO one year after IPO, two year after IPO, three year after IPO and more than three year after IPO? iv): What is the incentive of doing SEO in Chinese stock market? v): Does SEO activity also influenced by macroeconomic?

Our main hypotheses are summarized as follows: 1): Highly underpriced IPOs are more

likely to do their SEOs earlier. 2): Highly underpriced IPOs raise larger gross proceeds through their first seasoned equity offerings. 3): Firms with higher underpricing will exhibit lower first SEO returns. 4): Firms with higher M/B ratio are more likely to do SEOs. 5): Firms with higher leverage ratio are more likely to do SEOs. The detailed information of how these hypothesis developed will be presented in section 6.3.

The first SEO appeared in 10th of June 1992 after China established its formal stock market in 1990. Until 2011, more than 600 firms did SEOs to finance their business operations, and some firms did SEOs more than once. The most noticeable characteristics of China's stock market are the non-tradable shares, which are held by government or legal persons. The percentage of non-tradable shares took more than 65% of total shares outstanding in the Chinese stock market before 2005. This regulation (state owned shares and legal person shares are not allowed to trade in stock market) leads to less active stock trading. The Chinese government carried out this regulation so they can still control the majority of firms even after them listing on the stock market, especially for firms in the emerging finance industry. In addition to that, the initial purpose of establishing a stock market in China was to provide fresh financial resources for state-owned enterprises, therefore this determined that the IPOs or SEOs process have been unavoidably political connected. Besides that, the controlling right of Chinese listing firms cannot be challenged in SEOs activities. This can be the explanation for other researches, such as Bo, Huang and Wang (2011), which stated that SEOs in China have an exclusive motivation that controlling shareholders use it as a weapon to expropriate minority shares.

In order to improve the vitality of its stock market, the Chinese government carried out an 'ownership split reform' policy that allowed non-tradable shares be traded in the Shanghai

and Shenzhen stock exchange markets in 2005. This policy could have certain influence on China's SEOs motivations. Controlling shareholders then can be challenged through SEOs. These factors for SEOs make the Chinese case different from other mature stock markets, and it would be interesting to research SEO performance in different theories.

Huang and Song (2006) state that half of the capital for China's listing firms is from external resources, and more than 50% is net equity. This means the main sources of capital for Chinese firms is still equity financing, especially seasoned equity. Our results are also consistent with Chen (2004). Chen, studying 'determination of capital structure of Chinese listing firms' got the result that compared with debt, Chinese listing firms prefer raising capital from stock markets, which has developed a new 'pecking order' theory for the Chinese case. The new 'pecking order' theory suggests that firms in China will follow a capital-choice decision in the order of retained profit, equity, and long-term debt. Zou and Xiao (2006) stated listed firms in China have built-in incentives for getting equity because of tight regulations on SEOs and agency issues. The majority of research on Chinese SEO concentrates on agency theory factors and explains the motivations of SEOs, as the conflict among controlling shareholders and other shareholders (Aharony, 2000; Jian and Wong, 2004; Lin, 2007). Consequently, the perception is controlling shareholders in China use SEOs as a tool to expropriate benefit. However, in this research, we also would like to explore this issue from other points of view. Besides agency theory, we also assumed firms may conduct SEOs for financing their investment and potential growth, adjusting their capital structures and overvaluing their marketing value.

Our results strongly support our conjectures as we find that SEO decision can be significantly influenced by IPO. To be more specific, firm with higher IPO underpricing are

more likely to issue SEO sooner; firm with higher IPO underpricing will raise more capitalization; and firm with higher IPO underpricing will experience less initial returns of their SEOs. We also use specification to disentangle the other IPO characteristics influence on SEO decision and prove that firms using Top underwriter or Top auditors in the process of IPO can influence SEO decision as well. However, firm will not concern about IPO underpricing at all when firm conduct SEO after three years of IPO, which shows that signalling theory is just able to explain SEO decision with short time periods after IPO. Further, we provide several robustness checks. Among others, we show that our results are still consistent even after endogeneity control. What is more, we perform complementary test about incentives of SEO issuing and discover that firms in China doing SEO for different reasons.

We contribute to the literature in several ways. Our research is related with Ghosh, Nag and Sirmans (2000), Bo, Huang and Wang (2011), their papers exam the how IPO can influence SEO decision and the incentive of SEOs. They find that IPO underpricing can significantly influence SEO decision and there is many incentives for firm doing SEOs after 3 years of IPOs. However, being different from these extant studies, our paper employs a comprehensive sample of Chinese SEO cases from 1990 to 2010 but only concerning about firm's first SEO activity, this enable us to capture IPO effect on SEO decision directly. Additionally, we assume that IPO influence on SEO decision can be varied for different time length between IPO and SEO and our results strongly support our conjectures as we find the variables from IPO have different performances on SEO decision with different time lengths after IPO. Moreover, we contribute to the literature in a way of include the corporate governance effect into analysis, collectively, our results support the view that

corporate governance can significantly influence SEO decision. Moreover, this study proves that firm conducting SEO not only due to market condition or firm's need, but also because of favourable economic environment. Finally, the data provide a unique opportunity to observe the IPO effect on SEO decision and incentives of SEO in Chinese case.

The chapter is organized as following: Following introduction section, literature review is presented in section 6.2. We developed our hypothesis in section 6.3 and present methods and data in section 6.4. In section 6.5, this chapter conduct descriptive analysis and empirical results. Additional robustness analyses is showed in section 6.6. Finally, this chapter conclude the findings in section 6.7.

6.2 Literature review

6.2.1 Relationship between IPO and SEO

Many literatures about the relationship between IPO and SEO focus on the IPO underpricing aspect, such as Signalling theory. The signalling theory argues that underpricing of IPO can leave a good taste to investors. Although firm will bearing lost from underpricing its offering, the lost can be recouped from following SEO with higher price and larger capitalization. However, in real life, firm has incentive to use debt finance due to the tax benefit and using equity financing will lead higher pressure for managers(Pettway, 1997). Therefore, a puzzle is existed and it would be important to concern about what the relationship between IPO and SEO is, and how IPO characteristics can influence SEO decision.

As we mentioned before, the signalling model state that firms underprice their IPO shares to leave a good taste to investors that can allow them obtain more financial support in their future SEOs at a higher price. This indicated that firms know whether the firms have a high value or not. Ratter (1998) came up with an issuing strategy that seasoned offering will be delivered after firms' IPO. However, according to our best knowledge, few researches with empirical results present the relationship between IPO underpricing and following SEOs, and this cast a query about the signalling explanations for IPO underpricing. In our following research, we will test the signalling theory and evaluate whether the Chinese stock market can present a relationship between IPO and SEOs and prove empirical evidence of whether signal theory is fitted to the Chinese case.

According to Welch (1989), in an environment where managers have more information about firms than potential investors, high-quality firms underprice IPOs with the expectation that the loss can be recouped through subsequent seasoned equity offerings (SEOs) after investors have had the chance to recognise the firm's true value. The model assumes that a firm's 'true' quality is exogenously revealed to the market with a finite probability during the period between IPOs and the SEOs. This prevents low-quality firms from simulating high-quality firms as they are denied the opportunity to sell seasoned issues at attractive prices and capture the potential benefits of IPO underpricing.

The signalling model leads to the several predictions that firms with more IPOs underpricing have more opportunities to (1) subsequently do SEOs, (2) issue seasoned equity more promptly, (3) issue a larger size of SEO and (4) have smaller price drop after an SEO is issued. Following these hypotheses, Jegadeesh, Weinstein and Welch (JWW) (1993) find that firms that IPO with more underpricing are more likely to issue SEOs

within three years after their IPOs and the size of SEOs will be larger. However, JWW characterise the evidence as weak. In contrast, Garfinkel (1993) finds that, after controlling for other potential variables associated with underpricing, IPO underpricing has no bearing on the probability of subsequent seasoned equity offering. Deviating from these studies, Slovin, Sushka, and Bendeck (SSB) (1994) examine the relationship between the degree of IPO underpricing and share-price response to a subsequent issue. In support of Welch's model, SSB demonstrate that there is a significant and positive linkage between the market's reaction to a firm's first seasoned equity offering and characteristics of its IPO.

An alternative and more precise test of the signalling theory was delivered by Spiess and Pettway in 1997. Following Chemmanur (1993), Spiess and Pettway argued that the goal of corporate is to maximise the expected present value of the combined proceeds from the IPOs and SEOs. Their model implies that corporate will only underprice their IPOs when they are planning to obtain more capital from SEOs and issue SEO at a higher price. Under this assumption, Spiess and Pettway (1997) argued that the combined net proceeds from the IPO and SEO should be higher for firms that signal superior value with greater underpricing of their initial offerings. However, their research did not find any evidence to conclude that firm's use underpricing to signal value.

Collectively, the evidence on the signalling hypothesis can at best be described as inconclusive, and, as such, further research employing new data with special characteristics can contribute to this important controversy. Our purpose is to add to this literature by analysing the link between the IPO underpricing and subsequent seasoned equity offers with Chinese empirical support.

Some other researchers focus on the timing of SEO and whether managers conduct SEO at the time the firm is at maximum value. Korajczyk, Lucas, and McDonald (1991) argue that firms tend to do SEOs after their favourite earnings announcements. Additionally, they also state that the information asymmetry will be reduced after the earnings announcement and claim their findings are consistent to prove that windows of opportunity arise for firms to do seasonal equity offering when the level of information asymmetry is reduced to a minimum level. However, other studies have a suspicion over whether the windows opportunities exist (Choe, Marsulis and Nanda, 1993; Bayless and Chaplinski, 1996). In addition to that, some other studies are doubting whether managers are able to manage their earnings because the price drop can be reduced or minimised after SEO announcement date if managers can manage firms' earnings (Rangan, 1998; Teoh, Welch and Wong 1998). A majority of studies are able to confirm that firms' SEO decision is influenced by share price movement and the earnings announcement.

Following firms' equity issuing, usually, poor stock price performances will come. Many researchers have concern about this issue and get results to prove that, for instance, Loughran and Ritter (1995, 1997), Spiess and Affleck-Graves (1995), Lee (1997) and Jegadeesh (2000) confirmed this phenomenon early. Recently, Jiansu (2008) also obtained the same results about poor stock price performance after SEO. As Pastor-LLorca and Poveda-Fuentes (2005) stated, possibly the reason for this underperformance of SEO is because managers of firms are more likely to manage firms' earnings to make them more attractive for investors in order to maximise proceeds raised from the seasonal stock market. Following SEO, the market will correct firms' value automatically; therefore, underperformance of SEO appears all over the world. For example, Cai (1998) shows the

results in Japan; Jeanneret (2000) shows the results in France; Stehle, Ehrhardt and Przyborowsky (2000) show the results in Germany; and Pastor and Martín (2004) get this result from studying samples in Spain. However, other research did not get a significant result to prove the existence of earning management before SEOs, such as Heron and Lie (2004).

6.2.2 Incentives of SEO

Several researches based on the motivation of firms doing SEO outside China have been posted. For instance, Henderson et al. (2006) evaluate SEO activities around the world from 1990 to 2001 and get results that there is an increasing trend of SEO activities. In addition to that, these researchers developed several explanation theories to support seasonal equity offering decisions (most of them based on the United Kingdom and United States stock markets). The theories are mainly (a) financing for investment and growth, (b) the trade-off theory, (c) market timing and pecking order theory and (d) agency theory. In addition to that, there are several predictions about SEO volume which is also linked to SEO motivation (Howe and Zhang, 2012). For instance, the theory of information asymmetry suggests that SEO volume has a negative relationship with information asymmetry level. The demand for capital hypothesis argues that the volume of SEOs experience a positive relationship with investment opportunities. Additionally, the hypothesis about sentiment indicated that sentiment has a positive relationship with SEO numbers. Lastly, market timing suggests that there will be an increasing number of SEOs when the market valuation of SEOs is higher. In the following part, this research will review each theory and test them with the empirical case of the Chinese stock market.

6.2.2.1 Financing for investment and growth

The first and the most common concern for firms' SEO is financing for investment and growth. There are also some researches on this point. Myers (1977) indicated that firms with growth potential are more willing to get capital through SEOs to make shareholders obtain more wealth and stop the firm's wealth being transferred to debt holders. Besides that, these firms with potential growth have more probability to experience uncertainty in forthcoming cash flow, and this uncertainty can increase operation risk. From a manager aspect, in order to buffer against financial constraints because of issuing debt, growth potential firms are more willing to raise equity. In other words, listing firms are more willing to do SEO when they experience high potential growth or fitted investment opportunities.

Kim and Weisbach (2008) indicated that firms will mainly raise capital for research and development, and capital expenditure, which shows that firms usually use season equity to get additional finance support for their growth and investments. Walker and Yost (2008) also provide evidence that no matter what the stated usage of capital raised from SEOs is, firms always use SEOs' proceeds to increase capital expenditures for their research and development programmes. Harjoto and Garen's (2003) research shows that listed firms with greater growth potential are more likely to raise seasonal equity after their initial public offering. Denis (1994) evaluated that the explanation of investment opportunities can influence the likelihood of seasonal equity offerings, and his research results show the investment opportunities prior seasonal equity issuing have a positive relationship with the cross-sectional variation in abnormal stock returns on the SEO announcement dates, but the relationship is not very significant.

For the Chinese case, there is no result which shows firms doing SEO to finance their investment. However, this theory can be directly fitted into the Chinese case since Chinese firms have become more profit-oriented and most Chinese firms are experiencing a growth stage.

6.2.2.2 The trade-off theory

In order to get tax benefits and balance the cost of debt (Modigliani and Miller, 1958, 1963; Myers, 1977), the trade-off theory argues that firms will use equity to adjust their capital structure at an optimal level. Although little of the research explained the trade-off theory in capital structure aspect, researchers also stated trade-off theory can be used to explain why firms issue seasonal offers. Marsh (1982) and Hovakimian (2001) indicated that firms with a high leverage ratio are more willing to issue seasonal offers.

The trade-off theory can be simply fitted into the Chinese case, or can be fitted in at some level. Nowadays, Chinese firms mainly get financial resources (beside equity) from bank loans because of the lack of a corporate debt market (Bo, Huang and Wang, 2011). These Chinese banks are applying a stricter monitoring role and make the cost of capital increase. Besides that, Huang and Song (2006) stated that firms in China are paying more attention to tax reducing of debt finances. Consequently, it is reasonable to have concern that Chinese firms may also use trade-off theory to adjust their capital structure to reduce firms' cost of equity.

6.2.2.3 Market timing

Myers and Majluf (1984) created the pecking-order theory arguing that, due to the existed

of asymmetric information, companies should first use internal capital, and then risk free debt, followed by equity. Putting the equity last in order is so investors would consider the firm with lower value than they should be, because of the information asymmetry issue. Consequently, firms only do SEOs when they are overvalued. That means the timing of market is possibly another reason for firms doing SEOs. Marsh (1982) showed a pattern that firms tend to do SEOs when their share price is high. For other researchers, Ritter (1984) indicated that in certain industries, the timing of market can affect firms issuing shares; Pastor and Veronesi (2005) obtained similar results. Consequently, we can say a hot market emerges because companies are able to list at a specific period when Market to Book Ratio exists. This can conduct a larger amount of issuing. For empirical results, Pagano et al. (1998) indicated the IPOs in Italy are motivated by the overvaluation and the market timing. Also Kim and Weisbach (2008) found companies experiencing high M/B ratio are more willing to obtain more cash from a marginal dollar rise from SEOs than these firms with lower M/B ratio. This finding shows high market valuation companies are more willing to issue seasonal offering to obtain benefit. Henderson, Jegadeesh and Weisbach (2006) stated that market timing is critical for SEOs in America and other nations. Graham and Harvey (2001) indicated that pre-issuing market appreciation can affect SEO decisions. Lin and Wu (2013) also show the result that firms would like to issue SEO when there is less risk.

Other researchers studying SEO timing are from accounting aspects. Korajczyk, Lucas, and Modonald (1991) get results supporting that firms are more willing to do seasonal equity offering following a by relatively high earnings announcement, which usually happens in last quarter of a year. In their research, they state that the earnings announcement can lower

the information asymmetry level between managers and outside investors. Korajczyk, Lucas, and Modonald (1991) also conclude that firms are more willing to issue seasonal equity offering when information asymmetry level is reduced to a minimum, which is called a windows opportunity. Following Korajczyk, Lucas, and McDonald, other researchers are trying to discover whether such a window of opportunity exists, such as Choe, Marsulis and Nanda (1993) and Bayless and Chaplinski (1996), and other studies. Rangan, (1998) and Teoh, Welch and Wong (1998) did further investigation about whether managers have the ability to manage their earning. Most of these researchers found that firms will do seasonal equity offering when the firm's share price is high.

6.2.2.4 Agency theory

People discuss agency problems in the stock market. There are two types, which are conflict between managers and shareholders (Jensen and Meckling, 1976; Jensen, 1986), and the other one is between controlling and minority shareholders (La Porta et al., 1999; Claessens et al., 2000; Berkman et al., 2009; Bennedsen and Nielsen, 2010). The first conflict shows that managers may do SEOs to get more capital and control them for personal benefit. Therefore, it is reasonable to state that management level of firms plays a critical role in the SEO decision. The second conflict we mentioned above is that controlling shareholders may use SEOs as a weapon to obtain minority shareholders' wealth. According to a model based on information asymmetry theory developed by Myers and Majluf (1984) for why firms doing SEO, their model argued that there is information asymmetry between managers and potential investors about firms' value. In the case where a firm is overvalued, the manager will decide to issue new shares to make wealth transfer from new shareholders to existing shareholders. Most studies on IPOs and SEOs are in

mature stock markets and are concentrated on managers and shareholders as we mentioned for the first conflict before, such as management discretion. In our research, we would like to discover how much the agency theory can influence SEO activities in the Chinese case.

6.3 Hypothesis development

Base on Allen and Faulhaber (1989), Grinblatt and Hwang (1989) and Welch's (1989) assumptions, firms underprice their IPO because managers know the true value of the firm and managers have more information or knowledge about their firms than the market does. Firms with high quality will underprice their IPO as a signal of outstanding performance with the expectation that favourable information will be revealed in the aftermarket and allow these firms to cover the IPO loss through better pricing of SEOs. However, it would be hard for low quality firms to mimic such a signal, because the cost would be very high for them if firm's true value is revealed in the aftermarket. A direct implication of this model is that, in their eagerness to capitalise on the favourable news, these high quality firms will return to the stock market as soon as their opportunities come and to maximise the benefit.

For the case in China, Su (2004) argue that signalling theory is commonly existed in Chinese stock market. For these heavily underpriced firms, they are more likely to compensate the lost from further SEO issuing sooner in Chinese stock market. The reason is that Chinese listing firms normally experiencing a long term underperformance. In the case that investors realized that the firm is underperformance, then no investors will willing to subscript firms' new issuing, no matter how much money they left on the table during IPOs. Therefore, these heavily underpriced firms will issue SEO sooner in China.

Therefore, we can develop our first hypothesis that:

H1: Highly underpriced IPOs are more likely to do their SEOs earlier in Chinese stock market.

Chemmanur (1993) highlighted that the goal of corporations is to maximise firm's present value of its total proceeds from IPO and the following SEO activities. Therefore, there is no sense for a firm underpricing its initial public offering to get less proceeds without forthcoming financing activities. In addition to that, Spiess and Pettway (1997) claimed that a firm will only underprice its IPO to experience a value loss when the firm tries to recompense the loss by a higher price and larger amount of SEOs. The firm therefore strikes a trade-off of the lower IPO proceeds against the present value of higher proceeds from the seasonal offering.

Regarding China, situation is the same with other developed countries. The purpose of firms in China is also to maximise their value (For instance, see Li, 2003). In order to compensate the lost from underpricing, firms' have to raise larger gross proceeds.

Therefore, our next testing hypothesis would be:

H2: Highly underpriced IPOs raise larger gross proceeds through their first seasoned equity offerings in Chinese stock market.

Previous studies about the link between IPO underpricing and SEO does not take SEO underpricing into account (Loderer, Sheehan, and Kadlec, 1991). Additionally, signalling theory does indicate that there is a link between IPO underpricing and SEO underpricing. We know that a firm's objective is to maximise its value, from the signalling theory and we can assume firms will sell their seasonal offer at larger size and higher price. However, some research results seem against our assumption about SEO underpricing. For example,

Ghosh, Nag, and Sirmans' (2000) research found the SEO are significantly underpriced in the United States stock market when comparing opening price and closing price of the first trading day. They then argue that SEO underpricing is due to the information asymmetry between managers, underwriters and investors. But they did not look into the factor of IPOs. Loderer, Shenhan and Kadlec (1991) stated that the model of IPO underpricing should be fitted to SEO as well, and Ghosh, Nag and Sirmans (2000), following Loderer, Shenhan and Kadlec's option, stated that SEO should be also underpriced. Even before, Ibbotson (1975) also stated that firms underprice their IPO to leave a good taste for the investor and this can be implied to SEO as well. However, as we discussed before, firms will only be underpriced in their IPO if they would like to cover fully their loss through issuing SEO at a higher pricing level.

Regarding China, Su (2004) testing about signalling theory and discovering that firms' in China do use IPO underpricing to promote their SEOs, and try to compensate the lost from SEO issuing by a higher price and larger proceeds. Also, Ti (2003) and Liu and Chung (2013) reports that the information asymmetry level is significantly reduced after firms going public for certain time lengths, therefore, Chinese firms may not underprice their SEOs to compensate investors because of information asymmetry issue.

Therefore, we delivery our next hypothesis that:

H3: Firms with higher underpricing will exhibit lower first SEO returns Chinese stock market.

Following that, we would like to investigate the determinations of doing Seasonal Equity Offers in Chinese stock market on the basis of different motivation theories. This section

tries to find other explanations of SEO motivations.

Myers (1977) argued that firm are more likely to raise capital when experiencing potential growth to expand its business. In addition to this, equity capital will be proffered because this can prevent wealth transferring from equity holders to debt holders. Harjoto and Garen's (2003) research also proved this.

As pecking-order theory Myers and Majluf (1984)) suggested, equity is not the first choice when firms are looking for capital support. Therefore, there is only one reason to explain firms issuing SEOs and it would be over-valuation of firms stock. Graham and Harvey (2001) and Henderson (2006) found that market timing is an important factor to explain SEO decisions, and firms are more likely to issue SEOs when their share prices are high. Graham and Harvey (2001) indicated that pre-issuing a market appreciation can affect SEO decisions. Following Kim and Weisbach (2008), we use M/B ratio as proxy for market timing.

Regarding the case in China, Bo, Huang, and Wang (2011) discover that one main reason firm issuing SEOs in Chinese stock market is because of the firm is overvalued, this situation is special significant during the high market index period in China from 2002 to 2004.

Therefore, our next hypothesis is:

H4: Firms with higher M/B ratio are more likely to do SEOs in Chinese stock market.

MM theory and the following developed theories (Modigliani and Miller, 1958; Modigliani and Miller, 1963; Myers, 1977) indicated that firms could change their capital structures to

reduce cost of capital through issuing new shares. Leverage ratio is the main factor that shows what a firm's capital structure is. Debt holders will require a higher rate of return when the leverage ratio is relatively high, and this can increase the likelihood of bankruptcy. Furthermore, firms can decide how much wealth is allocated to its shareholders. In other words, a firm can reduce its capital expenditures if they decide no dividend should be allocated to shareholders. In our case, we use the difference between firms' leverage ratio and their belonging industry average leverage ratio as proxy.

Bo, Huang, and Wang (2011) reports that Chinese firm mainly adjusted the capital structure through SEO issuing. Furthermore, Huang and Song (2006) argue that Chinese firms are more prefer equity issuing than debt issuing, and the equity issuing is always the first choice when Chinese firm want to adjust their capital structure.

Our next hypothesis would be:

H5: Firms with higher leverage ratio are more likely to do SEOs in Chinese stock market.

6. 4 Methods and data

We collect our data from GTA database, the website of the Shanghai and Shenzheng stock market and the Fenghuo database which is used by Chinese individual investors as a tool to check their investment online. Our sample is from 1990 to 2011, which covers almost the entire Chinese stock market developing history. 1,056 SEOs activities are appearing during our time period. However, we just focus on the firms' first SEO activities, which is 608 SEOs. Furthermore, our sample just includes SEO public offerings in the Shanghai and Shenzhen stock market; these SEOs in the Hong Kong stock market and the New York

stock market are excluded. In the analysis of Hypothesis 1, this research first used simple OLS regression to study how IPO underpricing can influence the time duration between IPO and SEO with reduced model and expanded model. In addition to that, another test is also done. To be more specific, this research future divided the time duration between IPO and SEO into four lengths (doing SEO within one, two, three and more than three year after IPO) and Probit analysis are adopted. This can prevent the issue documented by Jiang (2008) that focusing on a three-year term is too long to capture the IPO influence on SEO. Hypotheses 2 and 3 will adopt OLS analysis with both reduced model and expanded model to fully emphasise the IPO influence on SEO. Regarding hypotheses 4 and 5, which focus on the incentives of SEO, probit analysis will be used as well.

For our first hypothesis, it assumes that: There is negative relationship between the time of IPO / SEO activities and IPO underpricing.

In order to test this hypothesis, with the respect of Jegadeesh, Weinstein and Welch (1993) and Ghosh, Nag and Sirmans (2000), we developed our following OLS regression model:

$$LNDAYS = a + \beta_1 IPOUPR + \beta_2 AFTRET + \beta_3 UND + \beta_4 EXC + \beta_5 SOE + \beta_6 HOT + \beta_7 ROE + \beta_8 Boardsize + \beta_9 Concentration + \beta_{10} Legalperson + \beta_{11} CEO + \beta_{12} Auditor + \varepsilon_i \quad (1)$$

Where *LNDAYS* is the natural logarithm of the number of days between the IPO and first SEO; *IPOUPR* is IPO underpricing. *AFTRET* is Cumulative returns for the firm from two trading days after IPO to five trading days before the announcement of the first SEO, and it was showed in percentage terms; *UND* is a dummy variable and take value of 1 if firm going public through one of top ten underwriters, otherwise, it takes value of 0., Similarly *Auditor* takes the value of one if the firm does IPO through the top ten in China, otherwise, 0. *EXC* is a dummy variable that takes value of 1 if firms are listed on Shanghai,

otherwise, 0. SOE is the percentage of shares owned by the government. HOT is a dummy variable that takes the value 1 if the firm did IPO activities in a hot market, otherwise, 0.

Our mainly independent variable in model 1 is IPOUPR and we expect a negative relationship between IPOUPR and our dependent variable LNDAYS; other variables are control variables to take account of other factors which have impact on time decision of SEO activities. Following Ghosh, Nag and Sirmans (2000), the firm will be inclined to capture the benefit of a high stock price quickly, which implies a negative relation between LNDAYS and AFTRET. We include underwriter as a control variable based on Carter and Mabaster's (1990) research, which found that firms doing IPO through top underwriters were significantly less underpriced. Additionally, Ghosh et al. (2000) also state that a high quality firm is more likely to use top underwriters to underprice their IPOs as a signal of their better prospects. Based on the signalling hypothesis, we would expect a negative relationship between this variable and LNDAYS. Variable of proportion of shares government holding was taken into account, as our thesis did in the first chapter; firms with a government background will significantly underpriced. Additionally, the Chinese government carried out 'stock market reform' and prohibited SEO activities in 2005 to sell state-owned shares in the stock market, therefore, we can assume that state owned enterprises are more willing to do SEOs than non-state-owned enterprises. Therefore, we expected a negative relationship with our variable SOE with dependent variable in model 1. In China, the government has specific requirements about high level of ROE before the firm does SEO. Ni, Guo and Giles (2010) also argue that profitability of firms has significant influence on the time duration between IPO and SEOs. Therefore, we include ROE into our analysis to control this unique regulation in the Chinese case. Additionally,

corporate governance is traded as an important factor in corporate operations, including the decision of when and what size proceeds should be when deciding SEOs. We include corporate governance factors into our analysis to evaluate how certain corporate governance variables can contribute to SEO decisions. Auditor is a dummy variable of auditors' quality which takes value of 1 if the firm is doing IPO through top five auditors in China, otherwise, 0.

Our second hypothesis can be directly shown as: There is a positive relationship between relative sizes raised through SEO and IPO underpricing level.

The second hypothesis predicts a positive relationship between IPO underpricing and relative size raised during the first SEO. Following Spiess and Pettway (1997), we estimate the following regression models:

$$\text{Model 2: } \text{SEOsize} = \alpha + \beta_1 \text{IPOUPR} + \beta_2 \text{VOLATILITY1} + \beta_3 \text{VOLATILITY2} + \beta_4 \text{EXC} + \beta_5 \text{SOE} + \beta_6 \text{Total assets} + \beta_7 \text{M/B ratio} + \beta_8 \text{Board size} + \beta_9 \text{Concentration} + \beta_{10} \text{Legal person share} + \beta_{11} \text{CEO} + \beta_{12} \text{Auditor} + \epsilon_i \quad (2)$$

Where SEOsize is percentage of proceeds from SEO divided by total proceeds from IPO; VOLATILITY1 is standard deviation of daily returns from two to 60 trading days after IPO.

VOLATILITY1 is proxy for uncertainty. Spiess and Pettway (1997) stated that firm will issue more shares when there is less risk. And they use standard deviation of daily return from two to 60 trading days after IPO. Higher level of VOLATILITY1 means higher risk. The coefficient of VOLATILITY1 is supposed to be negative and significant in this model, thus indicating that lower volatility of daily returns subsequent to the IPO is associated with relatively larger amount of capital raised by seasonal equity offering. If lower volatility is a proxy for stabilize, high-quality firms will issue more proceeds, the results is

consistent with the signalling hypothesis. Spiess and Pettway (1997) observe negative but insignificant coefficient between VOLATILITY1 and SEO proceeds. Additionally, we believe the volatility before SEO also can influence the proceeds amount of SEO as well. Following Corwin (2003), we include another volatility form to proxy risk as well, which is measured by the standard deviation of daily return after 30 trading days of IPO to 11 days before SEO announcement. There is an important factor ignored by Spiess and Pettway (1997) and Ghosh, Nag and Sirmans (2000) when analysing capital demand of SEO activities; the factor is total assets of the firm. We believe that firms with large total assets are more likely to get larger proceeds in SEO activities. Harjoto and Garen (2003) found that firms with potential growth tend to raise more capital in SEO activities, therefore we expected a positive relationship between market-to-book ratio (M/B ratio) with our dependent variable SEOsize.

Our third hypothesis can be directly showed as: SEO underpricing level has a negative relationship with IPO underpricing level. The following regression models are estimated:

$$\begin{aligned} \text{SEOUPR} = & \alpha + \beta_1 \text{IPOUPR} + \beta_2 \text{SEO size} + \beta_3 \text{AGE} + \beta_4 \text{LEV} + \beta_5 \text{M/B ratio} + \beta_6 \text{T gap} + \beta_7 \\ & \text{EXC} + \beta_8 \text{Issue cost} + \beta_9 \text{SOE} + \beta_{10} \text{Board size} + \beta_{11} \text{Concentration} + \beta_{12} \text{Legal person} \\ & + \beta_{13} \text{CEO} + \beta_{14} \text{VOLATILITY2} + \beta_{15} \text{Auditor} + \varepsilon_i \end{aligned} \quad (3)$$

Where SEOUPR is the underpricing level of SEO, IPOUPR is the underpricing level of IPO. Check appendix for the other variables.

We expect a positive relation between SEOUPR and IPOUPR as we mentioned before. Variables SEO size and AGE are motivated by asymmetric information models and are supposed to have a negative relationship with SEOUPR. Information about larger and older firms is more easily available; such a firm does not need to underprice its security too much to signal an outstanding quality from other stocks. market-to-book ratio is expected to have

a negative relationship between SEO underpricing due to the fact that market-to-book ratio can be traded as proxy for uncertainty; the higher value of market-to-book ratio, the lower uncertainty will be, and less underpricing for SEO underpricing. Therefore, a negative relationship between M/B and SEOUPR is expected. Additionally, Jung, Kim and Stulz (1996) and Kim and Purnanandam (2013) stated that investors react negatively to SEO and lead to SEO being underpriced more when investors worry about misuse of proceeds rising from SEO, and firms with high growth opportunities are less likely to waste SEO proceeds. Liu (2006) argued that market-to-book ratio can be used to measure risk and whether the firm is overvalued or not. Issue cost is all the expense generated from issuing a seasonal equity offering including underwriting fee, law fee, accounting fee, etc. Signalling theory presents that a firm may try to cover its loss through issuing SEO at a larger size and higher price, in order to maximise the firm's value. The price of SEO will be set to cover its issuing expenses, therefore less underpriced. Loderer, Sheehan and Kadlec (1991) also get a negative relationship between transaction expense and SEO underpricing. Kim and Purnanandam (2013) studied SEO and also analysed corporate governance, although their study about corporate governance is focused on a state level instead of firm level and gets results that governance has significant effect on SEO underpricing. We follow Kim and Purnanandam (2013) but take the corporate governance effect into firm level. Since Kim and Purnanandam (2013) stated that good governance can reduce the negative reaction of SEO issuing, we believe good corporate governance can also reduce SEO underpricing. Board size, concentration and percentage of legal persons' share and percentage of CEO share will be used to control SEO underpricing.

In order to test different motivation theories, we will use several proxies for each theory. In

addition to that, we include Chinese characteristic variables to evaluate how they could affect SEO decisions. Additionally, we also take different industry factors into account as we did in section two.

According to literature, the following probit testing model we developed is:

$$\text{SEO} = \alpha + \beta_1 \text{ Investment} + \beta_2 \text{ LEV} + \beta_3 \text{ M/B ratio} + \beta_4 \text{ AE} + \beta_5 \text{ Non-tradable share} + \beta_6 \text{ Total assets} + \beta_7 \text{ ROA} + \beta_8 \text{ SOE} + \beta_9 \text{ IPOUP} + \beta_{10} \text{ Institution} + \beta_{11} \text{ Legal person} + \beta_{12} \text{ CEO} + \beta_{13} \text{ EXC} + \beta_{14} \text{ GDP} + \beta_{15} \text{ D industry} + \epsilon_i$$

Growth and investment: as Kim and Weisbach (2008) stated, for fixed investment, is the change of percentage fixed assets divided by total assets. Following Hovakimian (2001), we use leverage ratio to proxy the trade-off theory, calculated as total debt divided by total equity prior to SEO activities. According to Kim and Weibach (2008), market-to-book ratio can be used to measure whether the stock market is hot or not. We expected leverage and market-to-book ratio to have significant effect for the probability of doing SEO. We use the percentage of administrative expenses (AE) to present the conflict between managers and shareholders. As Bai (2004) stated, managers can use administrative expense for their personal use and for personal benefit. Within our research, we will use the percentage of administrative expenses in a firm's total assets. Percentage of non-tradable share will be used to present the conflict between the controlling shareholders and minority shareholders. The quota system that China adopted is the requirement of size of firm when doing IPOs, and this may result in additional influences for the following season equity issuing. Therefore, we include total assets prior to SEO to control this issue. Bo, Huang and Wang (2011) argue that firms with sufficient internal resource are less likely to issue debt or equity, and the theory also suggests that a firm will first use its internal capital in its

following operation, which means the leverage ratio is more likely to be consistent. The trade-off theory suggests that a firm will adjust its cost of capital through issuing SEO, therefore, we take ROA into account to control this issue. As Wang (2005) mentioned, state-owned shares are unique in China before 2005. After 2005, there are still restrictions on the volume of state shares (un-tradable shares) until 2008, which called the lock-up period. We include the variable of proportion of shares held by government into our analysis to control its influence. Signalling theory stated that a firm will underprice its IPO only when they want to issue SEOs and use underpricing of IPO as a signal to attract more investors for its following financing activities. With the respect of signalling hypothesis, we include IPO underpricing level as independent variable into analysis and expect a positive relationship with our dependent variable. Chemmuanur, He and Hu (2009) argued institutional investors play critical roles in SEO activities, and institutional investors will purchase or sell more shares when they have private information about a firm; additionally, institutional investors control 59.2% of equity outstanding in the United States. Therefore, we include percentage of institutional shares before SEOs into our account. A massive stock ownership position subjects the manager to the loss of significant diversification. Consequently, raising the percentage of CEO shares acts as a creditable signal of a firm's quality (Leland and Pyle, 1977; Grinblatt and Hwang, 1989). From another aspect, owner or manager sales of equity in IPOs or SEOs creates greater incentives for managers to sell overvalued stock to outsiders. Karpoff and Leed (1991) also report a significant change for the percentage of CEO and legal personnel's shares. We included a percentage of legal persons' shares and CEO shares to control this issue. In order to control the capital demand hypothesis in macroeconomics aspect and following Howe and Zhang (2012), we include

GDP growth rate before a quarter of SEO date, a positive relationship between SEO and GDP growth rate are expected.

6.4 Descriptive Analysis

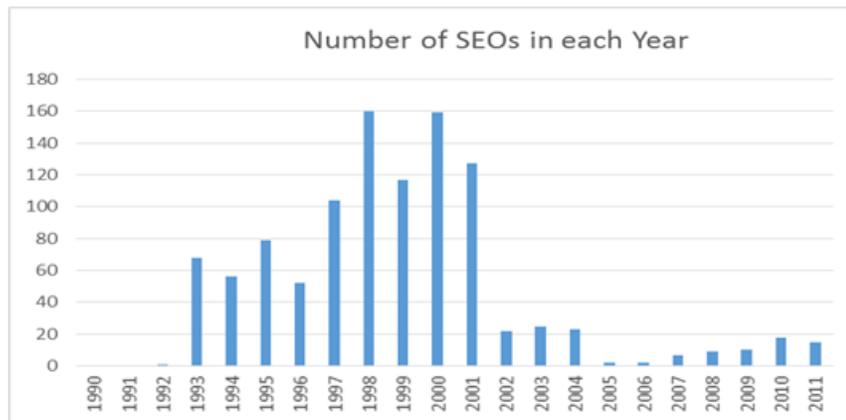
Table 6.1 indicated that the first SEO activity in the Chinese stock market is presented as in 1992, with 1,056 SEOs in total from 1990 to 2011. However, only 608 of them are firms with an SEO for the first time. In 2005 and 2006, there is no firm doing first SEOs. This is because the Chinese government allows state share (State Owned) that can be traded in the stock market to increase the share flow and reduce government intervention in the market economy. However, after the regulation that allowed state-owned shares to be traded on the stock market, SEO activities are suddenly experiencing a dramatic decrease, only 61 SEOs are done after 2005, and there are only 40 firms doing SEOs for the first time, which are relatively inactive compared with SEO activities before 2005. Figure 1 give us a clear view of a high-incidence season for SEO activities, from 1997 to 2001; the majority of SEO activities are conducted during this period. The background behind this five years is that China was experiencing a GDP growth of more than 10 per cent per year, and this may be the explanation of the High Incidence Season phenomenon of SEO in the Chinese stock market.

Table 6.1: SEOs Breakdown in each year

This table provides all SEO activities for Chinese firms, column 1 counted all activities and column 2 is only about the first SEO activities, and our research will only base on the first SEO activities.

| | (1) | (2) |
|--------------|----------|-----------------------------|
| | All SEOs | Firm's first SEO activities |
| 1990 | 0 | 0 |
| 1991 | 0 | 0 |
| 1992 | 1 | 1 |
| 1993 | 68 | 56 |
| 1994 | 56 | 31 |
| 1995 | 79 | 46 |
| 1996 | 52 | 28 |
| 1997 | 104 | 52 |
| 1998 | 160 | 115 |
| 1999 | 117 | 81 |
| 2000 | 159 | 89 |
| 2001 | 127 | 52 |
| 2002 | 22 | 8 |
| 2003 | 25 | 8 |
| 2004 | 23 | 11 |
| 2005 | 2 | 0 |
| 2006 | 2 | 0 |
| 2007 | 7 | 1 |
| 2008 | 9 | 2 |
| 2009 | 10 | 3 |
| 2010 | 18 | 13 |
| 2011 | 15 | 11 |
| Total | 1056 | 608 |

Figure 6.1: SEO distribution each year



Source: GTA database

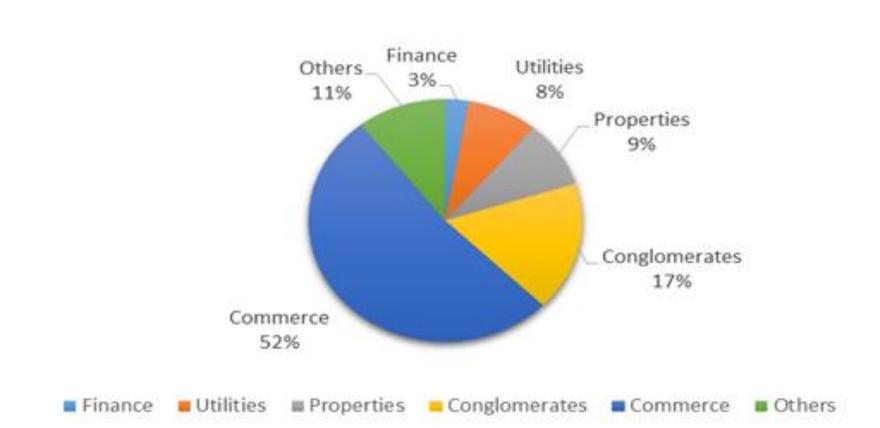
Regarding SEOs activities distribution in different industries, Table 6.2 and Figure 2 shows that most SEO activities are allocated in the Commerce industry (52.14%), such as media, telecoms, Internet, transport and technology firms. Following the commerce industry, the second largest share of SEO allocation is the Conglomerates industry, about 17.27%. Among these industries listed in Table 6.2, firms from the financial industry only have 17 firms doing SEO, which consist of 2.8 per cent of total SEO activities in the Chinese stock market. Other firms not included in finance, utilities, properties, conglomerates and the commerce industry only take 10.53 per cent in total.

Table 6.2: Industry distribution of Firm's first SEO

This table provides SEO distribution in different industry and the percentage of total SEO in certain industry.

| Industry | Number of SEO | As percentage |
|---------------|---------------|---------------|
| Finance | 17 | 2.80% |
| Utilities | 51 | 8.39% |
| Properties | 54 | 8.88% |
| Conglomerates | 105 | 17.27% |
| Commerce | 317 | 52.14% |
| Others | 64 | 10.53% |
| Total | 608 | 100% |

Figure 6.2: SEOs distribution in different industries



Source: GTA database

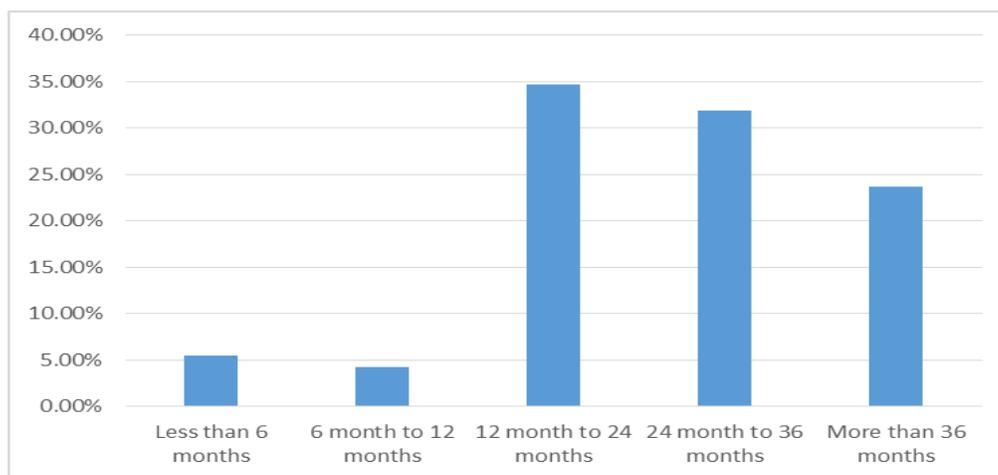
For these listing firms doing SEOs, Table 6.3 and Figure 3 indicated that only few firms doing SEOs within 1 year after IPO, 5.43 per cent (33 firms) and 4.28 per cent (26 firms) of firms will carry on SEO activities less than six months after IPO and between six months to twelve months after their IPOs separately. 34.70% (211 firms) of them will go to the SEOs market between twelve months to 24 months after IPOs. 31.91% of firm will finance from the equity market within 24 months to 36 months after their IPOs. An interesting thing is that there is 23.68% of Chinese listing firms not anxious to go back to the equity market; they would do SEOs more than 36 months after their IPOs.

Table 6.3: Time Duration Between IPO and firm’s first SEO

This table shows the different duration lengths between IPO and first SEO distribution.

| | N | Percentage |
|------------------------------|-----|------------|
| Less than 6 months | 33 | 5.43% |
| 6 month to 12 months | 26 | 4.28% |
| 12 month to 24 months | 211 | 34.70% |
| 24 month to 36 months | 194 | 31.91% |
| More than 36 months | 144 | 23.68% |

Figure 6.3: Time Duration between IPO and firm’s first SEO



Source: GTA database

Table 6.4: Descriptive Statistics

This table provides statistic results of variables including number of observation, median, mean, standard deviation, min and max value.

| Variable | Obs | Median | Mean | Std. Dev. | Min | Max |
|-------------------------------|-----|----------|----------|-----------|----------|------------|
| Lndays (Month) | 608 | 6.3833 | 29.83114 | 20.29183 | 0.9 | 142.3667 |
| SEO size | 608 | 0.8895 | 1.947015 | 7.770218 | 0.029405 | 181.8514 |
| SEO UPR | 608 | 0.85% | -0.67% | 0.030273 | -11.27% | 10.62% |
| IPO UPR | 608 | 128.50% | 220.22% | 3.249325 | -73.00% | 486.36.00% |
| ROE | 608 | 10% | 12.97% | 0.435364 | -3% | 1004% |
| ROA | 608 | 4.51% | 5.13% | 0.038 | -13.03 | 23.56% |
| M/B ratio | 608 | 1.5105 | 1.608708 | 0.872366 | 1.2 | 16.86809 |
| SOE | 608 | 35.03% | 33.22% | 0.244939 | 0.00% | 84.69% |
| T gap (days) | 608 | 52 | 51.49013 | 19.95266 | 13 | 144 |
| Auditor | 608 | 0 | 0.138158 | 0.34535 | 0 | 1 |
| AFTRET | 608 | 0.1152 | 1.617231 | 6.174816 | -0.89993 | 69.42429 |
| UND | 608 | 0 | 0.299342 | 0.458347 | 0 | 1 |
| HOT | 608 | 0 | 0.389803 | 0.488107 | 0 | 1 |
| CEO | 608 | 0.00% | 0.06% | 0.011986 | 0.00% | 29.55% |
| Volatility1 | 608 | 0.035 | 0.036072 | 0.01358 | 0 | 0.123141 |
| Volatility2 | 608 | 0.031 | 0.032545 | 0.009088 | 0.003911 | 0.092052 |
| LEV | 608 | 0.3125 | 0.5254 | 1.284424 | 0.06 | 14.946 |
| Growth | 608 | 14.66% | 26.56% | 0.640208 | -98.48% | 181.18% |
| Issue cost | 608 | 2.99% | 4.33% | 0.112524 | 0.24% | 19.79% |
| Concentration | 608 | 29.77% | 34.80% | 0.214138 | 3.23% | 97.21% |
| Tradable share | 608 | 41.95% | 42.37% | 0.118213 | 8.68% | 76.68% |
| Legal person | 608 | 0.00% | 9.36% | 0.154649 | 0.00% | 100.00% |
| Board size | 608 | 9 | 9.766196 | 3.02598 | 4 | 30 |
| Total assets (million) | 608 | 503.6888 | 126401.4 | 12746 | 4.250776 | 1.38E+05 |
| AGE | 608 | 1453 | 1740.602 | 1178.827 | 252 | 8493 |
| EXC | 608 | 1 | 0.5345 | 0.4992 | 0 | 1 |
| Investment | 608 | 4.78% | 5.22% | 0.035 | 0.05% | 16.29% |

See Appendix C for the definition of variables

Table 6.4 presents the statistical description of each variable and each variable is explained in an appendix at the end of this thesis. The average time duration between IPO and first SEOs are 29.7 months, however, the minimum time duration is only 0.9 of a month, an Internet firm listing on the Shenzhen stock market. Furthermore, the maximum duration between IPO and first SEO is 142.37 months, more than ten years. For the relative size of SEO, Table 6.4 shows the average value (first SEO proceeds/total proceeds from IPO) is 1.947015, which means firms in China raise more capital from their first SEO than when they going public. Comparing with the high level of IPO underpricing in China, firms' first SEOs experience a very low underpricing level, which is -0.67 per cent. This can be explained by the information asymmetry hypothesis that firms will face less information asymmetry when they doing SEOs because the market already knows them during the period that between IPOs and first SEOs, and the growth theory also supports a lower underpricing level of SEOs, so that firms will seek to raise money from the equity market when they experiencing growth potential. The percentage of state-owned shares is still high, about 33.2 per cent of total shares outstanding. The maximum percentage even reached to 84.64 per cent. Compared with the time gap for IPO, the average SEO waiting time is only 51.49 days. The average cost of issuing SEO is 4.33 per cent of total proceeds of the SEO. Another important feature of firms' first SEOs in China is the large total assets. The reason for that is that the Chinese government requires a minimum amount of total assets from firms doing SEOs to protect investors. Table 6.5 and Table 6.6 are a correlation between each variable used in our analysis. The correlation test shows there is no significant high correlation between each variable in our test.

Table 6.5: Correlation of each variable

This table provides correlation between each variables in analysis. *, **, and *** stands for significant level at 10%, 5% and 1%.

| | Lndays | SEO/IPO size | SEO UPR | IPO UPR | ROE | SOE | M/B ratio | T gap | Auditor | AFTRET | UND |
|---------------|---------|--------------|-----------|-----------|---------|---------|-----------|---------|---------|---------|---------|
| Lndays | 1 | | | | | | | | | | |
| SEO/IPO size | 0.0994* | 1 | | | | | | | | | |
| SEO UPR | 0.0713 | -0.0387* | 1 | | | | | | | | |
| IPO UPR | -0.0589 | 0.3472* | -0.0459 | 1 | | | | | | | |
| ROE | -0.0297 | 0.0072 | -0.0052* | -0.0067 | 1 | | | | | | |
| SOE | 0.1058 | 0.042 | -0.0375 | -0.1418* | 0.0433 | 1 | | | | | |
| M/B ratio | -0.0841 | -0.0395 | -0.1047 | -0.0772** | -0.0015 | -0.0587 | 1 | | | | |
| T gap | -0.1245 | -0.011 | 0.0563 | -0.0049 | 0.0277* | -0.0172 | -0.0737 | 1 | | | |
| Auditor | 0.0774 | -0.0288 | 0.106 | -0.0187* | 0.0259 | 0.0427 | -0.0251 | 0.0248 | 1 | | |
| AFTRET | 0.4865 | 0.1559 | -0.0116 | -0.0083 | -0.0026 | 0.0558 | -0.0161 | -0.1157 | -0.0074 | 1 | |
| UND | -0.0747 | -0.0456* | 0.0277 | -0.0972 | 0.0488 | -0.0161 | -0.0817 | 0.0834 | -0.0431 | -0.0686 | 1 |
| HOT | 0.1916 | 0.0626 | -0.0215 | 0.031 | -0.0453 | 0.0804 | 0.0527 | -0.1156 | 0.0318 | 0.1317 | 0.0004 |
| CEO | 0.1012 | -0.0015 | -0.0165* | -0.0104 | -0.007 | -0.019 | -0.0093 | -0.0622 | -0.0173 | 0.2025 | -0.0256 |
| Volatility1 | -0.2938 | -0.0629 | -0.0086 | -0.0109 | 0.0251 | -0.158 | 0.0467 | -0.0409 | -0.0289 | -0.0764 | 0.0579 |
| Volatility2 | -0.2627 | -0.0549 | -0.052 | -0.0011 | 0.0616 | -0.1564 | 0.1727 | -0.1393 | -0.0643 | -0.0041 | 0.0621 |
| EXC | 0.0023 | 0.0173 | -0.0264 | -0.0357 | -0.0558 | 0.0472 | 0.119 | -0.3525 | 0.0965 | -0.0106 | -0.0741 |
| LEV | 0.0884 | -0.0126 | 0.0189 | -0.0368 | -0.0055 | 0.1151 | -0.0845 | -0.146 | -0.0512 | -0.0082 | 0.0744 |
| GROWTH | -0.0247 | 0.0078 | -0.0832 | -0.0849 | -0.0711 | -0.0838 | 0.0859 | -0.112 | 0.0013 | 0.0293 | -0.0365 |
| Issue cost | -0.0667 | 0.0106 | -0.0396 | -0.0181* | -0.0034 | 0.0316 | -0.0148 | 0.0312 | -0.0367 | -0.0086 | 0.0948 |
| Concentration | 0.1162 | -0.0231 | -0.0146 | -0.0264 | 0.0241 | -0.081 | 0.0665 | -0.045 | -0.0253 | 0.1134 | -0.0691 |
| Trade share | -0.1098 | -0.0413 | 0.0223 | 0.0898 | -0.0141 | -0.3412 | 0.0234 | 0.0488 | -0.0285 | -0.1069 | 0.0023 |
| Legal person | -0.1184 | -0.0022 | 0.043 | 0.0709 | -0.0251 | -0.409 | -0.0198 | -0.0152 | -0.0446 | -0.064 | 0.0271 |
| Board size | -0.0098 | -0.0255 | -0.0248** | -0.0565* | -0.0801 | 0.0221 | 0.0154 | -0.0995 | -0.0526 | 0.0038 | -0.0174 |
| Total assets | 0.1127 | -0.0109 | -0.0019 | -0.0605 | -0.0075 | 0.0722 | -0.046 | -0.16 | -0.0395 | -0.0068 | 0.0718 |
| AGE | 0.5654 | 0.1428* | 0.0672 | 0.2302*** | -0.0379 | -0.1339 | -0.0657 | -0.0302 | 0.0009 | 0.3033 | -0.0586 |

Table 6.5: Continues

| | HOT | CEO | Volatility1 | Volatility2 | EXC | LEV | GROWTH | Issue cost | Concentration | Trade share | Legal person | Board size | Total assets | AGE |
|---------------|---------|--------------------|-------------|-------------|---------|---------|---------|------------|---------------|-------------------|--------------|------------|--------------|-----|
| HOT | 1 | | | | | | | | | | | | | |
| CEO | 0.0502 | 1 | | | | | | | | | | | | |
| Volatility1 | -0.1558 | -0.0117 | 1 | | | | | | | | | | | |
| Volatility2 | -0.0791 | 0.0132 | 0.4291 | 1 | | | | | | | | | | |
| EXC | 0.0359 | -0.0519 | -0.054 | 0.0719 | 1 | | | | | | | | | |
| LEV | 0.1203 | 0.0031 | -0.0995 | -0.0432 | 0.0692 | 1 | | | | | | | | |
| GROWTH | 0.052 | -0.0205 | 0.0138 | 0.0828 | 0.1322 | 0.0133 | 1 | | | | | | | |
| SEO cost | -0.0564 | 0.0112 | 0.062 | 0.0531 | -0.0364 | -0.0196 | -0.0014 | 1 | | | | | | |
| Concentration | 0.008 | 0.026 | -0.0707 | 0.0009 | 0.067 | 0.0824 | 0.1041 | 0.0013 | 1 | | | | | |
| Trade share | -0.0726 | -0.0091 | 0.015 | 0.0802 | -0.046 | -0.1001 | 0.0392 | -0.0216 | -0.0397 | 1 | | | | |
| Legal person | -0.075 | -0.0252 -0.0381 | 0.1974 | 0.1507 | -0.0024 | 0.0532 | 0.0143 | -0.019 | 0.0448 | -0.032 -0.0453 | 1 | | | |
| Board size | 0.0348 | * | 0.0342 | -0.018 | 0.0551 | 0.2374 | 0.0154 | 0.0108 | 0.0228 | * | 0.0907 | 1 | | |
| Total assets | 0.1227 | -0.0048 | -0.1147 | -0.0993 | 0.0913 | 0.8831 | 0.0213 | -0.0328 | 0.111 | -0.081 | 0.0555 | 0.2256* | 1 | |
| AGE | 0.0622 | 0.0662 | -0.2501 | -0.2425 | -0.0172 | 0.2481 | -0.0879 | -0.0381 | 0.1385 | 0.0954 | 0.1914 | 0.1331 | 0.2741 | 1 |

See Appendix C for the definition of variables

Table 6.6: correlation of each variable used in the incentives of SEOs test

This table provides correlation between each variables used in the motivation of SEO. *, **, and *** stands for significant level at 10%, 5% and 1%.

| | Growth | Investment | LEV | M/B ratio | AE | Nontradable | Total assets | ROA | SOE | IPO UPR | Institution | Legalperson | CEO | EXC |
|--------------|----------|------------|---------|-----------|---------|-------------|--------------|---------|---------|---------|-------------|-------------|--------|-------|
| Growth | 1 | | | | | | | | | | | | | |
| Investment | -0.0802 | 1 | | | | | | | | | | | | |
| LEV | 0.0133 | -0.009 | 1 | | | | | | | | | | | |
| M/B ratio | 0.0859 | -0.011 | -0.086 | 1 | | | | | | | | | | |
| AE | -0.0180 | 0.033 | -0.007 | -0.066 | 1 | | | | | | | | | |
| Nontradable | -0.0874 | 0.0889 | 0.1031 | -0.1275 | 0.0168 | 1 | | | | | | | | |
| Total assets | -0.032 | 0.103 | 0.7627 | -0.141 | -0.0591 | 0.1888 | 1 | | | | | | | |
| ROA | 0.1566 | -0.058 | -0.158 | 0.121 | -0.1418 | -0.0562 | -0.1941 | 1 | | | | | | |
| SOE | -0.0838 | 0.107 | 0.1151 | -0.059 | -0.0466 | 0.3521 | 0.2907 | -0.051 | 1 | | | | | |
| IPO UPR | -0.0859 | -0.019 | -0.037 | -0.077 | 0.0519 | -0.1067 | -0.1647 | -0.001 | -0.146 | 1 | | | | |
| Institution | 0.0282 | 0.116 | 0.0024 | 0.0541 | 0.0346 | -0.0089 | 0.0771 | -0.019 | 0.0563 | -0.0763 | 1 | | | |
| Legalperson | 0.016 | -0.065 | -0.0192 | -0.0176 | 0.0755 | 0.0387 | -0.1687 | -0.0082 | -0.4178 | 0.077 | 0.0178 | 1 | | |
| CEO | -0.0205 | 0.0007 | 0.0031 | -0.0093 | -0.035 | 0.0097 | -0.0097 | -0.0388 | -0.019 | -0.0106 | 0.020 | -0.0253 | 1 | |
| EXC | 0.1322 | -0.106 | 0.0692 | 0.119 | -0.1049 | 0.0138 | 0.0227 | 0.0533 | 0.0472 | -0.0393 | 0.0104 | -0.0054 | -0.052 | 1 |
| GDP | 0.1077** | -0.085 | 0.022 | 0.0756 | -0.0064 | -0.0035 | -0.0072 | 0.0076 | -0.0195 | 0.0414 | -0.0304 | -0.0145 | -0.005 | 0.069 |

See Appendix C for the definition of variables

6.5 Empirical results

The following section presents empirical results of each hypothesis and the relevant analysis. The results of each table are provided after control year effect and industry effect.

6.5.1 Time duration Between IPO and First SEO

Regarding the time duration between IPO and following SEO, result in Table 6.7 reports that IPO underpricing can significantly lower time duration. More specifically, firms with higher IPO underpricing will issue SEO sooner, and this is the same as we expected. The results are still consistent when concerning other factors. Results indicate that in their eagerness to capitalize on the favourable news, these high-quality firms will return to the stock market as soon as their opportunities come and to maximise the benefit.

Another important finding is that cumulative returns for firms from two trading days after IPO to five days before the announcement of first SEOs (AFTRET) have a positive relationship between the time duration of IPO and first SEO, which proves that firms will conduct SEO very quickly once return per share reaches a certain level. Firms seem enjoy the moment of high cumulative return from two trading days after IPO to five days before the announcement of first SEOs. One possible explanation would be that firms do not want to share the high return with new shareholders and want to protect wealth gain for existing shareholders. Another result is that exchange market has a significant relationship with time duration between IPO and first SEO, which shows that firms listing in Shanghai will go to the SEO market sooner than firms listing on the Shenzhen stock market.

For corporate governance effect on the time duration between IPO and SEO, results report that board size and legal person shares all can significantly influence the time duration between IPO and SEO. Firms with a high proportion of legal persons' share are more willing to do SEO sooner after IPO.

Finally, beside IPO underpricing, our analysis proves that other IPO characteristics can influence SEO timing as well. Table 6.7 indicates that the quality of auditors when firms are doing IPO has a significantly positive relationship with the time duration between IPO and SEO. The higher quality of auditor, the sooner the firm will do SEO. One possible explanation would be that the firm had already planned SEO when IPO was in progress, even before IPO, and use the top auditors when doing IPO to promote firm's public view and increase successful rate of following SEO activity. Further, firm will conduct SEO sooner in the case that its IPO is processed in hot market. Hot market can lower the difficulty of success IPO issuing and increase the confidence or make manager overconfidence and this emotion will directly influence SEO timing. Our results provide additional evidence for other IPO characteristics' power on affecting SEO decision.

Table 6.7: OLS test of determination of Time duration between IPO and first SEO

This table reports how IPO underpricing rate can influence the time duration between IPO and SEO. The dependent variable is the ln days between firm doing IPO and SEO. Model 1 is reduced model that just include IPO underpricing as dependent variable. Model 2 is expanded model that including control variables into analyse. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| VARIABLES | Reduced Model (1) | Expanded Model (2) |
|----------------------|-----------------------|------------------------|
| IPO UPR | -0.0208** (0.0146) | -0.0198** (0.0132) |
| AFTRET | | 0.0349*** (0) |
| UND | | -0.0306 (0.586) |
| EXC | | -0.136*** (0.00891) |
| SOE | | 0.116 (0.317) |
| HOT | | 0.102* (0.0543) |
| ROE | | -0.0503 (0.392) |
| Board size | | -0.0201** (0.0185) |
| Concentration | | 0.0708 (0.557) |
| Legal person | | -0.403** (0.0269) |
| CEO | | -0.361 (0.868) |
| Auditor | | 0.239*** (0.00133) |
| Constant | 6.638*** (0.00) | 6.766*** (0) |
| Observations | 608 | 608 |
| F value | 6.00 | 10.63 |
| R-squared | 0.010 | 0.160 |

See Appendix C for the definition of variables

This research further divided time duration into four different lengths (conducting SEO within one, two, three and more than three years after IPO) in Table 6.8 and analysing separately. Consistently, results indicated that IPO underpricing still have significantly influence on SEO time decision (see as column 1 of Table 6.8). Firms with higher IPO underpricing are more willing to conduct SEO within one year after IPO, and this is also an alternative explanation of why IPO the underpricing effect was reduced in columns 2, 3 and 4.

Additionally, 'AFTRET' is significantly negative rated with the dependent variable, which means the higher cumulative returns can decrease the probability of doing SEO within one year after IPO. The effect of stock market firm listing on still remains a significantly positive relationship. Interestingly, comparing with Table 6.7, board size and proportion of legal persons' shares turn to significantly positive relationship with probability of the firm doing SEO within one year after IPO. This result proves that corporate governance does have an impact on SEO decision and it is important to include the corporate governance into analysis when researching SEO decisions. Unfortunately, this fact always seem to be ignored by other researchers such as Jeanneret (2000), Jiang (2008), Lin and Wu (2013), etc.

When this research focus on longer time period, the IPO underpricing effect remains significantly positive in column 2. However, the significant level is reduced to 90 per cent, but the results are still consistent with our expectation. AFTRET and Legal persons' share remain the same with little change about significance level as well. A noticeable finding is that firms are less likely to do SEO within two years after IPO when the firms are experiencing a hot market when doing IPO. Furthermore, auditor quality has significant influence on the decision for doing SEO within two years after

IPO as well. When this research focuses on longer time duration between IPO and SEO in columns 3 and 4, an interesting finding is that IPO underpricing influence totally disappears, which give us a clear view that signalling theory will not be suitable to explain the IPO underpricing when firm conduct SEO after 3 years of IPO activity.

Firms with higher cumulative returns from second trading days after IPO to fifth trading days before the announcement of first SEOs have less probability of doing SEO within three years after IPO. All results in columns 1, 2 and 3 indicated that firm's share of return will be counted when managers decide upon SEO timing. Still, whether the firm experienced hot market when doing IPO has significant influence on SEO decision, especially in column 4 of Table 6.8. In addition, ROE has a positive relationship with the dependent variable in both column 3, and 4. The corporate governance impact disappears when we analysing SEO time decision in the long term. Whether underwriters and auditors are the top quality ones in China when doing IPO can both have impact on SEO timing. This can give a short cut of strategy plan for firms when doing IPOs and SEOs.

Table 6.8: Probability of firm doing first SEO within different time periods after IPO

This table provides probit analyse on how IPO underpricing level can influence firms' probability of doing first SEOs within 1 year, 2 year, 3 years and more than 3 years. The dependent variable of this table is a dummy variable that take value of 1 if firm doing SEO within 1 year after doing IPO in column 1, otherwise, 0. Take value of 1 if firm doing SEO within 2 year after doing IPO in column 2, otherwise, 0. Take value of 1 if firm doing SEO within 3 years after doing IPO in column 3. Take value of 1 if firm doing SEO after 3 years after IPO, otherwise, 0. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| | SEO in 1 year | SEO in 2 year | SEO in 3 year | SEO more than 3 year |
|-----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| VARIABLES | (1) | (2) | (3) | (4) |
| IPO UPR | 0.0887*** (0.000129) | 0.0327* (0.0538) | -0.0204 (0.277) | 0.0354 (0.173) |
| AFTRET | -1.016*** (2.16e-07) | -0.125*** (3.62e-05) | -0.160*** (2.81e-09) | 0.0163 (0.167) |
| UND | -0.326 (0.127) | 0.183 (0.116) | 0.354** (0.0113) | 0.401** (0.0209) |
| EXC | 0.709*** (0.000852) | 0.0169 (0.876) | 0.0498 (0.686) | Omitted (0) |
| SOE | -0.292 (0.522) | -0.421* (0.0845) | -0.467* (0.0897) | -0.346 (0.303) |
| HOT | 0.169 (0.366) | -0.321*** (0.00380) | -0.287** (0.0199) | -0.842*** (1.74e-07) |
| ROE | 0.373 (0.303) | 0.0425 (0.717) | 2.044* (0.0632) | 5.766*** (6.61e-05) |
| Board size | 0.0974*** (0.000286) | 0.0109 (0.540) | -0.00951 (0.637) | 0.00529 (0.827) |
| Concentration | 0.421 (0.292) | 0.128 (0.611) | -0.382 (0.175) | -0.0720 (0.827) |
| Legal person | 1.970*** (0.000639) | 0.786** (0.0353) | 0.317 (0.460) | -0.107 (0.835) |
| CEO | -82.38 (0.882) | 6.578 (0.669) | 8.019 (0.531) | omitted (0) |
| Auditor | omitted (0) | -0.334** (0.0346) | -0.294* (0.0815) | 0.293 (0.157) |
| Constant | -3.182*** (0) | -0.0897 (0.709) | 1.148*** (0.0001) | -0.575 (0.108) |
| Observations | 608 | 608 | 608 | 608 |
| Chi² | 123.21 | 70.01 | 104.28 | 61.79 |
| Pseudo R² | 0.3341 | 0.0838 | 0.1561 | 0.1396 |

See Appendix C for the definition of variables

6.5.2 SEO relative size

Regarding relative SEO size and the influence from IPO, our results indicated that firms with higher IPO underpricing will raise more capital from following SEO (see as Table 6.9). Firms are more likely to use IPO underpricing as a signal of good quality and benefit from following equity issuing activities. Our results are also supported by Spiess and Pettway (1997) where they claimed that a firm will only underprice its IPO to experience a value loss when the firm is trying to recompense the loss by a higher price and larger amount of SEOs. Our result provides additional evidence to support signalling theory. Further, firms seem to be concerned about market condition or risk as factors when deciding the size of SEO. This can be proved from our result that 'Volatility1' and 'Volatility2' have a significant relationship with the relative SEO size (see as column 2, column 3 and column 4 of Table 6.9). To be more specific, reduced model two shows a significant negative relationship between Volatility1 and relative SEO size which means that firms will concern market reaction risk (standard deviation of daily return from two trading days to 60 trading days after IPO) after its IPO as a factor when deciding first SEO size. A lower risk after firms IPO will significantly increase following SEO size. 'Volatility 2' also shows the same significant relationship with our dependent variable and which indicated firm will also take the risk between the period of IPO and SEO into account when deciding SEO size. Additionally, when we control other factors that may influence relative SEO size in column 5, we found unexpected results from column 5 that firms with larger total assets and higher market-to-book ratio will raise relatively less proceeds at the 99 per cent level of significance. Concentration shows a positive relationship with relative first SEO size, which means a factor of corporate governance can influence SEO size.

Table 6.9: IPO influence on first relative SEO size

This table presents the result of how IPO underpricing can influence relative size of SEO, OLS regression is adopted in this analysis. The dependent variable is SEO proceeds divided by total proceeds raised from IPO and first SEO. Reduced model 1 just simply included IPO underpricing, Reduced Model 2, 3 and 4 include IPO underpricing and the market condition variable: volatility 1 measure the condition after IPO, and volatility 2 measure the condition before SEO. Expanded Model 5 included all control variables into analysis. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| | Reduced Model | Reduced Model | Reduced Model | Reduced Model | Expanded Model |
|----------------------|---------------------|------------------------|------------------------|----------------------|--------------------------|
| VARIABLES | (1) | (2) | (3) | (4) | (5) |
| IPO UPR | 0.0302*** (0.00) | 0.0302*** (0.00) | 0.0302*** (0.00) | 0.0302*** (0.00) | 0.0279*** (0) |
| Volatility1 | | -1.418*** (0.00231) | | -1.086** (0.0345) | -1.485*** (0.00408) |
| Volatility2 | | | -1.852*** (0.00781) | -1.155 (0.132) | -1.124 (0.148) |
| EXC | | | | | -0.00811 (0.520) |
| SOE | | | | | -0.0330 (0.254) |
| Total assets | | | | | -0.0140*** (0.00741) |
| M/B ratio | | | | | -0.0351*** (2.44e-06) |
| Board size | | | | | 0.000219 (0.918) |
| Concentration | | | | | 0.0529* (0.0690) |
| Legal person | | | | | 0.0597 (0.179) |
| CEO | | | | | 0.473 (0.357) |
| Auditor | | | | | 0.00587 (0.744) |
| Constant | 0.426*** (0.00) | 0.477*** (0.00) | 0.486*** (0.00) | 0.503*** (0.00) | 0.654*** (0.00) |
| Observations | 608 | | 608 | 608 | 608 |
| F value | 240.26 | 126.47 | 124.91 | 85.25 | 25.70 |
| R-squared | 0.2827 | 0.2925 | 0.2899 | 0.2940 | 0.3281 |

See Appendix C for the definition of variables

6.5.3 SEO underpricing and the link with IPO

Many researchers have researched SEO underpricing, such as Corwin et al. (2003). However, few of them focus on how IPO performance can influence SEO underpricing. Therefore, we use IPO underpricing level as a main variable and try to explain how IPO underpricing can affect firm's first SEO underpricing. Results indicated that firms with higher IPO underpricing level will experience a lower SEO initial return, however, the relationship is not significant until us concerning other control factors (see Table 6.10). This is the same as we expected that firms experiencing higher IPO underpricing will have less underpricing in the SEO market. An explanation of this result is signalling theory, that the objective of firm is to maximise its value and the firm will only underprice its IPO when it has an issuing strategy of trying to compensate the loss from following an SEO at a higher price. In addition to that, a firm will underprice its IPO as signal of high quality of value to attract investors and increase the possibility of success following SEO issue. Additionally, we would like to investigate both how history performance and future growth potential when doing IPO can influence a following SEO underpricing. Therefore, we take both growth and market-to-book ratio into account. Growth stands for past performance and market-to-book ratio a proxy for future growth potential. Fortunately we found market reaction will concern both of them as a factor that will influence SEO initial return. Higher market-to-book ratio stands for better growth opportunity and less investing risk for investors, therefore a lower underpricing level will be experienced for firms with higher market-to-book ratio. To conclude, we are able to confirm that IPO underpricing can significantly determinate SEO initial return, and our results provide additional support for signalling theory in the Chinese case.

Table 6.10: IPO influence on first SEO underpricing

This table provides how IPO underpricing can influence SEO underpricing. Dependent variable is SEO underpricing rate. Reduced model 1 just included IPO underpricing into account. The expanded Model two include other control variables that may influence SEO underpricing. Expanded Model 3 included other three variables that the probability of firm doing first SEO within 1, 2 and 3 years. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| VARIABLES | Reduced Model (1) | Expand Model (2) |
|--------------------------|---------------------------|-------------------------|
| IPOUPR | -0.000428 (0.258) | -0.000803** (0.0410) |
| Volatility2 | | -0.119 (0.458) |
| SEO size | | -0.00201 (0.191) |
| AGE | | 0.00324 (0.125) |
| LEV | | 0.000973 (0.363) |
| Growth | | -0.00348* (0.0748) |
| M/B ratio | | -0.00307** (0.0336) |
| T gap | | 3.52e-05 (0.582) |
| Issue cost | | -0.00918 (0.398) |
| SOE | | -0.00436 (0.454) |
| Board size | | -0.000256 (0.542) |
| Concentration | | -0.00126 (0.828) |
| Legal person | | 0.00381 (0.669) |
| CEO | | -0.0508 (0.619) |
| Auditor | | 0.00881** (0.0132) |
| Constant | -0.00573*** (0.000124) | 0.00641 (0.790) |
| Observations | 608 | 608 |
| F value | 1.28 | 11.89 |
| Adj R² | 0.005 | 0.115 |

See Appendix C for the definition of variables

6.5.4 Incentives of firm's first SEO

Firm go back to the equity market for different reasons. We test each reason with different time lengths between IPO and following SEO. Table 6.11 obtains quite significant results. First of all, results in column 1 prove that firms are less likely to issue new equity when facing investment decisions. In addition to this, leverage ratio also shows a significantly positive relationship with the probability of doing SEO within one year after IPO. This supports our conjecture that firm will adjust its capital structure through issuing seasonal equity. Market-to-book ratio, as we expected, shows a positive relationship with the probability of doing SEO within one year after IPO. The results also provide evidence for the statement "Firms are more likely to do SEO when market time is appropriate". Furthermore, since market-to-book ratio also stands for growth potential, we can state that firms doing SEO within one year after IPO are motivated by potential growth. Besides IPO underpricing, the proportion of legal persons share and exchange dummy all present a significantly positive relationship. Another noticeable result we would like to report is that GDP can influence SEO decision very significantly; the higher GDP growth level, the more likely the firm will do SEO within one year after IPO.

When we focus on SEO motivation in the longer term, our results indicate that a firm is still less likely to do SEO when they have investment within two years or three years after IPO. This result is consistent with column 1 of Table 6.11. The administration fee which is proxy for agency conflict has a significant relation with probability of doing SEO within two years and three years after IPO. This means that managers do concern themselves about agency conflict when making decisions about SEO. If we follow Bo, Huang and Wang (2011) and trade the level of administration fee as the level of agency

conflict, then we are able to confirm that a high level of agency conflict can reduce the motivation of doing SEO within two years and three years after IPO. Our results also indicate that firms with larger total assets are less likely to issue SEO. Additionally, ROA has significant influence on SEO decision in both column 2 and column 3 of our test. IPO underpricing and proportion of institutional share can only influence the SEO decision when focusing on a three year time period after IPO. Legal person share still has a significantly positive relationship with our dependent variable in column 2 and column 3; therefore, we can say that legal persons can influence the SEO decision critically. Finally, this research focuses on the period more than three years after IPO. In column 4 of Table 6.11, the result proves past growth has significant negative relationship with the probability of doing SEO after three years of IPO. In addition to that, firms are not motivated by investment for doing SEO when we target more than a three years period after IPO. Market-to-book ratio turns out to be significantly negative, and we are able to state that firms with less growth potential are more willing to do SEO after three years of IPO. Total assets remain significantly negative, however, and the proportion of state shares start to influence SEO decision and GDP growth starting to have an impact on SEO decision.

Table 6.11: Motivation of firm doing first SEO within different time period after IPO

This table provides the result about what is the determination of firm doing IPO within 1 year, 2 year 3 year or more than 3 years from the aspects of Growth and investment, trade off theory and market timing using probit analysis. . The dependent variable of this table is a dummy variable that take value of 1 if firm doing SEO within 1 year after doing IPO in column 1, otherwise, 0. Take value of 1 if firm doing SEO within 2 year after doing IPO in column 2, otherwise, 0. Take value of 1 if firm doing SEO within 3 years after doing IPO in column 3. Take value of 1 if firm doing SEO after 3 years after IPO, otherwise, 0. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| VARIABLES | SEO within 1 year (1) | SEO within 2 year (2) | SEO within 3 year (3) | SEO more than 3 year (4) |
|------------------------|-----------------------------|-----------------------------|-----------------------------|--------------------------------|
| Growth | -0.168 (0.246) | -0.129 (0.161) | -0.0725 (0.436) | -0.342** (0.0365) |
| Investment | -2.120*** (0.0016) | -1.064*** (0.0028) | -0.748* (0.0549) | 0.682 (0.273) |
| Hot | 0.296** (0.026) | 0.365** (0.048) | 0.692 (0.131) | 0.590 (0.179) |
| LEV | 0.646*** (0.0042) | 0.120 (0.143) | -0.0546 (0.513) | 0.135 (0.261) |
| M/B ratio | 0.258*** (0.0032) | 0.004 (0.957) | 0.036 (0.745) | -3.106*** (2.48e-06) |
| AE | 1.633 (0.276) | -1.983** (0.0449) | -2.065** (0.0481) | -2.455 (0.201) |
| Non tradable | -0.255 (0.736) | -0.549 (0.244) | -0.834 (0.163) | 0.737 (0.348) |
| Total assets | -0.138 (0.412) | -0.191** (0.0170) | -0.166** (0.044) | -0.712*** (3.23e-06) |
| ROA | 8.351*** (0.00014) | 6.648*** (1.73e-05) | 4.874*** (0.00617) | 5.756** (0.0221) |
| SOE | 0.432 (0.416) | 0.0282 (0.910) | 0.122 (0.675) | -0.964** (0.025) |
| IPO UPR | 0.0668*** (0.00129) | 0.0136 (0.449) | -0.0357** (0.0471) | 0.0301 (0.289) |
| Institution | 0.0136 (0.774) | -0.231 (0.258) | -0.458** (0.0285) | -0.614 (0.173) |
| Legal person | 2.054*** (0.0012) | 1.076*** (0.0065) | 0.865* (0.0640) | -0.321 (0.629) |
| CEO | -351.5 (0.364) | -7.826 (0.716) | -9.261 (0.432) | Omitted |
| EXC | 0.580*** (0.0058) | -0.098 (0.386) | -0.0351 (0.793) | Omitted |
| GDP | 3.422*** (5.61e-05) | 1.244 (0.126) | -1.591 (0.136) | -28.52*** (8.28e-09) |
| Constant | -2.283** (0.0374) | 1.518** (0.0131) | 2.651*** (3.36e-05) | 11.814*** (0.00) |
| Observations | 591 | 608 | 608 | 322 |
| Chi² | 110.92 | 90.73 | 73.62 | 116.69 |
| Pseudo R2 | 0.309 | 0.113 | 0.107 | 0.327 |

6.6 Additional Robustness Checks

In the previous analysis, we have provided evidence that firms' IPO underpricing level and other IPO characteristics have significant influence on SEOs decision (such as firms with top underwriters are more likely to conduct SEO sooner). In this section, we conducted additional tests to evaluate validity and reliability of our findings to make it more robustness.

6.6.1 Multicollinearity

In order to avoid multicollinearity problems that often exist in research, correlation tests were done and the results are reported in Table 6.5 and Table 6.6. In addition to that, a VIF test was adopted following all regressions. Our results indicated that our VIF values are reasonable (less than three in all models); no multicollinearity existed in our analyses.

6.6.2 Endogeneity Control

In the 'Credit rating effects on IPO underpricing' section (Chapter 4), our results indicated that IPO underpricing can be explained by many variables, and the variables that can explain IPO underpricing in most situations are: firm age, time gap (TGAP) of IPO, underwriter nationality (UN) and leverage ratio (LEV). Additionally, Ritter (1998) stated firms may conduct IPOs as strategy for following SEOs activities, this opinion will logically leads an impression that there are some factors from IPOs will influence SEOs performances, and these factors may also influence IPO underpricing. Therefore, simply using IPO underpricing as an independent variable to explain SEO activities may lead to an endogeneity issue, and the error term in the regression of IPOs underpricing may has strong correlation with the error term in the regression of SEOs

decisions (includes SEOs underpricing, timing, capital demanding). This is also the mistake made by many researchers, such as Ghosh, Nag and Sirmans (2000). In order to make our results more reliable and robust, the two-step instrumental variable method (IV) will be used. Within our IV test, the most effective variables from chapter 4 such as IPO size, age, time gap of IPO, and leverage ratio will be traded as regressors to explain IPO underpricing in the first step of the IV test, and then analysis conducted about IPO underpricing influences on SEO in the second step. Further, this thesis will use DWH test to evaluate whether endogeneity do existed, and the validity of instruments also will be tested (see as Table 6.12).

Table 6.12: Endogeneity Control for IPO underpricing on time duration between IPO and first SEO

This table provides results of how IPO underpricing and other IPO characteristics variables can influence the determination of time duration between IPO and first SEO using IV two step instrumental variable method. Dependent variables are Indays (Natural logarithm of the number of days between IPO and first SEO). ***, ** and * indicates significance at the 1%, 5% and 10% level. See appendix for definitions of variables. The lower part of the table shows the F-test of the DWH augmented regression test for endogeneity with the corresponding p-values in parenthesis.

| VARIABLES | (1) | Indays (2) |
|---|-------------------------|--------------------------|
| IPOUPR | | -0.0654*** (7.70e-08) |
| IPO Size | -0.0171 (0.644) | |
| IPO History | 0.0186* (0.0860) | |
| IPO Tgap | -0.146*** (3.87e-08) | |
| IPO LEV | 0.0553*** (0.00847) | |
| UND | -0.0619 (0.217) | -0.0664 (0.254) |
| EXC | -0.137*** (0.00454) | -0.146*** (0.00600) |
| SOE | 0.00399 (0.972) | -0.0227 (0.860) |
| HOT | 0.118** (0.0261) | 0.114** (0.0361) |
| ROE | -0.0562 (0.174) | -0.0498 (0.410) |
| AFTRET | 0.0320*** (4.36e-08) | 0.0343*** (0) |
| Board size | -0.0256*** (0.00747) | -0.0231*** (0.00854) |
| Concentration | 0.000212 (0.999) | 0.0331 (0.790) |
| Legal person | -0.467** (0.0219) | -0.421** (0.0276) |
| Tradable share | -0.372 (0.153) | -0.276 (0.255) |
| CEO | -0.954 (0.112) | -0.617 (0.782) |
| Auditor | 0.196*** (0.000968) | 0.229*** (0.00276) |
| Constant | 7.682*** (0) | 7.087*** (0) |
| N | 608 | 608 |
| F value | 130.89 | 11.31 |
| Adj R² | 0.2584 | 0.1142 |
| F test | | 30.526 |
| DWH test for endogeneity | | (0.000) |
| Overidentification Test (Score Chi ²) | | (0.1792) |

See Appendix C for the definition of variables

After Endogeneity Control, our results from Table 6.12 still confirm that IPO underpricing can significantly influence the time duration between IPO and SEO, and firms with a higher underpricing level will conduct SEO sooner. Additionally, firms doing IPOs on the Shanghai stock market will issue seasonal equity offerings after a longer time after IPOs. The results of other variables with significant effects are consistent with Table 6.7. We also prove that older IPO firms are more likely to do SEOs after longer time of IPO. What is more, IPOs with a longer time gap will not conduct SEOs sooner compared with IPOs with a short time gap. The DWH test rejects the null hypothesis that 'regressor is exogenous'. Therefore, we should rely on results from Table 6.12, and then make the statement that firms with higher IPO underpricing are more likely to issue SEOs sooner.

Regarding the validity of instruments used in this IV analysis, this study conducts an overidentification test. The result reported at the bottom of Table 6.12 shows that the p value is not significant at all. Therefore, we do not reject the null hypothesis that our instruments are valid, and the result shows these instruments used in analysis are suitable.

Table 6.13 provides IPO underpricing influence about firms doing first SEOs within different time periods after IPOs after endogeneity control. Results indicate that firms with higher IPO underpricings are more likely to conduct SEOs within one, two, or more than three years after IPOs. Another important finding is that firms doing IPOs through top underwriters have no influence on SEO timing. However, we can capture underwriters' effect from IPO if we expand longer time periods. Columns 2, 3 and 4 in Table 6.13 show that firms with top underwriters when they do IPOs are more likely to conduct SEOs within two, three or more than three years after IPOs. Furthermore, we

also prove that firms with top auditors when doing IPOs are less likely to do SEOs after two or three years. However, they prefer to do SEOs after more than three years of their IPOs. Our endogeneity test indicated the IV probit test is more reliable and we should rely on the results from Table 6.13 instead of Table 6.8.

Table 6.13: Endogeneity Control for IPO underpricing for Probability of firms doing first SEOs within different time periods after IPOs

This table provides IV probit analyse on how IPO underpricing level can influence firms' probability of doing first SEOs within 1 year, 2 year, 3 years and more than 3 years with endogeneity control of IPO underpricing. The dependent variable of this table is a dummy variable that take value of 1 if firm doing SEO within 1 year after doing IPO in column 1, otherwise, 0. Take value of 1 if firm doing SEO within 2 year after doing IPO in column 2, otherwise, 0. Take value of 1 if firm doing SEO within 3 years after doing IPO in column 3. Take value of 1 if firm doing SEO after 3 years after IPO, otherwise, 0. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| | SEO in 1 year | SEO in 2 year | SEO in 3 year | SEO more than 3 year |
|--|-------------------------|-------------------------|-------------------------|-------------------------|
| VARIABLES | (1) | (2) | (3) | (4) |
| IPO UPR | 0.195*** (3.68e-05) | 0.129*** (8.77e-07) | 0.000486 (0.986) | 0.131*** (0.00116) |
| AFTRET | -0.861*** (0.000450) | -0.141*** (4.70e-06) | -0.161*** (4.43e-09) | 0.0161 (0.197) |
| UND | -0.137 (0.599) | 0.271** (0.0310) | 0.419*** (0.00424) | 0.439** (0.0205) |
| EXC | 0.576** (0.0210) | 0.0238 (0.837) | 0.0914 (0.468) | Omitted (0) |
| SOE | 0.101 (0.854) | -0.256 (0.332) | -0.326 (0.247) | -0.224 (0.543) |
| HOT | 0.0941 (0.667) | -0.373*** (0.00179) | -0.241* (0.0569) | -0.944*** (1.52e-07) |
| ROE | 0.409 (0.819) | 0.0453 (0.720) | 1.943* (0.0839) | 4.807*** (0.00181) |
| Board size | 0.0943*** (0.00511) | 0.0201 (0.306) | 0.00842 (0.697) | 0.00825 (0.758) |
| Concentration | 0.397 (0.401) | 0.169 (0.531) | -0.282 (0.333) | -0.0216 (0.952) |
| Legal person | 1.802*** (0.00769) | 0.794* (0.0515) | 0.455 (0.327) | -0.0237 (0.964) |
| CEO | -394.2 (0.580) | 7.845 (0.746) | 8.275 (0.538) | omitted (0) |
| Auditor | omitted (0) | -0.337** (0.0461) | -0.317* (0.0629) | 0.382* (0.0933) |
| Constant | -3.310*** (3.38e-09) | -0.464* (0.0861) | 0.810** (0.0118) | -0.778** (0.0459) |
| Observations | 608 | 608 | 608 | 608 |
| Chi² | 42.98 | 65.63 | 55.80 | 53.64 |
| Prob > chi² | 0.000 | 0.000 | 0.0000 | 0.0000 |
| Wald exogeneity test: chi ² | 14.23 | 28.23 | 2.26 | 12.74 |
| Prob > chi ² | 0.0002 | 0.0000 | 0.1325 | 0.0004 |

See Appendix C for the definition of variables

Table 6.14: Endogeneity Control for IPO underpricing on determination SEO relative size

This table provides results of how IPO underpricing and other IPO characteristics variables can influence the SEO relative size using IV two step instrumental variable method. Dependent variables are SEOsize. ***, ** and * indicates significance at the 1%, 5% and 10% level. See appendix for definitions of variables. The lower part of the table shows the F-test of the DWH augmented regression test for endogeneity with the corresponding p-values in parenthesis.

| Variables | SEOsize | |
|---------------------------------|-------------------------|-------------------------|
| IPOUPR | | 0.0410*** (0) |
| IPO Size | -0.135*** (0) | |
| IPO History | 0.0138*** (4.60e-06) | |
| IPO Tgap | -0.00178 (0.723) | |
| IPO LEV | -0.000478 (0.945) | |
| Volatility 1 | -1.407*** (0.00321) | -1.301* (0.0556) |
| Volatility 2 | -4.460*** (3.41e-09) | -1.015 (0.190) |
| EXC | -0.00173 (0.882) | -0.00666 (0.602) |
| SOE | 0.0442 (0.109) | -0.0164 (0.596) |
| Total assets | 0.0475*** (2.47e-07) | -0.00835 (0.308) |
| M/B ratio | 0.0120 (0.143) | -0.0298*** (0.00350) |
| Board size | -0.000437 (0.824) | 0.000352 (0.885) |
| Concentration | 0.0314 (0.243) | 0.0577* (0.0518) |
| Legal person | -0.00130 (0.975) | 0.0533 (0.258) |
| CEO | 0.318 (0.503) | 0.528*** (0) |
| Auditor | 0.0121 (0.467) | 0.00885 (0.591) |
| Constant | 1.906*** (0) | 0.562*** (0) |
| N | 608 | 608 |
| F value | 66.19 | 50.01 |
| Adj R² | 0.444 | 0.291 |
| F test | | 54.136 |
| DWH test for endogeneity | | (0.000) |

See Appendix C for the definition of variables

Table 6.15: Endogeneity Control for IPO underpricing on SEO underpricing

This table provides results of how IPO underpricing and other IPO characteristics variables can influence the SEO underpricing using IV two step instrumental variable method. Dependent variables are SEOUPR. ***, ** and * indicates significance at the 1%, 5% and 10% level. See appendix for definitions of variables. The lower part of the table shows the F-test of the DWH augmented regression test for endogeneity with the corresponding p-values in parenthesis.

| Variables | SEOUPR | |
|--------------------------|------------------------|------------------------|
| IPOUPR | | -0.00105* (0.0529) |
| IPO Size | 0.00392** (0.0278) | |
| IPO History | -0.000764 (0.375) | |
| IPO Tgap | 0.000477 (0.657) | |
| IPO LEV | 0.000265 (0.815) | |
| Volatility2 | -0.0141 (0.933) | -0.119 (0.458) |
| SEO size | -0.00365** (0.0359) | -0.00213 (0.170) |
| SEO History | 0.00545* (0.0561) | 0.00352 (0.102) |
| SEO LEV | 0 | 0.000972 (0.364) |
| Growth | -0.00323* (0.0975) | -0.00356* (0.0688) |
| M/B ratio | -0.00398** (0.0117) | -0.00312** (0.0308) |
| T GAP | 4.75e-05 (0.467) | 3.27e-05 (0.610) |
| Issue cost | -0.00701 (0.520) | -0.00926 (0.394) |
| SOE | -0.00676 (0.258) | -0.00464 (0.428) |
| Board size | -0.000273 (0.517) | -0.000269 (0.522) |
| Concentration | -0.000705 (0.903) | -0.00140 (0.809) |
| Legal person | 0.00529 (0.557) | 0.00368 (0.680) |
| CEO | -0.0449 (0.661) | -0.0529 (0.605) |
| Auditor | 0.00873** (0.0146) | 0.00875** (0.0139) |
| Constant | -0.0384 (0.222) | 0.00682 (0.777) |
| Observations | 608 | 608 |
| F value | 11.80 | 10.98 |
| Adj R² | 0.149 | 0.127 |
| F test | | 0.437 |
| DWH test for endogeneity | | (0.502) |

See Appendix C for the definition of variables

For SEO relative size, results are reported in Table 6.14. Similar to Table 6.9, IPO underpricing can significantly influence SEO size. Other results reported in Table 6.14 are also consistent with Table 6.9. The DWH test shows a one per cent level of significance, therefore, the IV test after control endogeneity will be more reliable. Interestingly, we also find that older IPO firms will issue larger amounts of capital from its first SEOs, and SEO size will be reduced in the case of firms with a larger size of IPO. In Table 6.15, the results indicated that IPO underpricing can lower SEO underpricing after endogeneity control. This provides additional support for signalling theory and the results are consistent with Table 6.10. Regarding SEO pricing, Table 6.15 indicated that past sales growth rate and future growth potential (M/B ratio) can both lower SEO underpricing significantly. The DWH test indicated there is no endogeneity existing and OLS analysis will be a better explanation of SEO underpricing.

For incentive of SEOs in Chinese stock market, Table 6.16 provides that the incentives of a firm doing SEO within one year after IPO is because its IPO was underpriced and firm would like to be compensate from SEO to cover the lost, and the firm also used SEO to adjust capital structure, further, managers also would like to get benefit from issuing SEO. Another finding is that macroeconomic improving is also a motivation of SEO and firms hope to enjoy the benefits of economic growth. Results in Table 6.16 also provide evidence that investment, capital structure adjusted and legal personal share can be the explanation of SEO activities. Most importantly, we find that the most significant incentive of SEO in China is state owned shares. Endogeneity test indicated that motivation of SEO in one, two and more than three years can be better explained in Table 6.16, but the motivation of SEOs in three years are better explained in Table 6.11.

Table 6.16: Endogeneity Control for IPO underpricing for motivation of firm doing first SEO within different time period after IPO

This table provides the result about what is the determination of firm doing IPO within 1 year, 2 year 3 year or more than 3 years from the aspects of Growth and investment, trade off theory and market timing using IV probit two steps analysis. . The dependent variable of this table is a dummy variable that take value of 1 if firm doing SEO within 1 year after doing IPO in column 1, otherwise, 0. Take value of 1 if firm doing SEO within 2 year after doing IPO in column 2, otherwise, 0. Take value of 1 if firm doing SEO within 3 years after doing IPO in column 3. Take value of 1 if firm doing SEO after 3 years after IPO, otherwise, 0. *, ** and*** shows significant level of 90%, 95% and 99% separately.

| VARIABLES | SEO within 1 year (1) | SEO within 2 year (2) | SEO within 3 year (3) | SEO more than 3 year (4) |
|--|-----------------------------|-----------------------------|-----------------------------|--------------------------------|
| IPO UPR | 0.182*** (0.00014) | 0.0742*** (0.00325) | -0.0305 (0.165) | 0.213*** (2.17e-05) |
| Investment | -0.0562 (0.506) | -0.215*** (0.0024) | -0.160** (0.025) | -0.520*** (0.00023) |
| Hot | 0.365** (0.038) | 0.218* (0.072) | 0.644 (0.246) | 0.568 (0.190) |
| LEV | -2.253*** (0.0012) | -1.141*** (0.0013) | -0.728* (0.0521) | 0.144 (0.830) |
| M/B ratio | 0.0154 (0.716) | 0.0761 (0.334) | -0.0499 (0.564) | 0.348*** (0.0016) |
| AE | 0.254*** (0.0005) | 0.0286 (0.664) | 0.036 (0.755) | -1.636** (0.018) |
| Non tradable | 1.340 (0.406) | -1.545 (0.156) | -1.692* (0.095) | -3.560 (0.149) |
| Total assets | 0.0094 (0.761) | -0.454 (0.330) | -0.786 (0.134) | 0.201 (0.820) |
| ROA | 0.0617 (0.760) | -0.128 (0.121) | -0.144* (0.078) | -0.252* (0.051) |
| SOE | 7.249*** (0.00328) | 7.656*** (1.43e-06) | 5.620*** (0.0016) | 7.526** (0.0151) |
| Growth | 0.384 (0.471) | 0.103 (0.659) | 0.145 (0.613) | -0.638 (0.241) |
| Institution | -0.095 (0.804) | -0.214 (0.290) | -0.446** (0.035) | -1.048** (0.04) |
| Legal person | 2.039*** (0.0028) | 1.244*** (0.0019) | 0.930** (0.0414) | 0.687 (0.414) |
| CEO | -301.56 (0.462) | 15.65 (0.761) | -8.876 (0.494) | Omitted |
| EXC | 0.513** (0.0226) | -0.0892 (0.446) | -0.025 (0.89) | Omitted |
| GDP | 2.992*** (0.0004) | 1.114 (0.188) | -1.561 (0.132) | -46.54*** (0.00) |
| Constant | -3.434** (0.0136) | 0.544 (0.373) | 2.441*** (0.000126) | 7.424*** (4.12e-06) |
| Observations | 591 | 608 | 608 | 322 |
| Wald Chi² | 64.46 | 86.67 | 57.62 | 79.91 |
| Prob > chi² | 0.0000 | 0.000 | 0.000 | 0.0000 |
| Wald exogeneity test: chi ² | 10.45 | 10.76 | 0.08 | 36.17 |
| Prob > chi ² | 0.0012 | 0.0010 | 0.7815 | 0.0000 |

See Appendix C for the definition of variables

6.7 Conclusion

In this chapter we present a direct empirical analysis of the relation between IPO and SEO decisions in term of SEO timing, size and pricing. We provide that there are additional factors that can both influence IPO and SEO, and this is also supported by Crowin's (2003) arguments. Besides, this research also provides ideas of conducting endogeneity control is necessary in the research of a link between IPO and SEO.

We are able to confirm that firms' IPO underpricing level has significantly influenced the time duration between IPO and first SEO after control-years effect and industry effect; this provides additional empirical support of signalling theory from IPO and SEO researches. Furthermore, the results are still consistent even after endogeneity control. Additionally, another interesting thing this research finds is that firms will raise more capital from first SEO than IPO and SEO becomes less active after the Chinese regulation about changed State-owned shares from non-tradable to tradable shares. Regarding the relative first SEO sized and SEO underpricing, we prove that firms with higher underpricing are more likely to issue SEO with larger amount of proceeds and a higher price. This proves that the objective of the firm is to maximise its value and firms experiencing higher IPO underpricing will issue more SEOs at a higher price to compensate for the loss in IPO, our results also provide new evidence for signalling theory as well. Another interesting thing we discovered in our research is firms will concern themselves about past market reaction of its share (for example volatility 1 and volatility 2) in SEO decisions.

For the incentives of the SEOs study, we found firms will be prompted by different incentives when they doing SEO after different time periods of IPO. Investment, potential growth, market timing and managers trying to get benefit from SEO can be the

motivation of seasonal equity offers in different time periods after IPO. Another finding is that firms with SEO activities have relatively higher proportion of state-owned shares. This is also why the Chinese government carries out the regulation in from 2005 to encourage state-owned shares to be traded on the stock market. Another inspiration from our research is that all firms' SEO activities or decisions need to be concerned about macroeconomic environments, because most analysis show a significant result between GDP growth and SEO decision, however, the macroeconomic factors always be ignored by researches in the IPO or SEO market. Since our sample just focuses on the first SEO activity after IPO, future research could be done about multi-SEO in the Chinese stock market or worldwide. Most importantly, we also proved that corporate governance factors can influence SEOs decisions significantly.

In addition to how IPO characteristics can influence SEO in the term of timing, size and underpricing, other findings this research draws on are Chinese listing firms that raised more capital from the SEO market than IPO market. The mean value of SEO/IPO proceeds is 1.947015, which indicated that SEO proceeds are almost double the size of IPO proceeds. This result also provides consistent support for Chen's (2004) research that Chinese firms are more interested in financing from equity and the new 'pecking order' theory in the Chinese case. Furthermore, we find SEOs were most active in China from 1993 to 2001. Only a few of SEOs were conducted after 2005, which is the year the Chinese government carried out the regulation of allowing state-owned shares to be traded on the stock market. After the regulation, there is a significant increase in equity supply on the stock market. This is also the reason that why SEO activities are noticeably going down. Another point worth mentioning in this research is the majority of firms doing SEOs after 12 months of their IPOs.

7 Summary and concluding remarks

China, as a developing country, experienced an immature stock market and uncommon market performance, such as a higher underpricing level, longer IPO waiting time and government intervention. All of these make the Chinese stock market unique. Meanwhile, the academic world pays increasing attention to the Chinese case. In our research, we attempted to conduct a fully and comprehensive study about credit rating, allocation mechanism, the link between IPOs and SEOs and the incentives of SEOs in China using data from 1990 to 2011, which covers almost the entire history of Chinese stock market development.

Through this brief conclusion, we would like to summarise the majority of our findings, which will be presented in section 7.1. Furthermore, recommendations will be presented in section 7.2. Limitations of this research and future researches will be delivered in section 7.3 and 7.4.

7.1 Summary of findings

This project conducted empirical research about credit rating, allocation mechanism, the link between IPOs and SEOs and incentives of SEOs in the Chinese stock market.

(1): Regarding the credit rating section, it presents a direct empirical analysis of the relation between credit rating (single and multiple) and IPOs/SEOs underpricing in the Chinese stock market. Our research provides new evidence of the role of credit rating in IPOs and SEOs. In particular, this research examines the presence of different rating agencies (including Chinese domestic rating agency and other top three international rating agencies) and on a multiple credit rating level affects the return to the investors in the immediate aftermarket. Within our empirical analysis, this research adopted

different econometric approaches to examine this relationship, and we are able to confirm our hypothesis establishing a negative relationship between single/multiple credit rating and IPOs/SEOs underpricing. Especially, both rating existence and rating level are negatively related to investors' return during IPOs and SEOs. These results are attributable to the increased information/reduced information asymmetry among investors in the IPO and SEO market, which provide confidence. In addition to that, our results also prove significant support of investment grade, corroborating the view that reducing level of underpricing is an increasing function of credit rating quality. Moreover, our results are robust even after controlling for endogeneity issues regarding the main variables of interest.

Contrary to prior findings, but consistent with the theoretical model, this research provides evidence on the credit rating effect on IPOs and SEOs in the scope of underpricing, rating level effect and the relation between international rating agencies and Chinese domestic rating agencies. In particular, we report that the effect of having ratings on IPOs is different in various time periods.

This study adds to the prior literature, by providing primary evidence on how different rating agencies and the presence of multiple international credit ratings affect IPOs and SEOs underpricing in general, and information production in the IPOs and SEOs process more specifically. In particular, we establish a direct relationship of various stages of multiple international credit ratings as a determinant of the returns after listing investors. The positive likelihood of using multiple international credit rating as a method of reducing severe underpricing on a country which has experienced international historical highs can be considered as a high importance. Overall, this section highlights the role of CRAs in firms' going public, decisions related particularly

to IPOs and SEOs underpricing.

(2): For allocation mechanism, this research conducted the effectiveness of each allocation mechanism in Chinese stock market. Further, our results show corporate governance is an important factor to determinate allocation mechanism as we find significant empirical supports for our conjecture that firms with a high ratio of legal persons' shares are less likely to use a bookbuilding mechanism, and tradable share has a significant negative relationship with the possibility of choosing a bookbuilding mechanism, which is the same with our expected, etc. Besides corporate governance, this research also prove that market condition is able to influence allocation mechanism as well. Our results exactly indicated the same as we expected for market return and market volatility. Further, our research shows the explanation power of our model be significantly improved when including corporate governance. This may offers inspiration for future researches that pay more attention to corporate governance in future research.

Besides this, our research indicated that information asymmetry and risk level can be regarded as other explanations of why firms choose different allocation mechanisms when going public. In particular, we report different interests in allocation mechanism decision for firms in manufactory and non-manufactory industries. Further, this research also focuses on short-term (10 days) and long-term performance (12 months, 24 months and 36 months) for IPOs with different allocation mechanisms.

(3): Our last empirical section focuses on the SEO decisions mainly based on IPO characteristics and evaluates how IPO characteristics can influence the SEOs decision in the term of time duration between IPOs and SEOs, SEOs size, SEOs underpricing and incentives of SEOs. Consistent with the theoretical model of information production by

financial intermediaries, this research provides new evidence on the SEOs decision study.

We are able to confirm that IPOs underpricing level has significantly influence on the time duration between IPOs and SEOs; this provides additional empirical support of signalling theory. Furthermore, results are still consistent even after endogeneity control. Additionally, another interesting thing this research finds is that a firm will raise more capital from the first SEOs than IPOs, and SEOs become less active after the Chinese Regulation about changing state-owned shares from non-tradable to tradable shares. For the relative first SEOs size and SEOs underpricing, we prove that firms with higher underpricing are more likely to issue SEOs with larger amounts of proceeds and a higher price. This proves that the objective of firms is to maximise their value, and firms experiencing higher IPOs underpricing will issue more SEOs at a higher price to compensate for the loss in IPOs. Another interesting thing we discovered in our research is a firm will concern itself about past market reaction of its share (for example volatility 1 and volatility 2) in the SEOs decision.

For the incentives of SEOs study, we found firms are motivated by different incentives when they are doing SEOs. Another finding is that SEO firms have a relatively higher proportion of state-owned shares. This is also why the Chinese government carried out the regulation in 2005 to encourage state-owned-shares to be traded on the stock market. Another inspiration from our research is that all firms' SEO activities or decisions need to be concerned about the macroeconomic environment because most analysis with GDP growth rate as a control variable shows significant results with SEO decisions, however, the macroeconomic factors are always ignored by researches. Since our sample is just focused on the first SEOs activity after IPOs, future research could be

done about multi-SEOs in the Chinese stock market or worldwide.

In addition to how IPOs characteristics can influence SEOs in the term of timing, size and underpricing, other findings this research draws upon are Chinese listing firms that raised more capital from the SEO market than the IPO market. This result also provides consistent support for Chen's (2004) research that Chinese firms are more interested in financing from equity. Furthermore, we find SEOs are most active in China from 1993 to 2001. Only a few of the SEOs are conducted after 2005, which is the year Chinese government carried out the regulation of allowing state-owned shares to be traded on the stock market. After the regulation, there is a significant increase in equity supply in the stock market; this is also the reason why SEO activities are noticeably going down. Another finding worth mentioning in this research is the majority of firms doing SEOs after 12 months of their IPOs.

7.2 Recommendations

In this sub-section, this thesis provides recommendations for different groups (managers, policy makers and investors) based on our findings. We would like to make our research of use in the real world.

7.2.1 Recommendations for managers

Based on findings of this research, we are able to confirm that the presence of credit rating (even the Chinese domestic rating agency) can lower the information asymmetry level and reduce IPO underpricing. There are many things Chinese manger can benefit from US or UK market. For instance, manager should provide reliable accounting information and developing strategy to rating agencies when the firm want be rated. This can shows the true situation of firm can manager can has a better understanding of

what the firm's risk level is, and pay more attention in the future to reduce the risk. Additionally, for managers, they should ensure that firms are rated from top rating agencies (such as Moody's, Fitch, and S&P) before conducting IPOs in case that they want to maximise IPO proceeds. Firm can obtain a rating from Chinese domestic rating agencies if they are unable to get what they want from international rating agencies. Additionally, rating grades are also matters in IPO market. Further, firms with credit rating information can provide a positive view to public when doing IPOs. Other suggestion to managers is that firms can go public through bookbuilding mechanism when they are bigger, older, have a lower level of information asymmetry, and lower risk level. However, a private placement mechanism would be recommended for firms with a higher risk level. Besides, managers can also use IPOs as a strategy tool for following SEOs. Firms can issue smaller sizes of underpriced IPOs, and following that, a relatively larger size and higher pricing of SEOs will have higher chance of success and is able to compensate the lost from IPO underpricing. This strategy has been proved and does work in worldwide. In addition to that, issuing SEOs can be a choice for managers when firms want to adjust their capital structure. Furthermore, SEO could be another resource of capital when firms need investments or are facing growth opportunities.

7.2.2 Recommendations for policy makers

The literature and empirical results conducted in this thesis have shown that policy can have significantly influence on financial markets. Chinese government should learn and fellow UK and US to reduce the participation in stock market. The results from this research suggest that government reduces interaction because it has been proved government participation cannot promote public view of firms. In fact the opposite is

the case. Investors would be concerned that more information asymmetry or risk level exists for a firm with a government background, and a higher level of underpricing was experienced (see as variable 'SOE' has significantly positive relationship with MAIR). Meanwhile, government (especially for these countries with an immature stock market) should learn other developed countries' experiences, such as the United States, United Kingdom, Japan and Germany, about making policy and monitoring the stock market, and then improve the stock market environment.

Furthermore, another thing Chinese can benefit from UK and US market would be that pay more attention on the allocation mechanism choice and reduce the options to avoid confusing by underwriters or firms. Moreover, China should improve the quality of its credit rating agencies and try to make them not so business-focus. What Chinese investors needs from Chinese domestic rating agencies is the true information of the firm. High quality rating agencies, like these ones in US, is more needed in Chinese stock market.

7.2.3 Recommendations for investors

For investors, there are several suggestions. First of all, investors can refer to whether firms get credit ratings and their rating grade as an information asymmetry level, as literature and our results have proved that older, larger firm are more likely to be rated, and firms with higher credit rating will experience a lower underpricing level. Further, investors can study credit rating reports from rating agencies as rating reports can provide more information and more reliable detail of rated firms. For investors who prefer high risks and high returns, they could invest in these firms without a credit rating as significant underpricing exists for unrated firms. In addition, risk-preferable investors can invest in firms using private placement mechanisms when they need a

higher return. Investors are not recommended to invest in SEOs where underpricing existed for their IPOs, because underpriced IPOs are more likely to compensate the loss from following SEOs, and their SEOs are more likely to be overpriced. Another recommendation for investors trying to invest in SEOs would be to evaluate firms' purpose of issuing SEOs. It would be an investment opportunity when firms do SEOs for financing their growth. Besides, firms with government backgrounds do not stand for lower risk; instant, higher information asymmetry level may exist for state-owned enterprises.

7.3 Limitations of this research

Although several achievements have been achieved in this research, there are still some limitations and should be paid attention to by following researches. As we mentioned before, policy is often changed in the Chinese stock market and the changed policy has significantly influenced certain periods (see empirical research in Chapter 4); it would be better to do analysis on different sub-periods based on policy differences. However, due to the lack of credit rating information in the Chinese stock market, it is not possible to do all analysis for each sub-period. This limitation can be overcome by the following research when there is more credit rating information available in China. In addition to that, another limitation would be our data. This is because China uses different accounting standards from the United Kingdom or United States; the correction of each variable may have slight errors, but, this limitation is not possible to overcome within a short period.

7.4 Future researches

7.4.1 Future research suggestions

Scholars have started to pay more attentions to the Chinese stock market, however, due to the immature stock market environment and often changes in policy, it is difficult to conduct a comprehensive result of Chinese stock market research. Our results show how each time period based on pricing model experienced significantly different influence from other factors. In order to produce a more reliable result, future research about the Chinese case should be done separately in different time periods; this would allow the research to capture the policy effect on the stock market. In addition to that, government intervention should always be considered when studying the Chinese case.

Further advice would be to be fully concerned about the corporate governance factor when researching firms' decision on the stock market. Our results present significant evidence of how corporate governance can influence a listed firm's decision from different backgrounds, corporate governance is not only critical in monitoring and improving listing a firm's performance, but also other issues, such as the choices of allocation mechanism. Scholars can see significant differences between taking corporate governance into the analysis and without taking corporate governance in evaluation.

Besides this, our results about taking macroeconomic as another control variable may inspire future research into how macroeconomics can influence financial markets in certain and critical ways.

7.4.2 Future researches

With respect to empirical studies, it is still necessary to conduct other IPOs and SEOs studies with different empirical evidence. Based on this thesis, future research about

how credit rating presence and the credit rating level can contribute to firms' short-term and long-term performance can be done; research should not only focus on aftermarket immediate returns. The presence of credit rating and the rating level of firms are supposed to link with firms' long-term and short-term performance, because firms with credit rating are less risky and supposed to have a better long-term and short-term performance than others. However, rarely have studies been done in this area. Additionally, how the upwards and downwards of rating levels can affect firms' performance would be another interesting topic to discuss. Although the upward and downward ratings are linked with firms' performance theoretically, there is no empirical evidence to support the theory. Future research also can be conducted focusing on why firms' IPO and SEO use different allocation mechanisms. For instance, firms may use bookbuilding mechanisms for their IPOs, but changes to fixed-price mechanism in following SEOs, future research and analysis can be done as to why firms choose different allocation mechanisms in IPO and SEO activity. Furthermore, research can be done as to how IPO and first SEO can influence future SEO activity for these firms who do SEO more than once.

References

- Aggarwal, R., Leal, R., Hernandez, F., 1993. The aftermarket performance of initial public offerings in Latin America. *Financial Management* 22, 42-53.
- Aharony, J., Lee, C.J., Wong, T.J., 2000. Financial packaging of IPO firms in China. *Journal of Accounting Research* 38, 103–126.
- Ahmad-Zaluku.N.A., Campbell.K., Goodacre. A., 2011. Earnings management in Malaysian IPOs: The Ease Asian crisis, ownership control and post-IPO performance. *The International Journal of Accounting* 46. 111-137.
- Alavi, A., K.Pham, and T.M. Pham, 2008. Pre-IPO ownership structure and its impact on the IPO process, *The Journal of Banking & Finance* 32, 2361-2375.
- Alexander, J.C., 1991. Do the merits matter? A study of settlements in securities classactions. *Stanford Law Review* 43. 497-597.
- Alexander, J.C., 1993. The lawsuit avoidance theory of why initial public offerings are underpriced. *UCLA Law Review* 41, 17-71.
- Allen, F. and Faulhaber, G. R., 1989. Signalling by underpricing in the IPO market, *Journal of Financial Economics* 23. 303–323.
- Altinkilic, O. and R. Hansen, 2003. The discounting and underpricing in seasoned equity offers, *Journal of Financial Economics* 69, 285–323.
- An, Heng, and Kam C. Chan, 2008, Credit ratings and ipo pricing, *Journal of Corporate Finance* 14, 584-595.
- Ausubel, L., 2002. ‘Implications of auction theory for new issues market’, MIMEO (Financial Institutions Center).
- Avramov, D., T. Chordia, G. Jostova, and A. Philipov, 2009. Dispersion in analysts' earnings forecasts and credit rating, *Journal of Financial Economics* 91, 83-101.
- Avramov, D., T. Chordia, G. Jostova, and A. Philipov, 2013. Momentum and credit rating, *Journal of Finance* 67 .
- Bacon, J. 1973. “Corporate directorship practice, member and committees of the board. ” New York:The conference board.
- Bai, C., Liu, Q., Lu, J., Song, F.M., Zhang, J., 2004. Corporate governance and market valuation in China. *Journal of Comparative Economics* 32, 599–616.
- Baker, M. P., and J. Wurgler, 2002, Market Timing and Capital Structure, *Journal of Finance*, 57, 1-32.
- Barber, B. M. and Lyon, J. D. 1997. Detecting Long-Run Abnormal Stock Returns: The Empirical Power and Specification of Test Statistics, *Journal of Financial Economics*, 43,341-372.
- Barno, D., 1982. A model of the demand of investment banking advising and distribution services for new issues. *Journal of Finance* 37. 955-976.
- Baron. D.P., Holmstrom. B., 1980. The Investment Banking Contract for New Issues Under Asymmetric Information: Delegation and the Incentive Problem. *Journal of Finance* 5. 1115-1138.
- Bayless.M., Chaplinsky. S., 1996. Is there a window of opportunity for seasoned equity issuance? *Journal of Finance* 51, 253-278.
- Beatty, R. P. 1989, Note: auditor reputation and the pricing of initial public offerings. *The Accounting Review*, 44, 693 -709
- Beatty, R., and J. Ritter, 1986, Investment banking, reputation, and the underpricing of

- initial public offerings, *Journal of Financial Economics* 15, 213-232.
- Ben Dor, A., 2003. The Performance of Initial Public Offerings and the Cross Section of Institutional Ownership. Working Paper. Northwestern University.
- Bennedsen, M., Nielsen, K.M., 2010. Incentive and entrenchment effects in European ownership. *Journal of Banking and Finance* 34, 2212–2229.
- Benveniste, L.M., Spindt, P., 1989. How investment bankers determine the offer price and allocation of new issues. *Journal of Financial Econometrics* 24. 343-361.
- Benveniste, L.M., Busaba, W.Y., 1997. Bookbuilding vs. fixed price: an analysis of competing strategies for marketing IPOs. *Journal of Financial and Quantitative Analysis* 32, 383–403.
- Benveniste, L.M., Spindt, P., 1989. How investment bankers determine the offer price and allocation of new issues. *Journal of Financial Economics* 15, 213–232.
- Benveniste, L, M., William J. W., 1990. A comparative analysis of IPO proceeds under alternative regulatory environments, *Journal of Financial Economics* 28, 173-207.
- Berkman, H., Cole, R.A., Fu, L.J., 2009. Expropriation through loan guarantees to related parties: Evidence from China. *Journal of Banking and Finance* 33, 141–156.
- Blanco, R., S. Brennan, and I.W. Marsh, 2005. An empirical analysis of the dynamic relation between investment-grade bonds and credit default swaps, *Journal of Finance* 60.
- Bo, H., Huang, Z., and Wang, C. 2011. Understanding seasoned equity offerings of Chinese firms. *Journal of Banking and Finance* 35, 1143-1157.
- Boabang, F., 2005. The opening, short, medium, and long term performance of Canadian unit trust initial public offerings (IPOs). *Journal of Business Finance and Accounting* 32, 1519–1536.
- Bonini, S., and Voloshyna, O. 2011. A, B or C? Experimental test of IPO mechanisms. *European Financial Management*, 23, 1468-036X.
- Boot, A., T. Milbourn, and Schmeits, A. 2006. Credit ratings as coordination mechanisms, *Review of Financial Studies* 19, 81–118.
- Booth, J.R., Smith, R.L., 1986. Capital raising, underwriting and certification hypothesis. *Journal of Financial Economics* 15, 261-81.
- Booth, J., Chua, L., 1996. Ownership dispersion, costly information, and IPO underpricing. Working paper.
- Bottelier, P., 2003. China's emerging domestic debt markets: Facts and issues., Discussion paper for Conference on Chinese Economic Policy Reform organized by the Center for Research on Economic Development and Policy Reform.
- Cai, J. 1998. The Long-Run Performance Following Japanese Rights Issues. *Applied Financial Economics*, 8, 419-434.
- Cai, J., Loughran, T., 1998. The performance of Japanese seasoned equity offerings, 1971–1992. *Pacific-Basin Finance Journal* 6, 395–425.
- Cai, Y., and Sevillir, M., 2012. Board connections and m&a transactions *Journal of Financial Economics* 103, 327–349.
- Campbell, John Y., Lettau, Martin, Malkiel, Burton G. and Xu, Yexiao 2001. Have Individual Stocks Become More Volatile? An Empirical Exploration of Idiosyncratic Risk. *The Journal of Finance*, 1, 1-43.
- Carter, R. and Manaster, S. 1990. Initial public offerings and underwriter reputation. *Journal of Finance* 45, 1045-67.

- Carter, R. B. 1992. Underwriter Reputation and Repetitive public offering. *Journal of Financial Economics*, 23, 303-323.
- Carter, R.B., Frederick, H.D. and Singh, A.K.1998. Underwriter Reputation, Initial Returns, and the Long-Run Performance of IPO Stocks, *Journal of Finance*, 53(1), 285-311.
- Carter,R.B., Manaster. S., 1990. Initial public offerings and underwriter reputation. *Journal of Finance* 45. 1045-1067.
- Chahine, S., 2008. Underpricing versus gross spread: New evidence on the effect of sold shares at the time of IPOs. *Journal of Multinational Financial Management* 18, 180–196.
- Chambers, D., and Dimson, E. 2009. IPO underpricing over the very long run. *Journal of Finance* 64, 1407–1443.
- Chan, A.M.Y., Sit, C.L.K., Tong, M.M.L., Wong, D.C.K., Chan, R.W.Y., 1996. Possible factors of the accuracy of prospectus earnings forecast in Hong Kong. *The International Journal of Accounting* 31 (3), 381–398.
- Chan, K. , J.K.C. Wei, and Wang, J. 2004. Under-pricing and long-term performance of ipos in china, *Journal of Corporate Finance* 10, 409-130.
- Chemmanri, T.J., 1993. The pricing of Initial Public Offerings: A dynamic model with information production. *Journal of Finance* 48, 285-304.
- Chemmanur, T., and Paelgis, I. 2005. Management quality, certification, and initial public offerings, *Journal of Financial Economics* 76, 331-368.
- Chemmanur.T.J., He,S., Hu.,2008. The role of institutional investors in seasoned equity offerings. *Journal of Financial Economics* 94. 384-411.
- Chen, A., Kao, L., 2005. The conflict between agency theory and corporate control on managerial ownership: the evidence from Taiwan IPO performance. *International Journal of Business* 10 (1).
- Chen, G, Firth, M., Krishnan, G.V., 2001. Earnings forecast errors in IPO prospectuses and their associations with initial stock returns. *Journal of Multinational Financial Management* 11 (2), 225–240.
- Chen, J.J, 2004. Determination of capital structure of Chinese-listed companies. *Journal of Business Research* 57. 1341-1351.
- Chen, X., Lee, C., Li, J., 2003. Chinese Tango: Government Assisted Earnings Management. Working Paper, Tulane University, A.B. Freeman School of Business.
- Chen, ZH., Choi, JJ and Jing, J. 2008. Private benefits in ipos: Evidence from state owned firms, AFA 2009 San Francisco Meetings Paper.
- Chen. C.W., Wang.J., 2007. Accounting-based regulation in emerging markets: The case of China’s seasoned-equity offerings. *The International Journal of Accounting*, 42, 221-236.
- Cheung. Y., Ouyang. Z and Tan. W. 2009. How regulatory changes affect IPO underpricing in China. *China Economic Review*, 20, 692 -702.
- Chi, J., Pedgett, C., 2005. Short-run underpricing and its characteristics in Chinese initial public offering (IPO) markets. *Research in International Business and Finance* (19), 71-93.
- Chiou, J.R., Li,M.Y.L., Li, C., Chang, S.Y., 2010, Pricing and allocation mechanisms in underpricing of Chinese IPOs. *The Chinese Economy* (43), 93-108.
- Choe, H., R. Marsulis, and Nanda, 1993. Common stock offerings across the business cycle: Theory and evidence, *Journal of Empirical Finance* 1, 3-31.
- Claessens, S., Djankov, S., Lang, L.H.P., 2000. The separation of ownership and control

- in East Asian corporations. *Journal of Financial Economics* 58 (1–2), 81–112.
- Clarkson, P.M., and Simunic, D.A. 1994, The association between audit quality, retained ownership, and firm-specific risk in U.S. Vs. Canadian ipo markets, *Journal of Accounting and Economics* 17, 207-228.
- Coles, J.L., Daniel, N.D., Naveen, L., 2008. Boards: Does one size fit all? *Journal of Financial Economics*, 87, 329–356
- Corwin, S.A., 2003. The determinants of underpricing for seasoned equity offers, *Journal of Finance* 58, 2249–2279.
- Datar, V., and Mao, D. 1998. Initial public offerings in china: Why is underpricing so severe, Working paper, Seattle University.
- DeAngelo, H., DeAngelo, L., Stulz, R.M., 2010. Seasoned equity offerings, market timing, and the corporate lifecycle. *Journal of Financial Economics* 95, 275–295.
- Deb, S.S., Marisetty, V.B., 2010. "Information content of IPO grading." *J. Ban. Finance* 34(9): 2294-2305.
- DeGeorge, F., Derrien, F. and Womack, K., 2007. ‘Analyst hype in IPOs: explaining the popularity of bookbuilding’, *Review of Financial Studies* 20. 1021–58.
- DeGeorge, F., Derrien, F. and Womack, K., 2010. Auctioned IPO: the US evidence. Working Paper (EFM Entrepreneurial Finance & Venture Capital Markets Symposium).
- Delios. A., Wu. Z.J., 2005. Legal person ownership, diversification strategy and firm profitability in China. *Journal of Management and Governance* 9. 151-169.
- Demb, A., Neubauer, F., 1992. *The Corporate Board*. Oxford University Press, New York.
- Denis, D., 1994. Investment opportunities and the market reaction to equity offerings, *Journal of Financial and Quantitative Analysis* 29, 159-177.
- Derrien, F., Womack, K. 2003. Auction vs. Bookbuilding and the control of underpricing in hot IPO market, *The Review of Financial Studies* Spring 16, 31-61.
- Dimovski, W., Brooks, R., 2008. The underpricing of gold mining initial public offerings. *Research in International Business and Finance* 22, 1–16.
- Dolvin, S.D., Jordan, B.D., 2008. Underpricing, overhang, and the cost of going public to pre-existing shareholders. *Journal of Business Finance and Accounting* 35, 434–458.
- Drake. P.D., Vetsuypens. M.R., 1993. IPO underpricing: insurance against legal liability. *Financial Management* 22. 64-73.
- DuCharme, L., Malatesta, P., Sefcik, S., 2004. Earnings management, stock issues, and shareholder lawsuits. *Journal of Financial Economics* 71, 27–49.
- Dunbar. C.G., 2000. Factors affecting investment bank initial public offering market share, *Journal of Financial Economics*, 55, 3-41.
- Edelen, R.M., Kadlec, G.B., 2005. Issuer surplus and the partial adjustment of IPO prices to public information. *Journal of Financial Economics* 77, 347–373.
- Ederington, L.H., Goh, J.C. 1998, Bond rating agencies and stock analysts: Who knows what when?, *Journal of Financial and Quantitative Analysis* 33, 569-585.
- Eisenberg, T., Sundgren, S., Wells, M., 1998. Larger board size and decreasing firm value in small firms. *Journal of Financial Economics* 48 (1), 35-54.
- Ellul, A., C. Jotikasthira, and Lundblad, C.T. 2011. Regulatory pressure and fire sales in the corporate bond market, *Journal of Financial Economics* 101, 596-620.
- Eng, L.L., Aw, H.S., 2000. An analysis of factors affecting investor demand for initial public offerings in Singapore. *Multinational Finance Journal* 4 (1&2), 133–153.

- Engelen, P.J., 2003. Underpricing of IPOs: Belgium evidence. *European Review of Economics and Finance* 2, 53–69.
- Espenlaub, S., Gregory, A. Tonks, I. 1998. Testing the Robustness of Long-Term Under-Performance of UK Initial Public Offerings, Discussion Paper in Business and Management, 98/07.
- Ezzamel, M., J., Zezhong Xiao, and Pan, A. 2007. Political ideology and accounting regulation in china *Accounting, Organizations and Society* 32, 669-700.
- Fama, E. F. 1998. Market Efficiency, Long-term Returns, and Behavioural Finance, *Journal of financial Economics*, 49,283-306.
- Fan.J.P.H., Wong. T.J., Zhuang. T., 2007. Political connected CEOs, corporate governance and post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics* 84, 330-357.
- Faulkender, M., Petersen, M. 2006. Does the source of capital affect capital structure? , *Review of Financial Studies* 19, 45–79.
- Fernando, C., Krishnamurthy, S. and Spindt, P., 2007. Are share price levels informative? Evidence from the ownership, pricing, turnover and performance of IPO firms, *Journal of Financial Markets* 7. 377–403.
- Fernando, C.S., Krishnamurthy, S., Spindt, P.A., 2004. Are share price levels informative? Evidence from the ownership, pricing, turnover, and performance of IPO firms. *Journal of Financial Markets* 7 (4), 377–403.
- Fonseka. M.M., Samarakoon. L.P., Tian. G.L., 2012. Equity financing capacity and stock returns: Evidence from China. *Journal of International Financial Markets, Institutions & Money*, 22, 1277- 1291.
- Garfinkel, J.A. 1993. The pricing of initial public offerings: A dynamic Model with information production, *Journal of Finance* 48, 285-304.
- Geroski, P. and A. Jacquemin, 1988. The Persistence of Profits: A European Comparison, *Economic Journal*, 98, 375-389.
- Ghosh, C., Nag, R., and Sirmans, C. F., 2000, A test of the signaling value of IPO underpricing with REIT IPO-SEO pairs, *Journal of Real Estate Finance and Economics*, 20, 137-154.
- Goergen. M., Khurshed. A., Renneboog. L., 2006. Why are the French so different from the Germans? Underpricing of IPOs on the Euro New Markets. Working paper.
- Golubov, A., Petmezas, D., and Travlos.N.G., 2012. When it pays to pay your investment banker: New evidence on the role of financial advisors in M&As. *The Journal of Finance*, LXVII, 271-311.
- Gondat-L.C., and James, K., 2008. IPO pricing and share allocation: The importance of being ignorant, *Journal of Finance* 63, 449–478.
- Graham, J.R., Harvey, C.R., 2001. The theory and practice of corporate finance: evidence from the field. *Journal of Financial Economics* 60, 187–243.
- Grinblatt, M., Hwang, C.W. 1989. The demise of the rights issue. The review of financing. *Journal of Finance* 44, 393 – 420.
- Grinblatt. M., Hwang. C.Y., 1989. Signalling and the pricing of new issues. *Journal of Finance* 44. 393-420.
- Habib, M.A., Ljungqvist, A.P., 2001. Underpricing and entrepreneurial wealth losses: theory and evidence. *Review of Financial Studies* 14, 433–458.
- Hameed, A., Lim, G.H., 1998. Underpricing and firm quality in initial public offerings: Evidence from Singapore. *Journal of Business Finance and Accounting* 25, 455–468.
- Hand, J., Holthausen, R and Leftwich, R. 1992. The effect of bond rating agency

- announcements on bond and stock prices. , *Journal of Finance* 57, 733-752.
- Hanley, K. 1993. The underpricing of initial public offerings and the partial adjustment phenomenon. *Journal of Financial Economics*, 34, 231–250.
- Hansen, R.S., Torregrosa, P., 1992. Underwriter compensation and corporate monitoring. *Journal of Finance* 47, 1537-1555.
- Harjoto, M., Garen, J., 2003. Why do IPO firms conduct primary seasoned equity offerings? *The Financial Review* 38, 103–125.
- Hauser, S., Yaari, U., Tanchuma, Y., Baker, H., 2006. Initial public offering discount and competition. *Journal of Law and Economics* 49, 331–351.
- Helwege, J., Turner, C. 1999. The slope of the credit yield curve for speculative-grade issuers, *Journal of Finance* 54, 1869-1884.
- Henderson, B.J., Jegadeesh, N., Weisbach, M.S. 2006. World markets for raising new capital. *Journal of Financial Economics* 82 (1), 63-101.
- Heron, R.A., Lie, E. 2004. A comparison of the Motivations for and the Information Content of Different Types of Equity Offerings. *Journal of Business*, 77, 3, 605-632.
- Hill, P., Wilson, N., 2006. Value gains on flotation and IPO underpricing. *Journal of Business Finance & Accounting* 33, 1435–1459.
- Hovakimian, A., Opler, T., Titman, S., 2001. The debt-equity choice. *Journal of Financial and Quantitative Analysis* 36, 1–24.
- Howe, J. S., and Zhang, S. 2010. SEO cycle, *Financial Review* 45, 729-741.
- Huang, G., Song, F.M., 2006. The determinants of capital structure: evidence from China. *China Economic Review* 17, 14–36.
- Hunger, A., 2003. Market segmentation and IPO underpricing: The German experience. Ludwig-Maximilians University Working Paper 02/2003.
- Ibbotson, R. 1975. Price performance of common stock new issues. *Journal of Financial Economic*, 2, 235 – 272.
- Ibbotson, R.G., Jaffe, J. F. 1975. “Hot issue” Markets, *Journal of Finance*, 30, 1027-1042.
- Ibbotson, R.G., Ritter, J.R., 1995. Initial public offerings, Chapter 30. In: Jarrow, R., Maksimovic, V., Ziemba, W. (Eds.), *Handbooks in Operations Research and Management Science: Finance*. Elsevier B.V., Amsterdam, pp. 993–1016.
- Ibbotson, R.G., Sindelar, J.L., Ritter, J.R., 1994. The market's problems with the pricing of initial public offerings. *Journal of Applied Corporate* 66–77.
- Jagannathan, R. and Sherman, A., 2005. Reforming the bookbuilding process for IPOs, *Journal of Applied Corporate Finance* 17. 67–72.
- Jaggi, B., 1997. Accuracy of forecast information disclosed in the IPO prospectuses of Hong Kong companies. *The International Journal of Accounting* 32 (3), 301–319.
- Jeanneret, P. 2000. Use of the Proceeds and Long-Term Performance of French SEO Firms, *European Financial Management Association Congress (EFMA)*.
- Jegadeesh, N. 2000. Long-Term Performance of Seasoned Equity Offerings: Benchmark Errors and Biases in Expectations, *Financial Management*, 29, 5-30.
- Jegadeesh, N., Weinstein, M., Welch, I. 1993. An empirical investigation of IPO returns and Subsequent equity offering. *Journal of Financial economics*, 34, 153- 175.
- Jelic, R., Saadouni, B., Briston, R.J., 2001. Performance of Malaysian IPOs: underwriters' reputation and management earnings forecasts. *Pacific-Basin Finance Journal* 9, 457–486.
- Jenkinson, T.J and Ljungqvist, A.P. 2001. ‘Going Public’ The Theory and Evidence on

- How Companies Raise Equity Finance. Oxford University Press.
- Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review* 76, 323–329.
- Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3, 305–360.
- Jensen, M.C., 1986. Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review* 76, 323–339.
- Jian, M., Wong, T.J., 2004. Earnings Management and Tunneling Through Related Party Transactions: Evidence from Chinese Corporate Groups. Working Paper, The Hong Kong University of Science and Technology.
- Jiang, Y, 2008. Do firms time seasoned equity offering? Evidence from SEOs issued shortly after IPOs. Working paper.
- Jorion, P., Liu, Z., Shi, C. 2005. Informational effects of regulation fd: Evidence from rating agencies *Journal of Financial Economics* 76, 309–330.
- Jung, K., Kim, Y. C., Stulz, R. M. 1996. Timing, investment opportunities, managerial discretion, and the security issue decision, *Journal of Financial Economics*, 2, 159-186.
- Kahneman, D., Tversky, A., 1979. Prospect theory: an analysis of decision under risk. *Econometrica* 47, 263–291.
- Kandel, S., Sarig, O. and Wohl, A., 1999. The demand for stocks: an analysis of IPO auctions, *The Review of Financial Studies* 12. 227–47.
- Kaneko, T., Pettway, R.H., 2003. Auctions versus book building of Japanese IPOs. *Pacific-Basin Finance Journal* 11 (4), 439–462.
- Kang, J.-K., Kim, Y.-C., Stulz, R., 1999. The under-action hypothesis and the new issue puzzle: evidence from Japan. *Review of Financial Studies* 12, 519–534.
- Karpoff, J., Lee, Daniel., 1991. Insider trading before new issue announcement. *Financial Management* 20. 18-26.
- Kato, Kiyshi and Schallheim, J.S. 1991. Public and private placement of seasoned equity issues in Japan, Working paper, University of Utah.
- Keasey, K; Short, H, 1992. The Winner's Curse Model of the Underpricing of Initial Public Offerings: A Critical Assessment *Accounting and Business Research*, 89, 74-78.
- Khurshed, A., Mudambi, R., and Goergen, M. 1999. On the long-run performance of IPOs, Working paper.
- Kiel, G. C., Nicholson, G. J. 2003. Board Composition and Corporate Performance: How the Australian Experience Informs Contrasting Theories of Corporate Governance. *Corporate Governance*, 11, 189-205.
- Kim, J. B., Krinsky, Lee, J. 1995. The After-market Performance of Initial Public Offerings in Korea, *Pacific-Basin Financial Journal*, 3, 429-448.
- Kim, J.-B., Krinsky, I., Lee, J., 1995. The role of financial variables in the pricing of Korean initial public offerings. *Pacific-Basin Finance Journal* 3, 449–464.
- Kim, M., Ritter, J.R., 1999. Valuing IPO. *Journal of Financial Economics*, 53, 409-437.
- Kim, W., Weisbach, M.S., 2008. Motivations for public equity offers: an international perspective. *Journal of Financial Economics* 87, 281–307.
- Kim, H, E., and Purnanandam, A. 2013. Seasoned equity offerings, corporate governance and investments. *Review of Finance*, 1-35.
- Kisgen, D.J., 2006. Credit ratings and capital structure, *Journal of Finance* 61, 1035-1072.

- Kisgen, D.J., and Strahan, P.E. 2010., Do regulations based on credit ratings affect a firm's cost of capital?, *Review of Financial Studies* 23, 4324-4347.
- Koh, F., Walter, T., 1989. A direct test of Rock's model of the pricing of unseasoned issues. *Journal of Financial Econometrics* 23. 251-272.
- Korajczyk, R., Lucas, D., McDonald, R. 1991. The effect of information releases on the pricing and timing of equity issues, *Review of Financial Studies* 4, 685–708.
- Kothari, S. P., Warner, J. B. 1997. Measuring Long-horizon Security Price Performance, *Journal of Financial Economics*, 43, 301-340.
- Kucukkocaoglu, G., Alp, O.S. 2012. IPO mechanism selection by using classification and regression trees. *Quality & Quantity*, 46, 873-888.
- Kunz, R., Aggarwal, R., 1994. Why initial public offerings are underpriced: Evidence from Switzerland. *Journal of Banking and Finance* 18, 705–723.
- Kutsuna, K. Smith, R., 2004. Why does book building drive out auction methods of IPO issuance? Evidence from Japan, *The Review of Financial Studies* 17. 1129–66.
- Kutsuna, K., Smith, J. K., Smith, R. L. 2009. Public information, IPO price formation, and long-run returns: Japanese evidence. *Journal of Finance*, 64, 505–546.
- Kutsuna, K., Smith, R., 2000. How IPO pricing method affects underpricing and issue cost: Evidence on Japan's change from auction method pricing to book-building. Working Paper.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999. Corporate ownership around the world. *Journal of Finance* 54, 471–517.
- Lee, I. 1997. Do Firms Knowingly Sell Overvalued Equity? *Journal of Finance*, 52, 1439-1466.
- Lee, J. L., 2006. Credit raters in china take generous view, *Wall Street Journal*.
- Lee.C.W.J., Xue. S., 2011. Earning management of Loss-firms in China. Working paper.
- Leite, T., 2007. Adverse selection, public information, and underpricing in IPOs, *Journal of Corporate Finance* 13, 813–828.
- Leland, H., Pyle, D. 1977. Information asymmetries, financial structure and financial intermediation, *Journal of Finance* 32, 371 -378.
- Leleux, B., Paliard, R., 1996. The posted-price paradox: evidence on the floatation mechanism selection process in France. In: Levis, M. (Ed.), *Empirical Issues in Raising Equity Capital*. Elsevier.
- Levis, M., 1993. The Long-run Performance of Initial Public Offerings: The UK Experience 1980-1988, *Financial Management*, 22, 28-41.
- Levis, M., 1995. Seasoned equity offerings and short- and long-run performance of initial public offerings in the UK. *European Financial Management* 1, 125–146.
- Li, J., Zhang, L., Zhou, J., 2006. Earnings Management and Delisting Risk of Initial Public Offerings. Working Paper. University of Rochester.
- Lin, Yi-Hua, Jeng-Ren, Chiou, and Chen, Yenn-Ru, 2007. State ownership and rights offerings in Chinese listed firms. In: *Proceedings of the 13th Asia Pacific Management Conference*, Melbourne, Australia, 866–877.
- Lin., J.C and Wu, L. 2013. SEO timing and liquidity risk. *Journal of Corporate Finance*. 19, 95-118.
- Liu, C., and Chung, Y. 2013. SEO underpricing in China's Stock Market: a stochastic frontier approach, *Applied Financial Economics*. 23, 393-402.
- Liu, W., 2006. A liquidity-augmented capital asset pricing model. *Journal of Financial Economics*. 82, 631–671.
- Liu, Y., and Malatesta, P. 2007. Credit ratings and the pricing of seasoned equity offerings, Working paper, University of Washington.

- Ljungqvist, A., Wilhelm, W. J., Jr. 2002. IPO allocations: Discriminatory or discretionary? *Journal of Financial Economics*, 65, 167–201.
- Ljungqvist, A., 2007. IPO underpricing: a survey, in E. Eckbo, ed., *Handbook in Corporate Finance: Empirical Corporate Finance*. 375–422.
- Ljungqvist, A.P., Jenkinson, T., Wilhelm Jr., W.J., 2003. Global integration in primary equity markets: the role of U.S. banks and U.S. investors. *Review of Financial Studies* 16 (1), 63–99.
- Loderer, C. F., Sheehan, D. P., Kadlec, G. B. 1991. The pricing of equity offering. *Journal of Financial Economic*, 29, 35- 57.
- Logue, D., 1973. On the pricing of unseasoned equity issues 1965-69. *Journal of Financial Quantitative Analysis* 8. 91-103.
- Loughran, T. and Ritter, J. R. 1997. The Operating Performance of Firms Conducting Seasoned Equity Offerings. *Journal of Finance*, 52, 1823-1850.
- Loughran, T., J. Ritter, and K. Rydqvist, 1994, Initial public offerings: International insights, *Pacific-Basin Finance Journal* 2, 165-199.
- Loughran, T., Ritter, J.R., 1995. The new issues puzzle. *Journal of Finance* 50, 23–51.
- Loughran, T., Ritter, J.R., 2002. Why don't issuers get upset about leaving money on the table in IPOs? *Review of Financial Studies* 15, 413–443.
- Lyon, J., Barber, B. and Tsai, C. L. 1999. Improved Methods for Tests of Long run Abnormal Stock Returns, *Journal of Finance*, 54,165-201.
- Ma, S. 2007. Information asymmetry and value uncertainty, the determination of China's IPO allocation procedures. *Applied Financial Economic*, 17, 271-284.
- Ma, S., and Robert, F. 2007. Market conditions and the optimal IPO allocation mechanism in China. *Pacific-Basin Finance JOURNAL*, 15, 121 – 139.
- Machin, S. and Van J. Reenan, 1993. Profit Margins and the Business Cycle: Evidence from UK Manufacturing Firms, *Journal of Industrial Economics*, 41, 29-50.
- Mak, Y.T., Tan. R.S.K., Tan. Y.C.W., and Tee. H.P., 2003. Corporate governance and IPO Pricing. Working Paper.
- Manso, G., 2013. Feedback effects of credit ratings, *Journal of Financial Economics*, Forthcoming -.
- Marsh, P., 1982. The choice between equity and debt: an empirical study. *Journal of Finance* 37, 121–144.
- Martin, K.J, 1996. The Method of Payment in Corporate Acquisitions, Investment Opportunities, and Management Ownership, *Journal of Finance* 51, 1227-1246.
- Mathew, P., 2002. Long-horizon seasoned equity offerings performance in Pacific Rim markets. *Review of Financial Economics* 11, 317–333.
- Mauer, D., Senbet. L., 1992. The effect of the secondary market on the pricing of initial public offerings: Theory and evidence. *Journal of Financial Quantitative Analysis* 27. 55-79.
- McLaughlin, R., Vasudevan, G., Saffiedine, A., 1996. The operating performance of seasoned equity issuers: free cash flow and post-issue performance. *Financial Management* 25, 41–53.
- Mello, A.S., Parsons, J.E., 1998. Going public and the ownership structure of the Firm. *Journal of Financial Economics* 49, 79-109.
- Michaely, R, and Shaw, W. 1994. The pricing of initial public offerings: Tests of adverse-selection and signaling theories, *Review of Financial Studies* 7, 279-319.
- Miller, E., 1977. Risk, uncertainty, and divergence of opinion. *Journal of Finance* 32, 1511-1158.

- Modigliani, F., Miller, M.H., 1958. The cost of capital, corporation finance and the theory of investment. *American Economic Review* 48, 261–297.
- Modigliani, F., Miller, M.H., 1963. Corporate income taxes and the cost of capital: a correction. *American Economic Review* 53, 433–443.
- Mok, H.M.K., Hui, Y.V., 1998. Underpricing and aftermarket performance of IPOs in Shanghai, China. *Pacific-Basin Finance Journal* 6, 453–474.
- Moshirian, F., Ng, D., Wu, E. 2010. Model Specification and IPO performance: New Insights from Asia. *Research in International Business and Finance*, 41, 41-59.
- Myers, S. and Majluf, N. 1984. Corporate financing and investment decision when firms have information that investors do not have, *Journal of Financial Economics* 13, 187-221.
- Myers, S.C., 1977. Determination of corporate borrowing. *Journal of Finance* 37, 121-144.
- Myers, S., 1984. The capital structure puzzle. *Journal of Finance* 39, 575-592.
- Ni, Y., Guo, S and Giles, D.E., 2010. Capital structures in an emerging market: a duration analysis of the time interval between IPO and SEO in China. *Applied Financial Economics* 20, 1531-1545.
- Opp, C.C., Opp, M.M., Harris, M. 2013. Rating agencies in the face of regulation, *Journal of Financial Economics* 108, 46-61.
- Pagano, M., Panetta, F., Zingales, L. 1998. Why do companies go public? An empirical analysis, *Journal of Finance*, 53, 27-64.
- Pastor, L., and Vernesi, P. 2005. Rational IPO waves, *Journal of Finance* 60, 1713-1757.
- Pastor, M. J. and Martín J. F. (2004). Long-run Performance of Spanish Seasoned Equity Issues with Rights. *International Review of Financial Analysis*, 13, 191-215.
- Pastor-Llorca, M.J., Poveda-Fuentes, F. 2005. Earning management as explanation of the equity issue puzzle. Working paper.
- Pastor-Llorca, M.J. and Poveda Fuentes, F. 2005. Earnings Management and the Long run Performance of Spanish Initial Public Offerings. Published in *Initial Public Offerings: An International Perspective*, Greg N. Gregoriou (Ed.), Elsevier Butterworth-Heinemann. 81-112.
- Poon, P., 2003. Are unsolicited credit ratings biased downward?, *Journal of Banking and Finance* 27, 593–614.
- Poon, W.P.H., Lee, J., Gup, B.E. 2009. Do solicitations matter in bank credit ratings? Results from a study of 72 countries., *Journal of Money, Credit, and Banking* 41, 285–314.
- Pham, P.K., Kalev, P.S., Steen, A.B., 2003. Underpricing, stock allocation, ownership structure and post-listing liquidity of newly listed firms. *Journal of Banking and Finance* 27, 919-947.
- Ritter, J. 1984. The hot issue market of 1980, *Journal of Business* 57, 215-240.
- Ritter, J. 2003. Investment banking and securities issuance, Chapter 5. In: Constantinides, G., Harris, M., Stulz, R. (Eds.), *Handbook of the Economics of Finance*. Elsevier B.V., Amsterdam, pp. 255–304.
- Ritter, J., Gao, X., Zhu, Z. 2013. Where have all the IPOs gone?, Working Paper, University of Florida.
- Ritter, J., 1998, *Initial Public Offerings*. Warren Gorham & Lamont Handbook of Modern Finance.
- Ritter, J., Welch, J., 2002. A review of IPO activity, Pricing and allocations. *Journal of Finance*, 4, 1795-1828.

- Rock, K., 1986. Why new issues are underpriced, *Journal of Financial Economics* 15, 187-212.
- Safieddine, A., Wilhelm, W.J. Jr., 1996. An empirical investigation of short-selling activity prior to seasoned equity offerings, *Journal of Finance* 51.
- Sherman, A., 2005. Global trends in IPO methods: bookbuilding vs. auctions with endogenous entry, *Journal of Financial Economics* 78, 615–649.
- Sherman, A.E., 2001. Global trends in IPO methods: Book building vs. auctions. Memo, March, University of Notre Dame.
- Shiller, R.J., 1990. Speculative prices and popular models. *Journal of Economic Perspectives* 4, 55–65.
- Shleifer, A., Wolfenzon, D., 2002. Investor protection and equity markets. *Journal of Financial Economics* 66, 3–27.
- Shleifer, A., Vishny, R., 1997. A survey of corporate governance. *Journal of Finance* 52, 737-783.
- Singh, A. and Whittington, G. 1968. *Growth, Profitability and Valuation: A Study of the United Kingdom Quoted Companies*, Cambridge: Cambridge University Press.
- Singh, M., Davidson, W. N. 2003. “Agency Cost, Ownership Structure and Corporate Governance Mechanisms.” *Journal of Banking and Finance*, 27, 793-816.
- Slovin, M.B., Sushka, M.E., Bendeck, Y.M., 1994. Seasoned common stock issuance following an IPO. *Journal of Banking and Finance* 18, 207-226.
- Spiess, D. K. and Affleck-Graves, J. 1995. Underperformance in Long-Run Stock Returns Following Seasoned Equity Offerings. *Journal of Financial Economics*, 38, 243-267.
- Spiess, D. K., and R. H. Pettway, 1997. The IPO and First seasoned equity sale: issue process, Owner / managers' wealth, and the underpricing signal. *Journal of Banking and Finance*, 21, 967- 988.
- Stehle, R.; Ehrhardt, O., Przyborowsky, R. 2000. Long-Run Stock of German Initial Public Offerings and Seasoned Equity Issues. *European Financial Management*, 6, 173-196.
- Stoughton, N.M., Zechner, J., 1998. IPO-mechanisms, monitoring and ownership structure. *Journal of Financial Economics* 49, 45-77.
- Su.C., Brookfield. D. 2013. An evaluation of the impact of stock market reforms on IPO underpricing in China: The certification role of underwriters. *International Review of Financial Analysis*, 28, 20-33.
- Su, D., 2004. Adverse-selection versus signalling: evidence from the pricing of Chinese IPOs. *Journal of Economics and Business* 56, 1–19.
- Su, D., and Fleisher, B. 1998. Explaining ipo initial returns in china, *Emerging Market Quarterly* 2, 1-16.
- Su, D., Fleisher, B.M., 1999. An empirical investigation of underpricing in Chinese IPOs. *Pacific-Basin Financial Journal* 7, 173–202.
- Su, D., Fleisher, B.M., 1999. Why does return volatility differ in Chinese stock markets. *Pacific-Basin Finance Journal* 7, 557–586.
- Sufi, A., 2007. Information asymmetry and financing arrangements: Evidence from syndicated loans, *Journal of Finance* 62, 629–668.
- Sufi, A., 2009. The real effects of debt certification: Evidence from the introduction of bank loan ratings, *Review of Financial Studies* 22, 1659-1691.
- Tang, T.T., 2009. Information asymmetry and firms' credit market access: Evidence from moody's credit rating format refinement, *Journal of Financial Economics* 93, 325-351.

- Teoh, S., Welch, I., Wong, T.J. 1998. Earnings management and the underperformance of seasoned equity offerings, *Journal of Financial Economics* 50, 63-69.
- Teoh, S., Wong, T.J., Rao, G., 1998. Are accruals during initial public offerings opportunistic? *Review of Accounting Studies* 3, 175–208.
- Ti, L., 2003. An empirical investigation of IPO underpricing in China. Working Paper. Research Centre, Shanghai Stock Exchange.
- Tian, G.L., 2003. Financial regulations, investment risks, and determinants of Chinese IPO under-pricing, CEPR Annual transition conference paper.
- Tian, L., and Megginson, W. 2007. Extreme underpricing: Determinants of chinese ipo initial returns Working Paper.
- Tian, L., 2011. Regulatory underpricing: Determinants of Chinese extreme IPO returns, *Journal of Empirical Finance* 18, 78-90
- Tinic, S. 1988. Anatomy of initial public offerings of common stock. *Journal of Finance* 43. 789-822.
- Uhlir, H., 1989. Going public in the F.R.G, in: R. Guimaraes et al. (eds.), *A reappraisal of the efficiency of financial markets*, Springer-Verlag, Berlin.
- Van Hoeijen, H., Van der Sar, N., 1999. De performance van aandelenintroducties op de Amsterdamse Effectenbeurs. *Maandblad voor Accountancy and Bedrijfseconomie* 73, 120–132.
- Vandemaele, S., 2003. Choice of selling mechanism at the IPO: the case of the French second market. *European Financial Management* 9, 435–455.
- Walker, Mark D., Yost, Keven, 2008. Seasoned equity offerings: what firms say, do, and how the market reacts. *Journal of Corporate Finance* 14 (4), 376–386.
- Wang, C., 2005. Ownership and operating performance of Chinese IPOs. *Journal of Banking and Finance* 29, 1835–1856.
- Welch, I., 1989. Seasoned offerings, Imitation Costs, and the Underpricing of Initial Public Offerings. *Journal of Finance* 44, 421-449.
- Welch, I., 1992. Sequential sales, learning, and cascades. *Journal of Finance* 47, 695–773.
- Wilhelm, W., 2005. Bookbuilding, auctions, and the future of the IPO process, *Journal of Applied Corporate Finance* 17. 55–65.
- Wooldridge, J. M. 2002. *Econometric Analysis of Cross Section and Panel Data*. Massachusetts Institute of Technology, Cambridge.
- Wu, Y. 2004. The choice of equity selling mechanism, *Journal of Finance*, 44, 421-49.
- Xu, X., Wang, Y. 1997. Ownership Structure, Corporate Governance, and Firm Performance: The Case of Chinese Stock Companies. World Bank Policy research paper No. 1794.
- Mak, Y. T., Tan, R.S.K., Tan, Y.C.W., Tee, H.P. 2003. Corporate Governance and IPO Pricing, working paper.
- Yermack, D., 1996. Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* 40, 185-211.
- Yong, O., 2007. A review of IPO research in Asia: What's next? *Pacific-Basin Finance Journal* 15. 253-275.
- Zahra, S. A., Pearce, J. A. 1989. Boards of Directors and Corporate Financial Performance: A Review and Integrative Model.” *Journal of Management*, 15, 291-334.
- Zhang, F., 2012. Information precision and IPO pricing, *Journal of Corporate Finance* 18, 331-348.

Appendix

Appendix A: Variable Definitions for Chapter 4

| Panel A: Dependent Variables | |
|---|--|
| Variable | Definition |
| MAIR | Market adjusted initial return, which calculated as (IPO closing price-IPO opening price)/IPO opening price – (Stock index closing price-Stock index opening price)/Stock index opening price on IPO day |
| Panel B: Credit Rating Dummy Variables | |
| Rating Existence | Existence of ratings by agencies prior to the IPO (1 if firm has credit rating before first listing, otherwise 0. |
| S&P Rating Existence | Rating from Standard & Poor's (1 if IPO is rated by S&P, 0 otherwise) |
| Moody's Rating Existence | Rating from Moody's (1 if IPO is rated by Moody's, 0 otherwise) |
| Fitch Rating Existence | Rating from Fitch (1 if IPO is rated by Fitch, 0 otherwise) |
| Dagong Rating Existence | Rating from Dagong (1 if IPO is rated by Dagong, 0 otherwise) |
| Rating Level | The level of rating before the firm went public. The value of 9 is assigned for AAA , 8 for AA,...,1 for CCC. The higher the number the better quality the rating |
| Rating Level by S&P | Grade of rating from Standard & Poor's. The value of 9 is assigned for AAA , 8 for AA,...,1 for CCC |
| Rating Level by Moody's | Grade of rating from Moody's. The value of 9 is assigned for AAA , 8 for AA,...,1 for CCC |
| Rating Level by Fitch | Grade of rating from Fitch. The value of 9 is assigned for AAA , 8 for AA,...,1 for CCC |
| Rating Level by Dagong | Grade of rating from Dagong. The value of 9 is assigned for AAA , 8 for AA,...,1 for CCC |
| Panel C: Independent Variables | |
| Exchange of Listing (EXC) | It takes the value of 1 if listing is at Shanghai, otherwise, 0. |
| Underwriters Nationality (UND) | Underwriter's nationality which gets the value '1' for domestic investment or commercial banks charging and '0' for foreign underwriters. |
| Government Ownership (SOE) | It takes the value of 1 if the firm has shares owned by government (i.e., whether listing firm is a State-owned enterprise), otherwise, 0. |
| Time Gap (TGAP) | The time gap between IPO announcement date and first day of trading. |
| Market Condition(HOT) | It takes the value of 1 when the value of the trading volume in the specific IPO month is above the median value of trading volumes in three months, otherwise, 0. |
| Age | The difference in years between firm IPO year and establishment year |
| Return on Equity(ROE) | Return on equity which define as Net income/ Shareholder's equity |
| Fixed Asset Ratio(TAN) | Company's fixed asset ratio which is Fixed asset/Total asset prior IPO |
| Leverage(LEV) | Company's financial leverage (D/E ratio) |
| Growth | The ratio of sales difference between time t and t-1 to sales at t-1 |
| Total Assets (log)(LogTA) | The natural logarithm of total asset of firm prior IPO |
| Industry | Log of 1+proportion of firms having credit rating in the same industry |
| Z score | Calculated as 1.2* Working capital/Total assets + 1.4*Retained Earnings/Total assets + 3.3* EBIT/Total assets+0.6*Market value of equity/Book value of total liabilities +1.0* Sales/Total assets. The higher the Z-score, the lower the likelihood of bankruptcy. |
| M/B ratio | Market to book ratio calculated as (Market value of equity – book value of equity + total asset)/ Total asset |
| Return on Assets(ROA) | Return on asset, calculated as Net income / Total asset prior IPO |
| State Ownership(Pstateshare) | Percentage of state share calculated as total number of state share / Total share outstanding |

Appendix B: Variable definition for Chapter 5

Panel A: Dependent variables

| Variable | Definition |
|------------------------------|---|
| DAU | Take vale of 1 if firm use auction mechanism, otherwise, 0. |
| DBB | Take value of 1 if firm use bookbuilding mechanism, otherwise, 0. |
| DOL | Take vale of 1 if firm use online fixed price mechanism, otherwise, 0. |
| DOLSM | Take vale of 1 if firm use online fixed price plus secondary market proportional mechanism, otherwise, 0. |
| DPP | Take vale of 1 if firm use private placement mechanism, otherwise, 0. |
| DSL | Take vale of 1 if firm use saving linkage mechanism, otherwise, 0. |
| DSM | Take vale of 1 if firm use secondary market proportional mechanism, otherwise, 0. |
| DSSW | Take vale of 1 if firm use selling subscription warrant mechanism, otherwise, 0. |
| MAIR | Market adjusted initial return, which calculated as (IPO closing price-IPO opening price)/IPO opening price – (Stock index closing price-Stock index opening price)/Stock index opening price on IPO day |
| Short return | Buy and hold return after ten days of IPO which calculated as (Closing price after 10 days of IPO – Opening price at IPO day)/Opening price at IPO day |
| Long term return (12) | 12 month buy-and-hold return, calculated as: $BHAR_{it} = \prod_{t=1}^{12} [1 + R_{it}] - \prod_{t=1}^{12} [1 + E(R_{it})]$ <p>Define Rit as the month t simple return on a sample firm. E(Rit) as the month t expected return for the sample firm</p> |
| Long term return (24) | 24 month buy-and-hold return, calculated as: $BHAR_{it} = \prod_{t=1}^{24} [1 + R_{it}] - \prod_{t=1}^{24} [1 + E(R_{it})]$ <p>Define Rit as the month t simple return on a sample firm. E(Rit) as the month t expected return for the sample firm</p> |
| Long term return (36) | 36 month buy-and-hold return, calculated as: $BHAR_{it} = \prod_{t=1}^{36} [1 + R_{it}] - \prod_{t=1}^{36} [1 + E(R_{it})]$ <p>Define Rit as the month t simple return on a sample firm. E(Rit) as the month t expected return for the sample firm</p> |

Panel B: Explanatory variable

| | |
|------------------------------|--|
| Age | The difference in years between firm IPO year and establishment year. |
| Size | The natural logarithm of the total number of outstanding shares after the IPO multiplied by price per share |
| State share | The ratio of state holding share over total share issued |
| Tradable shares | The ratio of publicly tradable share outstanding |
| Sale Growth | Company's sales growth rate calculated in the way (Sale _T -Sale _{T-1})/Sale _{T-1} |
| Board Size | The number of people in Board |
| Concentration | Sum percentage of the top 3 shareholder's holding. |
| Composition | Ratio of outside directors of total directors in board |
| Underwriter: | Take value of 1 if main underwriter is top 10 in China |
| Exchange | Take value of 1 if firm listing in shangshai stock market, otherwise, 0. |
| LEV | Leverage ratio, calculated as total debt/ total equity |
| Employee | Take value of 1 if firm has employee share, otherwise, 0. |
| Legal person share | Proportion of share legal person hold over total shares issued |
| M/B ratio | Market to book ratio calculated as (Market value of equity – book value of equity + total asset)/ Total asset |
| Return on Assets(ROA) | Return on asset, calculated as Net income / Total asset prior IPO |
| MR | 3-month weighted average of the buy-and-hold monthly returns on the market index in the 3 months prior to the offering date. |
| MV | Standard deviation of the daily return of the relevant market index in the two months prior to the offering date. |

Appendix C: Variable definition of Chapter 6

Panel A: Dependent variables

| Variable | Definition |
|----------------|---|
| SEOSize | Proceeds from SEO divided by Proceeds from IPO |
| SEOUPR | Initial return of SEO, calculated by (share closing price – share opening price)/ share opening price-(Market closing price-market opening price)/market opening price. |
| SEO | Dummy variable, take value of 1 if firm did first SEO, otherwise, 0. |
| Ln days | Natural logarithm of the number of days between IPO and first SEO |

Panel B: Explanatory variable

| | |
|-------------------------------|---|
| IPOUPR | Underpricing level of IPO, calculated by (Closing price-opening price)/opening price |
| IPO Size | The natural logarithm of IPO offer size, calculated by total number of share * total share issuing |
| SEO Size | The natural logarithm of SEO offer size, calculated by total number of share * total share issuing |
| AGE | The natural logarithm of days between first SEO and firm established. |
| AFTRET | Cumulative returns for firms from 2 trading days after IPO to 5 days before the announcement of first SEOs. |
| UND | Dummy variable takes value of 1 if firm doing IPO with top underwriter, otherwise, 0. |
| EXC | Dummy variable, takes value of 1 if firm listing in Shanghai stock market, otherwise, 0. |
| SOE | Percentage of shares hold by government prior SEO. |
| HOT | It takes the value of 1 when the value of the trading volume in the specific IPO month is above the median value of trading volumes in three months, otherwise, 0. |
| D industry | Industry dummy variable, Industry 1 is Finance, industry 2 is Utilities, industry 3 is Properties, industry 4 is Conglomerates, and industry 5 is Commerce industry 6 is others |
| VOLATILITY1 | Standard deviation of daily returns from 2 to 60 trading days after IPO. |
| VOLATILITY2 | Standard deviation of daily returns from 30 trading day after IPO to 1 trading days prior SEOs |
| T gap (day) | Time lag between SEO announcement day and SEO listing day |
| M/B | Market to book ratio calculated as (Market value of equity – book value of equity + total asset)/ Total asset |
| Growth | Sale growth rate, calculated as $\ln(\text{Sale}/\text{Sale } t-1)$ |
| Board Size | The number of people in Board |
| Concentration | Sum percentage of the top 3 shareholder's holding. |
| Legal Person | The percentage of share legal person held, calculated as legal person share / total share out standing |
| CEO | The percentage of CEO held, calculated as CEO share / total share out standing |
| Auditor | Dummy variable for Auditors quality, take value of 1 if firm doing IPO through 1 of top 10 auditors in China, otherwise, 0. |
| Institution Investment | Percentage of share held by institutional investors Change in percentage of fixed asset / total asset prior SEO |
| Non-tradable share | Percentage of non-tradable share, calculated as non-tradable share / total share outstanding |
| Total Asset | The nature logarithm of firms total assets prior SEO |
| ISSUE cost | Percentage of total expense from SEO issuing, including underwriter fee, law fee and accounting fee etc of total SEO proceeds |
| ROA | Return on Assets, calculated as EBIT/Total assets |
| ROE | Return on equity which define as Net income/ Shareholder's equity |
| AE | Percentage of administration fee calculated as administration fee / Total assets prior the year of SEO |
| GDP | GDP growth rate before the quarter of first SEO |

Appendix D: Underwriters' IPO Activities in the Chinese market (1990– 2011)

| Rank | Underwriter | Market Share(%) |
|-------------|--------------------------------|------------------------|
| 1 | PING AN China | 12.58 |
| 2 | Guosen Securities | 12.07 |
| 3 | China Merchants Bank | 5.59 |
| 4 | Guangzhou Development Bank | 5.59 |
| 5 | China CITIC Bank | 5.08 |
| 6 | Huatai UNITED Securities | 4.70 |
| 7 | Haitong Securities | 4.57 |
| 8 | Minsheng Securities | 3.18 |
| 9 | Everbright Securities Co., LTD | 3.18 |
| 10 | CHINA Securities. Co., LTD | 3.05 |
| 11 | Sinolink Securities | 2.80 |
| 12 | Essence Securities | 2.80 |
| 13 | GuoYuan Securities | 2.03 |
| 14 | HongYuan Securities | 2.03 |
| 15 | Huatai Securities | 1.78 |
| 16 | Xingye Securities | 1.78 |
| 17 | Soochow Securities | 1.65 |
| 18 | Southwest Securities | 1.65 |
| 19 | Zhongde Securities | 1.52 |
| 20 | China Investment Securities | 1.40 |

This table provides top 20 underwriters in Chinese Stock Market from January 1,1990 and December 31, 2011.

Appendix E: List of firms in Shanghai and Shenzhen Stock Exchange Market

| Company name | Establishing day | Listing day |
|---|------------------|-------------|
| SHENZHEN DEVELOPMENT BANK CO., LTD. | 1987-12-22 | 1991-04-03 |
| CHINA VANKE CO., LTD | 1984-05-30 | 1991-01-29 |
| GINTIAN INDUSTRY (GROUP) CO., LTD | 1988-11-09 | 1991-07-03 |
| SHENZHEN CAU TECHNOLOGY CO. · LTD. | 1986-05-05 | 1991-01-14 |
| SHENZHEN FOUNTAIN CORPORATION | 1988-12-22 | 1990-12-10 |
| SHENZHEN ZHENYE (GROUP) CO., LTD. | 1989-05-25 | 1992-04-27 |
| BEIJING SHENHUAXIN CO., LTD. | 1988-12-31 | 1995-10-27 |
| CSG HOLDING CO., LTD. | 1992-01-28 | 1992-02-28 |
| SHENZHEN PETROCHEMICAL INDUSTRY (GROUP) CO., LTD | 1992-03-18 | 1992-05-06 |
| SHAHE INDUSTRIAL CO., LTD. | 1992-04-21 | 1992-06-02 |
| SHENZHEN ZHONGHAO (GROUP) CO., LTD | 1992-05-08 | 1992-06-25 |
| KONKA (GROUP) CO., LTD. | 1992-03-06 | 1992-03-27 |
| SHENZHEN CHINA BICYCLE CO., (HOLDINGS) LTD. | 1992-03-12 | 1992-03-31 |
| SHENZHEN VICTOR ONWARD TEXTILE INDUSTRIAL CO., LTD. | 1992-05-09 | 1992-06-16 |
| SHENZHEN SHENBAO INDUSTRIAL CO., LTD | 1992-08-06 | 1992-10-12 |
| SHENZHEN ZHONGHENG HUAFU CO.,LTD. | 1992-03-30 | 1992-04-28 |
| SHENZHEN GREAT WALL KAIFA TECHNOLOGY CO., LTD | 1993-12-29 | 1994-02-02 |
| SHENZHEN CHIWAN WHARF HOLDINGS CO., LTD | 1993-03-21 | 1993-05-05 |
| SHENZHEN UNIVERSE (GROUP) CO., LTD | 1993-03-28 | 1993-04-29 |
| CHINA MERCHANTS PROPERTY DEVELOPMENT CO., LTD | 1993-04-10 | 1993-06-07 |
| SHENZHEN TELLUS HOLDING CO., LTD | 1993-04-18 | 1993-06-21 |
| FIYTA HOLDINGS LTD. | 1993-04-18 | 1993-06-03 |
| SHENZHEN ENERGY GROUP CO., LTD. | 1993-06-27 | 1993-09-03 |
| SHENZHEN ACCORD PHARMACEUTICAL CO., LTD | 1993-07-03 | 1993-08-09 |
| SHENZHEN SPECIAL ECONOMIC ZONE REAL ESTATE & PROPERTIES (GROUP) CO., LTD. | 1993-08-15 | 1993-09-15 |
| GUANGDONG SUNRISE HOLDINGS CO., LTD | 1993-08-28 | 1993-09-29 |
| COFCO PROPERTY (GROUP) CO.,LTD. | 1993-09-26 | 1993-10-08 |
| SHENZHEN SED INDUSTRY CO., LTD. | 1993-09-26 | 1993-10-28 |
| SHENZHEN CENTURY PLAZA HOTEL CO., LTD | 1990-03-08 | 1994-01-03 |
| SHENZHEN SHENXIN TAIFENG (GROUP) CO., LTD | 1982-06-01 | 1994-05-09 |
| CHINA KEJIAN CO., LTD. | 1984-12-31 | 1994-04-08 |
| CHINA UNION HOLDINGS LTD. | 1994-01-29 | 1994-06-17 |
| SHENZHEN NANSHAN POWER STATION CO., LTD | 1993-11-25 | 1994-07-01 |
| SHENZHEN CAPSTONE INDUSTRIAL CO., LTD | 1987-06-24 | 1994-08-08 |
| BAOAN HONGJI REAL ESTATE GROUP CO., LTD. | 1993-12-30 | 1994-08-08 |
| SHENZHEN CHANGCHENG INVESTMENT HOLDING CO.,LTD | 1994-09-13 | 1994-09-21 |
| AVIC REAL ESTATE HOLDING COMPANY LIMITED | 1994-09-24 | 1994-09-28 |
| SHENZHEN TEXTILE (HOLDINGS) CO., LTD. | 1994-08-06 | 1994-08-15 |
| OCEANWIDE CONSTRUCTION GROUP CO., LTD. | 1994-08-13 | 1994-09-12 |
| SHENZHEN OVERGLOBE DEVELOPMENT CO., LTD | 1994-09-28 | 1994-10-21 |
| SHENZHEN KONDARL (GROUP) CO., LTD | 1994-09-21 | 1994-11-01 |
| SHENZHEN DESAY BATTERY TECHNOLOGY CO., LTD. | 1995-02-18 | 1995-03-20 |

| | | |
|--|------------|------------|
| TIANMA MICROELECTRONICS CO. , LTD | 1995-02-26 | 1995-03-15 |
| CHINA FANGDA (GROUP) CO., LTD. | 1995-12-13 | 1996-04-15 |
| SHENZHEN INTERNATIONAL ENTERPRISE CO., LTD. | 1993-03-18 | 1996-07-08 |
| SHENZHEN SEG CO., LTD. | 1996-07-16 | 1996-12-26 |
| LIAONI HUAJIN TONGDA CHEMICALS CO., LTD. | 1997-01-18 | 1997-01-30 |
| SHENZHEN ZHONGJIN LINGNAN NONFEMET CO., LTD. | 1994-06-06 | 1997-01-23 |
| SHENZHEN AGRICULTURAL PRODUCTS CO., LTD | 1994-01-19 | 1997-01-10 |
| SHENZHEN HUAQIANG INDUSTRY CO., LTD | 1994-01-19 | 1997-01-30 |
| ZTE CORPORATION | 1997-11-11 | 1997-11-18 |
| NORINCO INTERNATIONAL COOPERATION LTD. | 1998-05-14 | 1998-06-05 |
| CHINA GREATWALL COMPUTER SHENZHEN CO., LTD. | 1997-06-20 | 1997-06-26 |
| SHENZHEN SEG SAMSUNG GLASS CO., LTD. | 1997-06-06 | 1997-06-11 |
| SHENZHEN OVERSEAS CHINESE TOWN CO. , LTD | 1997-09-02 | 1997-09-10 |
| SHENZHEN SDG INFORMATION CO., LTD | 1999-07-29 | 2000-05-11 |
| SHENZHEN NEPTUNUS BIOENGINEERING CO., LTD | 1998-09-01 | 1998-12-18 |
| SHENZHEN YAN TIAN PORT HOLDINGS CO., LTD | 1997-07-21 | 1997-07-28 |
| SHENZHEN AIRPORT CO., LTD | 1998-04-10 | 1998-04-20 |
| SHENZHEN TONGE (GROUP) CO., LTD | 1993-12-06 | 1999-07-21 |
| SHENZHEN GUANGJU ENERGY CO., LTD. | 1999-02-18 | 2000-07-24 |
| CITIC OFFSHORE HELICOPTER CO., LTD. | 1999-02-11 | 2000-07-31 |
| TCL CORPORATION | 2002-04-19 | 2004-01-30 |
| YIHUA REAL ESTATE CO., LTD. | 1993-02-19 | 2000-08-07 |
| CHINA NATIONAL COMPLETE PLANT IMPORT | 1999-03-01 | 2000-09-06 |
| ANHUI FENGYUAN PHARMACEUTICAL CO., LTD. | 1997-08-30 | 2000-09-20 |
| SICHUAN CHEMICAL CO., LTD. | 1997-10-20 | 2000-09-26 |
| HUNAN ANPLAS CO., LTD. | 1994-06-30 | 2000-09-06 |
| ZOOMLION HEAVY INDUSTRY SCIENCE AND TECHNOLOGY CO., LTD. | 1999-08-31 | 2000-10-12 |
| SHIJIAZHUANG CHANGSHAN TEXTILE CO., LTD. | 1998-12-29 | 2000-07-24 |
| XINJIANG INTERNATIONAL INDUSTRY CO., LTD | 1999-03-28 | 2000-09-26 |
| JIANGSU WUJIANG CHINA EASTERN SILK MARKET CO.,LTD | 1998-07-16 | 2000-05-29 |
| WEICHAJ POWER CO., LTD. | 2002-12-23 | 2007-04-30 |
| XJ ELECTRIC CO., LTD. | 1993-03-15 | 1997-04-18 |
| TANGSHAN JIDONG CEMENT CO., LTD. | 1994-05-08 | 1996-06-14 |
| FINANCIAL STREET HOLDING CO., LTD | 1996-06-18 | 1996-06-26 |
| ZHENXING BIOPHARMACEUTICAL AND CHEMICAL CO., LTD. | 1993-12-01 | 1996-06-28 |
| HUAYI COMPRESSOR CO., LTD. | 1995-08-31 | 1996-06-19 |
| ZHUHAI SHINING METALS (GROUP) CO., LTD | 1992-08-10 | 1996-06-20 |
| SINOPEC SHENGLI OIL FIELD DYNAMIC (GROUP) CO., LTD | 1993-05-08 | 1996-06-28 |
| SHANDONG SHENGLI CO., LTD. | 1994-05-11 | 1996-07-03 |
| JINGUYUAN HOLDING CO.,LTD | 1996-06-25 | 1996-06-28 |
| TAIFU INDUSTRY CO.,LTD. | 1993-04-28 | 1996-06-27 |
| SHENYANG MACHINE TOOL CO., LTD | 1993-05-20 | 1996-07-18 |
| CHANGCHUN NORTH CHINA WOHUAN CO., LTD | 1993-06-28 | 1996-07-15 |
| SHIJIAZHUANG BAOSHI ELECTRONIC GLASS CO., LTD. | 1992-12-26 | 1996-09-25 |
| BOHAI LEASING CO.,LTD | 1993-06-30 | 1996-07-16 |

| | | |
|---|------------|------------|
| QINGDAO HUAXIN INDUSTRY CO., LTD | 1993-06-12 | 1996-07-19 |
| HEFEI DEPARTMENT STORE (GROUP) CO., LTD | 1993-10-19 | 1996-08-12 |
| WUXI LITTLE SWAN CO., LTD. | 1993-11-29 | 1997-03-28 |
| CHANGSHA TONGCHENG HOLDINGS CO., LTD | 1996-08-10 | 1996-08-16 |
| JILIN CHEMICAL FIBRE STOCK CO., LTD. | 1993-05-08 | 1996-08-02 |
| NANJING ZHONGBEI (GROUP) CO., LTD. | 1992-07-10 | 1996-08-06 |
| HUBEI YIHUA CHEMICAL INDUSTRY CO., LTD | 1992-12-24 | 1996-08-15 |
| SHAN DONG DONG-E E-JIAO CO., LTD | 1993-05-28 | 1996-07-29 |
| XCMG CONSTRUCTION MACHINERY CO., LTD. | 1993-12-15 | 1996-08-28 |
| INNER MONGOLIA XINGYE MINING CO.,LTD | 1994-02-18 | 1996-08-28 |
| HUATIAN HOTEL GROUP CO.,LTD | 1995-10-18 | 1996-08-08 |
| GUANGDONG PROVINCIAL EXPRESSWAY DEVELOPMENT CO., LTD | 1993-02-09 | 1998-02-20 |
| ZHANG JIA JIE TOURISM DEVELOPMENT CO., LTD | 1992-12-19 | 1996-08-29 |
| SHANDONG CHENMING PAPER HOLDINGS LTD. | 1993-05-05 | 2000-11-20 |
| DANDONG CHEMICAL FIBRE CO., LTD | 1993-12-22 | 1997-06-09 |
| WUHAN DEPARTMENT STORE GROUP CO., LTD. | 1986-12-25 | 1992-11-20 |
| SEARAINBOW HOLDING CO., LTD | 1991-09-14 | 1992-11-30 |
| BEIJING CCID MEDIA INVESTMENTS CO., LTD. | 1991-10-18 | 1992-12-08 |
| HAINAN PEARL RIVER HOLDINGS CO., LTD. | 1992-01-11 | 1992-12-21 |
| ZHONGRUN RESOURCES INVESTMENT CORPORATION | 1988-03-12 | 1993-03-12 |
| ZHUHAI PORT CO., LTD | 1989-03-09 | 1993-03-26 |
| HAINAN MINYUAN MODERN AGRICULTURAL DEVELOPMENT CO., LTD | 1992-01-21 | 1993-04-30 |
| SICHUAN JINLU (GROUP) CO., LTD. | 1989-04-12 | 1993-05-07 |
| CHONGQING YUKAIFA CO., LTD | 1992-10-23 | 1993-07-12 |
| CHONGQING TITANIUM INDUSTRY CO.LTD OF PANGANG GROUP | 1990-09-04 | 1993-07-12 |
| RONGAN PROPERTY CO., LTD. | 1989-05-19 | 1993-08-06 |
| JIANGSU SIHUAN BIOENGINEERING CO., LTD | 1990-02-20 | 1993-09-08 |
| HUNAN JIANGNAN RED ARROW CO., LTD. | 1989-12-10 | 1993-10-08 |
| CHANG JIANG SHIPPING GROUP PHOENIX CO., LTD | 1992-06-15 | 1993-10-25 |
| HEFEI MEILING CO., LTD. | 1992-12-31 | 1993-10-18 |
| GUANGZHOU DONGFANG HOTEL CO., LTD | 1993-01-14 | 1993-11-18 |
| NANJING REDSUN CO., LTD. | 1992-06-05 | 1993-10-28 |
| GUANGXI LIUGONG MACHINERY CO., LTD. | 1993-11-09 | 1993-11-18 |
| GUANGDONG GUANGHONG HOLDINGS CO.,LTD. | 1992-07-05 | 1993-11-18 |
| DALIAN REFRIGERATION CO., LTD. | 1993-11-28 | 1993-12-08 |
| GUANGZHOU HENGYUN ENTERPRISES HOLDING CO., LTD | 1992-11-30 | 1994-01-06 |
| LIHE CO., LTD | 1992-10-28 | 1994-01-03 |
| GUANGDONG MACRO CO., LTD. | 1992-10-28 | 1994-01-03 |
| GUANG DONG WEDGE CO.,LTD. | 1992-07-18 | 1994-01-10 |
| KMK CO., LTD | 1992-08-28 | 1993-11-30 |
| TIANJIN GUANGYU DEVELOPMENT CO., LTD | 1992-04-24 | 1993-12-10 |
| YUNNAN BAIYAO (GROUP) CO., LTD | 1993-05-03 | 1993-12-15 |
| GUANGDONG ELECTRIC POWER DEVELOPMENT CO., LTD | 1993-01-06 | 1993-11-26 |
| ZHONGTIAN URBAN DEVELOPMENT GROUP COMPANY LIMITED | 1994-01-08 | 1994-02-02 |
| FOSHAN ELECTRICAL AND LIGHTING CO., LTD. | 1992-10-20 | 1993-11-23 |

| | | |
|--|------------|------------|
| TCL COMMUNICATION EQUIPMENT CO., LTD | 1992-10-15 | 1993-12-01 |
| AN HUI WENERGY CO., LTD | 1993-12-13 | 1993-12-20 |
| ZHONGYUAN ENVIRONMENT — PROTECTION CO.,LTD. | 1993-12-01 | 1993-12-08 |
| JILIN PHARMACEUTICAL CO., LTD | 1992-08-15 | 1993-12-15 |
| JILIN GUANGHUA HOLDING GROUP CO.,LTD. | 1993-07-15 | 1993-12-15 |
| HUNAN INVESTMENT (GROUP) CO., LTD | 1993-12-07 | 1993-12-20 |
| TORCH AUTOMOBILE (GROUP) CO., LTD | 1993-12-17 | 1993-12-20 |
| JIANGLING MOTORS CO., LTD | 1993-11-28 | 1993-12-01 |
| CREATE TECHNOLOGY & SCIENCE CO., LTD | 1993-12-22 | 1994-01-06 |
| HUBEI SANONDA CO., LTD | 1992-09-30 | 1993-12-03 |
| SINOPEC SHANDONG TAISHAN PETROLEUM CO., LTD. | 1993-03-30 | 1993-12-15 |
| SHENZHEN TECHO TEL CO., LTD | 1993-07-15 | 1994-04-08 |
| NANYANG SHIPPING (GROUP) STOCK HOLDING CO., LTD | 1992-12-16 | 1994-05-25 |
| GUANGXIA (YINCHUAN) INDUSTRY CO., LTD | 1993-11-15 | 1994-06-17 |
| WANXIANG QIANCHAO CO., LTD. | 1994-01-08 | 1994-01-10 |
| KUNMING SINOBRIGHT (GROUP) CO., LTD. | 1992-11-30 | 1994-02-02 |
| SHAANXI FENGHUO ELECTRONICS CO., LTD. | 1992-09-15 | 1994-05-09 |
| SHAANXI INTERNATIONAL TRUST CO.,LTD. | 1984-11-27 | 1994-01-10 |
| XI'AN MINSHENG (GROUP) CO., LTD. | 1992-08-08 | 1994-01-10 |
| CHONGQING SANXIA PAINTS CO., LTD | 1992-05-11 | 1994-04-08 |
| HAINAN HAIYAO CO., LTD. | 1992-12-30 | 1994-05-25 |
| HAINAN HAIDE INDUSTRY CO., LTD | 1992-12-30 | 1994-05-25 |
| LUZHOU LAO JIAO CO., LTD | 1993-09-20 | 1994-05-09 |
| SICHUAN CHUANTOU CHANGCHENG SPECIAL STEEL CO., LTD. | 1988-08-28 | 1994-04-25 |
| CHANGCHAI CO.,, LTD. | 1994-05-06 | 1994-07-01 |
| SUNDIRO HOLDING CO., LTD. | 1992-09-09 | 1994-05-25 |
| HAIMA AUTOMOBILE GROUP CO., LTD | 1993-01-27 | 1994-08-08 |
| DONGGUAN WINNERWAY INDUSTRIAL ZONE CO., LTD | 1992-05-08 | 1994-08-15 |
| THE JIANGMEN SUGARCANE CHEMICAL FACTORY (GROUP) CO., LTD | 1992-09-09 | 1994-09-07 |
| QINGHAI SALT LAKE INDUSTRY GROUPCO.,LTD | 1995-02-17 | 1995-03-03 |
| WEIFU HIGH-TECHNOLOGY GROUP CO.,LTD. | 1992-10-22 | 1998-09-24 |
| BEIHAI PORT CO., LTD. | 1989-12-31 | 1995-11-02 |
| SICHUAN TOPSOFT INVESTMENT CO., LTD. | 1987-03-28 | 1995-11-01 |
| NORTHEAST ELECTRIC DEVELOPMENT CO., LTD. | 1993-02-18 | 1995-12-13 |
| GOLDLEAF JEWELRY CO., LTD. | 1992-03-01 | 1996-04-25 |
| GUANGDONG KINGMAN (GROUP) CO., LTD | 1992-10-01 | 1996-01-23 |
| GUI ZHOU TYRE CO., LTD. | 1995-09-01 | 1996-03-08 |
| UNISPLENDOUR GUHAN GROUP CORPORATION LIMITED | 1993-03-25 | 1996-01-19 |
| CHONGQING TONG JUN GE CO., LTD. | 1988-02-05 | 1996-02-08 |
| FUJIAN CFC INDUSTRIES CO.,LTD. | 1993-10-18 | 1996-03-27 |
| TIANJIN GOOD HAND RAILWAY HOLDING CO., LTD | 1989-08-23 | 1996-03-20 |
| XIBEI BEARING CO., LTD. | 1996-04-13 | 1996-04-19 |
| ANHUI GUJING DISTILLERY CO., LTD. | 1996-05-30 | 1996-09-27 |
| NORTHEAST PHARMACEUTICAL (GROUP) CO., LTD | 1993-06-10 | 1996-05-23 |
| CHENGDU XINGRONG INVESTMENT CO.,LTD | 1996-05-26 | 1996-05-29 |

| | | |
|---|------------|------------|
| QINGDAO DOUBLESTAR CO., LTD | 1996-04-25 | 1996-04-30 |
| JIONTO ENERGY INVESTMENT CO., LTD. HEBEI | 1994-01-18 | 1996-06-06 |
| GUANGDONG SHAONENG (GROUP) CO., LTD | 1993-06-15 | 1996-08-30 |
| GUANGDONG GOLDEN HORSE TOURISM (GROUP) STOCK CO., LTD | 1994-04-08 | 1996-08-19 |
| SHENGDA MINING CO.,LTD | 1994-06-28 | 1996-08-23 |
| SIHUAN PHARMACEUTICAL CO., LTD | 1996-09-10 | 1996-09-13 |
| QINGHAI GELATIN CO., LTD. | 1996-09-24 | 1996-10-04 |
| HUAZHI HOLDING (ZHEJIANG) CO., LTD. | 1993-11-28 | 1996-08-30 |
| YANGGUANG CO.,LTD. | 1993-05-25 | 1996-09-19 |
| BEIJING MAINSTREETS INVESTMENT GROUP CORPORATION | 1993-08-02 | 1996-10-10 |
| XI'ANTOURISM CO., LTD | 1994-04-18 | 1996-09-26 |
| THE INNER MONGOLIA TIME TECHNOLOGIES STOCKS CO., LTD | 1993-06-08 | 1996-10-08 |
| JIAOZUO WANFANG ALUMINUM MANUFACTURING CO., LTD. | 1993-03-20 | 1996-09-26 |
| HAINAN DADONGHAI TOURISM CENTRE (HOLDINGS) CO., LTD | 1993-04-26 | 1997-01-28 |
| HUBEI GOLDEN RING CO., LTD. | 1993-06-08 | 1996-10-16 |
| YELAND GROUP CO., LTD. | 1993-05-28 | 1996-11-08 |
| JINAN DIESEL ENGINE CO., LTD | 1996-10-11 | 1996-10-22 |
| JILIN CHEMICAL INDUSTRIAL CO., LTD. | 1994-12-13 | 1996-10-15 |
| WUHU CONCH PROFILES AND SCIENCE CO., LTD | 1996-10-16 | 1996-10-23 |
| MACROLINK REAL ESTATE CO., LTD. | 1990-02-26 | 1996-10-29 |
| BIT TECHNOLOGY HOLDING CO., LTD | 1993-05-25 | 1996-11-05 |
| YUEYANG HENGLI AIR-COOLING EQUIPMENT INC. | 1993-05-08 | 1996-11-07 |
| JILIN AODONG MEDICINE INDUSTRY CROUP CO., LTD. | 1993-03-20 | 1996-10-28 |
| CHONGQING CHANGAN AUTOMOBILE CO., LTD. | 1996-10-31 | 1997-06-10 |
| LIANYUNGANG IDEAL (GROUP) CO., LTD | 1994-06-27 | 1996-11-28 |
| HUBEI BIOCAUSE PHARMACEUTICAL CO., LTD. | 1993-12-31 | 1996-11-12 |
| CHENGDU HI-TECH DEVELOPMENT CO., LTD. | 1992-12-08 | 1996-11-18 |
| PANGANG GROUP STEEL VANADIUM & TITANIUM CO.,LTD. | 1993-03-27 | 1996-11-15 |
| TONLING NONFERROUS METAL GROUP STOCK CO.,LTD | 1992-08-20 | 1996-11-20 |
| SHUNFA HENGYE CORPORATION | 1993-05-26 | 1996-11-22 |
| FUJIAN SANMU (GROUP) CO., LTD | 1993-03-28 | 1996-11-21 |
| SHENYANG HEJIN HOLDING CO., LTD | 1990-03-12 | 1996-11-12 |
| NINGXIA YINGLITE CHEMICALS CO., LTD | 1996-07-24 | 1996-11-20 |
| FENGHUA ADVANCED TECHNOLOGY (HOLDING) CO., LTD. | 1994-03-23 | 1996-11-29 |
| VANFUND REAL ESTATE CO., LTD. | 1993-05-20 | 1996-11-26 |
| XIWANG FOODSTUFFS CO., LTD. | 1987-03-18 | 1996-11-26 |
| RENHE PHARMACY CO.,LTD | 1996-12-02 | 1996-12-10 |
| GREE ELECTRIC APPLIANCES, INC. OF ZHUHAI | 1989-12-13 | 1996-11-18 |
| TIANJIN TEDA CO., LTD | 1992-12-08 | 1996-11-28 |
| FUJIAN JIUZHOU GROUP CO., LTD | 1993-04-01 | 1996-11-26 |
| SHANDONG JINLING MINING CO., LTD. | 1989-06-20 | 1996-11-28 |
| JINKE PROPERTY GROUP CO., LTD. | 1987-03-20 | 1996-11-28 |
| CHINA TUNGSTEN AND HIGHTECH MATERIALS CO., LTD | 1993-03-18 | 1996-12-05 |
| QIDI (GROUP) CO., LTD | 1993-07-02 | 1996-12-18 |
| ZHUHAI ZHONGFU ENTERPRISE CO., LTD. | 1985-12-18 | 1996-12-03 |

| | | |
|--|------------|------------|
| GUANGZHOU NANHUAXI INDUSTRIAL CO., LTD | 1996-09-06 | 1996-12-09 |
| CHANGCHUN HIGH & NEW TECHNOLOGY INDUSTRY (GROUP) INC. | 1993-06-10 | 1996-12-18 |
| SOFTTO CO.,LTD | 1993-02-04 | 1996-12-16 |
| FUJIAN YONGAN FORESTRY (GROUP) JOINT-STOCK CO., LTD | 1994-01-06 | 1996-12-06 |
| JINGWEI TEXTILE MACHINERY CO., LTD. | 1995-08-15 | 1996-12-10 |
| JILIN LEADING TECHNOLOGY DEVELOPMENT CO., LTD | 1992-12-25 | 1996-12-10 |
| SUNSHINE CITY GROUP CO.,LTD | 1991-08-02 | 1996-12-18 |
| BAIYIN COPPER COMMERCIAL BUILDING (GROUP) CO., LTD | 1992-09-30 | 1996-12-18 |
| SHANXI LEAD INVESTMENT CO., LTD. | 1997-01-17 | 1997-01-24 |
| SICHUAN YINSHAN CHEMICAL INDUSTRY (GROUP) CO., LTD | 1988-12-28 | 1996-12-26 |
| HENAN STAR HI-TECH CO., LTD. | 1996-12-16 | 1996-12-24 |
| SHANDONG HELON CO., LTD | 1988-12-28 | 1996-12-26 |
| XIANGYANG AUTOMOBILE BEARING SHARE CO., LTD | 1993-05-06 | 1997-01-06 |
| DALIAN FRIENDSHIP (GROUP) CO., LTD | 1993-05-08 | 1997-01-24 |
| SHANTUI CONSTRUCTION MACHINERY CO., LTD. | 1993-10-08 | 1997-01-22 |
| FAR EAST INDUSTRIAL STOCK CO., LTD | 1993-10-25 | 1997-01-21 |
| DONGFANG ELECTRONICS CO.,LTD. | 1994-02-09 | 1997-01-21 |
| INNER MONGOLIA YUAN XING ENERGY CO.,LTD | 1997-01-23 | 1997-01-31 |
| ZHONGSHAN PUBLIC UTILITIES GROUP CO.,LTD. | 1992-12-26 | 1997-01-23 |
| NORTHEAST SECURITIES CO., LTD. | 1993-08-20 | 1997-02-27 |
| BAO DING SWAN CO., LTD. | 1997-02-01 | 1997-02-21 |
| ZARVA TECHNOLOGY (GROUP) CO., LTD | 1989-04-20 | 1997-01-20 |
| SHANTOU HONGYE (GROUP) CO., LTD | 1992-11-18 | 1996-12-31 |
| GUANGDONG BAOLIHUA NEW ENERGY STOCK CO.,LTD | 1997-01-20 | 1997-01-28 |
| HAINAN UNITED OILS & TECHNOLOGIES DEVELOPMENT CO.,LTD. | 1992-11-21 | 1997-02-28 |
| SHENYANG HUITIAN THERMAL POWER CO., LTD. | 1993-12-28 | 1997-02-27 |
| CHENGDU UNIONFRIEND NETWORK CO., LTD. | 1990-12-26 | 1997-02-26 |
| TIANJIN BINHAI ENERGY & DEVELOPMENT CO., LTD | 1992-10-20 | 1997-02-18 |
| XIANYANG PIANZHUAN CO., LTD | 1993-06-08 | 1997-03-25 |
| SHENYANG CHEMICAL INDUSTRY CO., LTD. | 1993-01-01 | 1997-02-20 |
| JIAMUSI PAPER CO., LTD. | 1994-01-28 | 1997-03-10 |
| XIAMEN XINDECO LTD. | 1992-11-18 | 1997-02-26 |
| HUNAN ZHENGHONG SCIENCE AND TECHNOLOGY DEVELOP CO., LTD. | 1997-03-12 | 1997-03-18 |
| HENGYI PETROCHEMICAL CO., LTD | 1990-05-08 | 1997-03-28 |
| ZHEJIANG ZHENYUAN CO., LTD | 1993-06-14 | 1997-04-10 |
| HUBEI SHUANGHUAN SCIENCE AND TECHNOLOGY STOCK CO., LTD | 1993-12-27 | 1997-04-15 |
| DAYE SPECIAL STEEL CO .,LTD. | 1993-05-18 | 1997-03-26 |
| HEBEI IRON AND STEEL CO., LTD | 1994-06-29 | 1997-04-16 |
| CHENGDU TIANXING INSTRUMENT AND METER CO, LTD | 1997-04-14 | 1997-04-22 |
| HEILONGJIANG TIANLUN REAL ESTATE DEVELOPMENT CO., LTD | 1993-03-31 | 1997-04-11 |
| GUANGDONG GOLDEN DRAGON DEVELOPMENT INC. | 1997-04-09 | 1997-04-15 |
| HEFEI FENGLE SEED CO., LTD | 1997-04-16 | 1997-04-22 |
| CITIC DEVELOPMENT-SHENYANG COMMERCIAL BUILDING (GROUP) CO., LTD. | 1997-04-25 | 1997-05-08 |
| GUANGXI NANFANG FOODSTUFF GROUP STOCK CO. , LTD | 1993-05-31 | 1997-04-18 |
| SGIS SONGSHAN CO., LTD. | 1997-04-29 | 1997-05-08 |

| | | |
|---|------------|------------|
| SUNING UNIVERSAL CO.,LTD ° | 1993-05-10 | 1997-04-08 |
| CENTRAL CHINA LAND MEDIA CO., LTD. | 1989-02-23 | 1997-03-31 |
| SHANDONG XINNENG TAISHAN POWER GENERATION CO.,LTD. | 1994-03-28 | 1997-05-09 |
| XI'AN CATERING CO., LTD | 1994-05-18 | 1997-04-30 |
| HUNAN FAZHAN INDUSTRIAL CO., LTD. | 1993-08-12 | 1997-05-22 |
| SHANXI MEIJIN ENERGY CO., LTD | 1992-10-22 | 1997-05-15 |
| BOE TECHNOLOGY (GROUP) CO., LTD. | 1993-04-09 | 2001-01-12 |
| LU THAI TEXTILE CO., LTD | 1993-10-16 | 2000-12-25 |
| NANJING HUADONG ELECTRONICS INFORMATION & TECHNOLOGY CO., LTD | 1993-01-08 | 1997-05-20 |
| GUOYUAN SECURITIES CO.,LTD | 1997-06-06 | 1997-06-16 |
| BEIJING YANJING BREWERY CO., LTD. | 1997-07-08 | 1997-07-16 |
| SHENYANG SPECIAL ENVIRONMENTAL PROTECTION EQUIPMENT MANUFACTURING CO.,LTD | 1993-05-18 | 1997-05-22 |
| SICHUAN MEIFENG CHEMICAL INDUSTRY CO., LTD. | 1994-03-03 | 1997-06-17 |
| THAIHOT GROUP CO.,LTD | 1992-12-29 | 1997-07-04 |
| CHINA ZHENHUA (GROUP) SCIENCE & TECHNOLOGY CO., LTD | 1997-06-26 | 1997-07-03 |
| HAIKOU AGRICULTURE & INDUSTRY & TRADE (LUONIUSHAN) CO., LTD | 1993-10-15 | 1997-06-11 |
| CHONGQING INTERNATIONAL ENTERPRISE INVESTMENT CO., LTD | 1993-02-03 | 1997-04-25 |
| NAFINE CHEMICAL INDUSTRY (GROUP) CO., LTD. | 1996-04-02 | 1997-04-28 |
| AVIC AERO-ENGINE CONTROLS CO., LTD | 1997-06-20 | 1997-06-26 |
| APELOA CO.,LTD. | 1997-05-06 | 1997-05-09 |
| GREATWALL INFORMATION INDUSTRY CO.,LTD. | 1997-06-26 | 1997-07-04 |
| SEALAND SECURITIES CO., LTD. | 1993-06-28 | 1997-07-09 |
| HULUDAO ZINC INDUSTRY CO., LTD. | 1993-07-15 | 1997-06-26 |
| TIBET GALAXY SCIENCE & TECHNOLOGY DEVELOPMENT CO., LTD. | 1997-06-20 | 1997-06-25 |
| FUJIAN MINNAN (ZHANGZHOU) ECONOMY DEVELOPMENT CO., LTD | 1994-12-14 | 1997-06-26 |
| SHANXI SANWEI (GROUP) CO., LTD | 1996-02-06 | 1997-06-27 |
| SHANDONG XINHUA PHARMACEUTICAL CO., LTD. | 1993-09-30 | 1997-08-06 |
| SI CHUAN DIRECTION PHOTOELECTRICITY CO., LTD. | 1994-05-18 | 1997-06-27 |
| CHINA NONFERROUS METAL INDUSTRY'S FOREIGN ENGINEERING AND CONSTRUCTION CO., LTD | 1997-04-10 | 1997-04-16 |
| ZHONGBAI HOLDINGS GROUP CO.,LTD. | 1989-11-08 | 1997-05-19 |
| BENGANG STEEL PLATES CO., LTD. | 1997-06-27 | 1998-01-15 |
| TIBET MINERAL DEVELOPMENT CO., LTD | 1997-06-30 | 1997-07-08 |
| JINZHOU PETROCHEMICAL CO., LTD. | 1997-08-29 | 1997-09-15 |
| WUHAN HUAXIN HI-TECH CO., LTD | 1990-01-29 | 1997-11-03 |
| TONGHUA GOLDEN-HORSE PHARMACEUTICAL INDUSTRY CO., LTD | 1993-02-26 | 1997-04-30 |
| SHANXI ZHANGZE ELECTRIC POWER CO., LTD | 1993-02-08 | 1997-06-09 |
| XI'AN AIRCRAFT INTERNATIONAL CORPORATION | 1997-06-18 | 1997-06-26 |
| SHENYANG FEIFEI AOJIA MODERN AGRICULTURE CO., LTD. | 1997-05-25 | 1997-05-30 |
| GF SECURITIES CO., LTD. | 1993-04-03 | 1997-06-11 |
| SUFA TECHNOLOGY INDUSTRY CO., LTD. CNNC. | 1997-07-02 | 1997-07-10 |
| XINXING DUCTILE IRON PIPES CO., LTD. | 1997-05-24 | 1997-06-06 |
| LANZHOU SANMAO INDUSTRIAL CO., LTD. | 1997-05-23 | 1997-05-28 |
| INNER MONGOLIA PINGZHUANG ENERGY CO.,LTD | 1993-06-22 | 1997-06-06 |
| GUANGDONG XINHUI MEIDA NYLON CO., LTD. | 1992-11-08 | 1997-06-19 |

| | | |
|--|------------|------------|
| CHANGJIANG SECURITIES CO., LTD. | 1997-07-24 | 1997-07-31 |
| BEIJING NEW BUILDINGS MATERIALS PUBLIC LTD. CO., | 1997-05-30 | 1997-06-06 |
| POWERISE INFORMATION TECHNOLOGY CO., LTD | 1993-05-22 | 1997-06-26 |
| PKU INTERNATIONAL HEALTHCARE GROUP SOUTHWEST PHARMACEUTICAL CO., LTD. | 1993-05-18 | 1997-06-16 |
| JIANGXI WANNIANQING CEMENT CO., LTD | 1997-09-05 | 1997-09-23 |
| NORTHWEST YONGXIN CHEMICAL INDUSTRY CO., LTD. | 1997-09-12 | 1997-10-14 |
| QINGHAI SALT LAKE INDUSTRY CO., LTD | 1997-08-25 | 1997-09-04 |
| HUAWEN MEDIA INVESTMENT GROUP CORPORATION | 1992-12-17 | 1997-07-29 |
| TAIYUAN TWIN TOWER ALUMINUM OXIDE CO., LTD. | 1997-08-04 | 1997-08-08 |
| E-FOOD GROUP CO.,LTD | 1993-03-01 | 1997-07-03 |
| CHINA WUYI CO., LTD | 1997-07-10 | 1997-07-15 |
| CNFC OVERSEAS FISHERY CO., LTD | 1998-01-19 | 1998-02-12 |
| JIUGUI LIQUOR CO., LTD. | 1997-07-14 | 1997-07-18 |
| FAW CAR CO., LTD | 1997-06-10 | 1997-06-18 |
| BEIJING JINGXI TOURISM DEVELOPMENT CO., LTD | 1997-11-18 | 1998-01-08 |
| SICHUAN MEIYA SILK (GROUP) CO., LTD | 1988-03-21 | 1998-03-03 |
| JIANGSU CHINESE ONLINE LOGISTICS CO., LTD | 1987-03-12 | 1998-05-29 |
| BEIHAI YINHE HI-TECH INDUSTRIAL CO., LTD | 1993-06-20 | 1998-04-16 |
| YUNNAN ALUMINIUM CO., LTD. | 1998-03-20 | 1998-04-08 |
| TIELING NEWCITY INVESTMENT HOLDING LIMITED | 1990-04-30 | 1998-06-16 |
| CHINA RESOURCES JINHUA CO., LTD. | 1989-11-10 | 1998-06-02 |
| SHAANXI JINYE SCIENCE TECHNOLOGY AND EDUCATION (GROUP) CO., LTD | 1993-05-28 | 1998-06-23 |
| XINJIANG TIANSHAN WOOL TEX STOCK CO., LTD | 1995-03-07 | 1998-05-19 |
| MCC MEILI PAPER INDUSTRY CO.,LTD | 1998-05-26 | 1998-06-09 |
| JIANGSU JIANGHUAI ENGINE CO., LTD | 1997-08-11 | 1997-08-18 |
| LIAOHE JINMA OILFIELD CO., LTD. | 1998-04-30 | 1998-05-28 |
| FANGDA JINHUA CHEMICAL TECHNOLOGY CO.,LTD. | 1997-09-16 | 1997-10-17 |
| JINCHENG PAPER CO., LTD | 1993-04-02 | 1998-06-30 |
| HUBEI JINGSHAN LIGHT INDUSTRY MACHINERY STOCK CO., LTD. | 1993-03-30 | 1998-06-26 |
| SHANDONG HAIHUA CO., LTD. | 1998-06-04 | 1998-07-03 |
| GUANGDONG GOWORLD CO., LTD. | 1997-09-05 | 1997-10-08 |
| SHANXI TAIGANG STAINLESS STEEL CO., LTD | 1998-06-11 | 1998-10-21 |
| SOUND ENVIRONMENTAL RESOURCES CO., LTD. | 1996-12-30 | 1998-02-25 |
| DALIAN CHANGXING INDUSTRY CO., LTD | 1989-01-29 | 1998-10-16 |
| DONGGUAN DEVELOPMENT (HOLDINGS) CO., LTD | 1997-06-06 | 1997-06-17 |
| TELLING TELECOMMUNICATION HOLDING CO., LTD | 1997-11-07 | 1997-12-02 |
| LUXI CHEMICAL GROUP CO., LTD | 1998-06-11 | 1998-08-07 |
| SHANXI GUANLU CO., LTD | 1998-06-17 | 1998-09-11 |
| HEILONGJIANG LONGDI CO., LTD. | 1993-05-26 | 1998-08-25 |
| GUANGXI GUITANG (GROUP) CO., LTD | 1993-08-18 | 1998-11-11 |
| SICHUAN SHENGDA INDUSTRIAL CO.,LTD | 1994-01-19 | 1999-06-25 |
| TIANJIN XINMAO TECHNOLOGY CO.,LTD. | 1997-09-16 | 1997-09-29 |
| QINCHUAN MACHINERY DEVELOPMENT CO., LTD. OF SHAANXI | 1998-07-10 | 1998-09-28 |
| GUOXING RONGDA REAL ESTATE CO., LTD. | 1989-04-10 | 1997-06-26 |

| | | |
|--|------------|------------|
| CITIC GUOAN INFORMATION INDUSTRY CO., LTD | 1997-10-14 | 1997-10-31 |
| HE BEI CHENG DE LOLO CO., LTD. | 1997-10-17 | 1997-11-13 |
| ANHUI HUAMAO TEXTILE CO., LTD. | 1998-07-10 | 1998-10-07 |
| GOHIGH DATA NETWORKS TECHNOLOGY CO., LTD | 1994-01-20 | 1998-06-09 |
| KINGDREAM PUBLIC LTD. CO., | 1998-09-28 | 1998-11-26 |
| TANGSHAN JIDONG EQUIPMENT ENGINEERING CO., LTD. | 1998-06-16 | 1998-08-13 |
| WULIANGYE YIBIN CO., LTD | 1998-04-21 | 1998-04-27 |
| ANHUI GUOFENG PLASTIC INDUSTRY CO., LTD. | 1998-09-23 | 1998-11-19 |
| BEIJING SHUNXIN AGRICULTURE CO., LTD | 1998-09-21 | 1998-11-04 |
| GUANGDONG HIGHSUN GROUP CO.,LTD | 1992-12-26 | 1998-10-28 |
| WU ZHONG INSTRUMENT CO., LTD. | 1998-06-28 | 1998-09-15 |
| SANXIANG Co., Ltd. | 1997-09-11 | 1997-09-25 |
| SINOPEC YANGZI PETROCHEMICAL CO., LTD. | 1998-04-24 | 1998-05-12 |
| ANHUI ANKAI AUTOMOBILE CO., LTD | 1997-07-22 | 1997-07-25 |
| YANTAI CHANGYU PIONEER WINE CO., LTD. | 1997-09-18 | 2000-10-26 |
| JILIN POWER SHARE CO., LTD | 1993-04-28 | 2002-09-26 |
| NEW HOPE LIUHE CO.,LTD | 1998-03-04 | 1998-03-11 |
| XINJIANG TIANSHAN CEMENT CO., LTD | 1998-11-18 | 1999-01-07 |
| YUNNAN COPPER INDUSTRY CO., LTD | 1998-05-15 | 1998-06-02 |
| WEICHAI HEAVY MACHINERY CO., LTD. | 1993-06-28 | 1998-04-02 |
| CHINA DALIAN INTERNATIONAL COOPERATION (GROUP) HOLDINGS LTD. | 1993-04-17 | 1998-09-02 |
| BEIJING HUALIAN DEPARTMENT STORE CO., LTD | 1998-05-18 | 1998-06-16 |
| HUBEI ENERGY GROUP CO., LTD. | 1993-03-09 | 1998-05-19 |
| HENANTONGLI CEMENT CO., LTD. | 1998-12-31 | 1999-03-19 |
| HAINAN EXPRESSWAY CO., LTD. | 1993-08-17 | 1998-01-23 |
| ANHUI ZHONGDING SEALING PARTS CO.,LTD. | 1998-10-23 | 1998-12-03 |
| EMEI SHAN TOURISM CO., LTD | 1997-10-09 | 1997-10-21 |
| QINHUANGDAO BOHAI PHYSICAL DISTRIBUTION HOLDING CO., LTD | 1997-05-16 | 1997-12-18 |
| JIANGSU FASTEN CO., LTD. | 1993-06-30 | 1999-01-19 |
| STELLAR MEGAUNION CORPORATION | 1997-11-16 | 1999-01-15 |
| DONGLING GRAIN & OIL CO., LTD. | 1998-10-27 | 1998-12-24 |
| HENAN SHUANGHUI INVESTMENT & DEVELOPMENT CO., LTD. | 1998-10-15 | 1998-12-10 |
| TIANJIN JINBIN DEVELOPMENT CO., LTD | 1998-12-31 | 1999-04-22 |
| ANGANG STEEL COMPANY LIMITED | 1997-05-08 | 1997-12-25 |
| JIANGXI GANNENG CO., LTD | 1997-11-04 | 1997-11-26 |
| XIANDAI INVESTMENT CO., LTD | 1993-05-27 | 1999-01-28 |
| HARBIN FENGHUA-AEROSPACE HI-TECH CO., LTD | 1999-01-27 | 1999-04-01 |
| CHINA GARMENTS CO., LTD. | 1999-03-03 | 1999-04-08 |
| KUNMING YUNNEI POWER CO., LTD. | 1999-03-08 | 1999-04-15 |
| XIAMEN PORT DEVELOPMENT CO., LTD. | 1999-04-21 | 1999-04-29 |
| SOUTHERN BUILDING MATERIALS CO., LTD. | 1999-04-12 | 1999-07-07 |
| HUNAN TIANYI SCIENCE AND TECHNOLOGY CO., LTD | 1998-12-18 | 1999-02-03 |
| SOYEA TECHNOLOGY CO., LTD | 1999-03-31 | 1999-05-07 |
| DARE TECHNOLOGY CO., LTD | 1999-04-20 | 1999-06-30 |
| NANNING SUGAR MANUFACTURING CO., LTD. | 1999-05-14 | 1999-05-27 |

| | | |
|---|------------|------------|
| SICHUAN LUTIANHUA CO., LTD. | 1999-04-29 | 1999-06-03 |
| ZHEJIANG QIANJIANG MOTORCYCLE CO., LTD. | 1999-03-28 | 1999-05-14 |
| SHANDONG SHANDA WIT SCIENCE AND TECHNOLOGY CO., LTD | 1993-06-26 | 1999-06-09 |
| HUABEI EXPRESSWAY CO., LTD | 1999-09-06 | 1999-09-27 |
| HUNAN TV & BROADCAST INTERMEDIARY CO., LTD | 1999-01-26 | 1999-03-25 |
| CHINA CALXON GROUP CO., LTD . | 1998-08-14 | 1999-07-20 |
| JINLING PHARMACEUTICAL CO., LTD | 1998-09-08 | 1999-11-18 |
| SOUTH HUITON CO., LTD | 1999-05-11 | 1999-06-16 |
| HISENSE KELON ELECTRICAL HOLDINGS COMPANY LIMITED | 1992-12-16 | 1999-07-13 |
| ACHENG RELAY CO., LTD | 1993-08-28 | 1999-06-18 |
| XUANHUA CONSTRUCTION MACHINERY CO., LTD. | 1999-06-29 | 1999-07-14 |
| UNITED MECHANICAL & ELECTRICAL CO.,LTD. | 1999-06-07 | 1999-06-11 |
| HUBEI FUXING SCIENCE AND TECHNOLOGY CO., LTD | 1993-06-08 | 1999-06-18 |
| TIANJIN FAW XIALI AUTOMOBILE CO., LTD. | 1997-08-28 | 1999-07-27 |
| SINOSTEEL JILIN CARBON CO., LTD. | 1993-03-30 | 1999-03-12 |
| LANZHOU HUANGHE ENTERPRISE CO., LTD | 1993-12-24 | 1999-06-23 |
| COFCO BIOCHEMICAL (ANHUI) CO., LTD. | 1998-08-28 | 1999-07-12 |
| BEIJING CENTERGATE TECHNOLOGIES (HOLDING) CO., LTD | 1999-06-08 | 1999-07-12 |
| HUNAN VALIN STEEL CO., LTD. | 1999-04-29 | 1999-08-03 |
| HENAN SHEN HUO COAL INDUSTRY AND ELECTRICITY POWER CO., LTD | 1998-08-24 | 1999-08-31 |
| SICHUAN SHUANGMA CEMENT CO., LTD | 1998-10-20 | 1999-08-24 |
| JIANGSU HUAXICUN CO., LTD | 1999-05-24 | 1999-08-10 |
| JIZHONG ENERGY RESOURCES CO., LTD. | 1999-08-26 | 1999-09-09 |
| UNISPLENDOUR CO.,LTD | 1999-03-18 | 1999-11-04 |
| WUHAN KAIDI ELECTRIC POWER CO., LTD | 1993-02-26 | 1999-09-23 |
| YUNNAN NANTIAN ELECTRONICS INFORMATION CO., LTD | 1998-12-21 | 1999-10-14 |
| XINXIANG CHEMICAL FIBER CO., LTD | 1993-03-11 | 1999-10-21 |
| CHONGQING MIN-FENG AGROCHEM CO.,LTD. | 1999-05-28 | 1999-09-16 |
| CNHTC JINAN TRUCK CO., LTD. | 1998-09-28 | 1999-11-25 |
| HUBEI GUANGJI PHARMACEUTICAL CO., LTD. | 1993-05-28 | 1999-11-12 |
| GUANGXI HECHI CHEMICAL CO., LTD | 1993-07-03 | 1999-12-02 |
| XINLONG HOLDING(GROUP) COMPANY LTD. | 1999-06-21 | 1999-12-09 |
| SINOPEC ZHONGYUAN PETROLEUM CO., LTD. | 1999-10-25 | 1999-11-10 |
| ZHONGTONG BUS & HOLDING CO., LTD | 1994-04-07 | 2000-01-13 |
| SHIJIAZHUANG DONGFANG THERMOELECTRIC CO., LTD | 1998-09-14 | 1999-12-23 |
| BEIJING SHOUGANG CO., LTD. | 1999-10-15 | 1999-12-16 |
| YUNNAN TIN CO., LTD. | 1998-11-23 | 2000-02-21 |
| JIANGSU ZHONGNAN CONSTRUCTION GROUP CO.,LTD | 1998-07-28 | 2000-03-01 |
| NINGXIA ORIENT TANTALUM INDUSTRY CO., LTD. | 1999-04-30 | 2000-01-20 |
| HUADONG MEDICINE CO., LTD. | 1993-03-31 | 2000-01-27 |
| TIANJIN TIANBAO INFRASTRUCTURE CO.,LTD | 1998-09-30 | 2000-04-06 |
| GUODIAN CHANGYUAN ELECTRIC POWER CO., LTD | 1995-04-07 | 2000-03-16 |
| ZHEJIANG SHANGFENG INDUSTRIAL HOLDINGS CO., LTD | 1993-11-18 | 2000-03-30 |
| SHANXI SHENZHOU COAL ELECTRICITY COKING CO., LTD | 1998-12-22 | 2000-06-22 |
| ADVANCED TECHNOLOGY & MATERIALS CO., LTD. | 1998-12-30 | 2000-05-29 |

| | | |
|---|------------|------------|
| BEIJING ZHONG KE SAN HUAN HIGH-TECH CO., LTD. | 1999-07-23 | 2000-04-20 |
| HUBEI MAIYA CO., LTD. | 1993-03-26 | 2000-04-27 |
| XINJIANG CHALKIS CO., LTD | 1994-06-30 | 2000-09-26 |
| FSPG HI-TECH CO., LTD.” | 1988-06-28 | 2000-05-25 |
| SCIENCE CITY DEVELOPMENT PUBLIC CO., LTD | 1999-06-18 | 2000-06-08 |
| GUANGDONG KAIPING CHUNHUI CO., LTD. | 1993-01-18 | 2000-06-01 |
| LANGCHAO ELECTRONIC INFORMATION INDUSTRY CO., LTD | 1998-10-28 | 2000-06-08 |
| GUILIN TOURISM CO., LTD | 1998-04-29 | 2000-05-18 |
| ZHONGHONG HOLDING CO., LTD. | 1997-08-18 | 2000-06-16 |
| HUANGSHAN JINMA CO., LTD | 1998-08-31 | 2000-06-16 |
| YINYI REAL ESTATE CO., LTD. | 1998-08-31 | 2000-06-22 |
| NINGXIA ZHONGYIN CASHMERE CO.LTD. | 1998-09-15 | 2000-07-06 |
| SHANXI XISHAN COAL AND ELECTRICITY POWER CO., LTD | 1999-04-26 | 2000-07-26 |
| DAQING HUAKE CO., LTD. | 1998-12-08 | 2000-07-26 |
| GUANGZHOU FRIENDSHIP GROUP CO., LTD. | 1992-12-28 | 2000-07-18 |
| HUAGONG TECH CO., LTD | 1999-07-28 | 2000-06-08 |
| JIUZHITANG CO, LTD | 1999-05-12 | 2000-06-28 |
| CHENGZHI CO., LTD | 1998-10-09 | 2000-07-06 |
| FUJIAN MINDONG ELECTRIC POWER CO., LTD | 1998-12-30 | 2000-07-31 |
| GANSU HUANGTAI WINE-MARKETING INDUSTRY CO., LTD. | 1998-09-29 | 2000-08-07 |
| CHINA CIFCO INVESTMENT CO.,LTD | 1994-08-28 | 2000-07-18 |
| FUJIAN NEWLAND COMPUTER CO., LTD | 1999-06-28 | 2000-08-07 |
| YUAN LONGPING HIGH-TECH AGRICULTURE CO., LTD. | 1999-06-30 | 2000-12-11 |
| CHINA RESOURCES SANJIU MEDICAL & PHARMACEUTICAL CO., LTD. | 1999-04-21 | 2000-03-09 |
| CHONGQING ZONGSHEN POWER MACHINERY CO.,LTD. | 1989-03-14 | 1997-03-06 |
| HENAN YUNENG HOLDINGS CO., LTD. | 1997-11-25 | 1998-01-22 |
| ZHEJIANG NHU CO., LTD | 1999-04-05 | 2004-06-25 |
| JIANGSU GOLDEN MATERIAL TECHNOLOGY CO., LTD. | 2001-02-23 | 2004-06-25 |
| ZHEJIANG WEIXING INDUSTRIAL DEVELOPMENT CO., LTD. | 2000-08-31 | 2004-06-25 |
| CHONGQING HUAPONT PHARM. CO., LTD | 2001-09-19 | 2004-06-25 |
| ELEC-TECH INTERNATIONAL CO., LTD | 2001-10-31 | 2004-06-25 |
| ZHEJIANG JINGGONG SCIENCE & TECHNOLOGY CO., LTD. | 2000-09-10 | 2004-06-25 |
| HUALAN BIOLOGICAL ENGINEERING INC. | 2000-09-27 | 2004-06-25 |
| HAN'S LASER TECHNOLOGY CO., LTD | 2001-09-28 | 2004-06-25 |
| JIANGSU MIRACLE LOGISTICS SYSTEM ENGINEERING CO., LTD. | 2000-11-14 | 2004-06-29 |
| ZHEJIANG TRANSFAR CO., LTD. | 2001-07-06 | 2004-06-29 |
| ZHEJIANG DUN'AN ARTIFICIAL ENVIRONMENT CO., LTD | 2001-12-19 | 2004-07-05 |
| ZHEJIANG KAN SPECIALITIES MATERIAL CO., LTD. | 1998-01-23 | 2004-07-05 |
| HUBEI AVIATION PRECISION MACHINERY TECHNOLOGY CO., LTD. | 2000-12-05 | 2004-07-05 |
| HUANGSHAN NOVEL CO., LTD | 2001-09-28 | 2004-07-08 |
| XIAKE COLOR SPINNING CO., LTD | 2000-12-12 | 2004-07-08 |
| GUANGDONG SHIRONGZHAOYE CO.,LTD | 2000-12-28 | 2004-07-08 |
| EASTCOMPEACE SMART CARD CO.,LTD. | 2001-12-04 | 2004-07-13 |
| ANHUI HUAXING CHEMICAL INDUSTRY CO., LTD. | 1998-02-13 | 2004-07-13 |
| ZHEJIANG HANGZHOU XINFU PHARMACEUTICAL CO.,LTD | 2000-11-10 | 2004-07-13 |

| | | |
|--|------------|------------|
| ZHEJIANG JINGXIN PHARMACEUTICAL CO., LTD. | 2001-10-25 | 2004-07-15 |
| ZOJE SEWING MACHINE CO., LTD | 2001-08-09 | 2004-07-15 |
| SHANGHAI KEHUA BIO-ENGINEERING CO., LTD. | 1998-11-23 | 2004-07-21 |
| SICHUAN HAITE HIGH-TECH CO., LTD. | 2000-11-24 | 2004-07-21 |
| SUNING APPLIANCE CO.,LTD. | 2001-06-29 | 2004-07-21 |
| GUIZHOU SPACE APPLIANCE CO., LTD. | 2001-12-30 | 2004-07-26 |
| SHANDONG WEIDA MACHINERY CO., LTD. | 1998-07-08 | 2004-07-27 |
| HEDY HOLDING CO., LTD. | 2001-03-15 | 2004-08-04 |
| SIYUAN ELECTRIC CO., LTD. | 2000-12-30 | 2004-08-05 |
| FUJIAN SEPTWOLVES INDUSTRY CO., LTD. | 2001-07-23 | 2004-08-06 |
| DA AN GENE CO., LTD. OF SUN YAT-SEN UNIVERSITY | 2001-03-08 | 2004-08-09 |
| GUANGDONG GREATOO MOLDS INC. | 2001-12-30 | 2004-08-16 |
| ZHEJIANG SUPOR COOKWARE CO., LTD | 2000-11-10 | 2004-08-17 |
| LIJIANG YULONG TOURISM CO., LTD. | 2001-10-18 | 2004-08-25 |
| ZHEJIANG MIZUDA PRINTING & DYEING GROUP CO., LTD. | 1998-07-07 | 2004-08-26 |
| ZHONGSHAN VANTAGE GAS APPLIANCE STOCK CO., LTD. | 2001-11-30 | 2004-09-01 |
| NINGBO YAK TECHNOLOGY INDUSTRIAL CO., LTD. | 1998-04-22 | 2004-09-03 |
| GUIZHOU JIULIAN INDUSTRIAL EXPLOSIVE MATERIAL DEVELOPMENT CO., LTD | 2002-07-18 | 2004-09-08 |
| BEIJING SL PHARMACEUTICAL CO., LTD. | 2000-08-09 | 2004-09-09 |
| GUIZHOU QIANYUAN POWER CO., LTD. | 1993-10-12 | 2005-03-03 |
| NANJING PORT CO., LTD. | 2001-09-21 | 2005-03-25 |
| SHANDONG DENGHAI SEEDS CO. , LTD | 2000-12-08 | 2005-04-18 |
| HUAFU TOP DYED MELANGE YARN CO., LTD | 2000-10-31 | 2005-04-27 |
| DEHUA TB NEW DECORATION MATERIAL CO.,LTD | 2001-12-27 | 2005-05-10 |
| JIANGSU SANYOU GROUP CO.,LTD. | 2001-11-28 | 2005-05-18 |
| GUOGUANG ELECTRIC CO., LTD. | 1993-12-25 | 2005-05-23 |
| LUOYANG BEARING SCIENCE & TECHNOLOGY CO.,LTD. | 2001-12-09 | 2005-05-26 |
| SHENZHEN GLOBE UNION INDUSTRIAL CORP. | 2001-12-31 | 2005-05-31 |
| TANGSHAN JINGYUAN YUFENG ELECTRONICS CO.,LTD. | 2001-09-17 | 2005-06-06 |
| ZHEJIANG SANHUA CO.,LTD. | 2001-12-19 | 2005-06-07 |
| CHINA CAMC ENGINEERING CO., LTD. | 2001-05-22 | 2006-06-19 |
| SHENZHEN COSHIP ELECTRONICS CO.,LTD. | 2001-04-29 | 2006-06-27 |
| YUNNAN SALT &CHEMICAL INDUSTRY CO.,LTD. | 2002-07-25 | 2006-06-27 |
| DYMATIC CHEMICALS , INC. | 2002-06-21 | 2006-07-25 |
| SHENZHEN DEREN ELECTRONIC CO. , LTD. | 2002-11-29 | 2006-07-25 |
| HENGDIAN GROUP DMEGC MAGNETICS CO., LTD. | 1999-03-30 | 2006-08-02 |
| SINOSTEEL ANHUI TIANYUAN TECHNOLOGY CO.,LTD | 2002-03-27 | 2006-08-02 |
| SHANGHAI WELLTECH AUTOMATION CO.,LTD. | 1992-12-24 | 2006-08-02 |
| YUNNAN TOURISM CO.,LTD. | 2000-12-29 | 2006-08-10 |
| GUANGDONG NO.2 HYDROPOWER ENGINEERING COMPANY,LTD | 2001-12-27 | 2006-08-10 |
| ZHEJIANG JIANGSHAN CHEMICAL CO., LTD. | 1998-11-23 | 2006-08-16 |
| HONGRUN CONSTRUCTION GROUP CO., LTD. | 1994-12-29 | 2006-08-16 |
| YGSOFT INC. | 2001-08-13 | 2006-08-23 |
| ZHEJIANG HUAFENG SPANDEX CO., LTD. | 1999-12-15 | 2006-08-23 |
| DHC SOFTWARE CO. , LTD | 2002-01-24 | 2006-08-23 |

| | | |
|--|------------|------------|
| BEIJING RUITAI HIGH-TEMPERATURE MATERIALS & TECHNOLOGY CO., LTD. | 2001-12-30 | 2006-08-23 |
| ZHEJIANG JINGXING PAPER JOINT STOCK CO.,LTD. | 2001-09-26 | 2006-09-15 |
| JIANGXI BLACK CAT CARBON BLACK CO., LTD. | 2001-07-12 | 2006-09-15 |
| DALIAN ZHANGZIDAO FISHERY GROUP CO., LTD. | 1992-09-21 | 2006-09-28 |
| ZHONGHE CO., LTD. | 2002-02-25 | 2006-10-12 |
| JIANGSU HONGBAO HARDWARE CO.,LTD. | 2001-12-04 | 2006-10-12 |
| SHANDONG DEMIAN INCORPORATED COMPANY | 2000-06-12 | 2006-10-18 |
| MESNAC CO.,LTD | 2000-12-28 | 2006-10-18 |
| JIANGSU DONGYUAN ELECTRICAL GROUP CO.LTD | 1998-11-19 | 2006-10-18 |
| JIANGSU SHAGANG CO.,LTD.” | 1999-09-28 | 2006-10-25 |
| GUANGDONG BRIGHT STAR LIGHT&ELECTRICITY CO., LTD | 2004-10-21 | 2006-10-25 |
| JIANGSU DAGANG CO. · LTD · | 2000-04-20 | 2006-11-16 |
| SHAN DONG SUN PAPER INDUSTRY JOINT STOCK CO., LTD. | 2000-04-26 | 2006-11-16 |
| SUZHOU GOOD-ARK ELECTRONICS CO.,LTD | 2002-10-22 | 2006-11-16 |
| SINOMA SCIENCE & TECHNOLOGY CO.,LTD | 2001-12-28 | 2006-11-20 |
| SUZHOU GOLD MANTIS CONSTRUCTION DECORATION CO., LTD. | 2004-04-30 | 2006-11-20 |
| ZHE JIANG DONGLIANG NEW BUILDING MATERIALS CO. · LTD | 1999-03-31 | 2006-11-20 |
| SUNVIM GROUP CO., LTD. | 2002-02-06 | 2006-11-24 |
| GUANGZHOU SEAGULL KITCHEN AND BATH PRODUCTS CO.,LTD | 2003-08-12 | 2006-11-24 |
| ZHEJIANG WANFENG AUTO WHEEL CO., LTD. | 2001-09-30 | 2006-11-28 |
| SHANDONG ORIENTAL OCEAN SCI-TECH CO., LTD | 2001-12-19 | 2006-11-28 |
| HENAN XINYE TEXTILE CO.,LTD. | 1994-04-24 | 2006-11-30 |
| SHANDONG LUYANG SHARE CO.,LTD. | 1992-10-14 | 2006-11-30 |
| SUZHOU NEW SEA UNION TELECOM TECHNOLOGY CO. · LTD. | 1997-01-01 | 2006-11-30 |
| WISCOM SYSTEM CO. · LTD. | 2000-12-13 | 2006-12-08 |
| JIANGSU GUOTAI INTERNATIONAL GROUP GUOMAO CO., LTD | 1998-05-07 | 2006-12-08 |
| XINJIANG ZHONGTAI CHEMICAL (GROUP) CO.,LTD. | 2001-12-18 | 2006-12-08 |
| GUOMAI TECHNOLOGIES,INC. | 2000-12-29 | 2006-12-15 |
| QINGDAO KINGKING APPLIED CHEMISTRY CO., LTD | 2001-04-24 | 2006-12-15 |
| ZHEJIANG NETSUN CO., LTD. | 2003-11-07 | 2006-12-15 |
| HUNAN NANLING INDUSTRY EXPLOSIVE MATERIAL CO.,LTD | 2001-08-10 | 2006-12-22 |
| SUNWARD INTELLIGENT EQUIPMENT CO.,LTD. | 2001-01-19 | 2006-12-22 |
| FUJIAN SBS ZIPPER SCIENCE&TECHNOLOGY CO., LTD | 2003-04-17 | 2006-12-22 |
| ZHEJIANG HISOAR PHARMACEUTICAL CO.,LTD. | 2004-05-13 | 2006-12-26 |
| XINJIANG TIANKANG ANIMAL SCIENCE BIO-TECHNOLOGY CO., LTD. | 2000-12-28 | 2006-12-26 |
| GUANGDONG HONGTU TECHNOLOGY (HOLDINGS) CO., LTD. | 2000-12-22 | 2006-12-29 |
| FUJIAN GUANFU MODERN HOUSEHOLD WARES CO., LTD | 2002-09-28 | 2006-12-29 |
| GUANGBO GROUP STOCK CO.,LTD.” | 2001-12-20 | 2007-01-10 |
| HENGBAO CO., LTD | 2000-09-28 | 2007-01-10 |
| HL CORP.(SHENZHEN) | 2003-12-15 | 2007-01-12 |
| SHENZHEN LAIBAO HI-TECH CO.,LTD. | 2000-10-31 | 2007-01-12 |
| SHANDONG WOHUA PHARMACEUTICAL CO., LTD. | 2003-03-25 | 2007-01-24 |
| CANGZHOU MINGZHU PLASTIC CO.,LTD. | 2001-07-08 | 2007-01-24 |
| SHAANXI XINGHUA CHEMISTRY CO., LTD | 1997-08-29 | 2007-01-26 |
| SANSTEEL MINGUANG CO.,LTD.,FUJIAN | 2001-12-26 | 2007-01-26 |

| | | |
|--|------------|------------|
| WEIHAI GUANGTAI AIRPORT EQUIPMENT CO., LIMITED | 2002-08-30 | 2007-01-26 |
| SAN BIAN SCI-TECH CO., LTD. | 2001-12-29 | 2007-02-08 |
| HUNAN TIANRUN CHEMICAL INDUSTRY DEVELOPING CO., LTD. | 1989-04-02 | 2007-02-08 |
| YUNNAN LUOPING ZINC AND ELECTRICITY CO., LTD | 2000-12-21 | 2007-02-15 |
| SUNWAVE COMMUNICATIONS CO., LTD. | 2004-03-18 | 2007-02-15 |
| CHINA HAI SUM ENGINEERING CO.,LTD. | 2002-12-02 | 2007-02-15 |
| TUNGKONG SECURITY PRINTING CO., LTD. | 2002-12-30 | 2007-03-02 |
| JILIN ZIXIN PHARMACEUTICAL INDUSTRIAL CO., LTD. | 2001-02-23 | 2007-03-02 |
| NINGBO KANGQIANG ELECTRONICS CO., LTD. | 2002-10-28 | 2007-03-02 |
| NINGBO XINHAI ELECTRIC CO., LTD | 2003-01-17 | 2007-03-06 |
| SHENZHEN CLOU ELECTRONICS CO.,LTD. | 2000-11-30 | 2007-03-06 |
| ZHEJIANG TIANMA BEARING CO.,LTD. | 2002-11-18 | 2007-03-28 |
| RONGXIN POWER ELECTRONIC CO., LTD. | 2000-11-10 | 2007-03-28 |
| NINGBO TECH-BANK CO.,LTD. | 2001-02-28 | 2007-04-03 |
| XIANGTAN ELECTROCHEMICAL SCIENTIFIC CO.,LTD. | 2000-09-30 | 2007-04-03 |
| ZHEJIANG YINLUN MACHINERY CO.,LTD | 1999-03-10 | 2007-04-18 |
| JIANGSU XINMIN TEXTILE SCIENCE & TECHNOLOGY CO., LTD. | 1999-07-12 | 2007-04-18 |
| HUOLINHE OPENCUT COAL INDUSTRY CORPORATION LIMITED OF INNER MONGOLIA | 2001-12-18 | 2007-04-18 |
| TIANJIN ZHONGHUAN SEMICONDUCTOR CO., LTD. | 2004-07-16 | 2007-04-20 |
| SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD. | 2004-09-08 | 2007-04-20 |
| ZHEJIANG LEO CO., LTD. | 2005-02-01 | 2007-04-27 |
| HENAN HENGXING SCIENCE & TECHNOLOGY CO.,LTD. | 1995-07-12 | 2007-04-27 |
| COSMOS GROUP CO., LTD. | 2004-10-18 | 2007-04-27 |
| TIANJIN PRINTRONICS CIRCUIT CORPORATION | 2005-12-08 | 2007-05-16 |
| ZHEJIANG SOUTHEAST SPACE FRAME CO.,LTD. | 2001-12-29 | 2007-05-30 |
| ANHUI ANNADA TITANIUM INDUSTRY CO.,LTD. | 2005-03-23 | 2007-05-30 |
| SHENZHEN SEA STAR TECHNOLOGY CO., LTD. | 2005-07-04 | 2007-06-13 |
| SHENZHEN SUNLORD ELECTRONICS CO.,LTD. | 2005-09-21 | 2007-06-13 |
| SHENZHEN TOPBAND CO., LTD. | 2002-08-16 | 2007-06-29 |
| EAST CHINA ENGINEERING SCIENCE AND TECHNOLOGY CO., LTD. | 2001-07-18 | 2007-07-12 |
| GUANGDONG RONSEN SUPER MICRO-WIRE CO., LTD. | 2002-10-10 | 2007-07-20 |
| SICHUAN GAOJIN FOOD CO., LTD. | 2003-08-22 | 2007-07-20 |
| HONGDA HIGH-TECH HOLDING CO.,LTD | 2001-09-17 | 2007-08-03 |
| CNNC HUA YUAN TITANIUM DIOXIDE CO.,LTD | 2001-02-23 | 2007-08-03 |
| RISESUN REAL ESTATE DEVELOPMENT CO.,LTD. | 2003-01-20 | 2007-08-08 |
| MAANSHAN FANGYUAN SLEWING RING CO., LTD. | 2006-12-20 | 2007-08-08 |
| BEIJING BEWINNER COMMUNICATIONS CO., LTD. | 2001-12-20 | 2007-08-10 |
| WESTERN METAL MATERIALS CO. LTD | 2000-12-28 | 2007-08-10 |
| JIANGSU TONGRUN EQUIPMENT TECHNOLOGY CO.,LTD | 2002-10-28 | 2007-08-10 |
| BEIJING BDSTAR NAVIGATION CO.,LTD. | 2000-09-25 | 2007-08-13 |
| GRG BANKING EQUIPMENT CO., LTD. | 2005-10-18 | 2007-08-13 |
| BEIJING SHIJI INFORMATION TECHNOLOGY CO., LTD. | 2001-12-21 | 2007-08-13 |
| ZHEJIANG BAOXINIAO GARMENT CO.,LTD. | 2001-06-20 | 2007-08-16 |
| CHENZHOU MINING GROUP CO., LTD. | 2006-06-01 | 2007-08-16 |
| NANTONG FUJITSU MICROELECTRONICS CO.,LTD. | 2002-12-26 | 2007-08-16 |

| | | |
|---|------------|------------|
| JIANGXI ZHENGBANG TECHNOLOGY CO.,LTD. | 2004-04-23 | 2007-08-17 |
| SHANGHAI HANBELL PRECISE MACHINERY CO.,LTD. | 2005-10-28 | 2007-08-17 |
| WUHAN SANTE CABLEWAYS GROUP CO.,LTD. | 1989-09-05 | 2007-08-17 |
| JIANGSU ALCHA ALUMINUM CO., LTD. | 2004-06-02 | 2007-08-21 |
| SHENZHEN YUANWANGGU INFORMATION TECHNOLOGY JOINT STOCK CO., LTD | 2003-12-10 | 2007-08-21 |
| SHANGHAI CIMIC TILE CO., LTD. | 2002-01-15 | 2007-08-23 |
| CHINA AVIATION SANXIN CO.,LTD. | 2000-12-18 | 2007-08-23 |
| NINGBO DONLY TRANSMISSION EQUIPMENT CO. · LTD | 2006-01-20 | 2007-08-23 |
| NANJING HONGBAOLI CO.,LTD | 1994-06-23 | 2007-09-13 |
| GUILIN LAYN NATURAL INGREDIENTS CORP. | 2004-12-16 | 2007-09-13 |
| GUANGDONG ORIENT ZIRCONIC IND SCI & TECH CO.,LTD. | 2000-09-26 | 2007-09-13 |
| SHENZHEN HIFUTURE ELECTRIC CO.,LTD. | 2003-01-06 | 2007-09-19 |
| GUANGZHOU ZHIGUANG ELECTRIC CO.,LTD. | 2005-12-21 | 2007-09-19 |
| SHENZHEN BATIAN ECOTYPIC ENGINEERING CO., LTD. | 2001-07-06 | 2007-09-19 |
| ANHUI JINGCHENG COPPER SHARE CO.,LTD. | 2002-10-10 | 2007-09-21 |
| JIANGSU AOYANG TECHNOLOGY CORPORATION LIMITED. | 2001-10-22 | 2007-09-21 |
| ZHEJIANG SHANXIAHU PEARL GROUP CO., LTD. | 2004-07-05 | 2007-09-25 |
| SUSINO UMBRELLA CO., LTD. | 2005-12-28 | 2007-09-25 |
| GUILIN GUANGLU MEASURING INSTRUMENT CO., LTD. | 2001-12-29 | 2007-10-12 |
| JIANGXI SPECIAL ELECTRIC MOTOR CO.,LTD | 1991-11-26 | 2007-10-12 |
| GUANGZHOU KINGTELLER TECHNOLOGY CO.,LTD | 2001-04-26 | 2007-11-01 |
| SHANGHAI YANHUA SMARTECH GROUP CO., LTD | 2001-12-04 | 2007-11-01 |
| CHINA AVIATION OPTICAL-ELECTRICAL TECHNOLOGY CO., LTD. | 2002-12-31 | 2007-11-01 |
| ZHUHAI WANLIDA ELECTRIC CO. · LTD. | 2004-08-18 | 2007-11-13 |
| GUANGDONG CHINA SUNSHINE MEDIA CO.,LTD. | 1992-12-28 | 2007-11-16 |
| NANJING YUNHAI SPECIAL METALS CO., LTD. | 1993-11-30 | 2007-11-13 |
| ETERNAL ASIA SUPPLY CHAIN MANAGEMENT LTD | 2004-03-30 | 2007-11-13 |
| SHANGHAI HI-TECH CONTROL SYSTEM CO. · LTD. | 1994-03-15 | 2007-11-16 |
| TIANSHUI HUATIAN TECHNOLOGY CO.,LTD. | 2003-12-25 | 2007-11-20 |
| CHINA QUANJUDE(GROUP) CO. · LTD | 1994-06-16 | 2007-11-20 |
| GUANGZHOU GRANDBUY CO.,LTD. | 2002-04-30 | 2007-11-22 |
| ZHEJIANG NEW JIALIAN ELECTRONICS CO.,LTD | 2006-11-22 | 2007-11-22 |
| LIDA OPTICAL & ELECTRONIC CO. , LTD. | 2006-06-28 | 2007-12-03 |
| SICHUAN CHENGFEI INTEGRATION TECHNOLOGY CORP.LTD | 2000-12-06 | 2007-12-03 |
| SHENZHEN JINJIA COLOR PRINTING GROUP CO.,LTD. | 2003-06-13 | 2007-12-05 |
| LUXIANG CO., LTD. | 2001-12-22 | 2007-12-05 |
| SHANDONG JINING RUYI WOOLEN TEXTILE CO.,LTD. | 1993-12-28 | 2007-12-07 |
| WUHAN FINGU ELECTRONIC TECHNOLOGY CO., LTD. | 2002-12-31 | 2007-12-07 |
| SHANGHAI HYRON SOFTWARE CO., LTD. | 2001-07-24 | 2007-12-12 |
| ZHEJIANG FOUNDER MOTOR CO., LTD. | 2001-12-20 | 2007-12-12 |
| SHENZHEN ZHENG TONG ELECTRONICS CO.,LTD. | 2006-12-06 | 2007-12-18 |
| GUANGDONG JIAYING PHARMACEUTICAL CO., LTD | 2005-06-01 | 2007-12-18 |
| ZHEJIANG EAST CRYSTAL ELECTRONIC CO., LTD. | 2004-07-30 | 2007-12-21 |
| YUNNAN GREEN-LAND BIOLOGICAL TECHNOLOGY CO.,LTD. | 2001-03-28 | 2007-12-21 |
| JIANGSU JIUDING NEW MATERIAL CO., LTD. | 1994-06-30 | 2007-12-26 |

| | | |
|---|------------|------------|
| XINJIANG GOLDWIND SCIENCE&TECHNOLOGY CO.,LTD | 2001-03-26 | 2007-12-26 |
| ZHEJIANG HAILIANG CO., LTD. | 2001-10-29 | 2008-01-16 |
| DALIAN HUARUI HEAVY INDUSTRY GROUP CO.,LTD. | 2007-03-19 | 2008-01-16 |
| XINJIANG GUOTONG PIPELINE CO. , LTD | 2001-08-30 | 2008-01-23 |
| ZHEJIANG HAILIDE NEW MATERIAL CO.,LTD. | 2001-05-21 | 2008-01-23 |
| XINJIANG ZHUNDONG PETROLEUM TECHNOLOGY CO., LTD. | 2003-12-29 | 2008-01-28 |
| HEFEI URBAN CONSTRUCTION DEVELOPMENT CO.,LTD | 1999-09-07 | 2008-01-28 |
| GUANGZHOU TECH-LONG PACKING MACHINE CO., LTD. | 2006-12-13 | 2008-01-30 |
| SHENZHEN FEIMA INTERNATIONAL SUPPLY CHAIN CO., LTD. | 2006-12-25 | 2008-01-30 |
| JIANGSU HONGDA NEW MATERIAL CO., LTD. | 2002-04-24 | 2008-02-01 |
| GUANG DONG NAN YANG CABLE GROUP HOLDING CO.,LTD | 2005-08-03 | 2008-02-01 |
| SHENZHEN TERCA TECHNOLOGY CO., LTD | 2000-10-25 | 2008-02-01 |
| ZHE JIANG DALI TECHNOLOGY CO.,LTD | 2005-11-17 | 2008-02-18 |
| SHENZHEN NOPOSITION AGROCHEMICALS CO.,LTD | 2005-11-22 | 2008-02-18 |
| ZHENGZHOU SANQUAN FOODS CO.,LTD | 2001-06-28 | 2008-02-20 |
| SHANDONG LIAHERD CHEMICAL INDUSTRY CO.,LTD | 2006-03-09 | 2008-02-20 |
| SHENZHEN TOPRAYSOLAR CO., LTD. | 2007-02-16 | 2008-02-28 |
| GANSU DUYIWEI BIOLOGICAL PHARMACEUTICAL CO.,LTD. | 2006-12-29 | 2008-03-06 |
| DALIAN TIANBAO GREEN FOODS CO., LTD. | 2001-05-16 | 2008-02-28 |
| ORIENTAL ENERGY CO., LTD. | 2007-03-22 | 2008-03-06 |
| FUJIAN CASTECH CRYSTALS, INC. | 2006-10-31 | 2008-03-19 |
| JIANGSU YUYUE MEDICAL EQUIPMENT & SUPPLY CO., LTD. | 2007-06-28 | 2008-04-18 |
| ZHEJIANG SANLUX RUBBER CO. , LTD. | 2002-11-11 | 2008-04-25 |
| PUYANG REFRACTORIES GROUP CO., LTD | 2007-06-20 | 2008-04-25 |
| ANHUI JIANGNAN CHEMICAL INDUSTRY CO.,LTD. | 2005-12-28 | 2008-05-06 |
| SHENZHEN AUTO ELECTRIC POWER PLANT CO., LTD. | 2007-03-12 | 2008-05-06 |
| XIAMEN HEXING PACKAGING PRINTING CO.,LTD | 2007-01-30 | 2008-05-08 |
| FUJIAN HONGBO PRINTING CO., LTD. | 2007-03-19 | 2008-05-08 |
| ANHUI USTC IFLYTEK CO., LTD. | 2007-04-26 | 2008-05-12 |
| ALLWIN TELECOMMUNICATION CO., LTD. | 2005-09-26 | 2008-05-12 |
| QIMING INFORMATION TECHNOLOGY CO.,LTD | 2006-07-27 | 2008-05-09 |
| GUANGDONG TAPAI GROUP CO., LTD | 2007-04-28 | 2008-05-16 |
| SHANDONG MINHE ANIMAL HUSBANDRY CO. , LTD. | 2000-12-01 | 2008-05-16 |
| XIAMEN ANNE CORPORATION LIMITED | 2007-05-25 | 2008-05-16 |
| SHANDONG HUMON SMELTING CO., LTD. | 1997-06-26 | 2008-05-20 |
| SHENZHEN TOPWAY VIDEO COMMUNICATION CO. , LTD. | 2003-03-11 | 2008-05-26 |
| JIANGSU KINGFIELD GARMENTS CO.,LTD. | 2007-01-08 | 2008-05-22 |
| GUANGDONG WEIHUA CORPORATION | 2006-12-29 | 2008-05-23 |
| GOERTEK INC. | 2007-07-27 | 2008-05-22 |
| JOYOUNG CO., LTD. | 2007-09-19 | 2008-05-28 |
| SHENZHEN BEAUTY STAR CO., LTD | 2007-04-29 | 2008-05-28 |
| HANGZHOU BINJIANG REAL ESTATE GROUP CO., LTD. | 2006-12-06 | 2008-05-29 |
| JIANGSU AUUCKSUN CO., LTD | 2002-09-30 | 2008-06-05 |
| SICHUAN NITROCELL CO. , LTD | 2005-09-02 | 2008-06-05 |
| ZHEJIANG DILONG NEW MATERIAL CO.,LTD. | 2007-06-18 | 2008-06-12 |

| | | |
|---|------------|------------|
| WEIHAI HUADONG AUTOMATION CO. , LTD | 2002-03-04 | 2008-06-12 |
| ZHONGSHAN BROAD-OCEAN MOTOR CO. ,LTD | 2006-06-23 | 2008-06-19 |
| LIANHE CHEMICAL TECHNOLOGY CO.,LTD. | 2001-08-29 | 2008-06-19 |
| BETTER LIFE COMMERCIAL CHAIN SHARE CO.,LTD. | 2003-12-11 | 2008-06-19 |
| SHANGHAI RAAS BLOOD PRODUCTS CO., LTD. | 1988-10-29 | 2008-06-23 |
| WISESOFT CO.,LTD. | 2000-11-22 | 2008-06-23 |
| YANTAI TAYHO ADVANCED MATERIALS CO.,LTD. | 1993-05-20 | 2008-06-25 |
| SUZHOU HAILU HEAVY INDUSTRY CO. , LTD | 2007-04-23 | 2008-06-25 |
| SHENZHEN RAINBOW FINE CHEMIAL INDUSTRY CO. , LTD. | 1995-11-20 | 2008-06-25 |
| LIER CHEMICAL CO.,LTD. | 1993-02-24 | 2008-07-08 |
| SICHUAN SHENGDA FORESTRY INDUSTRY CO., LTD | 2005-12-26 | 2008-07-16 |
| GUANGDONG ELECPRO ELECTRIC APPLIANCE HOLDING CO.,LTD. | 2006-08-30 | 2008-07-16 |
| TALKWEB INFORMATION SYSTEM CO.,LTD. | 2001-05-31 | 2008-07-23 |
| JIANGSU NHWA PHARMACEUTICAL CO. , LTD | 2007-04-29 | 2008-07-23 |
| ZHEJIANG GREAT SOUTHEAST CO.,LTD | 2000-06-08 | 2008-07-28 |
| FUJIAN NEW HUA DU SUPERCENTER CO.,LTD. | 2004-05-17 | 2008-07-31 |
| YUNNAN XIYI INDUSTRY CO., LTD. | 2005-03-28 | 2008-08-06 |
| ZHEJIANG FUCHUNJIANG HYDROPOWER EQUIPMENT CO.,LTD | 2004-03-26 | 2008-08-06 |
| WESTONE INFORMATION INDUSTRY INC. | 1998-04-23 | 2008-08-11 |
| SHANGHAI METERSBONWE FASHION & ACCESSORIES CO.,LTD. | 2000-12-06 | 2008-08-28 |
| SHANDONG FIN CNC MACHINE CO., LTD. | 2002-08-19 | 2008-09-05 |
| BEIJING ORIENTAL YUHONG WATERPROOF TECHNOLOGY CO., LTD. | 1998-03-30 | 2008-09-10 |
| SICHUAN CRUN CO., LTD | 2007-02-05 | 2008-09-19 |
| ZHEJIANG QUARTZ CRYSTAL OPTOELECTRONIC TECHNOLOGY CO.,LTD | 2002-08-02 | 2008-09-19 |
| JIANGSU HUACHANG CHEMICAL CO., LTD | 2004-02-27 | 2008-09-25 |
| GUILIN SANJIN PHARMACEUTICAL CO., LTD. | 2001-12-28 | 2009-07-10 |
| ZHEJIANG WANMA CABLE CO., LTD | 1996-12-30 | 2009-07-10 |
| YOUR-MART CO., LTD | 2004-06-07 | 2009-07-17 |
| SHANGHAI SK PETROLEUM & CHEMICAL EQUIPMENT CORPORATION LTD. | 2007-09-13 | 2009-08-11 |
| BEIJING JOIN-CHEER SOFTWARE CO.,LTD. | 2001-12-18 | 2009-08-11 |
| HANGZHOU NEW CENTURY INFORMATION TECHNOLOGY CO.,LTD | 2002-07-04 | 2009-08-21 |
| ACCELINK TECHNOLOGIES CO.,LTD. | 2004-10-27 | 2009-08-21 |
| BOSUN TOOLS CO.,LTD. | 2007-06-28 | 2009-08-21 |
| TIANRUN CRANKSHAFT CO.,LTD. | 2007-11-19 | 2009-08-21 |
| ZHEJIANG ASIA-PACIFIC MECHANICAL & ELECTRONIC CO.,LTD | 2000-12-07 | 2009-08-28 |
| SHENZHEN WORLD UNION PROPERTIES CONSULTANCY CO.,LTD. | 2007-08-31 | 2009-08-28 |
| BAOLINGBAO BIOLOGY CO., LTD. | 1997-10-16 | 2009-08-28 |
| TIBET CHEEZHENG TIBETAN MEDICINE CO.,LTD | 2007-10-09 | 2009-08-28 |
| GUANGDONG CHAOHUA TECHNOLOGY CO.,LTD | 2004-09-22 | 2009-09-03 |
| SHENZHEN SUCCESS ELECTRONIC CO., LTD. | 2004-01-02 | 2009-09-03 |
| SUZHOU HESHENG SPECIAL MATERIAL CO.,LTD. | 2002-11-15 | 2009-09-03 |
| FOSHAN SATURDAY SHOES CO.,LTD | 2002-07-25 | 2009-09-03 |
| GUANGDONG ALPHA ANIMATION AND CULTURE CO., LTD. | 1993-12-17 | 2009-09-10 |
| LUOLAI HOME TEXTILE CO., LTD | 2002-05-23 | 2009-09-10 |
| SHENZHEN SALUBRIS PHARMACEUTICALS CO., LTD. | 2007-06-29 | 2009-09-10 |

| | | |
|--|------------|------------|
| GUANGDONG JINGYI METAL CO., LTD. | 1999-07-28 | 2009-09-29 |
| HENAN SPLENDOR SCIENCE&TECHNOLOGY CO., LTD. | 2001-11-15 | 2009-09-29 |
| HUNAN BOYUN NEW MATERIALS CO.,LTD. | 2001-07-30 | 2009-09-29 |
| ANHUI XINLONG ELECTRICAL CO.,LTD. | 1998-05-15 | 2009-09-29 |
| FUJIAN SUNNER DEVELOPMENT CO. · LTD. | 1999-12-21 | 2009-10-21 |
| FUJIAN NANPING SUN CABLE CO., LTD. | 1994-07-11 | 2009-10-21 |
| SHENZHEN COMIX STATIONERY CO., LTD. | 2000-01-12 | 2009-10-21 |
| XINJIANG WEST-CONSTRUCTION CO.,LTD | 2001-10-18 | 2009-11-03 |
| SHENZHEN MYS ENVIRONMENTAL PROTECTION & TECHNOLOGY COMPANY LTD | 2007-09-25 | 2009-11-03 |
| JIANGSU YANGHE BREWERY JOINT-STOCK CO., LTD. | 2002-12-27 | 2009-11-06 |
| WUHAN LANGOLD REAL ESTATE CO., LTD. | 2007-09-30 | 2009-11-06 |
| BEIJING XIANGQING CO., LTD. | 1999-09-14 | 2009-11-11 |
| XINJIANG BEIXIN ROAD AND BRIDGE GROUP CO., LTD. | 2001-08-07 | 2009-11-11 |
| VTRON TECHNOLOGIES LTD. | 2002-08-23 | 2009-11-27 |
| ZHONGLI SCIENCE AND TECHNOLOGY GROUP CO., LTD. | 1996-11-01 | 2009-11-27 |
| BEIJING ORIENT LANDSCAPE CO., LTD. | 2001-09-12 | 2009-11-27 |
| GUANGDONG HAID GROUP CO., LIMITED | 2004-01-08 | 2009-11-27 |
| CHENGDU SANTAI ELECTRONICS INDUSTRY CO., LTD. | 2005-12-31 | 2009-12-03 |
| SUNSEA TELECOMMUNICATIONS CO.,LTD. | 2003-11-14 | 2009-12-03 |
| YAHGEE MODULAR HOUSE CO., LTD. | 2001-04-30 | 2009-12-03 |
| FOCUSTECHNOLOGY CO., LTD. | 2007-09-20 | 2009-12-09 |
| SHENZHEN KEYBRIDGE COMMUNICATIONS CO.,LTD. | 2006-12-31 | 2009-12-09 |
| GUANGDONG ZHONGSHENG PHARMACEUTICAL CO.,LTD. | 2001-12-31 | 2009-12-11 |
| ZHEJIANG JIULI HI-TECH METALS CO., LTD. | 2005-09-19 | 2009-12-11 |
| LETONG CHEMICAL CO.,LTD | 2007-09-04 | 2009-12-11 |
| HAINAN STRAIT SHIPPING CO.,LTD | 2002-12-06 | 2009-12-16 |
| HENAN HUAYING AGRICULTURAL DEVELOPMENT CO. LTD. | 2002-01-30 | 2009-12-16 |
| NINGBO LIGONG ONLINE MONITORING TECGNOLOGY CO.,LTD | 2007-07-30 | 2009-12-18 |
| JIANGSU ZHONGLIAN ELECTRIC CO., LTD | 2002-10-21 | 2009-12-18 |
| SHANGHAI PRET COMPOSITES CO.,LTD. | 2007-07-23 | 2009-12-18 |
| SHENZHEN HONGTAO DECORATION CO.,LTD. | 2007-08-31 | 2009-12-22 |
| ZHEJIANG YONGTAI TECHNOLOGY CO ., LTD. | 1999-10-11 | 2009-12-22 |
| SHENZHEN FUANNA BEDDING AND FURNISHING CO.,LTD. | 2006-12-22 | 2009-12-30 |
| SHANGHAI XINPENG INDUSTRIAL CO., LTD. | 1997-10-30 | 2009-12-30 |
| GUANGXI ROYAL DAIRY CO.,LTD | 2006-11-22 | 2010-01-06 |
| SHANDONG DELISI FOOD CO.,LTD. | 2003-06-20 | 2010-01-06 |
| ANHUI WANTONG TECHNOLOGY CO.,LTD. | 1999-05-12 | 2010-01-06 |
| ZHEJIANG XIANJU PHARMACEUTICAL CO.,LTD | 2000-06-26 | 2010-01-12 |
| SUZHOU LOPSKING ALUMINUM CO., LTD. | 2007-08-30 | 2010-01-12 |
| SHENZHEN INVT ELECTRIC CO., LTD. | 2002-04-15 | 2010-01-13 |
| XIAMEN KEHUA HENGSHENG CO.,LTD. | 1999-03-26 | 2010-01-13 |
| RENRENLE COMMERCIAL GROUP CO.,LTD. | 1996-04-01 | 2010-01-13 |
| TIANJIN SAIXIANG TECHNOLOGY CO.,LTD | 2000-11-16 | 2010-01-15 |
| CHANGCHUN UP OPTOTECH CO.,LTD. | 2001-06-26 | 2010-01-15 |
| INTEGRATED ELECTRONIC SYSTEMS LAB CO.,LTD. | 2000-08-10 | 2010-01-22 |

| | | |
|--|------------|------------|
| SHENZHEN GREEN ECO-MANUFACTURE HI-TECH CO.,LTD. | 2001-12-28 | 2010-01-22 |
| SHENZHEN SELEN SCIENCE & TECHNOLOGY CO.,LTD. | 2002-12-25 | 2010-01-22 |
| JULI SLING CO., LTD. | 2004-12-07 | 2010-01-26 |
| ZHEJIANG HEXIN INDUSTRY GROUP CO.,LTD | 1998-08-28 | 2010-01-26 |
| HAINING CHINA LEATHER MARKET CO.,LTD | 2007-12-05 | 2010-01-26 |
| GUANGDONG CHJ INDUSTRY CO. , LTD. | 1996-03-07 | 2010-01-28 |
| SHANGHAI ZHEZHONG CONSTRUCTION CO.,LTD | 2002-06-04 | 2010-01-28 |
| ANHUI TAIER HEAVY INDUSTRY CO., LTD. | 2001-12-18 | 2010-01-28 |
| GOLDLOK TOYS HOLDINGS (GUANGDONG) CO., LTD | 2002-02-07 | 2010-02-03 |
| NANTONG JINGHUA PHARMACEUTICAL CO.,LTD. | 2007-09-28 | 2010-02-03 |
| BEIJING CREATIVE DISTRIBUTION AUTOMATION CO.,LTD | 2001-05-18 | 2010-02-03 |
| EDIFIER TECHNOLOGY CO.,LTD. | 2001-01-16 | 2010-02-05 |
| MAANSHAN DINGTAI RARE EARTH & NEW MATERIAL CO., LTD. | 2007-10-26 | 2010-02-05 |
| YANTAI JEREH OILFIELD SERVICES GROUP CO., LTD. | 1999-12-10 | 2010-02-05 |
| DALIAN KEMIAN WOOD INDUSTRY CO., LTD. | 2003-08-29 | 2010-02-09 |
| SHANDONG XINGMIN WHEEL CO., LTD. | 2007-12-12 | 2010-02-09 |
| SHENZHEN HAONINGDA METERS CO., LTD. | 2007-06-28 | 2010-02-09 |
| SICHUAN FULIN TRANSPORTATION GROUP CO., LTD. | 2002-03-18 | 2010-02-10 |
| HENAN SENYUAN ELECTRIC CO. , LTD. | 2000-10-30 | 2010-02-10 |
| SHANDONG QIXING IRON TOWER CO., LTD. | 2002-09-30 | 2010-02-10 |
| SHANXI TOND CHEMICAL CO. , LTD. | 2001-06-10 | 2010-03-03 |
| ANHUI SHENJIAN NEW MATERIALS CO.,LTD. | 2002-04-18 | 2010-03-03 |
| HANWANG TECHNOLOGY CO.,LTD. | 2005-12-19 | 2010-03-03 |
| SHANDONG LONGJI MACHINERY CO., LTD. | 1994-04-11 | 2010-03-05 |
| HANGZHOU ZHONGHENG ELECTRIC CO., LTD. | 2001-07-11 | 2010-03-05 |
| QIANJIANG YONGAN PHARMACEUTICAL CO.,LTD. | 2006-04-14 | 2010-03-05 |
| SICHUAN DANFU COMPRESSOR CO.,LTD | 2007-12-20 | 2010-03-12 |
| CANNY ELEVATOR CO., LTD. | 1997-11-03 | 2010-03-12 |
| TAIJI COMPUTER CORPORATION LIMITED | 2002-09-29 | 2010-03-12 |
| SHENZHEN ZOWEE TECH. CO., LTD. | 2004-02-26 | 2010-03-16 |
| ZHEJIANG YATAI PHARMACEUTICAL CO.,LTD. | 2001-12-31 | 2010-03-16 |
| BEIJING SEVENSTAR ELECTRONICS CO., LTD. | 2001-09-28 | 2010-03-16 |
| ZHEJIANG WEIXING NEW BUILDING MATERIALS CO.,LTD. | 1999-10-12 | 2010-03-18 |
| SUREKAM CORPORATION | 2007-05-29 | 2010-03-18 |
| SHANDONG LIPENG CO., LTD | 2007-12-04 | 2010-03-18 |
| ZHEJIANG YASHA DECORATION CO.,LTD. | 2007-07-25 | 2010-03-23 |
| SHANDONG NEW BEIYANG INFORMATION TECHNOLOGY CO.,LTD. | 2002-12-06 | 2010-03-23 |
| HUBEI GUOCHUANG HI-TECH MATERIAL CO.,LTD | 2002-03-25 | 2010-03-23 |
| CHONGYI ZHANGYUAN TUNGSTEN CO.,LTD. | 2007-11-28 | 2010-03-31 |
| SHANDONG LOFTEN ALUMINIUM FOIL CO., LTD. | 2000-08-11 | 2010-03-31 |
| NANJING KEYUAN AUTOMATIC CORPORATION CO., LTD. | 1993-05-27 | 2010-03-31 |
| ZHEJIANG DOUBLE ARROW RUBBER CO., LTD. | 2001-11-13 | 2010-04-02 |
| SHANDONG BLUE SAIL PLASTIC & RUBBER CO.,LTD. | 2007-09-25 | 2010-04-02 |
| BEIJING UNISTRONG SCIENCE & TECHNOLOGY CO.,LTD. | 1998-09-30 | 2010-04-02 |
| SUZHOU DONGSHAN PRECISION MANUFACTURING CO. , LTD. | 2007-12-24 | 2010-04-09 |

| | | |
|--|------------|------------|
| BEIJING DABEINONG TECHNOLOGY GROUP CO.,LTD | 1994-10-18 | 2010-04-09 |
| YIBIN TIANYUAN GROUP CO · , LTD | 1994-01-01 | 2010-04-09 |
| BLACKCOW FOOD CO., LTD | 2007-12-28 | 2010-04-13 |
| SHENZHEN SUNYES ELECTRONIC MANUFACTURING HOLDING CO.,LTD | 2003-01-10 | 2010-04-13 |
| ZHEJIANG NANYANG TECHNOLOGY CO., LTD | 2006-11-23 | 2010-04-13 |
| GUIZHOU XINBANG PHARMACEUTICAL CO. · LTD | 2000-02-02 | 2010-04-16 |
| JIANGSU CHANGQING AGRICULTUREAL AND CHEMICAL CO.,LTD | 2001-01-04 | 2010-04-16 |
| BEIJING LIER HIGH-TEMPERATURE MATERIALS CO · , LTD | 2007-12-28 | 2010-04-23 |
| TIANJIN LISHENG PHARMACEUTICAL CO.,LTD | 2001-08-08 | 2010-04-23 |
| JIANGSU LIANFA TEXTILE CO.LTD | 2008-01-23 | 2010-04-23 |
| WUXI DOUBLE ELEPHANT MICRO FIBRE MATERIALCO., LTD | 2004-12-23 | 2010-04-29 |
| FUJIAN STAR-NET COMMUNICATION CO.,LTD | 1996-11-11 | 2010-06-23 |
| HUNAN MENDALE HOMETEXTILE CO., LTD | 2005-12-21 | 2010-04-29 |
| XIAMEN ACADEMY OF BUILDING RESEARCH GROUP CO.,LTD | 2004-04-09 | 2010-05-06 |
| SHENZHEN HEPALINK PHARMACEUTICAL CO., LTD | 1998-04-21 | 2010-05-06 |
| GUANGDONG ADVERTISING CO., LTD | 2008-01-28 | 2010-05-06 |
| CHINA SHIPPING NETWORK TECHNOLOGY CO., LTD. | 2001-01-15 | 2010-05-06 |
| SHENZHEN H&T INTELLIGENT CONTROL CO., LTD | 2007-12-04 | 2010-05-11 |
| ZHEJIANG AISHIDA ELECTRIC CO., LTD | 2007-12-27 | 2010-05-11 |
| ZHEJIANG JIAXIN SILK CORPORATION,LTD | 1999-03-29 | 2010-05-11 |
| NAVINFO CO., LTD | 2008-01-23 | 2010-05-18 |
| XUCHANG YUANDONG DRIVE SHAFT CO.,LTD | 2007-11-28 | 2010-05-18 |
| DO-FLUORIDE CHEMICALS CO.,LTD | 2004-12-28 | 2010-05-18 |
| ZIBO QIXIANG TENGDA CHEMICAL CO., LTD | 2007-10-31 | 2010-05-18 |
| JIANGSU YOKE TECHNOLOGY CO., LTD | 2007-12-14 | 2010-05-25 |
| GLODON SOFTWARE COMPANY LIMITED | 2007-12-28 | 2010-05-25 |
| JIANGSU JIUJIUJIU TECHNOLOGY CO., LTD | 2002-12-30 | 2010-05-25 |
| HUNAN HANSEN PHARMACEUTICAL CO., LTD | 1998-01-21 | 2010-05-25 |
| JIANGSU CHANGFA REFRIGERATION CO., LTD. | 2002-12-11 | 2010-05-28 |
| WUHAN GUIDE INFRARED CO.,LTD | 2004-07-13 | 2010-07-16 |
| HANGZHOU HIKVISION DIGITAL TECHNOLOGY CO.,LTD | 2008-06-25 | 2010-05-28 |
| SHENZHEN AISIDI CO., LTD | 1998-06-08 | 2010-05-28 |
| FUJIAN SUNNADA COMMUNICATION CO.,LTD | 2008-01-31 | 2010-06-01 |
| ZHE JIANG KANGSHENG CO.,LTD | 2007-06-29 | 2010-06-01 |
| RAINBOW DEPARTMENT STORE CO., LTD. | 1984-01-24 | 2010-06-01 |
| GUANGZHOU ECHOM SCIENCE & TECHNOLOGY CO.,LTD. | 2007-09-27 | 2010-06-01 |
| SHENZHEN DAS INTELLITECH CO., LTD. | 2000-10-31 | 2010-06-03 |
| SICHUAN KELUN PHARMACEUTICAL CO., LTD | 2003-09-28 | 2010-06-03 |
| ZHONGYUAN SPECIAL STEEL CO.,LTD | 2007-08-29 | 2010-06-03 |
| GUIZHOU BAILING GROUP PHARMACEUTICAL CO · , LTD | 2007-12-26 | 2010-06-03 |
| KAISER (CHINA) HOLDING CO., LTD | 2002-08-27 | 2010-06-08 |
| SUZHOU VICTORY PRECISION MANUFACTURE CO.,LTD | 2003-12-05 | 2010-06-08 |
| ZHEJIANG UNIFULL INDUSTRIAL FIBER CO., LTD. | 2008-12-08 | 2010-06-08 |
| YUNNAN LINCANG XINYUAN GERMANIUM INDUSTRIAL CO.,LTD | 2002-02-07 | 2010-06-08 |
| SHENZHEN MTC CO.,LTD | 2007-06-01 | 2010-06-10 |

| | | |
|---|------------|------------|
| HANGZHOU HANGYANG CO., LTD | 2002-12-18 | 2010-06-10 |
| PALM LANDSCAPE ARCHITECTURE CO.,LTD. | 2008-06-02 | 2010-06-10 |
| ANDON HEALTH CO.,LTD. | 1995-08-22 | 2010-06-10 |
| GUANGDONG TAIANTANG PHARMACEUTICAL CO., LTD | 2000-03-25 | 2010-06-18 |
| ZHEJIANG WANLIYANG TRANSMISSION CO., LTD. | 2008-01-30 | 2010-06-18 |
| CHANG JIANG RUNFA MACHINERY CO.,LTD. | 1999-09-09 | 2010-06-18 |
| SHENZHEN FASTPRINT CIRCUIT TECH CO.LTD | 2005-08-09 | 2010-06-18 |
| HARBIN GLORIA PHARMACEUTICALS CO., LTD. | 2000-03-27 | 2010-06-23 |
| JIANGSU SHENTONG VALVE CO.,LTD. | 2001-01-04 | 2010-06-23 |
| BEIJING VENUSTECH INC. | 2008-01-25 | 2010-06-23 |
| ZHEJIANG RUNTU CO.,LTD | 2004-12-16 | 2010-07-06 |
| ZHONGYEDA ELECTRIC CO.,LTD | 2008-04-14 | 2010-07-06 |
| LONGXING CHEMICAL INDUSTRY CO.,LTD | 2008-01-28 | 2010-07-06 |
| ZHEJIANG KINGLAND PIPELINE AND TECHNOLOGIES CO.,LTD | 2002-07-31 | 2010-07-06 |
| HANGZHOU GREAT STAR INDUSTRIAL CO., LTD | 2008-07-02 | 2010-07-13 |
| JIANGYIN ZHONGNAN HEAVY INDUSTRIES CO., LTD. | 2008-02-02 | 2010-07-13 |
| GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO., LTD. | 2007-06-11 | 2010-07-13 |
| DALIAN YI QIAO MARINE SEEDS CO.,LTD | 2001-08-22 | 2010-07-13 |
| ZYNP CORPORATION | 1990-03-25 | 2010-07-16 |
| FOSHAN NATIONSTAR OPTOELECTRONICS CO., LTD. | 2002-12-04 | 2010-07-16 |
| BEIJING KANGDE XIN COMPOSITE MATERIAL CO.,LTD. | 2001-08-21 | 2010-07-16 |
| SHANGHAI MORN ELECTRIC EQUIPMENT CO., LTD | 2008-05-28 | 2010-07-20 |
| HUNAN CHANGGAO HIGH VOLTAGE SWITCHGEAR GROUP CO.,LTD | 2006-01-17 | 2010-07-20 |
| SUZHOU TIANMA SPECIALTY CHEMICALS CO.,LTD. | 2007-12-28 | 2010-07-20 |
| SHANGHAI JIALENG SONGZHI AUTOMOBILE AIRCONDITION CO.,LTD. | 2008-04-02 | 2010-07-20 |
| WUXI BAICHUAN CHEMICAL INDUSTRY CO., LTD | 2002-07-01 | 2010-08-03 |
| SHENZHEN O-FILM TECH CO.,LTD. | 2007-10-22 | 2010-08-03 |
| NINGXIA QINGLONG PIPES INDUSTRY CO.,LTD. | 1999-03-01 | 2010-08-03 |
| SHAN DONG YISHENG LIVESTOCK & POULTRY BREEDING CO., LTD. | 2007-11-01 | 2010-08-10 |
| QINHUANGDAO TIANYE TOLIAN HEAVY INDUSTRY CO. · LTD. | 2008-07-18 | 2010-08-10 |
| JIANGXI GANFENG LITHIUM CO.,LTD. | 2000-03-02 | 2010-08-10 |
| GUANGZHOU ZHUJIANG BREWERY CO.,LTD. | 2002-12-25 | 2010-08-18 |
| CACHET PHARMACEUTICAL CO., LTD | 2003-11-18 | 2010-08-18 |
| WUS PRINTED CIRCUIT (KUNSHAN)CO.,LTD. | 1992-04-14 | 2010-08-18 |
| KEE EVER BRIGHT DECORATIVE TECHNOLOGY CO.,LTD. | 1993-04-02 | 2010-08-31 |
| GUANGZHOU HAIGE COMMUNICATIONS GROUP INCORPORATED COMPANY | 2007-07-20 | 2010-08-31 |
| SICHUAN TIANQI LITHIUM INDUSTRIES, INC. | 2007-12-25 | 2010-08-31 |
| NET263 LTD. | 2003-06-18 | 2010-09-08 |
| ZHEJIANG IDC FLUID CONTROL CO.,LTD | 2008-09-05 | 2010-09-08 |
| SHANDONG SUNWAY PETROCHEMICAL ENGINEERING CO.,LTD. | 1994-11-18 | 2010-09-08 |
| SHANDONG KINGENTA ECOLOGICAL ENGINEERING CO., LTD | 1998-08-26 | 2010-09-08 |
| JIANGSU ZHONGCHAO CABLE CO.,LTD. | 2008-06-26 | 2010-09-10 |
| ZHEJIANG SHUANGHUAN DRIVELINE CO.,LTD | 2005-08-25 | 2010-09-10 |
| NINGBO SUNLIGHT ELECTRICAL APPLIANCE CO.,LTD | 2004-03-11 | 2010-09-10 |
| FUJIAN RONGJI SOFTWARE CO., LTD. | 1993-10-22 | 2010-09-15 |

| | | |
|---|------------|------------|
| SHENZHEN LUXSHARE PRECISION INDUSTRY CO., LTD. | 2009-02-26 | 2010-09-15 |
| SHANDONG POLYMER BIOCHEMICALS CO.,LTD. | 2005-12-20 | 2010-09-15 |
| CHUYING AGRO-PASTORAL GROUP CO.,LTD | 2003-05-14 | 2010-09-15 |
| JIANGSU CHANGBAO STEELTUBE CO., LTD. | 2008-02-02 | 2010-09-21 |
| ZHEJIANG FUCHUNJIANG ENVIRONMENTAL THERMOELECTRIC CO.,LTD. | 2008-01-25 | 2010-09-21 |
| CHENGDU XINZHU ROAD&BRIDGE MACHINERY CO., LTD | 2001-03-28 | 2010-09-21 |
| YAN TAI SHUANG TA FOOD CO.,LTD | 1992-09-10 | 2010-09-21 |
| SHENZHEN GRANDLAND DECORATION GROUP CO.,LTD. | 2008-08-26 | 2010-09-29 |
| JIANGSU RAINBOW HEAVY INDUSTRIES CO.,LTD. | 2003-09-25 | 2010-09-29 |
| NANTONG JIANGHAI CAPACITOR CO.,LTD. | 2002-08-09 | 2010-09-29 |
| SINOER MEN'S WEAR CO., LTD. | 2003-12-17 | 2010-10-15 |
| SHANGHAI CHALLENGE TEXTILE COMPANY LIMITED | 2008-04-23 | 2010-10-15 |
| DAJIN HEAVY INDUSTRY CORPORATION | 2001-07-25 | 2010-10-15 |
| ZHEJIANG JINGU CO., LTD. | 2007-09-28 | 2010-10-21 |
| YOTRIO GROUP CO.,LTD | 2007-06-15 | 2010-10-21 |
| SHANDONG MOLONG PETROLEUM MACHINERY CO. LTD. | 2001-12-30 | 2010-10-21 |
| JIANGSU TONGDING OPTIC-ELECTRONIC STOCK CO., LTD | 1999-04-22 | 2010-10-21 |
| ZHUHAI WINBASE INTERNATIONAL CHEMICAL TANK TERMINAL CO. , LTD | 2000-11-07 | 2010-11-02 |
| RONGSHENG PETRO CHEMICAL CO., LTD. | 2007-06-18 | 2010-11-02 |
| HUASI AGRICULTURAL DEVELOPMENT COMPANY LIMITED | 2000-10-27 | 2010-11-02 |
| GUANGDONG JIALONG FOOD CO.,LTD. | 2001-07-25 | 2010-11-02 |
| JIANGSU HUIFENG AGROCHEMICAL CO., LTD | 1999-01-08 | 2010-11-09 |
| SICHUAN YAHUA INDUSTRIAL GROUP CO.,LTD | 2001-12-25 | 2010-11-09 |
| QINGDAO HANHE CABLE CO., LTD | 2007-12-28 | 2010-11-09 |
| KELIN ENVIRONMENTAL PROTECTION EQUIPMENT,INC | 1999-04-16 | 2010-11-09 |
| JILIN LIYUAN ALUMINUM CO., LTD | 2008-11-18 | 2010-11-17 |
| HUAWEI TECHNOLOGY CO.,LTD | 1997-08-26 | 2010-11-17 |
| DONGGUAN SOUYUTE FASHION CO.,LTD | 2006-11-28 | 2010-11-17 |
| JIANGSU DONGGUANG MICRO-ELECTRONICS CO., LTD | 1998-08-31 | 2010-11-18 |
| HUNAN DAKANG PASTURE FARMING CO.LTD | 2002-08-22 | 2010-11-18 |
| SHANGHAI CHAORI SOLAR ENERGY SCIENCE&TECHNOLOGY CO.,LTD | 2003-06-26 | 2010-11-18 |
| CHONGQING FULING ZHACAI GROUP CO., LTD | 1988-04-30 | 2010-11-23 |
| HANGZHOU ROBAM APPLIANCES CO., LTD | 2000-11-07 | 2010-11-23 |
| TIANGUANG FIRE-FIGHTING CO., LTD. | 2002-12-13 | 2010-11-23 |
| TIANJIN MOTOR DIES CO.,LTD | 1996-12-03 | 2010-11-25 |
| C&S PAPER CO., LTD | 2008-12-31 | 2010-11-25 |
| TATWAH SMARTECH CO., LTD | 1993-08-10 | 2010-12-03 |
| JIANGSU LANFENG BIO-CHEMICAL CO.,LTD | 2007-09-24 | 2010-12-03 |
| SUZHOU BOAMAX TECHNOLOGIES GROUP CO.,LTD | 2001-10-08 | 2010-12-03 |
| JINZI HAM CO.,LTD | 1994-11-15 | 2010-12-03 |
| JIANGSU KUANGDA AUTOMOBILE TEXTILE | 2007-12-18 | 2010-12-07 |
| TAIYA SHOES CO., LTD | 2009-08-31 | 2010-12-07 |
| SHENZHEN KSTAR SCIENCE AND TECHNOLOGY CO., LTD | 1993-03-17 | 2010-12-07 |
| JIANG SU YIN HE ELECTRONICS CO.,LTD | 2000-06-15 | 2010-12-07 |

| | | |
|--|------------|------------|
| ZHEJIANG RIFA DIGITAL PRECISION MACHINERY CO.,LTD | 2000-12-28 | 2010-12-10 |
| SHANDONG QIFENG SPECIAL PAPER CO., LTD | 2007-12-29 | 2010-12-10 |
| ZHEJIANG ZHONGCHENG PACKING MATERIAL CO., LTD | 2001-10-23 | 2010-12-10 |
| ZHUZHOU TIANQIAO CRANE CO., LTD | 2007-08-29 | 2010-12-10 |
| GUANGZHENG STEEL STRUCTURE CO., LTD | 2008-06-30 | 2010-12-17 |
| SHANDONG MINING MACHINERY GROUP CO., LTD | 1999-12-03 | 2010-12-17 |
| SHANGHAI STEP ELECTRIC CORPORATION | 1995-03-10 | 2010-12-24 |
| SHENZHEN INFINOVA LIMITED | 2008-01-08 | 2010-12-24 |
| FUJIAN HAIYUAN AUTOMATIC EQUIPMENT CO., LTD | 2007-12-29 | 2010-12-24 |
| JIANGSU FENGDONG THERMAL TECHNOLOGY CO., LTD. | 2007-11-16 | 2010-12-31 |
| TITAN WIND ENERGY (SUZHOU) CO., LTD | 2005-01-18 | 2010-12-31 |
| ZHEJIANG SHIMGE PUMP INDUSTRY CO.,LTD. | 2009-04-09 | 2010-12-31 |
| GOLDCUP ELECTRIC APPARATUS CO., LTD | 2004-05-24 | 2010-12-31 |
| HANGZHOU BOILER GROUP CO.,LTD. | 2007-09-30 | 2011-01-10 |
| LINZHOU HEAVY MACHINERY GROUP CO., LTD | 2002-05-08 | 2011-01-11 |
| HENAN PROVINCE XIXIA AUTOMOBILE WATER PUMP CO.,LTD | 2002-10-15 | 2011-01-11 |
| QINGDAO HAILI METAL ONE CO.,LTD | 2004-12-03 | 2011-01-10 |
| ANHUI SIERTE FERTILIZER INDUSTRY LTD.,COMPANY | 1997-11-05 | 2011-01-18 |
| SHINDOO CHEMICAL INDUSTRY CO.,LTD | 2005-07-18 | 2011-01-18 |
| JIANGSU ASIA-PACIFIC LIGHT ALLOY TECHNOLOGY CO.,LTD | 2001-10-19 | 2011-01-18 |
| ANHUI HONGLU STEEL CONSTRUCTION(GROUP) CO. , LTD | 2002-09-19 | 2011-01-18 |
| CHINA ZHONGHUA GEOTECHNICAL ENGINEERING CO.,LTD | 2009-06-22 | 2011-01-28 |
| GUANGDONG VANWARD NEW ELECTRIC CO., LTD | 2003-12-29 | 2011-01-28 |
| GCI SCIENCE & TECHNOLOGY CO., LTD. | 1994-11-19 | 2011-01-28 |
| QINGDAO EAST STEEL TOWER STOCK CO.,LTD | 1996-08-01 | 2011-02-11 |
| NANJING XINLIAN ELECTRONICS CO., LTD. | 2003-09-25 | 2011-02-11 |
| SHENZHEN JINXINNONG FEED CO.,LTD. | 1999-11-06 | 2011-02-18 |
| HUNAN KAIMEITE GASES CO., LTD | 1991-06-11 | 2011-02-18 |
| CHANGZHOU QIANHONG BIOPHARMA CO.,LTD | 2003-04-30 | 2011-02-18 |
| SHENZHEN GLORY MEDICAL CO.,LTD. | 1998-03-13 | 2011-02-25 |
| BAODING HEAVY INDUSTRY CO.,LTD. | 1999-03-25 | 2011-02-25 |
| JIANGSU NANFANG BEARING CO.,LTD. | 1998-05-08 | 2011-02-25 |
| CHINA OIL HBP SCIENCE & TECHNOLOGY CO.,LTD | 1998-10-07 | 2011-02-25 |
| ANHUI HUILONG AGRICULTURAL MEANS OF PRODUCTION .CO.,LTD. | 2004-04-08 | 2011-03-02 |
| CHONGQING NEW CENTURY CRUISE CO., LTD. | 2006-11-24 | 2011-03-02 |
| ZHANGJIAGANG CHEMICAL MACHINERY CO., LTD. | 1998-03-18 | 2011-03-10 |
| QINGDAO TGOOD ELECTRIC CO., LTD. | 2004-03-16 | 2009-10-30 |
| BEIJING ULTRAPOWER SOFTWARE CO., LTD | 2001-05-18 | 2009-10-30 |
| LEPU MEDICAL TECHNOLOGY (BEIJING) CO., LTD. | 1999-06-11 | 2009-10-30 |
| NANFANG VENTILATOR CO., LTD. | 2008-08-08 | 2009-10-30 |
| BEIJING TOREAD OUTDOOR PRODUCTS CO., LTD. | 1999-01-11 | 2009-10-30 |
| CHONGQING LUMMY PHARMACEUTICAL CO.,LTD. | 2007-10-16 | 2009-10-30 |
| HENAN HANWEI ELECTRONICS CO., LTD. | 2008-01-28 | 2009-10-30 |
| SHANGHAI BESTWAY MARINE ENGINEERING DESIGN CO.,LTD. | 2001-10-29 | 2009-10-30 |
| ANHUI ANKE BIOTECHNOLOGY (GROUP)CO.,LTD. | 2000-09-28 | 2009-10-30 |

| | | |
|---|------------|------------|
| BEIJING LANXUM TECHNOLOGY CO.,LTD. | 1999-01-08 | 2009-10-30 |
| BEIJING DINGHAN TECHNOLOGY CO., LTD. | 2002-06-10 | 2009-10-30 |
| CENTRE TESTING INTERNATIONAL (SHENZHEN) CO., LTD. | 2003-12-23 | 2009-10-30 |
| JIANGSU XINNING MODERN LOGISTICS CO.,LTD. | 1997-02-24 | 2009-10-30 |
| EVE ENERGY CO., LTD | 2001-12-24 | 2009-10-30 |
| AIER EYE HOSPITAL GROUP CO.LTD | 2003-01-24 | 2009-10-30 |
| BEIJING BEILU PHARMACEUTICAL CO., LTD. | 1992-09-05 | 2009-10-30 |
| WANGSU SCIENCE & TECHNOLOGY CO.,LTD. | 2000-01-26 | 2009-10-30 |
| WUHAN ZHONGYUAN HUADIAN SCIENCE &TECHNOLOGY CO.,LTD. | 2001-11-16 | 2009-10-30 |
| CHENGDU GUIBAO SCIENCE & TECHNOLOGY CO., LTD | 1998-10-19 | 2009-10-30 |
| ZHEJIANG ENJOYOR ELECTRONICS CO., LTD. | 1992-11-13 | 2009-10-30 |
| GANSU DAYU WATER-SAVING GROUP CO.LTD | 2005-01-19 | 2009-10-30 |
| GIFORE AGRICULTURAL MACHINERYCHAIN CO.,LTD. | 2008-01-28 | 2009-10-30 |
| BODE ENERGY EQUIPMENT CO., LTD | 2009-05-04 | 2009-10-30 |
| SIASUN ROBOT&AUTOMATION CO.,LTD. | 2000-04-30 | 2009-10-30 |
| HANGZHOU HUAXING CHUANGYE COMMUNICATION TECHNOLOGY CO.,LTD. | 2003-06-05 | 2009-10-30 |
| TIANJIN CHASE SUN PHARMACEUTICAL CO., LTD. | 1996-09-23 | 2009-10-30 |
| HUAYI BROTHERS MEDIA CORPORATION | 2004-11-19 | 2009-10-30 |
| CHENGDU GEEYA TECHNOLOGY CO.,LTD | 1999-11-18 | 2009-10-30 |
| JIANGSU HUASHENG TIANLONG PHOTOELETRIC CO.,LTD. | 2001-12-28 | 2009-12-25 |
| GUANGZHOU IMPROVE MEDICAL INSTRUMENTS CO. · LTD. | 2007-10-29 | 2009-12-25 |
| WUXI BOTON BELT CO.,LTD. | 2000-12-27 | 2009-12-25 |
| JINLONG MACHINERY & ELECTRONIC CO., LTD. | 2008-10-16 | 2009-12-25 |
| HEXIN FLUSH INFORMATION NETWORK CO., LTD. | 2001-08-24 | 2009-12-25 |
| BEIJING CISRI-GAONA MATERIALS & TECHNOLOGY CO., LTD. | 2002-11-08 | 2009-12-25 |
| HUNAN ZHONGKE ELECTRIC CO.,LTD. | 2004-04-06 | 2009-12-25 |
| BEIJING SUPERMAP SOFTWARE CO., LTD. | 2008-03-26 | 2009-12-25 |
| SHENZHEN CAPCHEM TECHNOLOGY CO.,LTD. | 2002-02-19 | 2010-01-08 |
| BEIJING MITENO COMMUNICATION TECHNOLOGY CO.,LTD | 2004-09-10 | 2010-01-08 |
| SHANGHAI KAIBAO PHARMACEUTICAL CO.,LTD. | 2000-04-12 | 2010-01-08 |
| HARBIN JIUZHOU ELECTRIC CO., LTD. | 2000-08-08 | 2010-01-08 |
| HUBEI HUITIAN ADHESIVE ENTERPRISE CO., LTD. | 1998-09-03 | 2010-01-08 |
| NETAC TECHNOLOGY CO., LTD. | 2008-01-30 | 2010-01-08 |
| XINGHUI AUTO MODEL CO.,LTD. | 2008-06-06 | 2010-01-20 |
| SHENZHEN SUNWIN INTELLIGENT CO.,LTD. | 1997-02-27 | 2010-01-20 |
| HWA CREATE CORPORATION LTD. | 2008-01-29 | 2010-01-20 |
| HUBEI TECH SEMICONDUCTORS CO., LTD. | 2004-01-02 | 2010-01-20 |
| SHENZHEN TIANYUAN DIC INFORMATION TECHNOLOGY CO.,LTD. | 1993-01-18 | 2010-01-20 |
| HICONICS DRIVE TECHNOLOGY CO.,LTD. | 2003-06-11 | 2010-01-20 |
| INNER MONGOLIA FREE HAN & MONGOLIA PHARMACEUTICAL CO.,LTD. | 2001-12-26 | 2010-01-20 |
| DINGLI COMMUNICATIONS CORP.,LTD. | 2001-10-19 | 2010-01-20 |
| XIAMEN 35.COM TECHNOLOGY CO., LTD. | 2004-04-01 | 2010-02-11 |
| SHENZHEN ZHONGQINGBAO INTERACTION NETWORK CO., LTD | 2003-07-22 | 2010-02-11 |
| ZHUHAI ORBITA CONTROL ENGINEERING CO., LTD. | 2000-03-20 | 2010-02-11 |

| | | |
|--|------------|------------|
| HUBEI DINGLONG CHEMICAL CO.,LTD. | 2008-04-28 | 2010-02-11 |
| BEIJING ORIENT LANDSCAPE CO., LTD. | 1998-04-17 | 2010-02-26 |
| XIAMEN SAVINGS ENVIRONMENTAL CO., LTD | 2001-03-23 | 2010-02-26 |
| SHANTOU WANSHUN PACKAGE MATERIAL CO., LTD. | 2007-12-27 | 2010-02-26 |
| BLUEFOCUS COMMUNICATION GROUP CO., LTD. | 2002-11-04 | 2010-02-26 |
| EAST MONEY INFORMATION CO., LTD. | 2005-01-20 | 2010-03-19 |
| SHANGHAI CONANT OPTICS CO., LTD. | 1996-12-05 | 2010-03-19 |
| FUJIAN CEE INSTALLATIONS CO.,LTD | 2002-12-02 | 2010-03-19 |
| GUANGDONG SKY DRAGON PRINTING INK GROUP CO.,LTD. | 2001-01-02 | 2010-03-26 |
| ZHENGZHOU SINO-CRYSTAL DIAMOND CO., LTD. | 2004-12-24 | 2010-03-26 |
| BEIJING HIGHLANDER DIGITAL TECHNOLOGY CO.,LTD. | 2001-02-14 | 2010-03-26 |
| JIANGXI SANCHUAN WATER METER CO.,LTD. | 2004-05-13 | 2010-03-26 |
| SHANGHAI ANOKY TEXTILE CHEM CO., LTD | 1999-10-19 | 2010-04-21 |
| ZHEJIANG NARADA POWER SOURCE CO.,LTD | 2000-09-30 | 2010-04-21 |
| ZHEJIANG JINLIHUA ELECTRIC CO.,LTD | 2003-04-15 | 2010-04-21 |
| BEIJING ORIGINWATER TECHNOLOGY CO. · LTD | 2001-07-17 | 2010-04-21 |
| SPEARHEAD INTEGRATED MARKETING COMMUNICATION CO., LTD | 2009-05-27 | 2010-04-21 |
| BEIJING SJ ENVIRONMENTAL PROTECTION AND NEW MATERIAL CO. LTD | 1997-06-03 | 2010-04-27 |
| BEIJING EASPRING MATERIAL TECHNOLOGY CO., LTD | 2001-12-25 | 2010-04-27 |
| AVCON INFORMATION TECHNOLOGY CO., LTD. | 2008-02-25 | 2010-04-27 |
| BEIJING EGOVA CO., LTD | 2001-11-06 | 2010-04-27 |
| NINGBO GQY VIDEO & TELECOM JOINT-STOCK CO., LTD | 1992-06-10 | 2010-04-30 |
| NATIONZ TECHNOLOGIES INC. | 2009-06-03 | 2010-04-30 |
| HANGZHOU CENTURY CO.,LTD. | 2003-11-20 | 2010-04-30 |
| SUMAVISION TECHNOLOGIES CO., LTD. | 2000-03-14 | 2010-04-30 |
| HENAN XINDAXIN MATERIALS CO., LTD | 2008-10-08 | 2010-06-25 |
| HENGXIN MOBILE BUSINESS CO.,LTD.” | 2001-11-03 | 2010-05-20 |
| LIAO NING OXIRANCHEM, INC | 2007-07-31 | 2010-05-20 |
| JANUS (DONGGUAN) PRECISION COMPONENTS CO.,LTD | 2003-04-11 | 2010-05-20 |
| LANZHOU HAIMO TECHNOLOGIES CO., LTD | 2000-12-18 | 2010-05-20 |
| SHENZHEN INFOTECH TECHNOLOGIES CO.,LTD | 1998-10-28 | 2010-05-26 |
| HAINAN HONZ PHARMACEUTICAL CO.,LTD | 2007-12-28 | 2010-05-26 |
| WINALL HI-TECH SEED CO.,LTD | 2002-07-24 | 2010-05-26 |
| WUHU TOKEN SCIENCE CO.,LTD | 2000-04-10 | 2010-05-26 |
| THE GREAT WALL GROUP CO.,LTD.GUANGDONG | 1996-02-01 | 2010-06-25 |
| ANHUI SHENGYUN MACHINERY CO., LTD. | 1997-09-28 | 2010-06-25 |
| JIANGSU JIN TONG LING FLUID MACHINERY TECHNOLOGY CO., LTD. | 1993-04-09 | 2010-06-25 |
| SICHUAN KEXIN MECHANICAL AND ELECTRICAL EQUIPMENT CO.,LTD. | 1997-03-11 | 2010-07-08 |
| GUANGDONG GOLDEN GLASS TECHNOLOGIES LIMITED | 1994-06-18 | 2010-07-08 |
| ZHANJIANG GUOLIAN AQUATIC PRODUCTS CO.,LTD. | 2001-03-08 | 2010-07-08 |
| JIANGXI HUAWU BRAKE CO., LTD. | 2008-01-16 | 2010-07-28 |
| YLZ INFORMATION TECHNOLOGY CO., LTD | 2009-06-29 | 2010-07-28 |
| DALIAN ZHIYUN AUTOMATION CO.,LTD | 1999-06-04 | 2010-07-28 |
| GUANGDONG GOSUN TELECOMMUNICATIONS CO.,LTD. | 1997-11-14 | 2010-07-28 |
| UROICA MINING SAFETY ENGINEERING CO.,LTD | 1998-10-29 | 2010-08-06 |

| | | |
|--|------------|------------|
| NINGBO SHUANGLIN AUTO PARTS CO.,LTD. | 2000-11-23 | 2010-08-06 |
| CHENGDU GOLDTEL ELECTRONICAL TECHNOLOGY CO., LTD. | 2003-06-12 | 2010-08-06 |
| XIAMEN CHANGELIGHT CO., LTD | 2009-03-31 | 2010-08-12 |
| XI'AN DAGANG ROAD MACHINERY CO., LTD. | 2002-05-16 | 2010-08-12 |
| LESHI INTERNET INFORMATION & TECHNOLOGY CORP.,BEI JING | 2009-02-10 | 2010-08-12 |
| YANTAI LONGYUAN POWER TECHNOLOGY CO., LTD. | 1998-12-26 | 2010-08-20 |
| XINJIANG WESTERN ANIMAL HUSBANDRY CO.,LTD. | 2003-06-18 | 2010-08-20 |
| HEBEI JIANXIN CHEMICAL CO., LTD | 2003-06-27 | 2010-08-20 |
| TONGHUA SHUA NGLONG CHEMICAL CO.,LTD. | 2000-01-27 | 2010-08-25 |
| BOAI NKY PHARMACEUTICALS LTD. | 2009-05-18 | 2010-08-25 |
| QINGDAO HUAREN PHARMACEUTICAL CO.,LTD | 1998-05-20 | 2010-08-25 |
| ZHEJIANG SUNFLOWER LIGHT ENERGY SCIENCE&TECHNOLOGY CO.,LTD | 2005-03-21 | 2010-08-27 |
| SHENZHEN MAXONIC AUTOMATION CONTROL CO.,LTD | 1994-06-06 | 2010-08-27 |
| HANGZHOU ICAFE TECHNOLOGY CO., LTD. | 2005-07-11 | 2010-08-27 |
| ZHONGHANG ELECTRONIC MEASURING INSTRUMENTS CO.,LTD | 2002-12-25 | 2010-08-27 |
| SHENZHEN EVENWIN PRECISION TECHNOLOGY CO., LTD | 2001-07-17 | 2010-09-02 |
| SHAANXI J&R FIRE PROTECTION CO., LTD | 2008-04-22 | 2010-09-02 |
| BEIJING JIAYU DOOR, WINDOW AND CURTAIN WALL JOINT-STOCK CO.,LTD. | 2007-09-26 | 2010-09-02 |
| RISEN ENERGY CO., LTD | 2002-12-02 | 2010-09-02 |
| TIANJIN RINGPU BIO-TECHNOLOGY CO.,LTD | 2008-05-19 | 2010-09-17 |
| TIANJIN JINGWEI ELECTRIC WIRE CO.,LTD | 2008-12-30 | 2010-09-17 |
| SHANDONG YANGGU HUATAI CHEMICAL CO.,LTD. | 2000-03-23 | 2010-09-17 |
| CHONGQING ZHIFEI BIOLOGICAL PRODUCTS CO.,LTD | 2009-09-07 | 2010-09-28 |
| SUNBIRD YACHT COMPANY LIMITED | 2008-12-19 | 2010-09-28 |
| SHENZHEN INOVANCE TECHNOLOGY CO., LTD | 2008-06-06 | 2010-09-28 |
| DALIAN EAST NEW ENERGY DEVELOPMENT CO.,LTD. | 2005-12-12 | 2010-10-13 |
| SHANGHAI KEN TOOLS CO.,LTD. | 2000-04-29 | 2010-10-13 |
| CHENGDU GALAXY MAGNETS CO.,LTD. | 2001-03-23 | 2010-10-13 |
| SUZHOU JINFU NEW MATERIAL CO.,LTD | 2004-03-29 | 2010-10-13 |
| SHANGHAI TAISHENG WIND POWER EQUIPMENT CO., LTD. | 2001-04-13 | 2010-10-19 |
| SHENZHEN XINGUODU TECHNOLOGY CO., LTD. | 2008-04-25 | 2010-10-19 |
| SHENZHEN YITOA INTELLIGENT CONTROL CO., LTD. | 2001-07-06 | 2010-10-19 |
| FUJIAN GREEN PINE CO., LTD | 2009-05-31 | 2010-10-26 |
| ZHEJIANG HUACE FILM & TV CO., LTD. | 2005-10-25 | 2010-10-26 |
| SHENZHEN TAT FOOK TECHNOLOGY CO.,LTD. | 2009-12-28 | 2010-10-26 |
| JIANGSU BAOLI ASPHALT CO.,LTD | 2002-11-07 | 2010-10-26 |
| SHENZHEN SUNWAY COMMUNICATION CO.,LTD | 2006-04-27 | 2010-11-05 |
| HEBEI SAILHERO ENVIRONMENTAL PROTECTION HIGH-TECH CO.,LTD. | 2009-05-22 | 2010-11-05 |
| CHENGUANG BIOTECH GROUP CO.,LTD. | 2000-04-12 | 2010-11-05 |
| BEIJING FUXING XIAOCHENG ELECTRONIC TECHNOLOGY STOCK CO.,LTD | 2000-11-06 | 2010-11-12 |
| XI'AN QIYUAN MECHANICAL AND ELECTRICAL EQUIPMENT CO.,LTD | 2001-03-28 | 2010-11-12 |
| SUZHOU INDUSTRIAL PARK HESHUN ELECTRIC CO.,LTD | 1998-12-22 | 2010-11-12 |
| WALVAX BIOTECHNOLOGY CO.,LTD | 2001-01-16 | 2010-11-12 |
| STARWAY BIO-TECHNOLOGY CO., LTD | 1998-08-06 | 2010-12-09 |

| | | |
|---|------------|------------|
| HANGZHOU SONGCHENG TOURISM DEVELOPMENT CO., LTD | 2000-12-28 | 2010-12-09 |
| HANGZHOU NANFANG SPECIAL PUMP INDUSTRY CO., LTD. | 1991-08-31 | 2010-12-09 |
| GUANGDONG BY-HEALTH BIOTECHNOLOGY CO.,LTD | 2005-04-01 | 2010-12-15 |
| XIANGXUE PHARMACEUTICAL CO., LTD | 1997-12-29 | 2010-12-15 |
| HUNAN TANGEL PUBLISHING CO.,LTD | 2003-08-18 | 2010-12-15 |
| JIANGMEN QUANTUM HI-TECH BIOLOGICAL CO., LTD 0005 | 2000-01-26 | 2010-12-22 |
| BEIJING CENTURY REAL TECHNOLOGY CO.,LTD | 1999-05-03 | 2010-12-22 |
| SHENZHEN CHANGHONG MOLD TECHNOLOGY CO., LTD. | 2007-12-20 | 2010-12-22 |
| XUZHOU COMBUSTION CONTROL TECHNOLOGY CO.,LTD | 2003-06-17 | 2010-12-29 |
| SHANGHAI COOLTECH POWER CO.,LTD | 2002-06-19 | 2010-12-29 |
| SHENZHEN RILAND INDUSTRY CO.,LTD | 2003-06-25 | 2010-12-29 |
| GUANGDONG ANJUBAO DIGITAL TECHNOLOGY CO.,LTD. | 2009-04-01 | 2011-01-07 |
| TIANLI ENVIRONMENTAL ENGINEERING CO.,LTD. | 2004-07-22 | 2011-01-07 |
| LANDOCEAN ENERGY SERVICES CO.,LTD. | 2009-03-23 | 2011-01-07 |
| SHANXI ZHENDONG PHARMACEUTICAL CO.,LTD | 1995-11-15 | 2011-01-07 |
| XINJIANG MACHINERY RESEARCH INSTITUTE CO.,LTD. | 2009-07-21 | 2011-01-07 |
| JIANGSU XIUQIANG GLASSWORK CO., LTD | 2001-09-28 | 2011-01-13 |
| WUHAN HUAZHONG NUMERICAL CONTROL CO.,LTD | 2000-11-24 | 2011-01-13 |
| LEDMAN OPTOELECTRONIC CO.,LTD. | 2004-07-21 | 2011-01-13 |
| NINGBO XIANFENG NEW MATERIAL CO.,LTD | 2003-03-07 | 2011-01-13 |
| TONG OIL TOOLS CO.,LTD | 2001-07-31 | 2011-01-13 |
| JIANGSU SKYRAY INSTRUMENT CO.,LTD | 2006-07-04 | 2011-01-25 |
| BEIJING ORIENT NATIONAL COMMUNICATION SCIENCE AND TECHNOLOGY CO.,LTD. | 1997-07-28 | 2011-01-25 |
| SHENZHEN DIVISION VIDEO COMMUNICATIONS CO.LTD. | 2001-09-21 | 2011-01-25 |
| WONDERS INFORMATION CO.,LTD | 1999-04-05 | 2011-01-25 |
| CHANGZHOU TIANSHENG NEW MATERIALS CO., LTD | 1998-07-27 | 2011-01-25 |
| HAND ENTERPRISE SOLUTIONS CO.,LTD. | 2002-07-15 | 2011-02-01 |
| SHANGHAI TOFFLON SCIENCE AND TECHNOLOGY CO.,LTD. | 2008-04-09 | 2011-02-01 |
| NANJING CEC ENVIRONMENTAL PROTECTION CO.,LTD. | 2001-01-18 | 2011-02-01 |
| SOTECH MACHINERY CO., LTD. | 1997-04-18 | 2011-02-01 |
| FUJIAN YUANLI ACTIVE CARBON CO.,LTD | 2009-08-07 | 2011-02-01 |
| LONTRUE CO., LTD. | 2002-03-26 | 2011-02-15 |
| GUANGDONG HONGTEO ACCURATE TECHNOLOGY CO.,LTD. | 2009-11-11 | 2011-02-15 |
| GUANGZHOU HI-TARGET NAVIGATION TECH CO.,LTD. | 2009-05-25 | 2011-02-15 |
| SHENZHEN TEMPUS GLOBAL TRAVEL HOLDINGS LTD. | 2008-04-24 | 2011-02-15 |
| SF DIAMOND CO.,LTD. | 2008-09-28 | 2011-02-15 |
| HUAFON MICROFIBRE(SHANGHAI) CO., LTD. | 2002-10-24 | 2011-02-22 |
| ZHEJIANG JOLLY PHARMACEUTICAL CO., LTD. | 2000-01-28 | 2011-02-22 |
| BEIJING JETSEN TECHNOLOGY CO., LTD. | 2006-08-23 | 2011-02-22 |
| QINGDAO EASTSOFT COMMUNICATION TECHNOLOGY CO., LTD. | 1992-08-05 | 2011-02-22 |
| WUHAN P&S INFORMATION TECHNOLOGY CO.,LTD. | 2001-08-09 | 2011-02-22 |
| ONGYU HEAVY INDUSTRY CO., LTD. | 2002-05-25 | 2011-03-08 |
| GUANGDONG DAHUANONG ANIMAL HEALTH PRODUCTS CO.,LTD. | 2008-07-15 | 2011-03-08 |
| HUNAN YONKER ENVIRONMENTAL PROTECTION CO.,LTD | 2004-01-19 | 2011-03-08 |
| XIAMEN MEIYA PICO INFORMATION CO., LTD | 1999-09-22 | 2011-03-16 |

| | | |
|--|------------|------------|
| GRAND AGRISEEDS TECHNOLOGY,INC. | 2000-12-29 | 2011-03-16 |
| SHANGHAI PUDONG DEVELOPMENT BANK CO., LTD. | 1992-10-19 | 1999-11-10 |
| HANDAN IRON & STEEL CO., LTD | 1998-01-19 | 1998-01-22 |
| WUHAN STEEL PROCESSING CO., LTD. | 1997-11-07 | 1999-08-03 |
| DONGFENG AUTOMOBILE CO., LTD | 1999-07-21 | 1999-07-27 |
| SHANGHAI INTERNATIONAL AIRPORT CO., LTD. | 1998-02-11 | 1998-02-18 |
| INNER MONGOLIAN BAOTOU STEEL UNION CO., LTD | 1999-06-29 | 2001-03-09 |
| HUANENG POWER INTERNATIONAL CO., LTD | 1994-06-30 | 2001-12-06 |
| HUA XIA BANK CO., LTD. | 1998-03-18 | 2003-09-12 |
| CHINA MINSHENG BANKING CO., LTD. | 1996-02-07 | 2000-12-19 |
| SHANGHAI PORT CONTAINER CO.,LTD | 2005-07-08 | 2006-10-26 |
| BAOSHAN IRON & STEEL CO., LTD. | 2000-02-03 | 2000-12-12 |
| SHANDONG IRON AND STEEL COMPANY LTD | 2000-12-29 | 2004-06-29 |
| CHINA SHIPPING DEVELOPMENT CO., LTD | 1994-05-03 | 2002-05-23 |
| HUADIAN POWER INTERNATIONAL CO., LTD. | 1994-06-28 | 2005-02-03 |
| CHINA PETROLEUM & CHEMICAL CORPORATION | 2000-02-25 | 2001-08-08 |
| CHINA SOUTHERN AIRLINES CO., LTD | 1995-03-25 | 2003-07-25 |
| SANY HEAVY INDUSTRY CO., LTD | 2000-12-08 | 2003-07-03 |
| FUJIAN EXPRESSWAY DEVELOPMENT CO., LTD | 1999-06-28 | 2001-02-09 |
| HUBEI CHUTIAN EXPRESSWAY CO., LTD | 2000-11-22 | 2004-03-10 |
| CHINA MERCHANTS BANK CO., LTD | 1987-03-31 | 2002-04-09 |
| BEIJING GEHUA CATV NETWORK CO., LTD | 1999-09-29 | 2001-02-08 |
| HAFEI AVIATION INDUSTRY CO., LTD. | 1999-07-30 | 2000-12-18 |
| SICHUAN ROAD & BRIDGE CO., LTD | 1999-12-28 | 2003-03-25 |
| POLY REAL ESTATE GROUP CO.,LTD | 2002-08-31 | 2006-07-31 |
| CHINA UNITED NETWORK COMMUNICATIONS LIMITED | 2001-12-31 | 2002-10-09 |
| NINGBO UNITED (GROUP) CO., LTD. | 1994-03-31 | 1997-04-10 |
| ZHEJIANG GUANGSHA CO., LTD | 1993-07-13 | 1997-04-15 |
| JIANGXI ZHONGJIANG REAL ESTATE CO.,LTD | 1997-04-14 | 1997-04-18 |
| HUANGSHAN TOURISM DEVELOPMENT CO., LTD | 1996-11-18 | 1997-05-06 |
| CHINA RESOURCES WANDONG MEDICAL EQUIPMENT CO., LTD. | 1997-05-12 | 1997-05-19 |
| CNTIC TRADING CO., LTD | 1997-05-08 | 1997-05-15 |
| FUJIAN XIAMEN XIANGYU CO., LTD. | 1997-05-23 | 1997-06-04 |
| MINMETALS DEVELOPMENT CO., LTD | 1997-05-21 | 1997-05-28 |
| ZHEJIANG GUYUELONGSHAN SHAOXING WINE CO., LTD | 1997-05-08 | 1997-05-16 |
| HISENSE ELECTRIC CO., LTD. | 1997-04-17 | 1997-04-22 |
| SINOTEX INVESTMENT & DEVELOPMENT CO., LTD | 1997-05-13 | 1997-05-19 |
| BEIJING DOUBLE-CRANE PHARMACEUTICAL CO., LTD | 1997-05-16 | 1997-05-22 |
| ANHUI WANWEI UPDATED HIGH-TECH MATERIAL INDUSTRY CO., LTD. | 1997-03-28 | 1997-05-28 |
| NANJING XINGANG HIGH-TECH CO., LTD | 1992-08-08 | 1997-05-06 |
| DAQING LIANYI PETRO-CHEMICAL CO., LTD. | 1993-12-20 | 1997-05-23 |
| ZHENGZHOU YUTONG BUS CO., LTD. | 1993-02-28 | 1997-05-08 |
| CITYCHAMP DARTONG CO., LTD. | 1990-08-15 | 1997-05-08 |
| CHINA GEZHOUBA GROUP COMPANY LIMITED | 1997-05-21 | 1997-05-26 |
| HENAN YINGE INDUSTRIAL INVESTMENT HOLDING CO., LTD | 1993-03-06 | 1997-04-30 |

| | | |
|---|------------|------------|
| ZHEJIANG FURUN CO., LTD | 1994-05-19 | 1997-06-04 |
| PHENIX OPTICAL CO., LTD. | 1997-05-23 | 1997-05-28 |
| CSSC JIANGNAN HEAVY INDUSTRY CO. · LTD | 1997-05-28 | 1997-06-03 |
| SHANGHAI MALING AQUARIUS CO., LTD | 1997-06-27 | 1997-07-04 |
| JIANGSU ZHONGDA NEW MATERIAL (GROUP) CO., LTD. | 1997-06-18 | 1997-06-23 |
| XINJIANG TIANYE CO., LTD | 1997-06-09 | 1997-06-17 |
| WEIFANG BEIDA JADE BIRD HUAGUANG TECHNOLOGY CO., LTD | 1993-09-01 | 1997-05-26 |
| SUNDY LAND INVESTMENT CO., LTD. | 1993-12-28 | 1997-05-20 |
| JIANGSU CHENGXING PHOSPH-CHEMICALS CO., LTD | 1994-06-28 | 1997-06-27 |
| WUHAN HUMANWELL HEALTHCARE (GROUP) CO.,LTD | 1993-03-30 | 1997-06-06 |
| GINWA ENTERPRISE (GROUP) INC. | 1996-02-14 | 1997-06-12 |
| DONGFENG ELECTRONIC TECHNOLOGY CO., LTD. | 1997-06-28 | 1997-07-03 |
| TIANJIN HI-TECH DEVELOPMENT CO., LTD | 1992-11-28 | 1997-06-20 |
| GUANGDONG BOXIN INVESTING & HOLDINGS CO.,LTD | 1993-05-08 | 1997-06-06 |
| CITIC GUOAN VINE CO.,LTD. | 1997-07-07 | 1997-07-11 |
| BEIJING TONGRENTANG CO., LTD | 1997-06-18 | 1997-06-25 |
| EASTERN GOLD JADE CO., LTD | 1993-07-13 | 1997-06-06 |
| CSC NANJING PETROLEUM TRANSPORT CO., LTD | 1993-09-18 | 1997-06-12 |
| CHINA TELEVISION MEDIA CO., LTD | 1997-06-10 | 1997-06-16 |
| TEBIAN ELECTRIC APPARATUS STOCK CO.,LTD | 1993-02-26 | 1997-06-18 |
| XINJIANG HOPS CO., LTD | 1993-04-26 | 1997-06-16 |
| BAOTOU TOMORROW TECHNOLOGY CO., LTD | 1997-06-26 | 1997-07-04 |
| SHANXI PRECISION ALLOY CO., LTD. | 1992-12-28 | 1997-06-26 |
| SICHUAN HEJIA CO., LTD. | 1997-06-23 | 1997-06-26 |
| GREATTOWN HOLDINGS LTD. | 1996-07-18 | 1997-07-03 |
| HARBIN HIGH-TECH (GROUP) CO., LTD | 1993-12-28 | 1997-07-08 |
| YUNNAN YUNTIANHUA CO., LTD | 1997-03-18 | 1997-07-09 |
| SHANGHAI KAICHUANG MARINE INTERNATIONAL CO., LTD. | 1997-06-10 | 1997-06-19 |
| GUANGZHOU DEVELOPMENT INDUSTRY (HOLDINGS) CO., LTD | 1997-07-11 | 1997-07-18 |
| LINHAI CO., LTD. | 1997-06-28 | 1997-07-04 |
| TONGFANG CO., LTD | 1997-06-25 | 1997-06-27 |
| LAIWU STEEL CORPORATION | 1997-01-08 | 1997-08-28 |
| FUJIAN QINGSHAN PAPER INDUSTRY CO., LTD. | 1993-04-01 | 1997-07-03 |
| SAIC MOTOR CORPORATION LIMITED | 1997-11-20 | 1997-11-25 |
| JIANGSU YONGDING CO., LTD. | 1994-06-30 | 1997-09-29 |
| CHONGQING ROAD & BRIDGE CO., LTD | 1997-06-13 | 1997-06-18 |
| HUBEI MAILYARD SHARE CO., LTD | 1993-03-20 | 1997-11-06 |
| GANSU YASHENG INDUSTRIAL (GROUP) CO., LTD | 1995-12-06 | 1997-08-18 |
| SINOLINK SECURITIES CO., LTD. | 1988-07-20 | 1997-08-07 |
| CHINA-KINWA HIGH TECHNOLOGY CO., LTD | 1994-03-11 | 1997-10-07 |
| INNER MONGOLIA BAOTOU STEELRARE-EARTH HI-TECH CO., LTD. | 1997-09-12 | 1997-09-24 |
| GUIZHOU CHANGZHENG ELECTRICAL APPARATUS CO., LTD. | 1997-06-17 | 1997-11-27 |
| ZHE JIANG DONG RI CO., LTD | 1997-10-06 | 1997-10-21 |
| NBTM NEW MATERIALS GROUP CO., LTD. | 2001-08-21 | 2004-05-11 |
| CHINA EASTERN AIRLINES CO., LTD. | 1995-04-14 | 1997-11-05 |

| | | |
|--|------------|------------|
| CHONGQING THREE GORGES WATER CONSERVANCY AND ELECTRIC POWER CO., LTD | 1993-05-08 | 1997-08-04 |
| XINING SPECIAL STEEL CO., LTD | 1997-10-08 | 1997-10-15 |
| CHINA SPACESAT CO., LTD. | 1997-08-21 | 1997-09-08 |
| Y.U.D. YANGTZE RIVER INVESTMENT INDUSTRY CO., LTD | 1997-11-28 | 1998-01-15 |
| ZHEJIANG ORIENT HOLDINGS CO., LTD. | 1992-12-15 | 1997-12-01 |
| ZHENGZHOU COAL INDUSTRY & ELECTRIC POWER CO., LTD (ZCE) | 1996-01-08 | 1998-01-07 |
| JIANGSU HONGTU HIGH TECHNOLOGY CO., LTD | 1998-04-16 | 1998-04-20 |
| SHANXI LANHUA SCI-TECH VENTURE CO., LTD. | 1998-12-01 | 1998-12-17 |
| CHINA RAILWAY TIELONG CONTAINER LOGISTICS CO.,LTD | 1993-02-16 | 1998-05-11 |
| HANG ZHOU IRON & STEEL CO., LTD | 1998-02-26 | 1998-03-11 |
| HUNAN JINJIAN CEREALS INDUSTRY CO., LTD | 1998-04-22 | 1998-05-06 |
| JIANGSU HOLLY CO., LTD | 1994-06-30 | 1997-09-01 |
| CHONGQING TAIJI INDUSTRY (GROUP) CO., LTD | 1993-12-28 | 1997-11-18 |
| NINGBO BIRD CO., LTD | 1995-07-27 | 2000-07-06 |
| SICHUAN MINJIANG HYDROPOWER CO., LTD | 1993-12-31 | 1998-04-02 |
| CHONGQING BREWERY CO., LTD | 1993-12-23 | 1997-10-30 |
| WUHAN EAST LAKE HIGH TECHNOLOGY (GROUP) CO., LTD. | 1993-03-19 | 1998-02-12 |
| LUCKYFILM CO., LTD | 1998-01-16 | 1998-01-22 |
| WUHAN DOUBLE CO., LTD | 1992-10-30 | 1998-03-03 |
| SICHUAN LANGSHA HOLDING LTD | 1988-12-28 | 1998-04-16 |
| CHINA CYTS TOURS HOLDING CO., LTD | 1997-11-26 | 1997-12-03 |
| SICHUAN WESTERN RESOURCES HOLDING CO., LTD | 1988-09-21 | 1998-02-25 |
| HUBEI XINGFA CHEMICALS GROUP CO., LTD | 1994-08-17 | 1999-06-16 |
| KINGFA SCI.&TECH. CO.,LTD. | 2001-10-08 | 2004-06-23 |
| GUIZHOU GUOCHUANG ENERGY HOLDING (GROUP) CO., LTD. | 1998-09-28 | 1999-09-23 |
| NINGXIA DAYUAN CHEMICAL CO., LTD. | 1999-06-29 | 1999-07-07 |
| CHANGCHUN YIDONG CLUTCH CO., LTD | 1998-05-07 | 1998-05-20 |
| C&T TECHNOLOGY DEVELOPMENT CO., LTD | 1993-08-17 | 1999-10-14 |
| CHINA STATE SHIPBUILDING CO., LTD | 1998-05-12 | 1998-05-20 |
| SHANGHAI AEROSPACE AUTOMOBILE ELECTROMECHANICAL CO., LTD | 1998-05-28 | 1998-06-05 |
| NINGBO VEKEN ELITE (GROUP) CO., LTD | 1993-07-28 | 1998-06-09 |
| XIAMEN C & D CO., LTD | 1998-06-10 | 1998-06-16 |
| HEBEI BAOSHUO CO., LTD. | 1998-07-21 | 1998-09-18 |
| HUNAN HUASHENG CO.,LTD | 1998-05-19 | 1998-05-27 |
| CHINA SPORTS INDUSTRY (GROUP) CO., LTD | 1998-03-13 | 1998-03-27 |
| BEIJING DALONG WEIYE REAL ESTATEDEVELOPMENT CO.,LTD | 1998-05-08 | 1998-05-26 |
| ZHEJIANG JUHUA CO., LTD. | 1998-06-17 | 1998-06-26 |
| BEIJING Tiantan BIOLOGICAL PRODUCTS CO., LTD. | 1998-06-08 | 1998-06-16 |
| SHENZHEN HEUNGKONG HOLDING CO., LTD | 1994-01-30 | 1998-06-09 |
| NANZHI CO., LTD., FUJIAN | 1998-05-26 | 1998-06-02 |
| NINGXIA XINRI HENGLI STEEL WIRE CO., LTD. | 1998-05-14 | 1998-05-29 |
| BEIQI FOTON MOTOR CO.,LTD | 1996-08-28 | 1998-06-02 |
| LUENMEI GROUP HOLDING CO.,LTD | 1999-01-25 | 1999-01-28 |
| WUHAN SANZHEN INDUSTRY HOLDING CO., LTD | 1997-01-10 | 1998-04-27 |
| TAIYUAN HEAVY INDUSTRY CO., LTD | 1998-07-06 | 1998-09-04 |

| | | |
|---|------------|------------|
| SHANGHAI CONSTRUCTION GROUP CO., LTD. | 1998-06-15 | 1998-06-23 |
| SHANGHAI BELLING CORP.,LTD | 1998-08-28 | 1998-09-24 |
| HENAN HUANGHE XUANFENG CO., LTD | 1998-11-03 | 1998-11-26 |
| WOLONG REAL ESTATE GROUP CO. · LTD. | 1993-07-17 | 1999-04-15 |
| MEIDU HOLDING CO., LTD | 1993-04-20 | 1999-04-08 |
| CHINA FIBERGLASS C O.,LTD | 1999-04-16 | 1999-04-22 |
| YOUNGOR (GROUP) CO., LTD. | 1993-03-30 | 1998-11-19 |
| HARBIN DONGAN AUTO ENGINE CO., LTD | 1998-10-08 | 1998-10-14 |
| HEILNGJIANG HEIHUA CO., LTD | 1998-10-30 | 1998-11-04 |
| SHANDONG JIUFU EDIBLE FUNGUS CO., LTD | 1998-06-25 | 1998-07-03 |
| UNIDA CO., LTD. | 1998-09-16 | 1998-09-28 |
| GITI TIRE CORPORATION | 1993-06-08 | 1999-05-07 |
| GUANGDONG SHENGYI SCI. TECH CO., LTD | 1993-12-21 | 1998-10-28 |
| NORTH ELECTRO-OPTIC CO., LTD. | 2000-08-31 | 2003-11-06 |
| GREE REAL ESTATE CO., LTD.. | 1999-06-09 | 1999-06-11 |
| HENAN LIANHUA GOURMET POWDER CO., LTD. | 1998-07-02 | 1998-08-25 |
| HEILONGJIANG INTERCHINA WATER CO., LTD. | 1998-11-03 | 1998-11-11 |
| YANZHOU COAL MINING CO., LTD. | 1997-09-25 | 1998-07-01 |
| JILIN FOREST INDUSTRY CO., LTD | 1998-09-29 | 1998-10-07 |
| JINZHOU PORT CO., LTD | 1993-02-09 | 1999-06-09 |
| BAOTOU HUAZI INDUSTRY CO., LTD | 1998-11-30 | 1998-12-10 |
| LANZHOU GREAT WALL ELECTRICAL CO., LTD | 1998-12-10 | 1998-12-24 |
| SHANGHAI PROSOLAR REAL ESTATE CO.,LTD | 1999-04-27 | 1999-05-27 |
| CHINA ANIMAL HUSBANDRY INDUSTRY CO., LTD. | 1998-12-25 | 1999-01-07 |
| SHANGHAI FOSUN PHARMACEUTICAL (GROUP) CO., LTD. | 1998-07-13 | 1998-08-07 |
| XINJIANG YILITE INDUSTRY CO., LTD | 1999-05-27 | 1999-09-16 |
| DATANG TELECOM TECHNOLOGY CO., LTD | 1998-09-21 | 1998-10-21 |
| ANHUI GOLDEN SEED WINERY CO., LTD. | 1998-07-23 | 1998-08-12 |
| JIANGSU WUZHONG INDUSTRIAL CO., LTD | 1994-06-28 | 1999-04-01 |
| INNER MONGOLIA JINYU (GROUP) CO., LTD | 1993-03-13 | 1999-01-15 |
| HARBIN AIR CONDITIONING CO., LTD. | 1993-06-25 | 1999-06-03 |
| FUJIAN FURI ELECTRONICS CO., LTD. | 1999-05-07 | 1999-05-14 |
| SHANDONG ALUMINUM INDUSTRY CO., LTD | 1999-06-18 | 1999-06-30 |
| GRINM SEMICONDUCTOR MATERIALS CO., LTD | 1999-03-12 | 1999-03-19 |
| HENAN ANCAI HI-TECH CO., LTD | 1998-09-21 | 1999-07-14 |
| LAWTON DEVELOPMENT CO., LTD | 1993-05-06 | 1999-03-25 |
| SHANGHAI ZI JIANG ENTERPRISE (GROUP) CO., LTD | 1999-03-30 | 1999-08-24 |
| TIBET RHODIOLA PHARMACEUTICAL HOLDING CO., | 1999-07-14 | 1999-07-21 |
| SHANDONG JIANGQUAN INDUSTRY CO., LTD | 1992-12-14 | 1999-08-17 |
| YANGZHOU YAXING MOTOR COACH CO., LTD | 1998-09-28 | 1999-08-31 |
| CHANGCHUN ECONOMIC & TECHNICAL DEVELOPMENT ZONE,DEVELOPMENT &CONSSTRUCTION (GROUP) CO.,LTD | 1993-06-26 | 1999-09-09 |
| ZHEJIANG MEDICINE CO., LTD. | 1997-05-16 | 1999-10-21 |
| SHAANXI QINLING CEMENT (GROUP) CO., LTD | 1996-11-06 | 1999-12-16 |
| ANHUI QUANCHAI ENGINE CO., LTD | 1998-11-25 | 1998-12-03 |
| SHANDONG NANSHAN ALUMINUM CO., LTD | 1993-03-18 | 1999-12-23 |

| | | |
|--|------------|------------|
| JIANGSU SUNSHINE CO., LTD. | 1999-02-13 | 1999-09-27 |
| HAINAN AIRLINES CO., LTD | 1989-10-18 | 1999-11-25 |
| HENAN JOYLINE & JOYSUN PHARMACEUTICAL STOCK CO., LTD. | 1998-08-31 | 1999-11-05 |
| LUSHANG PROPERTY CO.,LTD. | 1993-04-21 | 2000-01-13 |
| TIANJIN SONGJIANG CO.,LTD | 1992-08-08 | 2000-01-27 |
| ZHEJIANG SHENGHUA BIOC BIOLOGY CO., LTD. | 1999-05-11 | 1999-11-16 |
| GUIZHOU CHITIANHUA CO., LTD. | 1998-08-28 | 2000-02-21 |
| JIANGXI CHANGJIU BIOCHEMICAL INDUSTRY CO., LTD. | 1999-01-15 | 1999-01-19 |
| QINGDAO SODA ASH INDUSTRIAL CO., LTD. | 1994-06-14 | 2000-03-09 |
| HEBEI CANGZHOU DAHUA CO.,LTD | 1998-09-21 | 2000-04-06 |
| LINGYUAN IRON & STEEL CO., LTD. | 1994-05-04 | 2000-05-11 |
| ZHEJIANG GOLDEN EAGLE CO., LTD | 1994-09-23 | 2000-06-02 |
| DALIAN DAYANG TRANDS CO., LTD | 1992-12-01 | 2000-06-08 |
| TAI YUAN TIANLONG (GROUP) CO., LTD | 1993-03-31 | 2000-06-15 |
| MINFENG SPECIAL PAPER CO., LTD. | 1998-11-12 | 2000-06-15 |
| GUANGXI GUIGUAN ELECTRIC POWER CO., LTD | 1992-09-04 | 2000-03-23 |
| ANHUI TONGFENG ELECTRONICS CO., LTD | 1996-08-08 | 2000-06-09 |
| HAINAN YEDAO CO., LTD | 1993-03-27 | 2000-01-20 |
| YUNNAN HONGHE GUANGMING CO., LTD. | 1993-01-30 | 1999-12-02 |
| BEIJING HUAYE REALESTATE CO.,LTD | 1998-10-09 | 2000-06-28 |
| LIAONING SHIDAI WANHENG CO.LTD | 1999-03-29 | 2000-11-28 |
| ZHONGCHANG MARINE COMPANY LIMITED. | 1993-06-03 | 2000-12-07 |
| QINGHAI HUADING INDUSTRIAL CO., LTD. | 1998-08-18 | 2000-11-20 |
| BEIJING VANTONE REAL ESTATE CO.,LTD | 1998-12-30 | 2000-09-22 |
| JI LIN CHENG CHENG GROUP CO.,LTD | 1993-07-08 | 2000-11-23 |
| SHAANXI YANCHANG PETROLEUM CHEMICAL ENGINEERING CO.,LTD. | 1998-11-30 | 2000-06-22 |
| LIUZHOU LIANGMIANZHEN CO., LTD | 1996-12-04 | 2004-01-30 |
| NANJING TEXTILES IMPORT & EXPORT CO., LTD | 1994-05-30 | 2001-03-06 |
| XINJIANG GUANNONG FRUIT & ANTLER GROUP CO., LTD. | 1999-12-30 | 2003-06-09 |
| GUANGXI WUZHOU ZHONGHENG (GROUP) CO., LTD. | 1993-07-28 | 2000-11-30 |
| HENAN TOPFOND PHARMACEUTICAL CO., LTD | 1999-05-04 | 2000-12-27 |
| ANHUI XINKE NEW MATERIALS CO., LTD | 1998-09-28 | 2000-11-22 |
| XINJIANG GUANGHUI INDUSTRY CO., LTD | 1999-04-10 | 2000-05-26 |
| HUNAN DONGTING AQUACULTURE CO., LTD. | 1999-01-18 | 2000-06-12 |
| BEIJING CAPITAL TOURISM CO., LTD | 1999-02-12 | 2000-06-01 |
| RISING NONFERROUS METALS SHARE CO., LTD. | 1993-06-18 | 2000-05-25 |
| HUBEI KAILE TECHNOLOGY CO.,LTD | 1993-02-28 | 2000-07-06 |
| ZHEJIANG YANKON (GROUP) CO., LTD | 1997-07-16 | 2000-07-20 |
| INNER MONGOLIA NORTH HAULER JOINT STOCK CO., LTD. | 1999-11-29 | 2000-06-30 |
| CRBC INTERNATIONAL CO., LTD | 1999-03-18 | 2000-07-25 |
| YUNNAN JINGGU FORESTRY CO., LTD | 1999-03-09 | 2000-08-25 |
| BEIJING URBAN CONSTRUCTION INVESTMENT & DEVELOPMENT CO., LTD | 1998-12-30 | 1999-02-03 |
| ZHEJIANG HISUN PHARMACEUTICAL CO., LTD | 1998-02-11 | 2000-07-25 |
| GUODIAN NANJING AUTOMATION CO., LTD | 1999-09-22 | 1999-11-18 |
| JIANGXI GANYUE EXPRESSWAY CO., LTD | 1998-03-31 | 2000-05-18 |

| | | |
|---|------------|------------|
| SINOTRANS AIR TRANSPORTATION DEVELOPMENT CO., LTD | 1999-10-11 | 2000-12-28 |
| AEROSPACE INFORMATION CO., LTD | 2000-11-01 | 2003-07-11 |
| SHANGHAI KAIKAI INDUSTRY CO., LTD. | 1993-03-18 | 2001-02-28 |
| HUAFANG TEXTILE CO., LTD. | 1998-04-03 | 2003-06-27 |
| HUBEI WUCHANGYU CO., LTD | 1999-04-27 | 2000-08-10 |
| JIANGSU HENGRUI MEDICINE CO., LTD | 1997-04-28 | 2000-10-18 |
| INNER MONGOLIA YILI ENERGY COMPANY LIMITED | 1999-01-27 | 2000-07-25 |
| ORIENT INTERNATIONAL ENTERPRISE CO., LTD | 1998-11-18 | 2000-07-12 |
| CHONGQING GANGJIU CO., LTD. | 1999-01-08 | 2000-07-31 |
| NANJING CENTRAL EMPORIUM CO., LTD. | 1992-07-07 | 2000-09-26 |
| TAIYUAN CHEMICAL INDUSTRY CO., LTD. | 1999-02-26 | 2000-11-09 |
| NANJING IRON & STEEL CO., LTD. | 1999-03-18 | 2000-09-19 |
| QIAN JIANG WATER RESOURCES DEVELOPMENT CO., LTD | 1998-12-30 | 2000-10-18 |
| SHANGHAI PUDONG ROAD & BRIDGE CO., LTD | 1998-01-09 | 2004-03-16 |
| HENAN LINGRUI PHARMACEUTICAL CO., LTD | 1999-06-18 | 2000-10-18 |
| HUNAN GUOGUANG CERAMIC (GROUP) CO., LTD. | 1993-06-23 | 1999-12-09 |
| JIANGSU SAINTY CO., LTD. | 1993-12-28 | 2000-09-01 |
| DAHENG NEW EPOCH TECHNOLOGY CO., LTD | 1998-12-14 | 2000-11-29 |
| BRIGHT OCEANS INTER-TELECOM CORPORATION | 1995-01-18 | 2000-07-20 |
| HUAYI ELECTRIC CO., LTD. | 1998-12-31 | 2000-11-06 |
| XISHUI STRONG YEAR CO., LTD INNER MONGOLIA | 1998-12-18 | 2000-07-31 |
| CHONGQING JIULONG ELECTRIC POWER CO., LTD | 1994-06-30 | 2000-11-01 |
| HUBEI SANXIA NEW BUILDING MATERIALS CO., LTD | 1993-03-26 | 2000-09-19 |
| INNER MONGOLIA EERDUOSI RESOURCES CO., LTD | 1995-10-16 | 2001-04-26 |
| LANZHOU ALUMINIUM CO., LTD | 1999-04-14 | 2000-07-19 |
| MERRO PHARMACEUTICAL CO., LTD | 1999-07-30 | 2000-11-16 |
| HUBEI ANGEL YEAST CO., LTD | 1998-03-25 | 2000-08-18 |
| BLUE STAR NEW CHEMICAL MATERIAL CO., LTD | 1999-05-31 | 2000-04-20 |
| XUZHOU V V FOOD & BEVERAGE CO., LTD | 1999-08-06 | 2000-06-30 |
| NANNING CHEMICAL INDUSTRY CO., LTD | 1998-06-15 | 2000-07-12 |
| XI'AN TYPICAL INDUSTRIES CO., LTD | 1999-05-28 | 2000-12-13 |
| LIAONING SG AUTOMOTIVE (GROUP) CO., LTD. | 1993-03-02 | 2000-12-26 |
| JIANGSHU HENGSHUN VINEGAR-INDUSTRY CO., LTD | 1999-08-17 | 2001-02-06 |
| SHENYANG COMMERCIAL CITY CO., LTD | 1999-07-26 | 2000-12-26 |
| GANSU JIU STEEL GROUP HONGXING IRON & STEEL CO., LTD. | 1999-04-21 | 2000-12-20 |
| SHANDONG HUATAI PAPER CO., LTD. | 1993-06-06 | 2000-09-28 |
| YANTAI WANHUA POLYURETHANES CO., LTD. | 1998-12-16 | 2001-01-05 |
| GUANGXI GUIDONG ELECTRIC POWER CO., LTD | 1998-12-04 | 2001-02-28 |
| GANSU RONGHUA INDUSTRY (GROUP) CO., LTD | 1998-11-12 | 2001-06-26 |
| HENAN PINGGAO ELECTRIC CO., LTD. | 1999-07-12 | 2001-02-21 |
| ZHONGKEN AGRICULTURAL RESOURCE DEVELOPMENT CO., LTD | 1999-08-13 | 2001-01-19 |
| SHANGHAI JAHWA UNITED CO., LTD. | 1999-10-18 | 2001-03-15 |
| JIANGXI HONGDU AVIATION INDUSTRY CO., LTD | 1999-12-16 | 2000-12-15 |
| YINGKOU PORT LIABILITY CO., LTD | 2000-03-22 | 2002-01-31 |
| ANHUI CHAODONG CEMENT CO., LTD. | 1999-04-16 | 2000-12-08 |

| | | |
|--|------------|------------|
| WEIFANG YAXING CHEMICAL CO., LTD | 2000-01-17 | 2001-03-26 |
| SHANGHAI ZHENHUA HEAVY INDUSTRY CO.,LTD | 1997-07-31 | 2000-12-21 |
| SICHUAN GUODONG CONSTRUCTION CO., LTD | 1993-05-22 | 2001-05-24 |
| TIANJIN REALITY DEVELOPMENT (GROUP) CO., LTD. | 1993-02-25 | 2001-09-10 |
| NANHAI DEVELOPMENT CO., LTD | 1992-12-17 | 2000-12-25 |
| HUAFA INDUSTRIAL SHARE CO., LTD | 1992-08-18 | 2004-02-25 |
| TIBET TIANLU CO.,LTD | 1999-03-29 | 2001-01-16 |
| WUXI COMMERCIAL MANSION GRAND ORIENT CO.,LTD | 1999-09-17 | 2002-06-25 |
| INNER MONGOLIA LANTAI INDUSTRIAL CO., LTD | 1998-12-31 | 2000-12-22 |
| TIANJIN ZHONGXIN PHARMACEUTICAL (GROUP) CO., LTD. | 1992-12-20 | 2001-06-06 |
| TIANTONG HOLDINGS CO.,LTD. | 1999-02-10 | 2001-01-18 |
| SICHUAN HONGDA CHEMICAL INDUSTRY CO., LTD | 1998-11-12 | 2001-12-20 |
| GUANGZHOU PHARMACEUTICAL CO., LTD. | 1997-09-01 | 2001-02-06 |
| CHANGCHUN GAS CO., LTD | 1993-06-08 | 2000-12-11 |
| SINOMACH AUTOMOBILE CO., LTD. | 1999-03-26 | 2001-03-05 |
| AUCMA COMPANY LIMITED | 1998-12-28 | 2000-12-29 |
| MARKOR INTERNATIONAL FURNITURE CO., LTD | 1999-10-15 | 2000-11-27 |
| TIBET SUMMIT INDUSTRY CO., LTD | 1998-11-30 | 2000-12-27 |
| XINJIANG DUSHANZI TIANLI HIGH & NEW TECH CO., LTD | 1999-04-28 | 2000-12-25 |
| CHINA FORTUNE LAND DEVELOPMENT CO., LTD. | 2001-07-19 | 2003-12-30 |
| SHAANXI AEROSPACE POWER HI-TECH CO., LTD | 1999-12-24 | 2003-04-08 |
| WUHAN YANGTZE COMMUNICATION INDUSTRY (GROUP) CO., LTD | 1996-01-02 | 2000-12-22 |
| DALIAN RUBBER & PLASTICS MACHINERAY CO.,LTD | 1999-03-09 | 2001-08-20 |
| YANG QUAN COAL INDUSTRY (GROUP) CO., LTD. | 1999-12-30 | 2003-08-21 |
| SHANDONG INFRASTRUCTURE CO., LTD | 1999-11-16 | 2002-03-18 |
| YABAO PHARMACEUTICAL (GROUP) CO., LTD. | 1999-01-26 | 2002-09-26 |
| ZHEJIANG LONGSHENG (GROUP) CO., LTD | 1998-03-23 | 2003-08-01 |
| CHENGDU XUGUANG ELECTRONICS CO., LTD | 1994-02-28 | 2002-11-20 |
| GANSU DUNHUANG SEED CO., LTD | 1998-12-28 | 2004-01-15 |
| ROUTON ELECTRONIC CO., LTD. | 2000-05-09 | 2002-06-13 |
| MUDANJIANG HENGFENG PAPER CO., LTD. | 1994-03-06 | 2001-04-19 |
| CHENGDE XINXIN VANADIUM AND TITANIUM CO., LTD | 1994-06-18 | 2002-09-06 |
| CHINA UNITED TRAVEL CO., LTD | 1998-12-29 | 2000-09-22 |
| XINJIANG TALIMU AGRICULTURE DEVELOPMENT CO., LTD. | 1999-04-23 | 1999-04-29 |
| JILIN SINO-MICROELECTRONICS CO., LTD | 1999-10-21 | 2001-03-16 |
| BEIJING HUALIAN HYPERMARKET CO., LTD | 1996-06-07 | 2001-11-29 |
| JIANGXI COPPER CO., LTD. | 1997-01-24 | 2002-01-11 |
| JIANGXI LIANCHUANG OPTOELECTRONIC SCIENCE AND TECHNOLOGY CO., LTD. | 1999-06-30 | 2001-03-29 |
| TONGHUA GRAPE WINE CO., LTD | 1999-01-27 | 2001-01-15 |
| NINGBO YUNSHENG (GROUP) CO., LTD | 1994-06-30 | 2000-10-30 |
| GUIZHOU REDSTAR DEVELOPING CO., LTD. | 1999-05-02 | 2001-03-20 |
| GUANGXI WUZHOU COMMUNICATIONS CO., LTD | 1992-12-31 | 2000-12-21 |
| SOUTHWEST SECURITIES CO. , LTD. | 1993-12-30 | 2001-01-09 |
| JIANGSU SANFANGXIANG INDUSTRY CO., LTD | 1994-06-13 | 2003-03-06 |
| WANXIANG DONEEDCO.,LTD. | 1995-09-13 | 2002-09-16 |

| | | |
|---|------------|------------|
| CHINA AVIC AVIONICS EQUIPMENT CO.,LTD. | 1999-11-26 | 2001-07-06 |
| CHINESE UNIVERSE PUBLISHING AND MEDIA CO.,LTD | 1998-11-30 | 2002-03-04 |
| HUALING XINGMA AUTOMOBILE (GROUP) CO., LTD. | 1999-12-12 | 2003-04-01 |
| BEIJING CAPITAL DEVELOPMENT CO., LTD. | 1993-12-29 | 2001-03-12 |
| JIANGSU EXPRESSWAY CO., LTD | 1992-08-01 | 2001-01-16 |
| SICHUAN TIANYI SCIENCE & TECHNOLOGY CO., LTD. | 1999-08-05 | 2001-01-11 |
| SHAANXI BAOGUANG VACUUM ELECTRONIC APPARATUS CO., LTD. | 1997-12-31 | 2002-01-16 |
| JOINCARE PHARMACEUTICAL (GROUP) INDUSTRY CO., LTD | 1999-11-24 | 2001-06-08 |
| QINGHAI XIANCHENG MINING CO.,LTD. | 1998-08-28 | 2001-05-08 |
| GUANGDONG MINGZHU (GROUP) CO., LTD. | 1994-04-21 | 2001-01-18 |
| GEMDALE CORPORATION | 1996-02-08 | 2001-04-12 |
| SHANDONG JINTAI (GROUP) CO., LTD. | 1992-06-03 | 2001-07-23 |
| BEIJING BASHI MEDIA CO.,LTD. | 1999-06-18 | 2001-02-16 |
| ZHEJIANG HAIYUE CO., LTD | 1993-07-26 | 2004-02-18 |
| FUJIAN LONGKING CO., LTD | 1998-02-23 | 2000-12-29 |
| NANTONG JIANGSHAN AGROCHEMICAL & CHEMICALS CO., LTD | 1998-01-21 | 2001-01-10 |
| KINGRAY NEW MATERIALS SCIENCE & TECHNOLOGY CO., LTD | 1999-08-31 | 2001-01-15 |
| SICHUAN CHENGFA AERO-SCIENCE & TECHNOLOGY CO., LTD | 1999-12-28 | 2001-12-12 |
| TIANCHENG CO., LTD. OF TAIYUAN UNIVERSITY OF TECHNOLOGY | 2000-07-05 | 2003-05-29 |
| GUANGZHOU DONGHUA ENTERPRISE CO., LTD. | 1988-12-26 | 2001-03-19 |
| GUIZHOU PANJIANG REFINED COAL CO., LTD. | 1999-10-29 | 2001-05-31 |
| SHENYANG JINSHAN ENERGY CO. · LTD | 1998-06-04 | 2001-03-28 |
| ANYUAN INDUSTRIAL CO., LTD | 1999-12-30 | 2002-07-02 |
| GANAL SCIENTIFIC AND TECHNOLOGICAL CO., LTD | 1999-06-15 | 2000-12-28 |
| FUSHUN SPECIAL STEEL CO., LTD | 1999-06-07 | 2000-12-29 |
| JIANGSU HONGDOU INDUSTRY CO., LTD | 1998-09-11 | 2001-01-08 |
| HAREON SOLAR TECHNOLOGY CO., LTD. | 2000-07-28 | 2003-09-24 |
| HENAN DAYOU ENERGY CO., LTD. | 2000-11-21 | 2003-10-09 |
| BEIJING DYNAMIC POWER CO., LTD | 2000-12-23 | 2004-04-01 |
| NARI TECHNOLOGY DEVELOPMENT LTD. CO., | 2001-02-28 | 2003-10-16 |
| SHANXI ANTAI (GROUP) CO., LTD | 1993-07-29 | 2003-02-12 |
| TANGSHAN SANYOU CHEMICAL INDUSTRIES CO., LTD. | 1999-12-28 | 2003-06-18 |
| BEIJING TEAMSUN TECHNOLOGY CO., LTD | 2001-03-15 | 2004-04-27 |
| ZHEJIANG CHINA COMMODITIES CITY (GROUP) CO., LTD. | 1993-12-28 | 2002-05-09 |
| XIANGTAN ELECTRIC MANUFACTURING CO., LTD. | 1999-12-26 | 2002-07-18 |
| ANHUI JIANGHUAI AUTOMOBILE CO., LTD | 1999-09-30 | 2001-08-24 |
| XINJIANG TIANHONG PAPERMAKING CO., LTD. | 1999-12-30 | 2001-06-28 |
| SHANGHAI MODERN PHARMACEUTICAL CO., LTD. | 2000-12-20 | 2004-06-16 |
| WUHAN NATIONAL PHARMACEUTICAL TECHNOLOGY CO.LTD | 1997-11-20 | 2004-06-07 |
| KUNMING PHARMACEUTICAL CO., LTD | 1995-12-14 | 2000-12-06 |
| LIUZHOU CHEMICAL INDUSTRY CO., LTD. | 2001-03-06 | 2003-07-17 |
| XINJIANGQINGSONGBUILDING MATERIALSANDCHEMICALS (GROUP) CO.,LTD. | 2000-11-17 | 2003-07-24 |
| SHANDONG HUALU-HENGSHENG CHEMICAL CO., LTD | 2000-04-26 | 2002-06-20 |
| COSCO SHIPPING CO., LTD | 1999-12-08 | 2002-04-18 |
| BEIJING SANYUAN FOODS CO., LTD. | 2001-02-28 | 2003-09-15 |

| | | |
|---|------------|------------|
| JINLIN JI EN NICKEL INDUSTRY CO., LTD | 2000-12-27 | 2003-09-05 |
| GUANGDONG GUANHAO HIGH-TECH CO., LTD | 1999-07-21 | 2003-06-19 |
| CHINA NORTH OPTICAL-ELECTRICAL TECHNOLOGY CO., LTD. | 2000-09-11 | 2003-07-04 |
| ZHANGZHOU PIENZEHUANG PHARMACEUTICAL CO., LTD | 1999-12-28 | 2003-06-16 |
| TONGWEI CO., LTD | 2000-11-08 | 2004-03-02 |
| HENAN REBECCA HAIR PRODUCTS CO., LTD | 1999-10-24 | 2003-07-10 |
| ANHUI GUOTONG HI-TECH PIPES INDUSTRY CO., LTD | 2000-08-29 | 2004-02-19 |
| SHEN ZHEN KINGDOM TECHNOLOGY CO., LTD. | 2000-11-21 | 2003-12-24 |
| HUAFANG CO., LTD | 1999-09-03 | 2001-09-03 |
| NINGXIA BULIDING MATERIALS GROUP CO., LTD. | 1998-12-04 | 2003-08-29 |
| CHONGQING FULING ELECTRIC POWER INDUSTRIAL CO., LTD | 1999-12-28 | 2004-03-03 |
| BUT'ONE INFORMATION CORPORATION, XI'AN | 2000-07-16 | 2004-03-29 |
| BAOJI TITANIUM INDUSTRY CO., LTD | 1999-07-21 | 2002-04-12 |
| ZHUZHOU TIMES NEW MATERIALS TECHNOLOGY CO., LTD. | 1998-05-11 | 2002-12-19 |
| SINO-PLATINUM METALS CO., LTD | 2000-09-25 | 2003-05-16 |
| HANGZHOU SILAN MICROELECTRONICS CO., LTD | 2000-12-28 | 2003-03-11 |
| JIANGXI HONGCHENG WATERWORKS CO., LTD | 2001-01-22 | 2004-06-01 |
| YANBIAN SHIXIAN BAILU PAPERMAKING CO., LTD | 1998-10-30 | 2003-09-03 |
| BEIJING AIRPORT HIGH-TECH PARK CO., LTD | 2000-03-28 | 2004-03-18 |
| SICHUAN DIKANG SCI & TECH PHARMACEUTICAL INDUSTRY CO., LTD. | 1999-12-17 | 2001-02-12 |
| SHANDONG HOMEY AQUATIC DEVELOPMENT CO., LTD | 1993-01-07 | 2004-04-05 |
| TIANJIN BENEFO TEJING ELECTRIC CO.,LTD. | 1999-09-23 | 2001-06-15 |
| AEOLUS TYRE CO., LTD. | 1998-12-01 | 2003-10-21 |
| ANHUI LIUGUO CHEMICAL CO., LTD | 2000-12-28 | 2004-03-05 |
| BAOTOU ALUMINIUM CO.,LTD. | 2001-06-28 | 2005-05-09 |
| WUXI HUAGUANG BOILER CO., LTD | 2000-12-26 | 2003-07-21 |
| HUNAN COPOTE SCIENCE & TECHNOLOGY CO., LTD. | 2000-10-17 | 2003-12-10 |
| ZHEJIANG HANGXIAO STEEL STRUCTURE CO., LTD | 1994-12-20 | 2003-11-10 |
| HUNAN CORUN NEW ENERGY CO. · LTD. | 2000-08-22 | 2003-09-18 |
| ZHUZHOU QIANJIN PHARMACEUTICAL CO., LTD | 1993-08-12 | 2004-03-12 |
| LINGYUN INDUSTRIAL CO., LTD. | 2000-11-10 | 2003-08-15 |
| SHUANGLIANG ECO-ENERGY SYSTEMS CO.,LTD | 1995-10-05 | 2003-04-22 |
| FENGFAN CO., LTD | 2000-06-13 | 2004-07-14 |
| FUJIAN NANFANG TEXTILE CO., LTD | 1994-03-26 | 2004-05-31 |
| BEIJING ZHONGCHUANG TELECOM TEST CO., LTD. | 2000-08-16 | 2003-08-07 |
| JIANGSU YANGNONG CHEMICAL CO., LTD | 1999-12-10 | 2002-04-25 |
| JIANGSU HENGTONG PHOTOELECTRIC STOCK CO., LTD | 1999-12-14 | 2003-08-22 |
| TIANJIN TIANYAO PHARMACEUTICAL CO., LTD. | 1999-12-01 | 2001-06-18 |
| ZHONGJIN GOLD CO., LTD. | 2000-06-23 | 2003-08-14 |
| SHANGHAI SYNICA CO., LTD | 2000-09-29 | 2003-06-26 |
| LONG YUAN CONSTRUCTION (GROUP) CO., LTD | 1998-04-03 | 2004-05-24 |
| FUJIAN FENGZHU TEXTILE SCIENCE & TECHNOLOGY CO., LTD | 2000-12-25 | 2004-04-21 |
| JINXI AXLE CO., LTD | 2000-12-27 | 2004-05-26 |
| CHANGJIANG & JINGGONG STEEL STRUCTURE (GROUP) CO.,LTD | 1999-06-28 | 2002-06-05 |
| YUNNAN CHIHONG ZINC & GERMANIUM CO., LTD | 2000-07-18 | 2004-04-20 |

| | | |
|---|------------|------------|
| FIBERHOME TELECOMMUNICATION TECHNOLOGIES CO., LTD | 1999-12-25 | 2001-08-23 |
| KEDA INDUSTRIAL CO., LTD. | 2000-09-15 | 2002-10-10 |
| SINOCHEM INTERNATIONAL CORPORATION | 1998-12-14 | 2000-03-01 |
| AEROSUN CORPORATION | 1999-09-30 | 2001-06-15 |
| ANHUI RESOURCES DEVELOPMENT CO., LTD | 1998-06-15 | 2003-04-15 |
| DELUXE FAMILY CO., LTD. | 1999-10-27 | 2002-07-09 |
| SICHUAN XICHANG POWER JOINT STOCK CO., LTD | 1994-06-18 | 2002-05-30 |
| XIN JIANG KORLA PEAR CO., LTD | 1999-11-18 | 2001-12-26 |
| FANGDA SPECIAL STEEL TECHNOLOGY CO., LTD. | 1999-09-16 | 2003-09-30 |
| SHANGHAI DATUN ENERGY RESOURCES CO., LTD. | 1999-12-29 | 2001-08-29 |
| XINJIANG TIANFU THERMOELECTRIC CO., LTD | 1999-03-28 | 2002-02-28 |
| BLACK PEONY (GROUP) CO., LTD. | 1993-05-28 | 2002-06-18 |
| CHINA NATIONAL MEDICINES CO., LTD. | 1999-12-21 | 2002-11-27 |
| TENGDA CONSTRUCTION (GROUP) CO., LTD | 1995-08-21 | 2002-12-26 |
| JIANGSU LIANHUAN PHARMACEUTICAL CO., LTD. | 2000-02-22 | 2003-03-19 |
| HAINAN ISLAND CONSTRUCTION CO., LTD. | 1993-05-12 | 2002-08-06 |
| FANGDA CARBON NEW MATERIAL CO., LTD | 1999-01-18 | 2002-08-30 |
| SHANGHAI ZHIXIN ELECTRIC CO., LTD. | 2000-09-27 | 2003-10-10 |
| KANGMEI PHARMACEUTICAL CO., LTD | 1997-06-18 | 2001-03-19 |
| KWEICHOW MOUTAI CO., LTD | 1999-11-20 | 2001-08-27 |
| TONGLING ZHONGFA SUNTECH CO., LTD | 2000-04-28 | 2002-01-08 |
| ZHEJIANG HUAHAI PHARMACEUTICAL CO., LTD. | 2001-02-28 | 2003-03-04 |
| JIANGSU ZHONGTIAN TECHNOLOGIES CO., LTD | 1996-02-09 | 2002-10-24 |
| GUIZHOU GUIHANG AUTOMOTIVE COMPONENTS CO., LTD | 1999-12-29 | 2001-12-27 |
| CHANGYUAN GROUP LTD. | 2000-06-16 | 2002-12-02 |
| ZHEJIANG FEIDA ENVIRONMENTAL SCIENCE & TECHNOLOGY CO., LTD. | 2000-04-30 | 2002-07-22 |
| JIANGSU JIANGNAN HIGH POLYMER FIBER CO., LTD | 1996-11-25 | 2003-11-27 |
| CHINA RAILWAY ERJU CO., LTD | 1999-09-24 | 2001-05-28 |
| SHANDONG PHARMACEUTICAL GLASS CO., LTD | 1993-11-08 | 2002-06-03 |
| SHANGHAI JIAODA ONLY CO., LTD | 1997-12-24 | 2001-07-02 |
| HENAN YUGUANG GOLD & LEAD CO., LTD | 2000-01-06 | 2002-07-30 |
| SHANDONG HUAYANG TECHNOLOGY CO., LTD. | 1999-12-30 | 2002-10-31 |
| NANJING CHIXIA DEVELOPMENT CO., LTD | 1999-12-23 | 2002-03-28 |
| TIANJIN TASLY PHARMACEUTICAL CO., LTD. | 2000-04-27 | 2002-08-23 |
| CHINA NATIONAL SOFTWARE & SERVICE CO., LTD. | 2000-08-28 | 2002-05-17 |
| EGING PHOTOVOLTAIC TECHNOLOGY CO., LTD. | 2000-11-08 | 2003-01-23 |
| BEIHAI GOFAR MARINE BIOLOGICAL INDUSTRY CO., LTD. | 1993-01-22 | 2003-01-14 |
| TAIYUAN LIONHEAD CEMENT CO., LTD | 1999-02-28 | 2001-08-24 |
| XINJIANG SAYRAM MODERN AGRICULTURE CO., LTD | 1999-12-22 | 2004-01-07 |
| GANSU MOGAO INDUSTRIAL DEVELOPMENT CO., LTD | 1999-12-18 | 2004-03-24 |
| XINJIANG URBAN CONSTRUCTION (GROUP) CO., LTD | 1993-02-25 | 2003-12-03 |
| SHANXI COAL INTERNATIONAL ENERGY CO., LTD. | 2000-11-20 | 2003-07-31 |
| SHANDONG GOLD MINING CO., LTD. | 2000-01-31 | 2003-08-28 |
| SHENZHEN EXPRESSWAY CO., LTD | 1996-12-30 | 2001-12-25 |
| XIAMEN TUNGSTEN CO., LTD. | 1997-12-30 | 2002-11-07 |

| | | |
|--|------------|------------|
| BAODING TIANWEI BAOBIAN ELECTRIC CO., LTD | 1999-09-28 | 2001-02-28 |
| TIMES MEDIA CO.,LTD. | 1999-12-12 | 2002-09-05 |
| ANHUI FANGXING SCIENCE & TECHNOLOGY CO., LTD | 2000-09-30 | 2002-11-08 |
| HEBEI TAIHANG CEMENT CO., LTD. | 1993-03-05 | 2002-08-22 |
| SHANGHAI JIULONGSHAN CO., LTD. | 1999-01-14 | 2001-03-28 |
| GUANGXI BEISHENG PHARMACEUTICAL CO., LTD | 1993-11-28 | 2001-08-07 |
| JIANGSU KANION PHARMACEUTICAL CO., LTD. | 2000-12-02 | 2002-09-18 |
| SICHUAN ATLANTIC WELDING CONSUMABLE CO., LTD | 1999-09-20 | 2001-02-27 |
| HEBEI HENSHUI LAOBAIGAN LIQUOR CO.,LTD | 1999-12-30 | 2002-10-29 |
| BEIJING ARITIME INTELLIGENT CONTROL CO., LTD. | 1999-12-28 | 2002-09-19 |
| JIANGXI CHANGYUN CO., LTD. | 1993-04-03 | 2002-07-16 |
| JIANGSU GAOCHUN CERAMICS CO., LTD. | 1994-06-28 | 2003-01-28 |
| XIAMEN FARATRONIC CO., LTD. | 1998-12-12 | 2002-12-10 |
| CHONGQING DIMA INDUSTRY CO., LTD | 2000-08-18 | 2002-07-23 |
| HUBEI HONGCHENG GENERAL MACHINERY CO., LTD | 1997-01-22 | 2001-08-22 |
| AN HUI SHAN YING PAPER INDUSTRY CO., LTD. | 1999-10-20 | 2001-12-18 |
| ZHONGZHU HOLDING CO.LTD | 1994-06-27 | 2001-05-18 |
| ANYANG IRON & STEEL INC. | 1993-11-15 | 2001-08-20 |
| HANDSOME ELECTRONICS CO.,LTD | 2000-12-13 | 2003-12-16 |
| HANGZHOU SUNYARD SYSTEM ENGINEERING CO., LTD | 2000-11-30 | 2002-11-01 |
| ZHEJIANG CONBA PHARMACEUTICAL CO., LTD. | 1993-01-09 | 2004-04-12 |
| FUJIAN YANJING HUIQUAN BREWERY CO., LTD. | 1997-02-04 | 2003-02-26 |
| WUHU PORT STORAGE & TRANSPORTATION CO., LTD | 2000-11-29 | 2003-03-28 |
| ZHEJIANG WHWH INDUSTRY CO.LTD | 2000-03-28 | 2003-02-20 |
| TONGLING JINGDA SPECIAL MAGNET WIRE CO., LTD. | 2000-07-12 | 2002-09-11 |
| BEIJING JINGNENG THERMAL POWER CO., LTD | 2000-03-10 | 2002-05-10 |
| QINGDAO YELLOW SEA RUBBER CO., LTD. | 1999-06-30 | 2002-08-09 |
| WOLONG ELECTRIC GROUP CO.,LTD. | 1995-12-21 | 2002-06-06 |
| XINJIANG BA YI IRON & STEEL CO., LTD. | 2000-07-27 | 2002-08-16 |
| TIAN DI SCIENCE & TECHNOLOGY CO., LTD | 2000-03-24 | 2002-05-15 |
| OFFSHORE OIL ENGINEERING CO., LTD | 2000-04-20 | 2002-02-05 |
| JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD. | 2000-12-12 | 2003-06-03 |
| ANHUI CONCH CEMENT CO.,LTD | 1997-09-01 | 2002-02-07 |
| SHANDONG JINJING SCIENCE & TECHNOLOGY STOCK CO.,LTD | 1999-12-31 | 2002-08-15 |
| SHANDONG XINHUA MEDICAL INSTRUMENT CO., LTD | 1993-04-18 | 2002-09-27 |
| UFSoft CO.,LTD | 1999-12-06 | 2001-05-18 |
| GUANGDONG RONGTAI INDUSTRY CO., LTD | 1997-12-25 | 2001-06-12 |
| TELLHOW SCI-TECH CO., LTD. | 1999-12-03 | 2002-07-03 |
| SHANGHAI AIRLINES CO., LTD. | 2000-11-01 | 2002-10-11 |
| FUJIAN LONGXI BEARING CO., LTD. | 1997-12-24 | 2002-08-05 |
| DALIAN SHENGYA TOURISM HOLDING CO.,LTD. | 1999-05-28 | 2002-07-11 |
| GUIZHOU YIBAI PHARMACEUTICAL CO., LTD | 2000-11-28 | 2004-03-23 |
| HENAN ZHONGFU INDUSTRY CO., LTD. | 1993-12-10 | 2002-06-26 |
| ZHE JIANG XINAN CHEMICAL INDUSTRIAL (GROUP) CO., LTD | 1993-05-12 | 2001-09-06 |
| BRIGHT DAIRY & FOOD CO., LTD | 2000-11-17 | 2002-08-28 |

| | | |
|---|------------|------------|
| HEILONGJIANG AGRICULTURE CO., LTD | 1998-11-27 | 2002-03-29 |
| PANDA FIREWORKS GROUP CO., LTD. | 1999-12-12 | 2001-08-28 |
| TSINGTAO BREWERY CO., LTD. | 1993-06-16 | 1993-08-27 |
| FOUNDER TECHNOLOGY (GROUP) CORP. | 1985-01-14 | 1990-12-19 |
| SVA ELECTRON CO., LTD. | 1987-01-10 | 1990-12-19 |
| SHANGHAI XINGYE RESOURCES HOLDINGS CO.,LTD | 1988-08-28 | 1992-01-13 |
| SHANGHAI ERFANGJI CO., LTD. | 1991-12-10 | 1992-03-27 |
| SHANGHAI HUITONG ENERGY RESOURCE CO., LTD | 1991-12-25 | 1992-03-27 |
| SHANGHAI JINFENG INVESTMENT CO., LTD | 1992-02-19 | 1992-03-27 |
| SHANGHAI INDUSTRY PHARMACEUTICAL INVESTMENT HOLDING CO., LTD. | 1991-12-10 | 1992-03-27 |
| SHANGHAI BROADBAND TECHNOLOGY CO., LTD. | 1991-09-04 | 1992-03-27 |
| SHENYANG JINBEI AUTOMOTIVE CO., LTD. | 1988-05-03 | 1992-07-24 |
| CHINA TEXTILE MACHINERY CO., LTD. | 1992-06-22 | 1992-08-05 |
| DAZHONG TRANSPORTATION (GROUP) CO., LTD. | 1992-06-02 | 1992-08-07 |
| LAO FENG XIANG CO.,LTD. | 1992-07-18 | 1992-08-14 |
| SHANGHAI WINGSUNG INVESTMENT MANAGEMENT CO., LTD. | 1992-06-10 | 1992-08-20 |
| SHANGHAI DINGLI TECHNOLOGY DEVELOPMENT (GROUP) CO.,LTD | 1992-06-06 | 1992-08-28 |
| SHANGHAI FENGHWA (GROUP) CO., LTD | 1992-06-06 | 1992-09-10 |
| SHANGHAI JINFENG WINE COMPANY LIMITED | 1992-06-19 | 1992-09-29 |
| SHANGHAI LIAN HUA FIBRE CORPORATION | 1992-07-22 | 1992-10-13 |
| SHANGHAI CHLOR-ALKALI CHEMICAL CO., LTD. | 1992-07-14 | 1992-11-13 |
| SHANGHAI HIGHLY (GROUP) CO., LTD. | 1992-06-20 | 1992-11-16 |
| SHANGHAI TIANCHEN CO., LTD. | 1992-07-01 | 1992-11-17 |
| SHANGHAI JINLING CO., LTD | 1992-06-09 | 1992-12-02 |
| SHANGHAI JIABAO INDUSTRY & COMMERCE (GROUP) CO., LTD | 1992-05-08 | 1992-12-03 |
| DOUBLE COIN HOLDINGS LTD. | 1992-06-24 | 1992-12-04 |
| SHANGHAI FUDAN FORWARD SCIENCE AND TECHNOLOGY CO., LTD | 1992-06-10 | 1993-01-05 |
| SHANGHAI NARCISSUS ELECTRIC APPLIANCE CO., LTD | 1992-05-21 | 1993-01-06 |
| SHANGHAI SHENDA CO., LTD. | 1992-06-13 | 1993-01-07 |
| SH POWER TRANSMISSION & DISTRIBUTION CO., LTD | 1992-07-09 | 1993-01-18 |
| SHANGHAI NEW WORLD CO., LTD. | 1988-08-24 | 1993-01-19 |
| SHANGHAI LENGGUANG INDUSTRIAL CO., LTD. | 1992-07-16 | 1993-02-09 |
| SHANGHAI DRAGON CORPORATION | 1992-06-10 | 1993-02-09 |
| SHANGHAI HUA LIAN CO., LTD. | 1992-05-29 | 1993-02-19 |
| ZHE JIANG DAILY MEDIA GROUP CO., LTD. | 1992-07-01 | 1993-03-04 |
| SHANGHAI CHENGHAI ENTERPRISE DEVELOPMENT CO., LTD. | 1992-07-04 | 1993-03-04 |
| SHANGHAI DAZHONG PUBLIC UTILITIES (GROUP) CO., LTD | 1991-12-23 | 1993-03-04 |
| SHANGHAI 3F NEW MATERIALS CO., LTD. | 1992-09-09 | 1993-03-16 |
| BESTV NEW MEDIA CO., LTD. | 1992-08-24 | 1993-03-16 |
| SHANGHAI NEW HUANG PU REAL ESTATE CO., LTD. | 1992-08-08 | 1993-03-26 |
| SH JINQIAO EXPORT PROCESSING ZONE DEVELOPMENT CO., LTD | 1992-11-24 | 1993-03-26 |
| CHINA SATCOM GUOMAI COMMUNICATIONS CO., LTD | 1992-11-24 | 1993-04-07 |
| SHANGHAI WANYE ENTERPRISES CO.,LTD | 1991-10-28 | 1993-04-07 |
| SHENERGY CO., LTD | 1993-02-22 | 1993-04-16 |
| SHANGHAI AJ CO., LTD | 1992-07-13 | 1993-04-26 |

| | | |
|---|------------|------------|
| ZHONGYUAN UNION STEM CELL BIOENGINEERING CO., LTD. | 1992-07-01 | 1993-05-04 |
| SHANGHAI CITIC-JIADING INDUSTRIAL CO., LTD | 1993-01-30 | 1993-05-04 |
| SHANGHAI TONGDA VENTURE CAPITAL CO., LTD | 1992-07-03 | 1993-05-04 |
| SHANGHAI WAI GAOQIAO FREE TRADE ZONE DEVELOPMENT CO., LTD. | 1992-08-14 | 1993-05-04 |
| SHANGHAI CHENGTOU HOLDING CO., LTD. | 1992-09-09 | 1993-05-18 |
| SHANGHAI JIN JIANG INTERNATIONAL INDUSTRIAL INVESTMENT CO., LTD | 1993-02-22 | 1993-06-07 |
| SHANGHAI FEILO ACOUSTICS CO., LTD. | 1989-06-09 | 1990-12-19 |
| SHANGHAI SHENHUA HOLDINGS CO., LTD. | 1986-07-01 | 1990-12-19 |
| SHANGHAI FEILO CO., LTD | 1987-06-23 | 1990-12-19 |
| SHANGHAI YUYUAN TOURIST MART CO., LTD | 1992-05-30 | 1992-09-02 |
| ZHUHAI BOYUAN INVESTMENT CO., LTD. | 1988-01-21 | 1990-12-19 |
| CINDA REAL ESTATE CO.,LTD. | 1984-07-20 | 1993-05-24 |
| BEIJING ELECTRONIC ZONE INVESTMENT AND DEVELOPMENT CO., LTD | 1986-12-26 | 1993-05-24 |
| FUJIAN MINYUE HUADIAO WINE CO., LTD | 1984-08-08 | 1993-05-28 |
| SHANGHAI XIN NANYANG CO. · LTD | 1992-12-02 | 1993-06-14 |
| SHANGHAI QIANGSHENG HOLDING CO., LTD. | 1992-02-01 | 1993-06-14 |
| SHANGHAI LUJIAZUI FINANCE & TRADE ZONE DEVELOPMENT CO., LTD. | 1992-08-30 | 1993-06-28 |
| COSUN CO., LTD | 1992-12-18 | 1993-07-09 |
| SOUTHWEST PHARMACEUTICAL CO., LTD. | 1992-11-09 | 1993-07-12 |
| WUXI TAIJI INDUSTRY LTD. CORPORATION | 1990-12-13 | 1993-07-28 |
| ANSHAN CO-OPERATION (GROUP) CO., LTD | 1992-11-16 | 1993-08-06 |
| CHANGCHUN GOLDENSTAR BIOTECH (GROUP) CO., LTD | 1993-02-08 | 1993-08-09 |
| HANGZHOU TIAN-MU-SHAN PHARMACEUTICAL ENTERPRISE CO., LTD. | 1989-03-11 | 1993-08-23 |
| GUANGDONG HUASHENG SCI & TECH CO., LTD. | 1989-09-06 | 1993-09-17 |
| GUANGDONG DONGYANGGUANG ALUMINUM CO.,LTD | 1988-05-12 | 1993-09-17 |
| SICHUAN CHUANTOU ENERGY CO., LTD | 1988-05-01 | 1993-09-24 |
| CHINA ENTERPRISE CO., LTD. | 1993-09-17 | 1993-09-24 |
| SHANGHAI JIAO YUN CO., LTD | 1993-09-22 | 1993-09-28 |
| AEROSPACE COMMUNICATIONS HOLDING CO., LTD | 1993-02-16 | 1993-09-28 |
| JINSHAN DEVELOPMENT AND CONSTRUCTION CO., LTD. | 1993-09-22 | 1993-10-08 |
| SHANGHAI POTEVIO CO.,LTD. | 1993-10-08 | 1993-10-18 |
| WINOWNER (GROUP) CO., LTD | 1992-03-18 | 1993-10-18 |
| NANJING XINJIEKOU DEPARTMENT STORE CO., LTD. | 1992-04-29 | 1993-10-18 |
| JINGTOU YINTAI CO.,LTD | 1992-09-10 | 1993-10-25 |
| GUANGZHOU PEARL RIVER INDUSTRIAL DEVELOPMENT CO., LTD | 1992-12-23 | 1993-10-28 |
| GUANGZHOU SHIPYARD INTERNATIONAL CO., LTD. | 1993-06-07 | 1993-10-28 |
| XIAMEN KING LONG MOTOR GROUP CO.,LTD | 1992-12-23 | 1993-11-08 |
| ZHEJIANG GANGTAI HOLDING(GROUP) CO.,LTD. | 1992-12-01 | 1993-11-08 |
| SINOPEC SHANGHAI PETROCHEMICAL CO., LTD. | 1993-06-29 | 1993-11-08 |
| SHANGHAI SANMAO ENTERPRISE (GROUP) CO., LTD. | 1993-09-28 | 1993-11-08 |
| QINGDAO HAIER CO., LTD. | 1989-04-28 | 1993-11-19 |
| DONGXIN ELECTRICAL CARBON CO.,LTD. | 1988-09-01 | 1993-11-19 |
| SHANG HAI YA TONG CO., LTD. | 1993-10-14 | 1993-11-19 |
| FUJIAN DONGBAI (GROUP) CO., LTD. | 1993-01-01 | 1993-11-22 |
| DASHANG CO., LTD. | 1993-11-11 | 1993-11-22 |

| | | |
|---|------------|------------|
| SHANGHAI DAJIANG (GROUP) STOCK CO., LTD. | 1993-10-05 | 1993-11-22 |
| SHANGHAI DUOLUN INDUSTRY CO.,LTD. | 1993-11-12 | 1993-12-06 |
| CHANG CHUN EURASIA (GROUP) CO., LTD. | 1992-08-20 | 1993-12-06 |
| JINAN QINGQI MOTORCYCLE CO., LTD. | 1993-11-28 | 1993-12-06 |
| LIAOYUAN JOYSON ELECTRONIC GROUP. | 1992-08-07 | 1993-12-06 |
| SHAANXI MEIHANG DIGITAL SURVEYING (GROUP) CO.,LTD | 1992-10-21 | 1996-04-30 |
| HABIN GONG DA HIGH-TECH ENTERPRISE DEVELOPMENT CO., LTD | 1993-07-28 | 1996-05-28 |
| SICHUAN TUOPAI SHEDE WINE CO., LTD. | 1993-07-28 | 1996-05-24 |
| SANAN OPTOELECTRONICS CO.,LTD | 1993-04-12 | 1996-05-28 |
| ZHEJIANG MATERIAL INDUSTRIAL ZHONGDA YUANTONG GROUP CO., LTD. | 1992-12-31 | 1996-06-06 |
| BEIYA INDUSTRIAL (GROUP) CO., LTD. | 1992-07-24 | 1996-05-16 |
| IRICO DISPLAY DEVICES CO., LTD | 1992-09-08 | 1996-05-20 |
| SHANGHAI HAIBO CO., LTD. | 1993-05-07 | 1996-06-06 |
| HUBEI JIANGHU ECOLOGY CO., LTD | 1992-12-10 | 1996-06-18 |
| CHANGLIN CO., LTD. | 1996-06-24 | 1996-07-01 |
| CHENGTON MINING GROUP CO., LTD. | 1992-12-01 | 1996-05-31 |
| NANNING DEPARTMENT STORE CO., LTD. | 1993-02-28 | 1996-06-26 |
| NANJING MEDICAL CO., LTD. | 1994-01-25 | 1996-07-01 |
| QINGHAI JINRUI MIMERAL DEVELOPMENT CO.,LTD | 1996-05-27 | 1996-06-06 |
| SONGLIAO AUTOMOTIVE CO., LTD | 1993-04-16 | 1996-07-01 |
| JIANGSU PHOENIX INVESTMENT PROPERTY COMPANY LIMITED | 1996-06-24 | 1996-07-02 |
| TIANJIN PORT CO., LTD | 1992-12-21 | 1996-06-14 |
| NEUSOFT CORPORATION | 1991-06-02 | 1996-06-18 |
| DALIAN THERMAL POWER CO., LTD | 1993-09-01 | 1996-07-16 |
| GANSU QILIANSHAN CEMENT CO., LTD. | 1996-07-12 | 1996-07-16 |
| XIN JIANG BAI HUA CUN CO., LTD | 1996-06-21 | 1996-06-26 |
| HEBEI JINNIU CHEMICAL INDUSTRY CO.,LTD | 1994-03-30 | 1996-06-26 |
| BEIJING CAPITAL RETAILING GROUP CO., LTD. | 1993-12-20 | 1996-07-16 |
| NINGBO FUDA CO., LTD. | 1993-03-22 | 1996-07-16 |
| YUNNAN YUNWEI CO., LTD. | 1996-06-26 | 1996-07-02 |
| HUADIAN ENERGY CO., LTD | 1993-02-02 | 1996-07-01 |
| SHANDONG LUBEI CHEMICAL CO., LTD | 1996-06-18 | 1996-07-02 |
| SUNTEK TECHNOLOGY CO.,LTD | 1993-12-28 | 1996-07-16 |
| CHONGQING DEPARTMENT STORE CO., LTD | 1992-08-10 | 1996-07-02 |
| CHINA HI-TECH (GROUP) CO., LTD. | 1993-04-28 | 1996-07-26 |
| HUNAN HAILI CHEMICAL INDUSTRY CO., LTD. | 1994-04-15 | 1996-08-02 |
| SHANGHAI XINMEI REAL ESTATE CO., LTD | 1996-08-12 | 1996-08-16 |
| CHENGDU QIANFENG ELECTRONICS CO., LTD. | 1992-10-06 | 1996-08-16 |
| FUJIAN START GROUP CO.LTD | 1988-05-30 | 1996-08-08 |
| SHANDONG HIKING INTERNATIONAL CO.,LTD | 1989-03-20 | 1996-07-26 |
| SUZHOU NEW DISTRICT HI-TECH INDUSTRIAL CO., LTD | 1994-06-28 | 1996-08-15 |
| COFCO TUNHE CO.,LTD. | 1993-09-18 | 1996-07-31 |
| LANZHOU MINBAI SHAREHOLDING (GROUP) CO., LTD | 1992-08-09 | 1996-08-02 |
| LIAONING CHENG DA CO., LTD | 1993-09-02 | 1996-08-19 |
| SHANXI COKING CO., LTD | 1996-08-02 | 1996-08-08 |

| | | |
|---|------------|------------|
| CHANGCHUN FAWAY AUTOMOBILE COMPONENTS CO.,LTD | 1993-06-28 | 1996-08-26 |
| HUAYUAN PROPERTY CO.LTD | 1996-09-01 | 1996-09-09 |
| DATANG HUAYIN ELECTRIC POWER CO.,LTD | 1993-03-22 | 1996-09-05 |
| JOIN IN (HOLDING) CO.,LTD | 1990-04-05 | 1996-08-28 |
| JIANGSU SOPO CHEMICAL CO., LTD | 1996-09-13 | 1996-09-18 |
| DALIAN DAXIAN ENTERPRISES HOLDINGS CO.,LTD | 1993-08-18 | 1996-09-16 |
| TIBET TOURISM CO., LTD | 1996-09-28 | 1996-10-15 |
| JIANGXI JIANGZHONG PHARMACEUTICAL CO., LTD | 1996-09-16 | 1996-09-23 |
| TIANJIN MARINE SHIPPING CO., LTD. | 1992-12-01 | 1996-09-09 |
| HACI CO., LTD. | 1993-12-30 | 1996-09-25 |
| HENAN ORIENTAL SILVER STAR INVESTMENT CO.,LTD | 1996-09-23 | 1996-09-27 |
| SH JINJIANG INTERNATIONAL HOTELS DEVELOPMENT CO., LTD | 1993-06-09 | 1996-10-11 |
| XIAMEN INTERNATIONAL TRADE (GROUP) CO., LTD | 1993-04-02 | 1996-10-03 |
| SHANDONG LANGCHAO CHEELOOSOFT CO., LTD | 1994-11-07 | 1996-09-23 |
| CHANGJIANG PUBLISHING AND MEDIA CO., LTD. | 1996-09-26 | 1996-10-03 |
| LIAONING HONGYANG ENERGY YESOURCE INVESTCO.,LTD | 1993-12-28 | 1996-10-29 |
| HAINAN ZHENGHE INDUSTRIAL GROUP CO., LTD | 1984-08-08 | 1996-10-08 |
| ZHONGHANG HEIBAO CO.,LTD | 1996-06-04 | 1996-10-11 |
| ANHUI HELI CO., LTD | 1993-09-30 | 1996-10-09 |
| HUNAN HENGYANG JINLI TECHNOLOGY (AGRICULTURAL) CO., LTD | 1989-01-12 | 1996-10-25 |
| TONGCHE MEDICAL INVESTMENT CO.,LTD | 1995-08-30 | 1996-10-30 |
| GANSU TRISTAR PETROCHEMICAL (GROUP) CO., LTD | 1993-11-18 | 1996-11-04 |
| AVIC HEAVY MACHINERY CO.,LTD | 1996-11-01 | 1996-11-06 |
| YANTAI YUANCHENG ENTERPRISE GROUP CO., LTD. | 1989-02-18 | 1996-10-28 |
| WINSAN (SHANGHAI) INDUSTRIAL CO., LTD | 1993-08-30 | 1996-11-15 |
| NINGBO FUBANG JINGYE GROUP CO., LTD | 1993-05-23 | 1996-11-11 |
| WUHAN XIANGLONG POWER INDUSTRY CO., LTD | 1993-07-19 | 1996-11-01 |
| JIANGSU ZONGYI CO., LTD | 1992-10-23 | 1996-11-20 |
| TOPSUN SCIENCE AND TECHNOLOGY CO., LTD | 1996-11-25 | 1996-11-05 |
| PETROLEUM LONG CHAMP (GROUP) CO., LTD. | 1993-07-08 | 1996-11-04 |
| TIBET URBAN DEVELOPMENT AND INVESTMENT CO.,LTD. | 1996-10-25 | 1996-11-08 |
| WUHAN HANSHANG (GROUP) CO., LTD. | 1990-04-20 | 1996-11-08 |
| NANJING PANDA ELECTRONICS CO., LTD. | 1992-04-29 | 1996-11-18 |
| EASTERN COMMUNICATIONS CO., LTD. | 1996-08-01 | 1996-11-26 |
| YANTAI XINCHAO INDUSTRY CO., LTD | 1989-04-25 | 1996-11-21 |
| XINJIANG FRIENDSHIP (GROUP) CO., LTD | 1993-08-25 | 1996-12-03 |
| SICHUAN SWELLFUN CO., LTD. | 1993-12-18 | 1996-12-06 |
| SHANXI TOP ENERGY CO., LTD. | 1992-09-29 | 1996-12-05 |
| XINYU IRON & STEEL CO.,LTD. | 1996-12-19 | 1996-12-25 |
| LUXIN VENTURE CAPITAL GROUP CO., LTD | 1989-05-13 | 1996-12-25 |
| LUYIN INVESTMENT (GROUP) CO., LTD. | 1993-09-11 | 1996-12-25 |
| YINCHUAN XINHUA DEPARTMENT STORE CO., LTD | 1997-01-03 | 1997-01-08 |
| DONG FANG BOILER (GROUP) CO., LTD. | 1989-01-06 | 1996-12-27 |
| ZHONGCHU DEVELOPMENT STOCK CO., LTD. | 1997-01-08 | 1997-01-21 |
| XI'AN DIAMOND CO., LTD. | 1993-10-20 | 1996-12-30 |

| | | |
|---|------------|------------|
| SHANDONG LUKANG PHARMACEUTICAL CO., LTD. | 1993-02-15 | 1997-02-26 |
| ZHEJIANG CHINA LIGHT & TEXTILE INDUSTRIAL CITY (GROUP) CO., LTD | 1993-04-26 | 1997-02-28 |
| JINGNENG PROPERTY CO., LTD | 1993-12-24 | 1997-01-30 |
| YUNNAN COAL AND ENERGY CO., LTD. | 1997-01-20 | 1997-01-23 |
| YIBIN PAPER INDUSTRY CO., LTD. | 1989-11-30 | 1997-02-20 |
| ZHANGJIAGANG FREETRADE SCIENCE AND TECHNOLOGY CO.,LTD. | 1994-06-18 | 1997-03-06 |
| GD POWER DEVELOPMENT CO.,LTD | 1992-12-31 | 1997-03-18 |
| ZHEJIANG QIANJIANG BIOCHEMICAL CO., LTD | 1993-10-28 | 1997-04-08 |
| INSIGMA TECHNOLOGY CO.,LTD | 1994-01-08 | 1997-04-18 |
| NINGBO MARINE CO., LTD. | 1997-04-18 | 1997-04-23 |
| HEILONG JIANG CLEVER NET CO., LTD | 1993-05-26 | 1997-04-16 |
| TIAN JIN GLOBAL MAGNETIC CARD CO., LTD. | 1993-11-30 | 1993-12-06 |
| HUAXIN CEMENT CO., LTD. | 1993-11-28 | 1994-01-03 |
| FUJIAN CEMENT INC. | 1993-11-22 | 1994-01-03 |
| HEBEI WEIYUAN BIO-CHEMICAL CO., LTD. | 1992-07-14 | 1994-01-03 |
| CHENGDU DR. PENG TELECOM&MEDIA GROUP CO., LTD. | 1985-01-04 | 1994-01-03 |
| JIANGSU YUEDA INVESTMENT CO.,LTD. | 1988-03-18 | 1994-01-03 |
| SHENJI GROUP KUNMING MACHINE TOOL CO.,LTD | 1993-10-19 | 1994-01-03 |
| SHANDONG TYAN HOME CO.,LTD | 1992-07-26 | 1994-01-03 |
| MAANSHAN IRON & STEEL CO., LTD. | 1993-09-01 | 1994-01-06 |
| SHANXI XINGHUACUN FEN WINE FACTORY CO., LTD. | 1993-12-22 | 1994-01-06 |
| SHEN MA INDUSTRY CO., LTD | 1992-12-09 | 1994-01-06 |
| ORIENT (GROUP) INCORPORATION | 1992-12-26 | 1994-01-06 |
| NORTH CHINA PHARMACEUTICAL CO., LTD | 1992-08-25 | 1994-01-14 |
| ANSHAN NO.1 CONSTRUCTION MACHINERY CO., LTD | 1992-12-31 | 1994-01-14 |
| HANGZHOU JIEBAI (GROUP) CO., LTD. | 1992-10-28 | 1994-01-14 |
| XIAMEN XGMA MACHINERY CO., LTD. | 1994-01-10 | 1994-01-28 |
| SHANGHAI HONGSHENG TECHNOLOGY CO., LTD. | 1992-06-06 | 1994-01-28 |
| ZHONGLU CO., LTD | 1993-10-18 | 1994-01-28 |
| SYP GLASS GROUP CO., LTD. | 1993-11-23 | 1994-01-28 |
| SHANGHAI TUNNEL ENGINEERING CO., LTD | 1993-11-24 | 1994-01-28 |
| TIANJIN QUANYE BAZAAR (GROUP) CO., LTD. | 1992-11-28 | 1994-01-28 |
| SHANGHAI MATERIAL TRADING CO., LTD. | 1993-12-08 | 1994-02-04 |
| SHANGHAI SHIMAO CO., LTD | 1993-12-22 | 1994-02-04 |
| SHANGHAI YIMIN COMMERCE GROUP CO.,LTD | 1993-12-06 | 1994-02-04 |
| SHANGHAI XINHUA MEDIA CO. · LTD | 1993-12-14 | 1994-02-04 |
| SHANGHAI LANSHENG CO., LTD | 1993-12-22 | 1994-02-04 |
| SH FRIENDSHIP GROUP INCORPORATED COMPANY | 1993-11-26 | 1994-02-04 |
| CHENGSHANG GROUP CO.,LTD. | 1993-12-31 | 1994-02-24 |
| HARBIN PHARM. GROUP SANJING PHARMACEUTICAL SHAREHOLDING CO.,LTD | 1994-02-05 | 1994-02-24 |
| SUNNY LOAN TOP CO.,LTD. | 1992-11-17 | 1994-02-24 |
| SHAANXI BROADCAST AND TV NETWORK INTERMEDIARY (GROUP) CO., LTD | 1992-08-18 | 1994-02-24 |
| SHANGHAI ORIENTAL PEARL (GROUP) CO., LTD | 1992-05-09 | 1994-02-24 |
| SHANGHAI NO.1 PHARMACY CO., LTD | 1992-09-23 | 1994-02-24 |

| | | |
|---|------------|------------|
| SHANGHAI SHENTONG METRO CO., LTD | 1992-06-12 | 1994-02-24 |
| SHANGHAI ELECTRIC CO., LTD. | 1993-12-22 | 1994-02-24 |
| SHANGHAI JIELONG INDUSTRY CO., LTD. | 1994-01-05 | 1994-02-24 |
| HAITONG SECURITIES COMPANY LTD | 1993-12-22 | 1994-02-24 |
| SHANGHAI JOIN BUY CO., LTD | 1993-12-15 | 1994-02-24 |
| SICHUAN CHANGHONG ELECTRIC CO., LTD. | 1988-07-18 | 1994-03-11 |
| ZHEJIANG XINHU VENTURE INVESTMENT CO., LTD | 1986-12-25 | 1994-03-11 |
| SHANGHAI DIESEL ENGINE CO., LTD. | 1993-12-21 | 1994-03-11 |
| SHANGHAI ZHONG XI PHARMACEUTICAL CO., LTD. | 1993-12-30 | 1994-03-11 |
| SGSB GROUP CO., LTD. | 1993-12-16 | 1994-03-11 |
| DANHUA CHEMICAL TECHNOLOGY CO., LTD. | 1993-12-21 | 1994-03-11 |
| SHANGHAI BAOSIGHT SOFTWARE CO., LTD | 1994-01-25 | 1994-03-11 |
| SHANGHAI TONGJI SCIENCE & TECHNOLOGY INDUSTRIAL CO., LTD | 1993-12-15 | 1994-03-11 |
| CHONGQING WANLI HOLDING (GROUP) CO.,LTD. | 1992-07-18 | 1994-03-24 |
| SHANGHAI AUTOMATION INSTRUMENTATION CO., LTD. | 1993-12-18 | 1994-03-24 |
| SHANGHAI PHARMACEUTICAL CO., LTD | 1994-01-18 | 1994-03-24 |
| SHANGHAI EAST-CHINA COMPUTER CO., LTD | 1994-01-18 | 1994-03-24 |
| SHANGHAI HAIXIN (GROUP) CO., LTD | 1993-11-15 | 1994-04-04 |
| LONGJIAN ROAD & BRIDGE CO., LTD | 1992-10-24 | 1994-04-04 |
| JIANGSU CHUNLAN REFRIGERATING EQUIPMENT STOCK CO., LTD. | 1994-03-22 | 1994-04-25 |
| BEIJING AEROSPACE CHANGFENG CO., LTD. | 1985-12-25 | 1994-04-25 |
| CHANGCHUN DEPARTMENT JITUAN STORE CO., LTD. | 1994-04-08 | 1994-04-25 |
| HIT SHOUCHUANG TECHNOLOGY CO., LTD. | 1992-12-31 | 1994-04-25 |
| YINZUOBOHAI (GROUP) CO., LTD. | 1993-03-01 | 1994-05-06 |
| BEIJING WANGFUJING DEPARTMENT STORE (GROUP) CO., LTD. | 1993-02-25 | 1994-05-06 |
| BEIREN PRINTING MACHINERY HOLDINGS LTD. | 1993-07-13 | 1994-05-06 |
| BEIJING RUBAN-RURAL TRADE CENTRE CO., LTD | 1992-11-03 | 1994-05-20 |
| NANTONG SCIENCE & TECHNOLOGY INVESTMENT GROUP CO., LTD. | 1988-12-26 | 1994-05-20 |
| INNER MONGOLIA MENGDIAN HUANENG THERMAL POWER CO., LTD | 1994-05-12 | 1994-05-20 |
| HARBIN HATOU INVESTMENT CO.,LED | 1994-08-03 | 1994-08-09 |
| BAIDA (GROUP) CO., LTD. | 1992-09-30 | 1994-08-09 |
| STAR LAKE BIOSCIENCE CO., INC. ZHAOQING GUANGDONG | 1992-04-18 | 1994-08-18 |
| TONGHUA DONGBAO PHARMACEUTICAL CO., LTD. | 1992-12-18 | 1994-08-24 |
| GUANGDONG MEIYAN HYDROPOWER CO.,LTD. | 1993-01-01 | 1994-09-12 |
| S & P PHARMACEUTICAL INDUSTRY CO., LTD | 1995-01-25 | 1995-02-06 |
| XIAMEN OVERSEAS CHINESE ELECTRONIC CO., LTD | 1995-01-28 | 1995-02-28 |
| SINOPEC YIZHENG CHEMICAL FIBRE CO., LTD. | 1993-12-31 | 1995-04-11 |
| JONJEE HIGH & NEW TECHNOLOGY AND INDUSTRIAL GROUP CO., LTD | 1993-01-16 | 1995-01-24 |
| MEIHUA HOLDINGS GROUP CO.,LTD | 1995-02-13 | 1995-02-17 |
| TIANJIN CAPITAL ENVIRONMENTAL PROTECTIONGROUP COMPANY LIMITED | 1993-06-08 | 1995-06-30 |
| DONGFANG ELECTRIC CORPORATION LIMITED | 1993-12-28 | 1995-10-10 |
| LUOYANG GLASS CO., LTD. | 1994-04-06 | 1995-10-31 |
| AREOSPACE TIMES ELECTRONIC TECHNOLOGY CO., LTD. | 1986-11-15 | 1995-11-15 |
| CHENGDU B-RAY MEDIA CO., LTD | 1988-12-28 | 1995-11-15 |
| JILIN YATAI (GROUP) CO., LTD. | 1986-12-27 | 1995-11-15 |

| | | |
|---|------------|------------|
| SHANDONG DACHENG PESTICIDE CO., LTD. | 1988-11-27 | 1995-12-06 |
| YUNNAN BOWIN TECHNOLOGY INDUSTRY CO., LTD. | 1990-06-05 | 1995-12-08 |
| NINGBO SHANSHAN CO., LTD. | 1992-12-14 | 1996-01-30 |
| WUHAN LINUO SOLAR ENERGY GROUP CO., LTD. | 1992-05-10 | 1996-02-05 |
| SDIC Power Holdings CO., LTD. | 1989-02-23 | 1996-01-18 |
| INNER MONGOLIA YILI INDUSTRIAL (GROUP) CO., LTD. | 1993-06-14 | 1996-03-12 |
| XINJIANG JOINWORLD CO., LTD. | 1996-02-12 | 1996-02-15 |
| NANJING CHEMICAL FIBRE CO., LTD | 1992-09-28 | 1996-03-08 |
| CRED HOLDING CO., LTD | 1993-06-12 | 1996-03-18 |
| HARBIN CHURIN (GROUP) JOINTSTOCK CO., LTD. | 1993-06-14 | 1996-03-25 |
| BAOCHENG INVESTMENT CO., LTD. | 1986-11-25 | 1996-03-15 |
| XI'AN AERO-ENGINE PLC | 1993-05-28 | 1996-04-08 |
| GUANGZHOU IRON AND STEEL CO., LTD. | 1993-12-06 | 1996-03-28 |
| SHANGHAI ZHANGJIANG HI-TECH PARK DEVELOPMENT CO., LTD | 1996-04-13 | 1996-04-22 |
| CHINA SHIPPING HAISHENG CO., LTD. | 1993-04-02 | 1996-05-03 |
| XIAMEN INTERNATIONAL AIRPORT GROUP CO., LTD. | 1996-05-21 | 1996-05-31 |
| SANLIAN COMMERCE CO., LTD | 1989-09-11 | 1996-04-18 |
| ZHEJIANG XINLIAN CO., LTD | 1996-04-19 | 1996-04-26 |
| CHINA YANGTZE POWER CO., LTD | 2002-11-04 | 2003-11-18 |
| SHANDONG BINZHOU BOHAI PISTON CO., LTD | 1999-12-31 | 2004-04-07 |
| ZHUZHOU SMELTER GROUP CO., LTD. | 2000-12-13 | 2004-08-30 |
| SDIC ZHONGLU FRUIT JUICE CO., LTD. | 2001-03-15 | 2004-06-22 |
| YUEYANG FOREST AND PAPER CO., LTD | 2000-09-28 | 2004-05-25 |
| FORTUNE NG FUNG FOOD (HEBEI) CO., LTD | 2001-02-28 | 2004-07-13 |
| SHANDONG BOHUI PAPER INDUSTRIAL CO., LTD. | 1996-12-29 | 2004-06-08 |
| BAOTOU BEIFANG CHUNANGYE CO., LTD | 2000-12-29 | 2004-05-18 |
| HUNAN CHENDIAN INTERNATIONAL DEVELOPMENT SHARE-HOLDING CO., LTD | 2000-12-26 | 2004-04-08 |
| CHINA SINOMA INTERNATIONAL ENGINEERING CO.,LTD. | 2001-12-28 | 2005-04-12 |
| ANHUI HENGYUAN COAL INDUSTRY AND ELECTRICITY POWER CO., LTD | 2000-12-29 | 2004-08-17 |
| BAOSHENG SCIENCE AND TECHNOLOGY INNOVATION CO., LTD. | 2000-06-30 | 2004-08-02 |
| HUNAN NEW WELLFUL CO., LTD. | 2001-06-26 | 2004-06-09 |
| WUHAN JIANMIN PHARMACEUTICAL (GROUP) CO., LTD | 1993-05-28 | 2004-04-19 |
| GUANGDONG YIHUA TIMBER INDUSTRY CO., LTD. | 2001-05-31 | 2004-08-24 |
| SICHUAN GUANGAN AAA PUBLIC CO., LTD | 2002-11-06 | 2004-09-06 |
| BGRIMM MAGNETIC MATERIALS & TECHNOLOGY CO., LTD. | 2000-09-06 | 2004-05-12 |
| JIANGSU SKYRUN CORPORATION CO.,LTD | 1994-06-30 | 2004-06-30 |
| NINGBO THERMAL POWER CO., LTD. | 2001-12-26 | 2004-07-06 |
| HEFEI RONGSHIDA SANYO ELECTRIC CO., LTD. | 2000-03-30 | 2004-07-27 |
| SHAANXI CONSTRUCTION MACHINERY CO., LTD. | 2001-12-08 | 2004-07-07 |
| ANHUI LEIMINGKEHUA CO., LTD | 1999-03-18 | 2004-04-28 |
| KEDA (GROUP) CO., LTD. | 1993-12-17 | 2004-04-26 |
| ZHEJIANG HANGMIN CO., LTD. | 1998-01-06 | 2004-08-09 |
| GUANGDONG ORIENTAL BROTHERS INVESTMENT CO.,LTD | 2000-08-23 | 2004-04-14 |
| ANHUI SUN-CREATE ELECTRONICS CO., LTD | 2000-08-18 | 2004-05-10 |

| | | |
|--|------------|------------|
| GAC CHANGFENG MOTOR CO. , LTD. | 1996-11-13 | 2004-06-14 |
| GUIZHOU WIRE ROPE CO., LTD. | 2000-10-19 | 2004-05-14 |
| MAYINGLONG PHARMACEUTICAL GROUP CO.,LTD | 1994-05-09 | 2004-05-17 |
| YUNNAN WENSHAN ELECTRIC POWER CO., LTD | 1997-12-29 | 2004-06-15 |
| KAILUAN ENERGY CHEMICAL CO., LTD · | 2001-06-30 | 2004-06-02 |
| JOINTOWN PHARMACEUTICAL GROUP CO., LTD | 2008-11-28 | 2010-11-02 |
| TANGSHAN PORT GROUP CO.,LTD. | 2003-01-03 | 2010-07-05 |
| DATONG COAL INDUSTRY CO., LTD. | 2001-07-25 | 2006-06-23 |
| GEM-YEAR INDUSTRIAL CO., LTD. | 2003-10-28 | 2007-01-26 |
| LIUZHOU IRON & STEEL CO., LTD | 2000-04-14 | 2007-02-27 |
| CHONGQING IRON & STEEL COMPANY LIMITED | 1997-08-11 | 2007-02-28 |
| DAQIN RAILWAY.CO.,LTD. | 2004-10-28 | 2006-08-01 |
| JINLING HOTEL CORPORATION · LTD. | 2002-12-30 | 2007-04-06 |
| JIANGSU LIANYUNGANG PORT CO.,LTD. | 2001-10-15 | 2007-04-26 |
| BANK OF NANJING CO., LTD. | 1996-02-06 | 2007-07-19 |
| NINGBO PORT COMPANY LIMITED | 2008-03-31 | 2010-09-28 |
| CHINA SHENHUA ENERGY COMPANY LIMITED | 2004-11-08 | 2007-10-09 |
| CHINA SOUTH PUBLISHING & MEDIA GROUP CO. , LTD | 2008-12-25 | 2010-10-28 |
| BEIJING HAOHUA ENERGY RESOURCE CO. , LTD. | 2002-12-31 | 2010-03-31 |
| CHINA FIRST HEAVY INDUSTRIES | 2008-12-25 | 2010-02-09 |
| SICHUAN EXPRESSWAY COMPANY LIMITED | 1997-08-19 | 2009-07-27 |
| AIR CHINA LIMITED | 2004-09-30 | 2006-08-18 |
| SANJIANG SHOPPING CLUB CO.,LTD | 1995-09-22 | 2011-03-02 |
| CHINA NATIONAL CHEMICAL ENGINEERING CO., LTD. | 2008-09-23 | 2010-01-07 |
| HAINAN NATURAL RUBBER INDUSTRY GROUP CO.,LTD | 2005-03-29 | 2011-01-07 |
| BEIJING SIFANG AUTOMATION CO.,LTD. | 1994-04-08 | 2010-12-31 |
| NINGBO POWERWAY ALLOY MATERIAL CO., LTD | 1993-02-26 | 2011-01-27 |
| SHENZHEN GAS CORPORATION LTD. | 2007-01-30 | 2009-12-25 |
| CHONGQING WATER GROUP CO.,LTD. | 2007-09-06 | 2010-03-29 |
| WESTERN MINING CO., LTD. | 2000-12-28 | 2007-07-12 |
| HANGZHOU ADVANCE GEARBOX GROUP CO., LTD. | 2008-09-28 | 2010-10-11 |
| CHINA XD ELECTRIC CO., LTD | 2008-04-30 | 2010-01-28 |
| CHINA RAILWAY CONSTRUCTION CORPORATION LIMITED | 2007-11-05 | 2008-03-10 |
| HEILONGJIANG TRANSPORTATION DEVELOPMENT COMPANY LTD. | 2010-03-01 | 2010-03-19 |
| CHINA ERZHONG GROUP (DEYANG) HEAVY INDUSTRIES CO.,LTD. | 2001-12-30 | 2010-02-02 |
| CHINA CNR CORPORATION LIMITED | 2008-06-26 | 2009-12-29 |
| BANK OF COMMUNICATIONS CO., LTD. | 1987-03-30 | 2007-05-15 |
| GUANGSHEN RAILWAY COMPANY LIMITED | 1996-03-06 | 2006-12-22 |
| XI'AN SHAANGU POWER CO., LTD. | 1999-06-30 | 2010-04-28 |
| INDUSTRIAL SECURITIES CO.,LTD. | 2000-05-19 | 2010-10-13 |
| CHINA RAILWAY GROUP LIMITED. | 2007-09-12 | 2007-12-03 |
| INDUSTRIAL AND COMMERCIAL BANK OF CHINA LIMITED | 2005-10-28 | 2006-10-27 |
| JILIN EXPRESSWAY CO., LTD. | 2010-03-01 | 2010-03-19 |
| SHANGHAI GREAT WISDOM CO., LTD | 2000-12-14 | 2011-01-28 |
| SOOCHOW SECURITIES CO.,LTD. | 1993-04-10 | 2011-12-12 |

| | | |
|--|------------|------------|
| SINOVEL WIND GROUP CO., LTD | 2009-09-16 | 2011-01-13 |
| ALUMINUM CORPORATION OF CHINA LIMITED | 2001-09-10 | 2007-04-30 |
| SHANGHAI PHARMACEUTICALS HOLDING CO.,LTD. | 1994-01-18 | 1994-03-24 |
| SHANGHAI GUANGDIAN ELECTRIC GROUP CO., LTD | 2007-12-28 | 2011-02-01 |
| METALLURGICAL CORPORATION OF CHINA LTD. | 2008-12-01 | 2009-09-21 |
| CHINA LIFE INSURANCE COMPANY LIMITED | 2003-06-30 | 2007-01-09 |
| PINGDINGSHAN TIANAN COAL MINING CO.,LTD. | 1998-03-17 | 2006-11-23 |
| CHINA STATE CONSTRUCTION ENGINEERING CORPORATION LIMITED | 2007-12-10 | 2009-07-29 |
| BEFAR GROUP CO., LTD. | 2007-10-10 | 2010-02-23 |
| SHANXI LU'AN ENVIRONMENTAL ENERGY DEVELOPMENT CO.,LTD. | 2001-07-19 | 2006-09-22 |
| CHANGSHU FENGFAN POWER EQUIPMENT CO.,LTD | 1993-07-15 | 2011-01-18 |
| ZHENGZHOU COAL MINING MACHINERY GROUP CO., LTD | 2008-12-28 | 2010-08-03 |
| JIHUA GROUP CORPORATION LIMITED | 2009-06-26 | 2010-08-16 |
| SHANGHAI ELECTRIC GROUP COMPANY LIMITED | 2004-03-01 | 2008-12-05 |
| CHINA SOUTH LOCOMOTIVE & ROLLING STOCK CORPORATION LIMITED | 2007-12-28 | 2008-08-18 |
| LIFAN INDUSTRY (GROUP) CO., LTD | 1997-12-01 | 2010-11-25 |
| CHANGZHOU XINGYU AUTOMOTIVE LIGHTING SYSTEMS CO., LTD | 2000-05-18 | 2011-02-01 |
| ANHUI XINHUA MEDIA CO., LTD | 2008-02-28 | 2010-01-18 |
| CHINA OILFIELD SERVICES LIMITED | 2001-12-25 | 2007-09-28 |
| PETROCHINA COMPANY LIMITED | 1999-11-05 | 2007-11-05 |
| CHINA SHIPPING CONTAINER LINES COMPANY LIMITED | 2004-03-03 | 2007-12-12 |
| CHINA MERCHANTS ENERGY SHIPPING CO., LTD | 2004-12-31 | 2006-12-01 |
| ZHEJIANG CHINT ELECTRICS CO.,LTD | 1997-08-05 | 2010-01-21 |
| DALIAN PORT (PDA) CO., LTD. | 2005-11-16 | 2010-12-06 |
| CHINA INTERNATIONAL TRAVEL SERVICE CORPORATION LIMITED | 2008-03-28 | 2009-10-15 |
| ASIAN STAR ANCHOR CHAIN CO., LTD. JIANGSU (ASAC) | 2008-06-10 | 2010-12-28 |
| CHINA COAL ENERGY COMPANY LIMITED | 2006-08-22 | 2008-02-01 |
| ZIJIN MINING GROUP CO., LTD. | 2000-09-06 | 2008-04-25 |
| SDIC XINJI ENERGY COMPANY LIMITED | 1997-12-01 | 2007-12-19 |
| CHINA COSCO HOLDINGS COMPANY LIMITED | 2005-03-03 | 2007-06-26 |
| YONGHUI SUPERSTORES CO., LTD | 2001-04-13 | 2010-12-15 |
| CHINA CONSTRUCTION BANK CORPORATION | 2004-09-17 | 2007-09-25 |
| JINDUICHENG MOLYBDENUM CO., LTD. | 2007-05-16 | 2008-04-17 |
| BANK OF CHINA LIMITED | 2004-08-26 | 2006-07-05 |
| CHINA SHIPBUILDING INDUSTRY COMPANY LIMITED | 2008-03-18 | 2009-12-16 |
| DATANG INTERNATIONAL POWER GENERATION CO., LTD. | 1994-12-13 | 2006-12-20 |