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INTERNAL CORPORATE GOVERNANCE AND THE USE OF IPO OVER-FINANCING

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ABSTRACT: *As a peculiar phenomenon of China's capital market, IPO over-financing has become an important topic to the China Securities Regulatory Commission (CSRC), financial media and scholars. This paper discussed the relationship between internal governance and the use of IPO over-financing from 2006 to 2010. According to the purpose of the study, this paper constructs two models. 372 samples were obtained. Corporate governance data and related financial data come from the CSMAR database. We found that the internal governance mechanisms can effectively alleviate the IPO over-financing. Chairman as general manager, high currency pay for executives can both cause overinvestment by IPO over-financing, but the improvement of the company's equity balance degree can reduce that. In addition, IPO over-financing of overinvestment of non-listed state-owned listed companies was more severe than that of the state-owned listed company. This study provides the appropriate policy recommendations for state securities regulators to ensure the rational and effective use IPO over-financing.*

KEYWORDS: internal corporate governance, IPO over-financing, overinvestment, agency problem

INTRUDUCTION

Since 1991, China set up capital market and a number of new listed companies have IPO over-financing phenomenon every year, that is, the actual financing capital is more than the planned financing capital. As a peculiar phenomenon of China's capital market, IPO over-financing has become an important topic to the China Securities Regulatory Commission (CSRC), financial media and scholars. In order to improve the efficiency of resource allocation in China's capital market and maintain the healthy development of nascent Growth Company Market (GEM), it is of great significance and urgency to explore and solve the problem of IPO over-financing. Among them, supervising and ensuring the listed companies to use IPO over-financing rationally has become the focus of securities regulatory departments to strengthen supervision. From the existing research, after the listed companies meet their established financing needs, we have been the lack of clear understanding about how they use the over-financing and whether there exist behaviors that violate the interests of the investors such as indiscriminate use, overinvestment, waste of money, etc. These are the focus of this paper.

Using IPO over-financing rationally and effectively is not only test the executives' business intelligence, but also test their professional ethics. The use and investment of IPO over-financing of China's listed companies provide a natural experimental place for us to study the relationship between internal governance mechanisms and corporate's investment decision-making, and to better test the effectiveness of corporate governance. The main reasons are as follows: First, the use of IPO over-financing and investment can better reflect the true motive of corporate executives. According to the relevant provisions, IPO financing raised by listed companies need to use in accordance with the relevant prospectus commitment. But the IPO over-financing do not need this, IPO over-financing only need to follow the IPO over-financing use plan proposed by the board in “Independent Directors' Opinions on the Use of Over-financing”. Even if the plan changes, it’s only need to examine and approve by independent directors. The binding is very weak. Listed companies can be relatively free to dominate this part of the additional capital given by investors. In addition, the huge over-financing will induce companies to invest and expand rapidly. After the listed companies meet their established financing needs, executives maybe use the IPO over-financing for personal gain because of the agency problem.

Second, the listed companies which have overinvestment behaviors can be separated by the use of IPO over-financing. Companies’ listing and financing investment projects need to be demonstrated strictly by the board and the shareholders' general meeting. In addition, China's current financial management system practices the "approval system", the use of project financing will be examined and verified by the CSRC. Therefore, the IPO financing investment plan which through the approval process should relatively be more scientific and reasonable, and is also close to the companies’ actual needs of investment development in the next few years. However, if listed companies continue to use the over-financing to invest beyond the established investment plan, there may be overinvestment behaviors, and it will lead to a decline in investment returns inevitably. This provides a good opportunity for us to examine whether internal corporate governance can restrain overinvestment.

LITERATURE AND HYPOTHESES DEVELOPMENT

The main function of capital market is to optimize the allocation of resources, and allocate the capital to high-quality companies which need capitals to develop. However, the over-allocation of capitals to companies with good performance will also cause inefficient allocation of capital market resources. Because the over-financing of a company means that the financing opportunities of other companies will be reduced and disappeared.(Jiang Xin and Li Quan, 2010; Fang Junxiong and FangFang, 2010). The essence of IPO over-financing is the mismatch of resources of the capital market, reflecting the imperfection of China's capital market and the unfavorable investment channels. It is precisely because the current lack of good investment channels, so in the short term the problem of over-financing can’t be completely resolved. Thus, establishing a sound internal corporate governance mechanism has become an effective way to supervise the rational use of IPO over-financing by listed companies.

According to the agency theory, the ownership of modern companies and the management rights are separated. Managers will deviate from the interests of shareholders to take self-interest. When the internal capital is abundant, it is easy to breed managers' on-the-job consumption, overinvestment, the establishment of manager empires and other behaviors that damaged the interests of shareholders (Jensen and Meckling, 1976; Jensen, 1986). Therefore, due to the agency problem, IPO over-financing is likely to cause a waste of capital, such as indiscriminate use, overinvestment and so on. This can lead to inefficient use of capitals, thereby

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undermining the interests of shareholders. At this time, companies need appropriate internal governance to coordinate the interests of managers and shareholders, supervise and encourage the behavior of managers, reduce the cost of principal-agent (Jensen and Meckling, 1976; Shleifer and Vishny, 1997).

Jensen (1993) believes that corporate managers are generally having the impulsion to overinvest, because managers can control more resources to obtain greater private interests. Morck、Shleifer and Vishny(1988) found that if self-interested managers hold less shares of the company, it will exacerbate the divergence of interests between managers and external shareholders. With the increase of manager's shareholding, managers can share more residual earnings according to the shareholding proportion, which can inspire the managers to pay attention to the long-term performance of the company and produce the interest convergence effect. Therefore, managerial ownership can reduce the conflict of interest between shareholders and managers, and reduce agency costs effectively. Subsequent studies have shown that equity incentive can improve the manager's investment efficiency and reduce overinvestment behavior (Broussard et al.，2004). For the IPO over-financing, we have a lack of clear understanding of whether managers who are motivated by equity incentive will use it rationally and effectively based on their investment opportunities. Hence we put forward the hypothesis 1.

H1: Ceteris paribus, the higher proportion of company executives’ incentive equity is, the less they do in the overinvestment of IPO over-financing.

There are many ways to motivate executives, the most common of which is monetary compensation contract. It refers to in a certain period, how much monetary compensation can executives get from the company (Chen Donghua, Liang Shangkun and Jiang Dequan, 2010). When the compensation contract can’t make compensation and incentive to the manager's efforts and administrative ability, it will easily lead to managers’ opportunistic behavior. Relative to the equity incentive, the monetary incentive’s period is shorter, and its more reflect the compensation to executives’ current efforts. It has been found that managers may accept negative net present value (NPV) investments if managers have high private returns on investment projects. And when the manager's monetary compensation is too low will lead to overinvestment, thereby undermining the wealth of shareholders (Xin Qingquan, Lin Bin and Wang Yanchao, 2007). If corporate executives have a higher proportion of monetary compensation, because the incentive is not enough, they will use IPO over-financing for over-investment to obtain private interests. Hence we put forward the hypothesis 2.
H2: Ceteris paribus, the higher monetary compensation of company executives is, the more they will incline to use IPO over-financing for overinvestment.

Jensen (1993) believes that the function of the chairman is presiding the board meetings, and supervising, hiring, firing, evaluating and compensating the general manager. If the general manager is also the chairman of the board, it is impossible in the exercise of this function to put aside their own interests, resulting in the board can’t effectively implement the key function, the corresponding internal control system of the company will be invalidated. Fama and Jensen(1983), Jensen(1993) all believe that the separation of the chairman and general manager of the two roles can make the board supervise

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managers more effectively, and reducing the agency costs, while the combination of chairman and general manager may lead higher agency costs. The combination of chairman and general manager will give the general manager more power when using IPO over-financing and lead to overinvestment easily. Hence we put forward the hypothesis 3.

H3: Ceteris paribus, the combination of chairman and general manager will lead to overinvestment of IPO over-financing.

Cronqvist and Fahlenbrach (2009) found that large shareholders had a significant impact on corporate policies such as investment, financing, and executive compensation. Shleifer and Vishney (1986) pointed out that the existence of large shareholders and equity concentration will reduce the manager's opportunistic behavior, can partially solve the problem that the “free ride” of minority shareholders and alleviate agency conflicts between shareholders and managers. But Shleifer and Vishney (1997) also pointed out that in some emerging countries, the agency cost mainly comes from the conflict of interest between the controlling shareholders and the minority shareholders, not the conflict of interest between the managers and the dispersed shareholders.

Chen Wenbin and Chen Xiaoyue (2005) found that the use of IPO over-financing in China's listed companies will be affected by the large shareholders’ agent behavior. There exists the phenomenon that large shareholders occupied IPO financing of listed companies. If the company has multiple large shareholders, the behavior of the largest shareholder can be restricted to prevent him/her from infringing the interests of other shareholders. A number of major shareholders check and balance, can limit the plunder of private control interest (Zhu Hongjun and Wang Hui, 2004). And they will also increase their time and effort to supervise the managers, so that the managers can't overinvestment optionally. Hence we put forward the hypothesis 4.

H4: Ceteris paribus, the higher degree of equity checks and balances is, the less the managers do in the overinvestment of IPO over-financing.

METHODOLOGY

Data source and sample selection

Since 2005, China's capital market has experienced the shareholder structure reform, the implementation of the IPO inquiry system and the promulgation of the use of listed companies’ financing. To this end, this paper selected listed companies in the Shenzhen A-share market which have IPO over-financing phenomenon from 2006 to 2010. The reason why only consider the Shenzhen market is: first, in the collection of data we found in the Shanghai stock market there are fewer companies exist IPO over-financing phenomenon, only 31 companies, and they did not specifically disclose the use of IPO over-financing. Second, the Shenzhen stock market’s listing rules and information disclosure system is relatively strict than the Shanghai stock market, Shenzhen stock market will disclosure more information about the use of IPO over-financing. From 2006 to 2010, there are 542 listed companies exist IPO over-financing phenomenon, of which 170 companies did not disclose the use of IPO over-financing. After remove

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these samples, 372 samples were obtained. Among them, there were 27,30,21,56 and 238 observation samples from 2006 to 2010. Corporate governance data and related financial data come from the CSMAR database.

Listed companies' IPO over-financing and it's practice

This data about the IPO over-financing are collected from" Annual report on the deposit and usage of raised capitals"," Independent Directors' Opinions on the Use of over-financing"," Announcement on the use of part of the raised capitals to repay bank borrowings and supply working capital" and other public information. We have collected and sorted out the listed companies' use of IPO over-financing. The IPO over-financing investment mainly include: supplying working capital, setting up subsidiary company, merger and acquisition, purchasing factory building, self-built buildings, building factories, purchasing land and real estate, purchasing office space, purchasing office supplies, repaying bank loans, investing subsidiaries, constructing production projects, increasing capital, foreign investment, depositing raised capitals account, other working capital account related to main business, advertising, marketing service network construction, expanding the headquarters of R & D center , investing the main business and undisclosed information.

Shenzhen Stock Exchange issued the "GEM information disclosure business memorandum No. 1 – the use of over-financing" required: (1) The over-financing should be deposited in the financing account to manage; (2) The over-financing should be used for the main business of the company and should not be used for the high-risk investment such as securities investment, trust financing, derivative investment, venture capital investment or providing financial assistance for others. The financing should be deposited in the special account to manage; (3) The amount of over-financing for permanent supplement of working capital and repayment of bank loans should not exceed 20% of the total amount of over-financing within 12 months;(4) The use of over-financing to supply working capital temporarily is treated as temporary supplement of working capital with idle over-financing. As a result, we will allocate supplying working capital, repaying bank loans, depositing raised capitals account and other working capital account related to main business into non-capital investment. Which belong to the projects that can only maintain value but can't add value. The remaining items are classified in the capital investment.

Model design and variable definition

According to the research purpose, this paper constructs the following model, in which the variables are defined in Table 1:

$$OI_{t+1} = \alpha_0 + \alpha_1 Stock_t + \alpha_2 Lpay_t + \alpha_3 Dual_t + \alpha_4 Dirp_t + \alpha_5 Dirsize_t + \alpha_6 Z_t + \alpha_7 Eps_t + \sum_{i=1}^{m} \alpha_{7+i} Year + \sum_{i=1}^{n} \alpha_{7+m+i} Industry + \varepsilon \quad (1)$$

$$OF_{t+1} = \alpha_0 + \alpha_1 Stock_t + \alpha_2 Lpay_t + \alpha_3 Dual_t + \alpha_4 Dirp_t + \alpha_5 Dirsize_t + \alpha_6 Z_t + \alpha_7 Eps_t + \sum_{i=1}^{m} \alpha_{7+i} Year + \sum_{i=1}^{n} \alpha_{7+m+i} Industry + \varepsilon \quad (2)$$

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Table 1. Definition of model variables

Variable type	Variable name	Variable symbol	Variable definition and description
Dependent variable	Capital investment	RI	Capital investment of the company’s over-financing in the current year/(capital investment of the company’s over-financing+ non-capital investment of the company’s over-financing)
		OI	Percentage of overinvestment in over-financing, that is when Tobin's q <the average of the same industry, capital investment of the company’s over-financing in the current year/(capital investment of the company’s over-financing+ non-capital investment of the company’s over-financing)
		RF	the natural logarithm of the capital investment of over-financing in the current year /total assets at the end of the year
		OF	Percentage of overinvestment in over-financing, that is when Tobin's q <the average of the same industry, the capital investment of over-financing in the current year /total assets at the end of the year
Independent variable	Executive’s equity incentive	Stock	The stockholding proportion of the executive
	Executive ‘s monetary compensate-on	Lpay	The natural logarithms of the highest amount of the top three executive’s compensation
	The combination of chairman and general manager	Dual	Equal to 1 when the chairman is also a general manager, otherwise equal to 0.
	Proportion of Independent Directors	Dirp	Number of independent directors / total number of directors
	Board size	Dirsize	The total number of directors
	Equity checks and balances	Z	The ratio between proportion of the largest shareholder and proportion of the second largest shareholder
	Company's investment opportunitie-s	Tobin's q	Early stage Tobin's q value of company, Tobin's q = the company's market value / company’s replacement cost = (Market value at the end of the year + the amount of illiquid share of net assets+ long-term liabilities+ short-term liabilities) / total assets at the end of the year

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	Company's performances	EPS	Earnings per share = Net profit / Total number of ordinary shares at the end of the year
	Industry	Industry	According to the "listed companies industry classification guidelines", the listed companies will be divided into 12 categories of industries (excluding financial industry) .We set 11 industry dummy variables, and regard comprehensive listed companies as the frame of reference. If the company is in the industry, then take 1, otherwise take 0.
	Year	Year	Take 2006 as the frame of reference, set up four dummy variables, if the company in the year is 1, otherwise take 0

In this paper, the logic thinking includes three levels: (1) If the company use the over-financing for the non-capital investment projects, since this is the idle capital which is over the financing project, companies are likely to wait for better investment opportunities in the future. Use it for the projects which NPV> 0, at least during the storage period to maintain the value of capitals. This will help alleviate the agency problem; (2) If the company use the over-financing for the capital investment projects, at this time to measure the key of overinvestment is to see the whereabouts of capital investment. In this paper, investment opportunities are measured by the whereabouts of capital investment. If the company has better investment opportunities and use over-financing for good investment opportunities, to maintain and increase its value, then the capital investment is not overinvestment. On the contrary, the capital investment is overinvestment, and it will increase the agency costs; (3) If the capital investment is overinvestment, then what kind of corporate governance mechanism will help alleviate the agency problem and reduce the overinvestment problem.

RESULTS

Descriptive statistics

Table 2. Descriptive statistics of the investment of IPO over-financing

Column A: Descriptive statistics on non-capital investment of IPO over-financing				
The investment of over-financing	Number of companies	Amount of money	The proportion(%)	The proportion(%)
Supply working capital	246	1826099.56	54.84	25.49
Deposit raised capitals account	1	9033.98	0.27	0.13
Repay bank loans	148	1494811.35	44.89	20.87
Other working capital account related to main business	30	0.00	0.00	0.00
Total		3329945	100	46.49

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Column B: Descriptive statistics of capital investment of IPO over-financing				
The investment of financing	Number of companies	Amount of money	The proportion(%)	The proportion(%)
Set up subsidiaries	52	447617.31	11.68	6.25
M & A	36	579439.01	15.12	8.09
Purchase factory, self-built building, build factory	3	49538.20	1.29	0.69
Purchase land, real estate	21	141895.47	3.70	2.00
Purchase office space	1	4994	0.13	0.07
Purchase office supplies	1	7000	0.18	0.10
Invest subsidiary	40	409083.61	10.67	5.71
Investment projects and construction projects	111	2150250.1	56.10	30,02
Increase capital	1	4900	0.13	0.07
Foreign investment	1	2200	0.06	0.03
Invest the main business	2	16745.74	0.43	0.23
Advertising	1	2170	0.06	0.03
Marketing service network construction	1	14562	0.38	0.20
Expand the headquarters research and development center	1	2405	0.07	0.02
Total		3832800	100	53.51

As can be seen from Table 2, the capital which company use for the non-capital project such as supplying working capital, repaying bank loans, depositing raised capitals account accounting for 46.49%, the remaining 53.51% of the over-financing are used for capital investment projects. Among the non-capital investment projects, 54.84% are used to supply working capital and 44.89% are used to repay bank loans. The capital investment for investment projects and construction projects has the largest amount, accounting for 56.10%. M & A accounts for about 15.12%. Setting up subsidiaries accounts for 11.68%. Investing subsidiaries accounts for 10.67%.

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Table 3. The descriptive statistics of the company's annual IPO over-financing investment

The investment of over-financing	2006		2007		2008		2009		2010	
	Amount of money(million yuan)	Pro-port-ion (%)	Amount of money(million yuan)	Pro-port-ion (%)	Amount of money(million yuan)	Pro-port-ion (%)	Amoun-t of money(million yuan)	Pro-port-ion (%)	Amoun-t of money(million yuan)	Pro-port-ion (%)
Supply working capital	108574.84	54.19	78391.41	79.67	58115.25	100	172419.10	17.93	1408598.96	23.71
Deposit raised capitals account	0	0	0	0	0	0	0	0	9033.98	0.1521
Repay bank loans	0	0	0	0	0	0	65014.21	6.76	1429797.14	24.07
Other working capital account related to main business	0	0	0	0	0	0	0	0	0	0
Set up subsidiaries	0	0	20000.00	20.33	0	0	79002	8.21	348615.3	5.87
M & A	61896.00	30.89	0	0	0	0	135301.43	14.07	382241.58	6.43
Purchase factory, self-built building, build factory	29878.20	14.92	0	0	0	0	15160.00	1.57	4500	0.08
Purchase land, real estate	0	0	0	0	0	0	42500.85	4.42	99394.62	1.67
Purchase office space	0	0	0	0	0	0	65014.21	6.75	4994	0.08
Purchase office supplies	0	0	0	0	0	0	37058.54	3.86	7000.00	0.12
Invest subsidiary	0	0	0	0	0	0	37058.54	3.86	371125.07	6.25
Investment projects and construction projects	0	0	0	0	0	0	312583.90	32.52	1837666.18	30.93
Increase capital	0	0	0	0	0	0	0	0	4900	0.08
Foreign investment	0	0	0	0	0	0	0	0	2200	0.04
Advertising	0	0	0	0	0	0	0	0	2170	0.04
Marketing	0	0	0	0	0	0	0	0	14562	0.2

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service network construction										5
Expand the headquarters research and development center	0	0	0	0	0	0	0	0	2405.00	0.04
Invest the main business	0	0	0	0	0	0	4745.735	0.5	12000	0.19

Table 3 shows that there are fewer companies with over-financing from 2006 to 2008. Even if there be over-financing phenomenon, the company will use the over-financing to supply working capital more, and rarely carry out various forms of capital investment. Starting from 2009, companies use over-financing for various forms of capital investment, indicating that the capital market agency problem is more serious these two years. The reason may be the country has invested 4 trillion RMB to expand domestic demand from 2008, and under the dual impact of its own factors and excess liquidity, the overinvestment phenomenon is serious.

Table 4.State-owned and non-state-owned companies: Descriptive statistics of the IPO over-financing investment

Project	State - owned companies		Non - state - owned companies	
The investment of over-financing	Amount of money(million yuan)	Proportion(%)	Amount of money(million yuan)	Proportion(%)
Supply working capital	251617.47	40.63	1566682.09	24.04
Deposite raised capitals account	0	0	9033.98	0.14
Repay bank loans	57654.43	9.31	1431656.92	21.97
Other working capital account related to main business	0	0	0	0
Set up subsidiaries	31031.00	5.01	415056.3	6.37
M & A	27670.00	4.47	550789.81	8.45
Purchase factory, self-	0	0	49538.20	0.76

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built building, build factory				
Purchase land, real estate	7082.50	1.14	134812.97	2.07
Purchase office space	0	0	4994	0.08
Purchase office supplies	0	0	7000	0.11
Invest subsidiary	13481	2.18	395602.61	6.07
Investment projects and construction projects	226019.48	36.50	1912706	29.35
Increase capital	0	0	4900	0.08
Foreign investment	0	0	2200	0.03
Advertising	0	0	2170	0.03
Marketing service network construction	0	0	14562	0.22
Expand the headquarters research and development center	0	0	2405.00	0.04
Invest the main business	4745.735	0.8	12000	0.18

As can be seen from Table 4, non-state-owned companies are more inclined to capital investment than state-owned companies. In addition to non-capital investment, state-owned companies tend to invest investment projects and construction projects, set up subsidiaries and conduct mergers and acquisitions. The purchase of factory buildings, self-built building, building factories, capital increase, foreign investment, etc. are not involved. While non-state-owned companies invest variety of capital investment. This indicates that the capital investment of non-state-owned companies' over-financing is more serious than that of state-owned companies.

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Group test of variables

Table 5. Group test of capital investment

Column A: Group test for capital investment of all samples

Variable	Mean(sample)		Mean difference test (T value)
	Tobin's q >the average of the same industry	Tobin's q <the average of the same industry	
RI	0.3231(149)	0.4229(223)	-0.0998(-2.3396***)
RF	5.71e-06(149)	9.60e-06(223)	-3.89e-06(-2.8308***)

Column B:Group test for capital investment of state-owned and non-state-owned companies

Variable	Mean(sample)		Mean difference test (T value)
	state-owned company	non-state-owned company	
RI	0.3186(46)	0.3686(326)	-0.0500(-0.7806)
RF	3.05e-06(46)	7.88e-06(326)	-4.83e-06(-2.3442***)

Column C: Capital investments of state-owned company are grouped according to Tobin s' q

Variable	Mean(sample)		Mean difference test (T value)
	Tobin's q >the average of the same industry	Tobin's q <the average of the same industry	
RI	0. 2573(19)	0.4057(27)	-0.1484(-1.1206)
RF	1.34e-06(19)	5.49e-06(27)	-4.15e-06(-2.2927**)

Column D: Capital investments of non-state-owned company are grouped according to
Tobin s' q

Variable	Mean(sample)		Mean difference test (T value)
	Tobin's q >the average of the same industry	Tobin's q <the average of the same industry	
RI	0.3322(130)	0. 4254(196)	-0.0932(-2.0700**)
RF	6.32e-06(130)	1.02e-05(196)	-3.89e-06(-2.5297***)

According to the previous research hypothesis, we use Tobin's q to measure the investment opportunities of companies. All the samples were divided into two groups according to Tobin's q: Tobin’s q> the average of the same industry and Tobin’s q< the average of the same industry. Follow the logical hypothesis, if the company uses the over-financing for projects with good investment opportunities (Tobin's q> the average of the same industry), there is no overinvestment, then alleviating the agency problem, otherwise there is overinvestment, deepen the agency problem. According to the results

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in column A of Table 5,either in the group of capital investment variables measured by the RI or RF, from the number of samples, the number of samples with a good investment opportunity is 149, and the number of samples with a poor investment opportunity is 223. The former is 1/3 smaller than the latter. In addition, the group with good investment opportunities has a significantly lower mean of capital investment of 9.98% and 3.89e-06 than the group with poor investment opportunities. It is indicating that the company is not use over-financing for the project of good investment opportunities, and it more use over-financing for the project of poor investment opportunities. Reflecting there exist overinvestment problem in over-financing of capital investment.

In addition, we conducted T-test of capital investment of state-owned and non-state-owned companies separately. The results are shown in column B of Table 5. We find that there is no significant difference in investment opportunities between State-owned companies and non-State-owned companies in the group of capital investment variables measured by RI, and in the group of capital investment variables measured by RF, the mean value of capital investment of State-owned companies was less than that of non-State-owned companies at the 1% significance level of 4.83e-06. This indicates that the degree of over-investment of state-controlled listed companies is lower than that of non-state-owned companies. Wang Peng and Zhou Li'an (2006), Wang Peng (2008) found that as the state-owned companies assume more social and public responsibility, which will protect the interests of investors better, the company's performance is higher. In our view, managers of state-owned companies are often appointed by state-owned shareholders and are more subject to governments' supervision and intervention. Therefore, compared with non-state-owned companies, their managers' behave more in line with investors, thus reducing the equity agency Costs (Li Minghui, 2009). Therefore, the degree of overinvestment of state-controlled listed companies is lower than that of non-state-owned companies.

We classify state-owned and non-state-owned companies according to Tobin's q respectively and conduct a T-test for capital investment, as shown in column C and column D of Table 5. The results in Column C show that the majority of State-owned companies are more likely to invest in projects with better opportunities. In the group of capital investment measured by RF, the group with good investment opportunity was significantly lower than the group with poor investment opportunity by 4.15e-06. Combined with the results of the sample number and the mean difference test, we can see that although the state-owned companies are constrained higher, when they are ready to invest, they pay more attention to investment opportunities. However, there are a few state-owned companies use over-financing to conduct overinvestment. As can be seen from the results in column D, the group with good investment opportunities is less than the sample of non-state-owned companies in the group with poor investment opportunities near 1/3. In the two groups measured by RI and RF, capital investment with good investment opportunities was 9.32% and 3.89e-06 less than the capital investment with poor investment opportunities respectively, and was established at a significant level of 5% and 10%, which proves that the agency problem of non-state-owned companies is more serious than that of state-owned companies.

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Multiple regression analysis

Table 6. Regression analysis of internal governance and overinvestment of over-financing

Variable	Predicted symbols	Model 1 (OI)		Model 2 (OF)	
		Coefficient	T value	Coefficient	T value
Intercept	?	-0.442	-0.60	-0.681	-0.70
Executive's equity incentive	-	-1.03e-09	-1.15	-4.49e-09	-0.87
Executive's monetary compensation	+	0.068*	1.71	0.102*	1.84
The combination of chairman and general manager	+	0.040*	1.82	0.085**	2.41
Proportion of independent directors	-	-0.236	-0.40	-2.351	-0.35
Board size	-	-0.018	-0.95	-0.231	-1.49
Equity checks and balances	-	-0.004***	-3.42	-0.031***	-2.90
Company performance	+	0.115***	3.46	0.379*	1.91
Year		control	control		
Industry		control	control		
Adj.R2		0.1826	0.0517		
F test		3.24***	1.55*		
Number of samples		222	109		

Notes: ***, **, * represent significance levels of 1%, 5%, and 10%

The above results show that Tobin's q < the average of the same industry's capital investment should be overinvestment. So whether good corporate governance mechanism can help alleviate overinvestment? We use Tobin's q < the average of the same industry's capital investment OI, O F on behalf of overinvestment. The regression results of the models (1) and (2) are shown in Table 6. In model 1 with OI as the dependent variable, the higher the degree of ownership incentive of the executives, the less the firm will not use IPO over-financing for overinvestment. However there is no significant correlation between them, so the hypothesis 1 does not hold. Possible explanation is that the level of executive incentive and the level of equity are not high, it can't constrain the overinvestment behavior of executives. the higher monetary compensation of company executives is, the more they will incline to use IPO over-financing for overinvestment., hypothesis 2 holds. The combination of chairman and general manager is significantly correlated with the overinvestment of IPO over-financing at the 10% level, hypothesis 3 holds. The higher degree of equity checks and

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balances is, the less the managers do in the overinvestment of IPO over-financing. And at the level of 1% was significant, this supports hypothesis 4. The higher the corporate's earnings per share, the more they will incline to over-investment, indicating that the better the performance of companies, the greater the degree of overinvestment in the use of IPO over-financing.

The results of overinvestment measured by OF are shown in Model 2, and the empirical results are in good agreement with overinvestment measured by OI.

DISCUSSION AND CONCLUSION

As a peculiar phenomenon to China's capital market, IPO over financing has become an important topic to the market. In this paper, we discuss the relationship between the internal governance and the use of IPO over-financing from 2006 to 2010. The study found:

(1) Because of the agency problem, listed companies have serious overinvestment behavior when using IPO over-financing. The overinvestment more performance in investment and construction projects, mergers and acquisitions, establishment and investment of subsidiaries and so on.

(2) Internal governance mechanism can effectively alleviate the overinvestment in the use of IPO over-financing of listed companies. The combination of chairman and general manager will lead to overinvestment of IPO over-financing. The higher the company executives have monetary compensation, the more they will incline to use IPO over-financing for over-investment. The higher degree of equity checks and balances is, the less the managers do in the overinvestment of IPO over-financing.

(3) The problem of overinvestment of state holding listed companies is lower than that of non-state holding listed companies. In addition to non-capital investment, state-owned companies tend to invest and construct projects, set up subsidiaries and conduct mergers and acquisitions in capital investment, while the rest of the capital investment is not involved. Non-state companies conduct various forms of capital investment.

From this conclusion we can draw the following enlightenment: First, the combination of long-term and short-term, to further reform the IPO system. The inefficient use of over-financing by many companies in the growth company market (GEM) is not only contrary to the original intention of the establishment of the GEM, but also poses challenges to the stable and healthy development of the capital market. To this end, in the short term the company should actively explore the pilot of placing right of securities trader, the introduction of stock issuance, increase the placing proportion of institutional investors under the net, redesign asset reorganization, increase delisting efforts and other measures. In the long run, the company should further intensify the market-oriented efforts to issue new shares, and abolish the examination and approval system for new shares issuance. The company should also establish a high threshold of access to information disclosure system, increasing the supply of the securities market. Second, listed companies with better internal governance can effectively alleviate the agency problem in the use of IPO over-financing, improve the efficiency of the use of capitals. Therefore, we should further improve the governance mechanism of listed companies to promote the sound management of GEM companies.

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