

The Impact of IPO Underpricing on the Number of Block holders in Different Types of Company: Evidence from China

Siyi He^{1,*†}, Xinyi Xu^{2,*†}
¹*Sb82341@um.edu.mo, ²*xxu17@student.ubc.ca

¹Department of Economics University of Macau Macau SAR, China,

²Sauder School of Business University of British Columbia, UBC Vancouver, Canada

[†]These authors contributed equally.

Abstract—This article collected data on all companies listed in China from 2007 to 2019. It divided them into different sub-samples according to their different types, hoping to study the impact of IPO underpricing on the number of block holders. The final result shows that IPO underpricing in state-owned enterprises will increase the number of block holders, but this phenomenon does not occur in non-state-owned enterprises. At the same time, this article also found that state-owned enterprises will not lose money in the year of listing, but some non-state-owned enterprises will suffer losses. In addition, if a listed company can pass the review of the four major audits before going public, it will be easier to attract the attention of investors.

Keywords- IPO underpricing; block holder; China

1 INTRODUCTION

1.1 Research Background

Initial public offering (IPO) allows a company to shift from a privately owned company to a publicly listed company. A company chooses to go public for a substantial number of reasons. IPO is the most rapid way to raise a massive amount of money from the public. There is a strange phenomenon in IPO, which is IPO underpricing. The first day of IPO may confront either the optimistic or pessimistic tendency of share pricing. On the other hand, there is also a possibility of pessimistic overpricing. This article focuses on underpricing only. Underpricing happens when the closing price is higher than the opening price of the share on the first day of IPO. This suggests the company set the opening price lower than the stocks' real value. The following illustrates the reasons for underpricing. A low stock price aims to boost the demand of the stock as the risk is minimized for the adverse investors. It is also possible that the stock is undervalued due to underestimating the need for supply. Higher demand results in higher prices. There is widespread underpricing in the world, especially among the emerging market of Southeast Asia.

1.2 Research Motivation

This paper will investigate the impact of IPO underpricing on state-owned enterprises and non-state-owned enterprises in China. There are a large number of articles corresponding to IPO underpricing. Existing research has discussed the relevance between women directors and the

IPO underpricing, especially in developing countries. Women directors have a low proportion generally and showed minor impacts on the IPO underpricing phenomenon [1]. The influence of IPO underpricing on women in China is a significant point to research in this paper. Researchers have also paid attention to the IPO underpricing and outside blockings. The research argues the assumption of the purpose of underpricing: whether IPO underpricing targets to attract more outside or to discourage out. Using the ownership of (including outside before IPO) as the dependent variable in a regression model, the results showing the little relationship between and IPO underpricing, which concluded the mistake in the assumption [2]. Furthermore, scholars have discussed the IPO underpricing in China's sunrise stock markets, where there are two types of shares: A and B. A-share resulted in a much higher return than B-share as A-share has a much higher demand. The risk and underpricing demonstrated a strong proportional relationship, and A-share was highly underpriced. The reasons for the A-share underpricing were as following. Firstly, there was a long listing lag. The second important reason was that the firm had offered many shares during the first few years. Moreover, the firm was a state-owned firm, which investors believed the shares had a lower risk [3].

Nevertheless, the company's control will be more sophisticated after IPO when the trading of shares increases the number of people holding shares. Shareholders holding more than 5% of the company's total share are the Block holders who have the voting rights toward the final decisions of a company. Block holders are the main research subjects in this article. There are existing literatures that have discussed extensive research. Researchers have paid attention to the governance roles in making decisions on investments. This research focused on the Chinese market, especially the companies in Shanghai and Shenzhen. Companies with several of will be able to improve investment efficiency by lowering the possibility of overinvestment and increasing their future investment performance through "voice". Moreover, the role of gaining more important when there is a high level of agency problem and information asymmetry in a specific company [4]. Scholars have also discussed the roles of non-controlling in the emerging market of China. There are two incentives for these: gain benefits from information advantage and receive a high level of positive abnormal returns. The high return of non-controlling is correlated with the high level of information advantage. However, high return is negatively related to ownership. Furthermore, the abnormal return for the controlling is associated with the price manipulation, while the abnormal return for the non-controlling is related to information advantage. In this research, information asymmetry and agency problems are issues for controlling monitors that the issues will prevent external monitoring [5].

As the previous research did not discuss the effects of IPO underpricing on the block holders of state-owned enterprises and non-state-owned enterprises in the Chinese market separately, our research will make up for this gap. Our research can better help academia understand the impact of IPO underpricing on the block holder of two different types of companies. At the same time, it can also help financial industry players make better decisions in the future. It can also help investors make the most beneficial decisions in the stock selection of state-owned enterprises and non-state-owned companies.

1.3 Research Framework

The rest of the paper is organized as follows: Section 2 is the literature review, section 3 is data and method, section 4 is empirical results and analysis, and the last section is the conclusion and implication.

2 LITERATURE REVIEW

2.1 Research on IPO underpricing

IPO underpricing in China contributes to the unbalanced development of the primary and secondary market and reduces the efficiency of resource allocation in the capital market. Because of these impacts, IPO underpricing has generally become a prevalent factor for academic scholars to explore deeply along with different perspectives. Studies conducted by Lowry and Shu tested the relationship between IPO underpricing and risk [6]. Using the OLS regression, the result indicated that IPO underpricing would become more severe to firms with high litigation risks. The underpricing process is regarded as a form of insurance (insurance effect). Another hypothesis testified is that higher underpricing lowers expected litigation costs, which is described as a deterrence effect.

Besides, there was research on the impact of IPO underpricing on the long-term performance of IPOs in China [7]. This study examined the underpricing and long-term performance of A- and B-share IPOs issued in China during a 5-year-long timeline. The result suggested that in China, the underpricing of A-share IPOs is positively related to the number of days between the offering, the listing, and the number of stock investors in the province from which the IPO comes. However, it is negatively related to the number of shares being issued. There is no such trend in B-share IPOs. Moreover, by using samples of listed companies in China, Li et al. found out that there is a negative relationship between the level of IPO underpricing and the level of social trust [8]. Firms in regions of high social trust have lower underpricing and vice versa. Firms in regions of low social trust have higher underpricing. This trend is more noticeable for small, growing firms.

Furthermore, based on the samples of IPOs in China from 2000 to 2011, Khurshed et al. investigated how the split-share structure reform in 2005 effect the degree of the IPO underpricing [9]. According to this study, the split-share structure significantly reduces the magnitude of IPO underpricing in China. In specific, it has a more prominent impact on non-state-owned enterprises than state-own enterprises.

Recently, there was also an analysis of the impact of customer strategic alliances (CSA) on IPO underpricing [10]. Using the sample of IPO underpricing from 2007 to 2015, the core findings suggested that IPO firms with CSAs have less IPO underpricing. These findings are primarily caused by the firms' access to good information before IPO since more high-quality information makes the CSAs more credible, which leads to high-quality IPO. Overall speaking, CSAs both reduce IPO underpricing and enhance IPO returns post-IPO.

2.2 Research on block holder

The function of block holders was explored in a few academic articles with various perspectives. Research studies of Jiang et al. explored how to block holders affect the firms' investment decisions in China [11]. Their article compared the firms listed in Shanghai or Shenzhen stock markets with multiple block holders and those with only one block holder. The result showed that firms with multiple block holders tend to mitigate potential overinvestment while inducing future investment performance. When it comes to the firm's investment efficiency, multiple block holders usually positively affect the cooperate governance with little agency costs. At the same time, the negative impact of information asymmetry is also reduced. Moreover, the study of

Cheng et al. revealed some incentives that the non-controlling block holders have in China [12]. Those firms tend to take advantage of their information advantage. They obtain positive abnormal returns when they trade company shares and effectively monitor and minimize controlling shareholders' appropriation of company wealth.

In addition, the study of Jiang et al. analyzed the relationship between multiple shareholders and the dividends through the Chinese listed firms [13]. This study found that firms with multiple block holders are more likely to pay dividends and pay significant dividends under the circumstances that expropriating wealth through activities like tunneling is difficult. Furthermore, Chen et al. studied if multiple block holders reduce the agency problems [14]. The study distinguished between a non-state investor buying shares when the government divests or retains its ownership stake in China. The result suggested that having multiple block holders in Chinese listed firms may alleviate principal-agent and principal-principal conflicts of interest when the government is the controlling shareholder.

2.3 Research on IPO underpricing and block holder

In some specific areas, some academic researchers have explored the relationship between IPO underpricing and block holder. By collecting a sample of 163 French IPOs from 1996 to 2000, Chahine aimed to find out if block-holder ownership differentially affects the long-term performance of IPOs in France [15]. The result showed that there is a negative relationship between block-holder ownership and first-year market performance. Also, it verified that there is a cubic relationship between family ownership and post-listing market performance. The first-year buy-and-hold follows a trend that decreases at first, then falls for a while, and finally reverts to decline. In addition, the study of Field and Sheehan suggested a weak relationship between underpricing and ownership structure [16]. They found out that most companies have outside blocks at the IPO and then keep them afterward. There is no difference between underpriced and overpriced companies when it comes to acquiring new block holders.

3 DATA AND METHODS

3.1 Data

To explore our research questions, we collected data on all IPO companies from 2007 to 2019 from the wind database and obtained 2411 samples. The first step is to delete all missing data. After that, we obtained a sample with 2378 observations. In the second step, we split these samples into two sub-samples according to the types of these listed companies, we finally got 302 samples of state-owned enterprises and 2075 samples of non-state-owned companies.

3.2 Variables

1) Dependent variable

To study the impact of IPO underpricing on the number of block holders, in our paper, the dependent variable is block holder, which means the number of shareholders holding more than 5% of the company's shares in the year when the company was listed. This data comes from the company's annual report in the year when it was listed.

2) Independent variable

According to the research we are going to conduct, our independent variable is the level of IPO underpricing, we followed most of the research studies on the phenomenon of IPO underpricing, the calculation method is: We collected the opening and closing prices of all IPO companies in China on the day of listing, first, subtract the opening price from the closing price, and then divide this value by the opening price.

3) Control variables

Our control variables include the number of female directors because women's thinking is likely to be different from men's. If there are differences in the company's decision-making, it is likely to lead to the withdrawal of some shareholders. The number of meetings of the board of directors in a year is also included in the control variable because when a company's board of directors meets frequently, it may cause changes in the company's future strategies, which may trigger changes in the number of major shareholders. Other control variables and their definitions are shown in Table 1.

TABLE 1. VARIABLE DEFINITION

<i>Variable</i>	<i>Variable definitions</i>	<i>Source</i>
Block holder	The number of shareholders holding more than 5% of the company's shares in the year when the company was listed. This data comes from the company's annual report in the year when it was listed.	Wind
Underprice	IPO underpricing. First, subtract the opening price from the company's closing price on the first day of listing, and then divide the difference by the opening price.	Wind
Women	The number of female directors in the company's IPO year.	Wind
Meeting	The number of company directors' meeting times.	Wind
Log(institution)	The number of institutional shares held by the company in the year it was listed is too large, so it is in logarithmic form.	Wind
ROA	Return on assets used to measure the company's profitability	Wind
Leverage	The phenomenon is that the profit per share of common stock changes more than the profit before interest and tax due to the existence of fixed debt interest and preferred stock dividends.	Wind
Audit	A dummy variable. When the Big Four have audited the company before going public, it will be marked as 1. Otherwise, it will be marked as 0.	Wind

3.3 Model

Based on the research question in this article, the following models have been created:

$$\text{Block holder}_{it} = \beta_0 + \beta_1 \text{Underprice}_{it} + \beta_2 \text{Women}_{it} + \beta_3 \text{Meeting}_{it} + \beta_4 \text{Log(institution)}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{Leverage}_{it} + \beta_7 \text{Audit}_{it} + \varepsilon_{it} \quad (1)$$

4 EMPIRICAL RESULTS AND ANALYSIS

4.1 Descriptive Statistics

First, we perform descriptive statistics for two different sub-samples:

TABLE 2. DESCRIPTIVE STATISTICS FOR STATE-OWNED COMPANIES

<i>VARIABLES</i>	<i>N</i>	<i>mean</i>	<i>Std.</i>	<i>min</i>	<i>max</i>
underprice	302	0.0838	0.119	-0.160	0.600
board	302	10.86	2.837	1	21
women	302	3.152	2.144	0	12
independent	302	3.659	0.940	1	8
meeting	302	8.798	3.563	2	23
log(institution)	302	6.866	1.192	2.602	9.831
audit	302	0.195	0.397	0	1
block holder	302	2.583	1.246	1	7
ROA	302	0.0714	0.0514	0.00601	0.289
leverage	302	0.439	0.246	0.0283	0.954

TABLE 3. DESCRIPTIVE STATISTICS FOR NON-STATE-OWNED COMPANIES

<i>VARIABLES</i>	<i>N</i>	<i>mean</i>	<i>Std.</i>	<i>min</i>	<i>max</i>
underprice	2,075	0.0852	0.120	-0.262	1.846
board	2,075	8.789	1.980	1	19
women	2,074	3.120	1.863	0	12
independent	2,075	3.067	0.493	0	7
meeting	2,074	8.354	2.874	2	26
log(institution)	2,075	6.069	0.948	0.778	8.690
audit	2,075	0.0328	0.178	0	1
block holder	2,075	3.142	1.337	0	10
ROA	2,075	0.0969	0.0452	-0.0291	0.401
leverage	2,075	0.254	0.164	0.0110	0.965

According to the descriptive statistical results in Table 2 and Table 3, we know the following information: 302 state-owned enterprises and 2,075 non-state-owned enterprises are listed in China from 2007 to 2019. The number of non-state-owned companies listed is about three times that of state-owned companies, and this shows that the number of state-owned enterprises is small and may need to pass strict audits before they can go public. The average value of audit seems to explain this problem. The average value of audit in state-owned enterprises is 0.397, while in non-state-owned enterprises, the value is 0.178, indicating that most state-owned enterprises have undergone audits by the four major auditing companies before going public. The average number of board members in state-owned enterprises is 10.86, while this number in non-state-owned enterprises is 8.78. An interesting phenomenon is that whether it is a state-owned enterprise or a non-state-owned enterprise, the maximum number of female executives is 12, and

the minimum number is 0. This shows that the importance of women directors is the same no matter what type of company. However, in state-owned enterprises, the maximum number of institutional shares is 9.831. The minimum is 2.602, while in non-state-owned companies, the minimum value is 0.778, which shows that institutional shareholders are more inclined to hold state-owned enterprises shares. Moreover, the minimum ROA of a state-owned company in the year of the listing is 0.0061, while in a non-state-owned company, the value is -0.0291, indicating that the state-owned enterprise will not lose money in the year of listing. Still, the listing may cause some non-state-owned enterprises to produce loss, which may be why institutional shareholders hold more shares in state-owned enterprises.

4.2 Regression Results

To better study the problem that we raised, we performed panel regression on two sub-samples, and the results are as follows:

TABLE 4. PANEL REGRESSION FOR STATE-OWNED AND NON-STATE-OWNED COMPANY

<i>VARIABLES</i>	<i>state-owned Block holder</i>	<i>Non-state-owned Block holder</i>
underprice	0.480* (1.88)	-0.520 (-0.85)
board	0.006 (0.32)	0.055 (1.63)
women	-0.048*** (-3.00)	0.053 (1.51)
independent	0.152** (2.04)	0.109 (1.01)
meeting	0.004 (0.37)	-0.005 (-0.25)
log(institution)	-0.026 (-0.79)	-0.198*** (-2.75)
audit	0.113 (0.67)	0.532*** (2.67)
ROA	1.477** (1.99)	2.176 (1.21)
leverage	-0.280 (-1.32)	0.214 (0.48)
constant	2.781*** (9.92)	2.524*** (4.58)
Observations	2,074	302
R-squared	0.013	0.081

t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

According to the panel regression results in Table 4, the following information can be known to us: The phenomenon of IPO underpricing will increase the number of block holders of the company. In state-owned enterprises, when the underprice increases by 1 unit, the number of block holders will increase by 0.48, significant at the 10% significance level. However, the IPO underpricing phenomenon does not significantly impact the number of block holders in non-state-owned enterprises.

This result shows that: among state-owned enterprises, IPO underpricing will attract block holders to purchase the stocks of state-owned enterprises, and investors will believe that state-owned enterprises can create better value in the future, although on the first day of listing of these companies, the closing price of stocks will be greater than the company's initial price, everyone believes that in the future state-owned enterprises can better create value, so the stock price will only get higher and higher, thereby creating income for investors. Moreover, since state-owned enterprises have undergone strict audits before listing, their financial reports are more rigorous, so investors are more willing to buy the stocks of state-owned enterprises. In non-state-owned enterprises, the impact of IPO underpricing on the number of major shareholders is not significant. The possible reason is: there are many variables after the listing of non-state-owned enterprises. When IPO underpricing occurs when they are listed, investors cannot judge the future stock price trend of the company, so they dare not buy or sell stocks easily.

In addition, from Table 5, we can also know that the correlation coefficient between female executives and block holders is -0.048, and it is significant at a significance level of 1%. This shows that in state-owned enterprises, many female executives' thinking patterns and handling issues are different, so when there are more female executives, the difference between them and males leads to a decrease in the number of block holders in the company. However, in state-owned enterprises, female executives will not affect the decision-making of block holders. Still, from the descriptive statistics in Table 1, we can know that the number of female executives in state-owned enterprises and non-state-owned enterprises is basically the same. Therefore, the possible reason is that in non-state-owned enterprises, female executives and male executives have more consistent decisions about the company's future. At the same time, Table 4 also tells us: among non-state-owned enterprises, the correlation coefficient between audit and block holder is 0.532, and it is significant at a significance level of 1%, which shows that when a company can undergo strict audits by the four major auditing companies, investors are more willing to invest in this company. In addition, the number of meetings of the company's board of directors will not affect the block holder, whether in state-owned or non-state-owned enterprises, indicating that investors are more willing to make their own choices and will not change their decisions according to the changes in the board of directors.

4.3 Correlation Analysis

We conducted a correlation analysis of state-owned enterprises separately, and the results are as follows:

TABLE 5. CORRELATION ANALYSIS FOR THE STATE-OWNED COMPANY

	<i>block holder</i>	<i>underprice</i>	<i>board</i>	<i>women</i>	<i>independent</i>	<i>meeting</i>	<i>Login station</i>
<i>block holder</i>	1						
<i>underprice</i>	-0.001	1					
<i>board</i>	0.174***	0.043	1				
<i>women</i>	0.138**	0.090	0.277***	1			
<i>independent</i>	0.142**	-0.017	0.645***	0.217***	1		
<i>meeting</i>	0.032	0.150***	0.140**	0.247***	0.116**	1	
<i>Log(institution)</i>	-0.057	-0.134**	0.195***	0.027	0.415***	0.096*	1
<i>audit</i>	0.132**	0.0800	0.119**	0.102*	0.250***	0.174***	0.380***

ROA	-0.008	-0.0420	-0.25***	-0.23***	-0.230***	-0.24***	-	0.165***
leverage	0.066	0.096*	0.372***	0.266***	0.423***	0.359***	0.401***	
	audit	ROA	leverage					
audit	1							
ROA	-	1						
	0.216***							
leverage	0.369***	-0.640***	1					

*** p<0.01, ** p<0.05, * p<0.1

From the results in Table 5, it can be seen that board and block holders are positively correlated in state-owned enterprises, and it is significant at a significance level of 1%. Female executives and independent directors can also increase the number of block holders, and both are significant at the 5% significance level. In addition, ROA has a negative relationship with the board, women directors, and independent directors, and they are all significant at the 1% significance level.

5 CONCLUSION AND IMPLICATIONS

Through our empirical research, we found that the situation of state-owned enterprises and non-state-owned enterprises is different. IPO underpricing will increase the block holders of state-owned enterprises. The possible reason is that many state-owned enterprises have undergone the four major audits before going public. The rigor of financial statements can attract a lot of investment. However, among non-state-owned enterprises, the phenomenon of IPO underpricing does not affect the decision-making of block holders. In addition, women in state-owned enterprises and non-state-owned enterprises receive the same attention. However, state-owned enterprises are all profitable in the year of listing, and non-state-owned enterprises have suffered losses. Based on the results of this article, we suggest that before a company goes public, it is best to go through the four major audits to make investors more willing to invest in the company.

However, the data in this article comes from the company's annual report for the year it went public, so it may not be possible to immediately report the impact of IPO underpricing on the block holder. And the data for 2020 and 2021 have not been published on the wind database, so we have no way to discuss the latest situation. Recommendations for future research: try to collect data shortly after the company's listing and then study the issues in this article. And when the data for 2020 and 2021 are released, they can be discussed separately. Since China was in COVID-19 in 2020, the conclusion may be different from the normal period.

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