Venture Capital and IPO Underpricing

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IPO underpricing refers to the phenomenon that the initial public offering price of a stock is significantly lower than the initial market closing price of the listing, and this phenomenon is widespread in the capital market. It is generally believed that information asymmetry is one of the main reasons for IPO underpricing. In order to make up for investors who are at an information disadvantage, stock issuers will actively reduce the issuance price of stocks to promote the successful issuance of the stocks. The majority of companies listed on ChiNext are high-technology companies with high growth potential, and a large number of empirical studies have shown that venture capital plays a role in signaling high-quality equity offerings in the corporate process. This is because venture capital plays a monitoring and certification role, which means venture capitalists can determine which R&D activities are more likely to be successful, and they can provide investors with accurate information about R&D investment and whether the information disclosed at the IPO is true.

Keywords: R&D investment ; IPO underpricing ; venture capital ; syndication

1. Analysis on the Impact of Enterprise R&D Investment on IPO Underpricing

One of the main reasons for IPO underpricing is the existence of information asymmetry. The information asymmetry between companies and external investors makes companies send a good signal to the external market, by lowering the stock issue price, leading to increased IPO underpricing [1]. The asymmetry of information among investors has led to a “winner’s curse”. In order to retain uninformed investors, companies underpricing to issue stocks also increase IPO underpricing.

Although R&D investment has a positive effect on corporate performance and market value, as part of the corporate disclosure of information, scholars generally find that R&D information can also aggravate the information asymmetry between enterprises and external investors, and among investors [2][3].

1.1. Information Asymmetry between Companies and External Investors Caused by R&D Investment

The information asymmetry between enterprises and external investors can be analyzed from the following three perspectives: (1) the degree of information disclosure; (2) the characteristics of R&D activities; and (3) accounting treatment methods.

From the perspective of the degree of information disclosure of R&D investment, there are the following two problems: one is incomplete disclosure of the information, and the other is incomplete information. The standards do not make clear and mandatory provisions for companies to disclose their R&D investment information. Therefore, many companies directly ignore the disclosure of R&D information. The incompleteness of the disclosed information is not conducive to the judgment of external information users on the value of the enterprise, and will further aggravate information asymmetry [2].

From the perspective of the characteristics of R&D activities, the important role of enterprise R&D activities is to improve the process or output of innovation activities, and the long-term nature of R&D investment is destined to not bring immediate benefits to the enterprise, which makes the R&D investment increase the uncertainty about whether it can provide added value. The uncertainty of the future value growth of enterprises will lead to extremely high IPO underpricing [4][5].

From the perspective of accounting treatment, the expense of R&D investment not only leads to the reduction in the earnings management efficiency of enterprises, but also leads to the reduction in balance sheet accuracy, which affects the judgment of external statement users, may make the enterprise value be underestimated, and increases the IPO underpricing degree.

1.2. Information Asymmetry among Investors Caused by R&D Investment

The "winner's curse" theory was first proposed by Rock [6]. He believed that during the issuance of new shares, investors in the market have different information grasps for each company in the market, due to their own circumstances and their ability to obtain information. There are the following two different types of investors in the market: insiders, with information advantages, and non-informers, with information disadvantages. Because the insiders have more knowledge about the company's information, they will only buy the low-priced stocks during the IPO process. As for the uninformed, who are at an information disadvantage, it is often easier to buy stocks with an issue price higher than their true value, because they cannot identify stocks with a low issue price. Uninformed persons are at risk of adverse selection. In reality, the uninformed can also recognize the risks they face and demand compensation for the risks, while the issuer will take the initiative to lower the issuance price of the stock for the success of the stock issuance, and take measures against the risks faced by the uninformed.

Beatty and Ritter conducted further research and proposed that the degree of uncertainty in the company's value will affect the company's IPO underpricing [7]. The greater the uncertainty of the company's value, the more serious the company's IPO underpricing. It is mainly based on the "winner's curse" hypothesis, which believes that the greater the degree of uncertainty in the value of an enterprise, the greater the proportion of uninformed persons who are at an information disadvantage, and the greater the information uncertainty they face. At this time, there are only two choices for the uninformed person who are at an information disadvantage. Either collect information to solve the risks caused by information uncertainty, or settle on the status quo and bear the risks caused by information uncertainty. In order to further reduce the cost of the company to investors and make up for the increased risk of investors, the issuing company will further reduce the cost of stock issuance, thereby triggering a higher IPO underpricing. In response to the "winner's curse" theory, Chinese scholars have also carried out corresponding verifications, based on data from the Chinese market. Zhang and Lu used 859 companies listed from 2000 to May 2010 as samples to compare Rock's "winners' curse" theory [8]. Empirical testing of the theory of "the curse of the person", and the risk hypothesis of the Ritter and Beatty study found that, overall, these two theories are effective in the Chinese market.

Regarding the information asymmetry among investors, according to the "winner's curse" hypothesis, compared with the non-informers, the insiders of the company, such as inquiry agencies, underwriters, and external related parties, have a better understanding of the direction and content of the company's R&D investment, process and impact on corporate performance. With the increase in R&D investment, the degree of information asymmetry between insiders and non-informers will increase further [6].

2. Analysis on the Moderating Effect of VC on R&D Investment and IPO Underpricing

Venture capital plays the following two main roles in the IPO process of participating enterprises: certification supervision and opportunism.

2.1. The Influence of VC on R&D Investment and IPO Underpricing When It Plays the Role of Certification Supervision

Under the role of the certification and supervision of VC, the role of the certification and supervision of VC will weaken the positive relationship between R&D investment and IPO underpricing. The reasons include the following: (1) the participation of VC gives the market more confidence in the quality of IPO companies [9][10]; (2) VC will supervise the company's R&D investment and other information disclosure, thereby reducing the degree of information asymmetry [11]; (3) VC and innovation have a natural link. VC can provide value-added services to companies in various aspects, such as corporate strategic decision-making, thereby reducing the possibility of corporate R&D failures and the information asymmetry caused by the R&D activity itself [12].

2.2. The Impact of Venture Capital on R&D Investment and IPO Underpricing When It Plays an Opportunistic Role

With venture capital playing an opportunistic role, the participation of VC will strengthen the positive relationship between the intensity of R&D investment and IPO underpricing. The possible reasons are as follows: (1) VC is eager to improve its reputation through listing, and the addition of venture capital will increase the pre-IPO earnings management and whitewash the company's financial statements [13]. In this case, the degree of information asymmetry between IPO companies and investors has increased; (2) in the case of VC playing an opportunistic role, external investors in the market will have adverse selection of venture capital behaviors, thereby magnifying the positive relationship between R&D investment and IPO underpricing.

3. Analysis of the Regulatory Effect of VC Syndication on R&D and IPO Underpricing

There are two completely opposite views on the relationship between joint investment and IPO underpricing. Each participant in the syndication has their own unique professional knowledge, information and different industry insights. The syndication can share resources, reduce investment risks, and provide enterprises with more value-added services [14]. Moreover, due to the existence of the network effect, the syndication can further certify the value of the enterprise, reduce the information asymmetry between the enterprise and external investors, and reduce IPO underpricing [15]. Although the advantages of VC syndication are obvious, the disadvantages are also obvious. There will be a "free-rider" phenomenon within the VC syndication [16]. The existence of VC syndication may also lead to an increase in coordination costs, leading to an increase in the cost of the type II agency.

3.1. The Influence of Venture Capital Syndication on R&D Investment and IPO Underpricing When Exerting Network Effects

When venture capital syndication can take advantage of its network effect, venture capital within the consortium can share information and resources, which can provide the companies with the necessary industry experience and expertise. At the same time, when syndication exerts a network effect, it can reduce the opportunistic tendency of venture capital. Its participation in the formation of a consortium can show that it is optimistic about the R&D investment of the invested company, and reduces the R&D investment. The resulting uncertainty in corporate value weakens the asymmetry of information caused by R&D investment [17][18], thereby certifying corporate R&D investment.

3.2. The Impact of Venture Capital Syndication on R&D Investment and IPO Underpricing When It Is Inclined to Opportunism

When VC syndication cannot give full play to its advantages, the existence of syndication may intensify the positive correlation between R&D investment and IPO underpricing. The specific analysis is as follows: (1) Under the risk of opportunistic investment, the syndication will further package the company's R&D investment information, and increase the earnings management of the invested company before IPO [19][20][21], thereby intensifying the R&D information asymmetry caused by investment, and increasing the degree of IPO underpricing. (2) The "free-rider" behavior of venture capital syndication will lead to a decrease in the sense of responsibility and participation of venture capital institutions, and the need to coordinate the interests of all parties in the joint investment institution, resulting in aggravation of the agency problem, and the syndication will not be able to effectively exert its supervision and management [22][23]. Also, the value-added function provides effective support for the enterprise's R&D activities, and cannot alleviate the uncertainty of value caused by R&D investment.

References

1. Allen, F.; Faulhaber, G.R. Signalling by underpricing in the IPO market. J. Financ. Econ. 1989, 23, 303–323.
2. Aboody, D.; Lev, B. Information Asymmetry, R&D, and Insider Gains. J. Financ. 2000, 55, 2747–2766.
3. Han, P.; Shen, C. R&D Investment, Venture Capital and IPO Underpricing—An Empirical Study of IPO Companies in GEM. Manag. Rev. 2017, 29, 12–24.
4. Lowry, M.; Shu, S. Litigation risk and IPO underpricing. J. Financ. Econ. 2002, 65, 309–335.
5. Guo, R.J.; Lev, B.; Shi, C. Explaining the Short-and Long-term IPO Anomalies in the US by R&D. J. Bus. Financ. Account. 2006, 33, 550–579.
6. Rock, K. Why new issues are underpriced. J. Financ. Econ. 1986, 15, 187–212.
7. Beatty, R.P.; Ritter, J.R. Investment banking, reputation, and the underpricing of initial public offerings. J. Financ. Econ. 1986, 15, 213–232.
8. Zhang, S.; Lu, Y. Empirical Tests of the "Winner's Curse"and Risk Hypotheses for IPO Underpricing in the Chinese A-Share Market. Manag. Rev. 2014, 26, 42–52.
9. Megginson, W.L.; Weiss, K.A. Venture Capitalist Certification in Initial Public Offerings. J. Financ. 1991, 46, 879–903.

10. Fu, L.; Wan, D.; Zhang, Y. Does R&D Investment Level Affect the Underpricing of IPOs?—Research Based on the Companies Listed on ChiNext. Res. Econ. Manag. 2011, 11, 52–60.
11. Lee, G.; Masulis, R.W. Do more reputable financial institutions reduce earnings management by IPO issuers? J. Corp. Financ. 2011, 17, 982–1000.
12. Hellmann, T.; Puri, M. Venture Capital and the Professionalization of Start-Up Firms: Empirical Evidence. J. Financ. 2002, 57, 169–197.
13. Chahine, S.; Arthurs, J.D.; Filatotchev, I.; Hoskisson, R.E. The effects of venture capital syndicate diversity on earnings management and performance of IPOs in the US and UK: An institutional perspective. J. Corp. Financ. 2012, 18, 179–192.
14. Lerner, J. Venture Capitalists and the Oversight of Private Firms. J. Financ. 1995, 50, 301–318.
15. Tian, X. The Role of Venture Capital Syndication in Value Creation for Entrepreneurial Firms. Rev. Financ. 2012, 16, 245–283.
16. Wright, M.; Lockett, A. The Structure and Management of Alliances: Syndication in the Venture Capital Industry. J. Manag. Stud. 2003, 40, 2073–2102.
17. Hu, L.; Shen, W. Research on the Influence of Venture Capital Syndication Strategy on Venture Capital Performance. Secur. Mark. Herald 2014, 11, 8–20.
18. Shen, W.; Hu, L. Study on the Influence of Venture Capital Syndication on Corporate Governance of Entrepreneurial Firms—From the Perspectives of Board Structure and Executive Compensation Contracts. Collect. Essays Financ. Econ. 2014, 4, 64–71.
19. Xu, H.; Wan, D.; Xu, J. Venture Capital Syndication's Member Background, Organizational Structure, and IPO Underpricing: An Empirical Research Based on the GEM of China. Syst. Eng. Theory Pract. 2015, 35, 2177–2185.
20. Wei, W. The Effect of Venture Capital Syndicate on IPO Underpricing Level—Empirical Evidence Based on the Domestic Capital Market; Southeast University: Nanjing, China, 2015.
21. Wang, Y.; Liu, R.; Zhang, Z. The Impact of Heterogeneity of Venture Capital Syndication on the Value of IPO Companies—From the Perspective of IPO Underpricing and CAR. Mod. Financ. Econ. 2018, 38, 29–40.
22. Wongsunwai, W. Does Venture Capitalist Quality Affect Corporate Governance; Working Paper; Harvard Business School: Boston, MA, USA, 2007.
23. Wang, C.; Bu, Y. The Impact of Joint Investment on IPO Underpricing—Empirical Evidence from Listed Companies on the GEM. J. Financ. Dev. Res. 2019, 4, 79–86.