The Corporate Board Structure, Ownership Retention and Ipo Underpricing: Evidence from China

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Abstract: This article uses all IPO companies in China from 2010 to 2019 as a sample to study the influence of board structure and ownership retention on IPO underpricing. The results show that the board's senior management's shareholding ratio, the number of board members, and the number of institutional shareholdings can reduce IPO underpricing. Independent directors and female directors have no influence on IPO underpricing. In addition, the time of company establishment, ROA, and gross profit can attract investors to buy shares of listed companies.

1. Introduction

IPO is the abbreviation of the initial public offering. It refers to the first time a company sells its shares to the public to raise funds. In most cases, it is the desire to raise equity capital for the company and establish a public market. Founders and other shareholders can convert part of their wealth into cash at a specific date in the future. Certain companies also have nonfinancial reasons for IPOs, such as increased publicity, which has only a small effect on most companies: Since there is no cash consideration, most entrepreneurs would instead just run their company than pay attention to the complex public market procedure [1]. IPO can bring many benefits to the company. First, it can obtain a larger scale of capital to develop and innovate better in the future. Second, after the company is listed, the company's reputation can be significantly improved. When the company has a more incredible reputation, it is easier to seize market share. Third, IPO can enhance corporate governance under the supervision of intermediary agencies and the market after the company is listed. The company can regulate its internal system and correct some previous irregularities. At the same time, the IPO may also bring some drawbacks to the company. First, after the listing, the company's stock can be freely bought and sold, thus diluting the equity. In turn, the company may lose control of the company. Second, the company must meet the SEC regulations before going public, which will increase the company's audit costs and may require many maintenance costs after the listing. Third, after the listing, the company must meet the SEC regulations. The transparency of information may be known to competitors. Fourth, the IPO process is somewhat complicated. Although academics and investor communities are increasingly aware of the importance of initial public offerings (IPOs), private companies are transforming themselves, the process of listing companies is still poorly understood [2]. For example, the sale of Internet company IPOs poses a unique challenge because of the lack of traditional quantitative information (profit and sales Track record), novel business models, and industry disruptions that make it difficult for Internet companies to value [3].

There is a phenomenon in IPOs called IPO underpricing, which refers to a company's initial public offering price is significantly lower than the initial market price of the listing. After decades of investigation, the initial public offering (IPO) pricing is still a problem. The stock markets of emerging economies are attractive to international investors, but their unique characteristics need to be examined. For example, the IPO underpricing in the Chinese stock market is much more severe than most other stocks in the world [4].

Given that previous studies did not pay attention to the influence of the board structure on the underpricing phenomenon of Chinese IPO companies, this article will consider the proportion of the

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board of directors' shares in the company's total equity in the company's board structure, the number of board members, and the board meeting in one year, number of independent directors, number of female directors, these factors are related to the company's IPO underpricing.

The structure of this article is as follows. The second part is a review of previous related studies; the third part is the data and method; the fourth part includes empirical results and analysis; the final part is the conclusion and policy suggestion.

2. Literature Review

2.1 Corporate Board Structure

Yermack [5] used Tobin's Q as an approximation of market valuation and finally found that in a sample of 452 large U.S. industrial companies from 1984 to 1991, there was a contradiction between the size of the board of directors and the value of the company. For companies with audit committees with more minors than most independent directors, the degree of abnormality in accrued income is more prominent. In addition, Cross-sectional negative associations are found between board or audit committee independence and abnormal accruals. Most significantly, strong results are seen when either the board or the audit committee has less than a majority of independent directors. Research by Mak and Li [6] shows that there is a significant correlation between company ownership, board structure, and the characteristics of board structure. The proportion of outside directors is negatively associated with management power, the board size, and government ownership. The use of a dual leadership structure is positively related to the ownership of significant shareholders and negatively related to regulations and the tenure of the CEO. The study of Elsayed [7] found that board size positively affects corporate performance in the presence of CEO non-duality (board leadership structure that is split between the roles of the CEO and the roles of the chairman). In the case of CEO duality (the leadership structure of the board assigns the positions of CEO and chairman to the same person), the size of the board has a negative impact on company performance.

2.2 Ownership Retention

Ekkayokkaya and Pengniti [8] through an empirical study of Thai IPO companies, it is found that Thailand's IPO issuance discounts have been significantly reduced after Thailand's major governance reforms, which indicates that investors face the risk of value loss and the decline in price protection. In addition, before Thailand's reforms, if insiders retain control (that is, the statutory supermajority of voting rights) in the public offering, the IPO price will be significantly reduced, reflecting the risk of forfeiture faced by IPO investors. In the post-reform period, this pricing effect of controlling ownership retention still exists. However, after such frequency reforms, the ownership retention rate has dropped significantly.

Alavi and Pham [9] investigated the impact of pre-issue ownership structure on the critical decisions surrounding an IPO. It is found that managers have ownership. And (1) the ratio of issued shares. (2) Share distribution and (3) direct issuance-related expenses have a great relationship with each other. This shows that the pre-IPO ownership of managers affects their motivation to maintain control and reduce the cost of listing. In contrast, pre-IPO non-management major shareholders are more worried about exit, and their existence tends to increase the scale and cost of issuance.

2.3 Ipo Underpricing

Ritter and Welch [10] indicated that high IPO price activity might be accompanied by high underpricing. This is because the underwriters encourage more companies to go public when the public valuation is higher than expected. Conversely, when the general valuation is lower than expected, the underwriter will prevent the company from submitting or proceeding with the offering. One way to classify low-price theories is to organize them based on whether they assume asymmetric information or symmetric information. The former can be divided into ideas in which the IPO issuer knows more information than investors (perhaps about internal projects). It can also

be classified as the theory in which the issuer knows more about investors than the issuer (possibly demand). The research of Yu and Zheng [11] shows that companies with strong family involvement have higher IPO underpricing levels than companies with weak family involvement. Furthermore, the number of three-generation family members and the number of siblings and cousins found that there is a positive correlation between the number of such family members and the degree of low IPO pricing, which indicates that there is more excellent dispersion of ownership among family members. Therefore, it is easier to underestimate the price to avoid external holdings.

At present, only part of the literature has researched the relationship between a company's board of directors and IPO underpricing. However, Filatotchev and Bishop [2] analyzed a sample of 251 IPO companies in the UK from 1999 to 2000, the final result found a higher proportion of non-executive directors and their strength out-of-organizational connections have reduced the degree of underpricing of stock offerings. These findings are consistent with the notion that these governance factors may have been strategically used to attract financial resources during the initial flotation.

The study of Smart and Zutter [12] found that dual-class IPOs experience less underpricing than single-class IPOs after controlling for other factors that influence initial returns. Hearn [13] found that measures such as the establishment of independent board monitoring and surveillance committees act to increase underpricing and misalignment of interests between investor-owners and incumbent management. And, larger boards are related to higher underpricing, revealing the poorer coordinating and communication ability of larger bodies of directors. Finally, the research of Hill [14] found that IPO underpricing does not play a significant role in determining the proportion of block holdings in the share ownership structure of a firm, either at the IPO or over the longer term.

Previous studies on company board of directors and IPO underpricing primarily focused on ownership structure and corporate governance on IPO underpricing. This article comprehensively analyzes the underpricing phenomenon of Chinese IPO companies from the board’s shareholding ratio, the number of board of directors, the number of independent directors and female executives. The research is expected to help Chinese listed companies improve the phenomenon of IPO underpricing.

3. Data and Method

3.1 Data and Method

This article collected data on all IPO companies from 2010 to 2019 from the wind database and obtained 2109 samples to explore the impact of IPO company board structure on IPO underpricing.

3.2 Variables

(1) Dependent variables.

The main object to be studied in this article is IPO underpricing, so choose it as the dependent variable. The calculation method is: the closing price on the IPO day was used to subtract the offer price, and then the result was divided by the offer price.

(2) Independent variables.

The independent variables include ownership retention, the board size, independent directors, and female directors. Among them, ownership retention in this article means that the proportion of the company's senior management holdings accounted for the company's total equity before the IPO, and the ratio of the senior management's total equity, board size can have an impact on the company's pricing when it goes public. In addition, the number of board members of the company, independent directors, and female directors in the company may affect the company's stock pricing decisions.

(3) Control variables.

Control variables in this article include board meeting, which refers to the number of times a company's board of directors meets in a year. When a company's shareholders often hold conferences, it is very likely to change its stock price. Other control variables include ROA. The

quality of a company's ROA often shows the company's performance, which may affect people's decision whether to buy the company. Other control variables and their definitions are shown in Table 1.

3.3 Models

This article imitates the practice of Setiawan et al [15] and builds the following model:

$$\begin{aligned} IPO\_UP_{it} = \alpha + \beta_1 OR + \beta_2 ID + \beta_3 FD + \beta_4 Board\_Meet + \beta_5 Size + \beta_6 \log(IO) \\ + \beta_7 Firm\_age + \beta_8 ROA + \beta_9 leverage + \beta_{10} \log(GP) + \beta_{11} \log(TA) \\ + \beta_{12} Audit + \varepsilon \end{aligned}$$

Due to Institutional ownership, gross profit, the company's total assets are relatively large and fluctuate sharply, so logarithmic processing is taken for the above three variables.

Table 1 Variable Definition

Variable	Variable definitions	Source
IPO_UP	IPO underpricing. It is when the price of an initial public offering is significantly lower than the initial market price. Shareholders may lose money because the issuer sells the stock for less than its own value.	Wind
OR	Ownership retention. In this paper, it means that the shares owned by the executives of the board of directors of the company account for the proportion of all the share capital of the company before it goes public.	Wind
ID	Independent directors. The number of independent directors representing a company.	Wind
FD	Female directors. Represents the number of female executives on a company's board.	Wind
Board_Meet	Board meeting. In this article, it means the number of board meetings in a year	Wind
Size	The number of people on a company's board of directors	Wind
Log(IO)	Institutional ownership.The logarithm of the number of institutional shares held by the company	Wind
Firm_age	The number of years the company has experienced from its founding to its IPO	Wind
ROA	Return on assets, is used to measure how much net profit is generated per unit of assets.	Wind
Leverage	The ratio of total assets to equity capital in the balance sheet	Wind
Log(GP)	Logarithm of the company's gross profit	Wind
Log(TA)	The logarithm of a company's total assets	Wind
Audit	This is a dummy variable. If the audit firm of the company is four, it is marked as 1, otherwise it is marked as 0.	Wind

4. Empirical Results and Analysis

4.1 Descriptive Statistics

This article selects data from all IPO companies in China from 2010 to 2019, and obtains a sample of 2109 observations, and makes descriptive statistics. The results are as follows:

Table 2 Descriptive Statistics

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
IPO_UP	2,109	0.0897	0.106	-0.262	0.600
OR	2,109	0.293	0.241	0	0.900
Size	2,109	8.482	1.665	4	18
ID	2,109	3.108	0.543	0	7
FD	2,109	3.191	1.927	0	12
Board_Meet	2,109	8.544	2.956	2	26
Log(IO)	2,077	6.126	1.019	0.778	9.831
Firm_age	2,109	13.61	5.744	0	61
ROA	2,109	0.0932	0.0463	-0.0291	0.401
Leverage	2,109	0.270	0.182	0.0110	0.965
Log(GP)	2,058	8.411	0.415	7.537	10.61
Log(TA)	2,109	21.27	1.176	19.49	29.97

Audit	2,109	0.0488	0.216	0	1

According to Table 2, the average value of underpricing of IPO companies in China in the past ten years is 0.0897. The lowest value is -0.262, and the maximum value is 0.600, indicating that the phenomenon of IPO underpricing in China is not serious. In addition, OR's average value is 0.293, which means that the average number of shares held by the company's board of directors is 0.239, but some companies have a higher proportion, as high as 0.9000. Finally, the average values of independent directors (ID) and female directors (FD) are relatively close, 3.108 and 3.191, respectively. The minimum of these two variables is 0, indicating that some companies in China do not have independent directors or female executives.

4.2 Correlation Analysis

This paper analyzes the correlation of the main variables, and the results are as follows:

Table 3 Correlation Result

	IPO_UP	OR	Size	ID	FD	Board_Meet	Log(IO)
IPO_UP	1						
OR	-0.053**	1					
Size	-0.037*	-0.236***	1				
ID	-0.0220	-0.193***	0.770***	1			
FD	0.047**	-0.00800	0.099***	0.112***	1		
Board_ Meet	0.0270	-0.089***	0.072***	0.091***	0.130***	1	
Log(IO)	-0.225***	-0.112***	0.213***	0.219***	-0.0130	0.125***	1
Firm_age	0.162***	-0.00900	0.059***	0.055**	0.111***	0.0160	-0.154***
ROA	0.0240	0.205***	-0.209***	-0.182***	-0.0170	-0.136***	0.0130
Leverage	0.186***	-0.251***	0.270***	0.283***	0.081***	0.283***	0.125***
Log(GP)	0.114***	-0.251***	0.200***	0.221***	0.0350	0.204***	0.318***
LogTL	0.069***	-0.346***	0.424***	0.447***	0.083***	0.288***	0.420***
Audit	0.073***	-0.197***	0.183***	0.194***	0.099***	0.133***	0.191***
	Firm _age	ROA	Leverage	Log(GP)	Log(TL)	Audit	
Firm age	1						
ROA	-0.0360	1					
Leverage	0.109***	-0.510***	1				
Log(GP)	0.046**	0.119***	0.428***	1			
Log(TL)	0.049**	-0.263***	0.650***	0.888***	1		
Audit	0.056***	-0.125***	0.257***	0.302***	0.446***	1	

From the above table, the following information can be obtained: The company’s board of directors’ shareholding ratio, the number of board members, and IPO underpricing are significantly negatively correlated, which shows that the board members’ actions on stock price decisions will reduce the company’s stock pricing and the market after listing. In addition, the year the company was established, gross profit, leverage ratio, and total assets all show a significant positive correlation with IPO underpricing. The possible reason is that when these variables are higher, people’s expectations for the company are also higher the price, the more people will buy the company’s stock after all companies go public, thereby driving up the price.

4.3 Regression Results

This article regressed all the variables, and the results are as follows:

Table 4 Regression

	(1)
VARIABLES	IPO_UP
OR	-0.018*
	(-1.84)
Size	-0.004*

	(-1.67)
ID	-0.004
	(-0.55)
FD	-0.000
	(-0.09)
Board_Meet	-0.000
	(-0.59)
Log(IO)	-0.026***
	(-10.55)
Firm_age	0.002***
	(3.81)
ROA	0.184***
	(2.75)
Leverage	0.133***
	(7.18)
Log(GP)	0.083***
	(5.95)
LOG(TA)	-0.032***
	(-4.87)
Audit	0.028**
	(2.29)
Constant	0.196***
	(3.06)
Observations	2,026
R-squared	0.149

t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

According to the above regression results, it can be seen that the board executive shareholding ratio and IPO underpricing are adverse effects and are significant at the 10% significance level, and when the board executive shareholding ratio increases by one unit, IPO underpricing decreases 0.018 units. One of the possible reasons is that, when executives hold too many shares, they are unwilling to make the company too low when it goes public because when the company's stock price is lower than the final market value, shareholders and board of directors suffer losses. Therefore, the more shares held by the board of directors, the stronger its interest in its board of directors. As a result, the board of directors will work hard to reduce the level of stock underpricing in the stock IPO, to obtain higher stock returns; on the other hand, the more senior executives hold more stocks, the fewer stocks are circulating in the market, and the market gives relatively more little motivation to increase the value of stocks. The number of the company's board of directors and IPO underpricing is also negatively correlated. It is significant at the level of 10%, indicating that when the number of board of directors is too large, the larger the board size, the greater the effect and the more likely it is to affect the company's stock pricing of listing. In addition, female executives and independent directors have no significant influence on IPO underpricing. The possible reason is that they will not participate too much in the company's stock pricing.

The number of institutional shareholdings has a negative impact on IPO underpricing and it is significant at the level of 1%. This phenomenon shows that when a company has many institutional shares, the institution will try to raise the company's stock price when it goes public. Like the board of directors, they do not want the company to set the stock price too low. In addition, ROA, gross profit, and IPO underpricing have a strong positive correlation between the company's establishment and the listing year, and they are all significantly at the 1% level. It is concluded that when the company's establishment period is more extended, the market's recognition is higher, and investors are more inclined to invest, resulting in a stock premium. The company's ROA and gross profit represent the company's profitability. When these two indicators are higher, the better the company's benefits, the more it can attract investors to buy the company's stock, which will drive the stock price to rise. In addition, whether the four major auditing companies have audited the company is also positively correlated with IPO underpricing, and it has a positive correlation with IPO underpricing. It shows that when the Big Four accounting firms audit a company, it proves that

the financial authenticity is more rigorous and authoritative, and it can gain the trust of the market, thereby attracting investors

5. Conclusion and Policy Suggestion

This paper analyzed data on Chinese IPO companies over the past decade. The results show that the number of board members and the number of shares held by the board and institutions can reduce IPO underpricing. They do not want stock price too low when it goes public because they are vulnerable to losses after going public. When they own too many shares, there is less for other investors to buy in the market, so there is not much possibility for the stock to grow after the company goes public. Moreover, the independent and female directors of the company will not interfere too much in the pricing of the company's stock when it listed. In addition, if the company set up a long time, good performance, return on assets. The company can attract many investors. Before the listing, If the company can allow the Big Four to audit the company to prove that the company's financial authority, then the company's stock price will also tend to rise after the company is listed.

According to the empirical results of this paper, it is suggested that Chinese companies improve their financial level, enrich the board of directors' structure, and raise the ownership retention level before the issuance of initial public offerings to curb underpricing effectively. In addition, relevant government regulators can strengthen the audit of the company's financial statements and effectively reduce underpricing.

References

[1] Ritter, J. R., & Welch, I. (2002). A review of IPO activity, pricing, and allocations. The journal of Finance, 57(4), 1795-1828.

[2] Filatotchev, I., & Bishop, K. (2002). Board composition, share ownership, and ‘underpricing’of UK IPO firms. Strategic management journal, 23(10), 941-955.

[3] Keel, A. L., Lending, C. E., & Marshall, B. (2021). The impact of online buzz on internet IPO valuation. Journal of Strategic Marketing, 29(1), 24-46.

[4] Wang, Y., & Zhang, X. T. (2006). Strategic IPO underpricing: The role of Chinese state ownership. In Value Creation in Multinational Enterprise. Emerald Group Publishing Limited.

[5] Yermack, D. (1996). Higher market valuation of companies with a small board of directors. Journal of financial economics, 40(2), 185-211.

[6] Mak, Y. T., & Li, Y. (2001). Determinants of corporate ownership and board structure: evidence from Singapore. Journal of corporate finance, 7(3), 235-256.

[7] Elsayed, K. (2011). Board size and corporate performance: The missing role of board leadership structure. Journal of Management & Governance, 15(3), 415-446.

[8] Ekkayokkaya, M., & Pengniti, T. (2012). Governance reform and IPO underpricing. Journal of Corporate Finance, 18(2), 238-253.

[9] Alavi, A., Pham, P. K., & Pham, T. M. (2008). Pre-IPO ownership structure and its impact on the IPO process. Journal of Banking & Finance, 32(11), 2361-2375.

[10] Ritter, J. R., & Welch, I. (2002). A review of IPO activity, pricing, and allocations. The journal of Finance, 57(4), 1795-1828.

[11] Yu, X., & Zheng, Y. (2012). IPO underpricing to retain family control under concentrated ownership: Evidence from Hong Kong. Journal of Business Finance & Accounting, 39(5‐6), 700-729.

[12] Smart, S. B., & Zutter, C. J. (2003). Control as a motivation for underpricing: a comparison of dual and single-class IPOs. Journal of Financial Economics, 69(1), 85-110.

[13] Hearn, B. (2012). The contrasting effects of board composition and structure on IPO firm underpricing in a developing context. International Review of Financial Analysis, 21, 33-44.

[14] Hill, P. (2006). Ownership structure and IPO underpricing. Journal of Business Finance & Accounting, 33(1‐2), 102-126.

[15] Setiawan, D., Prabowo, M. A., Trinugroho, I., & Noordin, B. A. A. (2021). Board of Commissioners' Structure, Ownership Retention, and IPO Underpricing: Evidence from Indonesia. ETIKONOMI, 20(1), 185-200.