



INSTITUTO
UNIVERSITÁRIO
DE LISBOA

The Impact of Equity Structure on Firm Value: Evidences from Companies Listed on China's Science and Technology Innovation Board

XUE Yun

Doctor of Management

Supervisors:

PhD Álvaro Dias, Assistant Professor,
Iscte - Instituto Universitário de Lisboa

PhD LI Ping, Professor,
University of Electronic Science and Technology of China

March, 2024



BUSINESS
SCHOOL

Marketing, Operations and General Management Department

The Impact of Equity Structure on Firm Value: Evidences from Companies Listed on China's Science and Technology Innovation Board

XUE Yun

Doctor of Management

Supervisors:

PhD Álvaro Dias, Assistant Professor,
Iscte - Instituto Universitário de Lisboa

PhD LI Ping, Professor,
University of Electronic Science and Technology of China

March, 2024



BUSINESS
SCHOOL

Marketing, Operations and General Management Department

The Impact of Equity Structure on Firm Value: Evidences from Companies Listed on China's Science and Technology Innovation Board

XUE Yun

Doctor of Management

Jury:

PhD Felipa Dias de Mello Sampayo, Assistant Professor,
Iscte - Instituto Universitário de Lisboa

PhD Ronnie Joshé Figueiredo de Andrade, Adjunct Professor with Habilitation,
IPAM – Marketing Leads Business

PhD Zeng Yong, Full Professor,
University of Electronic Science and Technology of China

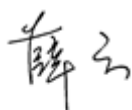
PhD Leandro Luís Ferreira Pereira, Associate Professor with Habilitation,
Iscte – Instituto Universitário de Lisboa

PhD Álvaro de Borba Cruz Lopes Dias, Associate Professor with Habilitation,
Iscte – Instituto Universitário de Lisboa

March, 2024

Declaration

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.



Signed:

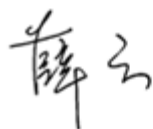


Date: 2024.3.30

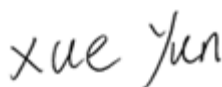
Name: XUE Yun

作者申明

本人郑重声明：除了论文致谢中明确说明并致以谢意的部分外，所呈交的论文不包含任何他人或作者本人已用于获得任何教育机构的学位和证书而使用过的材料。同时尽我所知，除了文中特别加以标注引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写的成果作品。



作者签名：



日期：2024.3.30

姓名(拼音)：XUE Yun

[This page is deliberately left blank.]

Abstract

The impact of ownership structure on company value and even the overall operation of enterprises has always been present. This study focuses on clarifying the dimensions and ways in which ownership structure affects company value. The specific questions include: (1) Through which variables does ownership structure affect company value? (2) How does ownership structure affect company value in terms of concentration of ownership, checks and balances of ownership, nature of ownership, management holdings, capital structure, and private equity investment? What is the extent of the impact? (3) Are there any novel, rare, or extreme phenomena? What are the complex reasons and evolutionary processes behind the impact of ownership structure on company value? Due to the limitations and deficiencies of single research methods, this study attempts to complement quantitative research with qualitative research findings.

This study used descriptive statistics to add control variables in the regression process. After obtaining the regression results, a robustness test was conducted again. Through quantitative research, it was found that the concentration of ownership, checks and balances of ownership, and the proportion of private equity investment in companies listed on the Science and Technology Innovation Board show a significant positive relationship with the company's initial public offering (IPO) value and the value after the lock-up period expires. Although the nature of ownership has a significantly negative correlation with the company's IPO value, and the debt-to-equity ratio has a significantly positive correlation with the company's IPO value, neither affected the company's value at the time of lock-up expiration nor after the lock-up period. Meanwhile, management holdings showed no significant relationship with the company's value at IPO or after the lock-up period. Additionally, through in-depth interviews, it was discovered that a higher concentration of ownership might lead to out-of-control problems in ownership checks and balances, but avoids the disadvantages of the modern enterprise management system mentioned in theories such as agency theory, control rights theory, and insider control theory. The proportion of state ownership, debt-to-equity ratio, and the proportion of private equity investment are the results of multi-party game, ultimately aiming to help enterprises obtain necessary funding and resources. Based on the conclusions and discussion of the results, management insights and supervisory recommendations with practical

significance are provided to major shareholders, company executives, investors, and government regulatory departments.

Keywords: Equity structure; Company value; Private equity investment; Empirical study

JEL: G32, G34

Resumo

O impacto da estrutura acionista no valor da empresa e até mesmo no funcionamento geral das empresas sempre esteve presente. Este estudo concentra-se em esclarecer as dimensões e formas pelas quais a estrutura de propriedade afeta o valor da empresa. As questões específicas incluem: (1) Através de quais variáveis a estrutura de propriedade afeta o valor da empresa? (2) Como é que a estrutura acionista afecta o valor da empresa em termos de concentração de propriedade, controlos e equilíbrios de propriedade, natureza da propriedade, participações de gestão, estrutura de capital e investimento em capital privado? Qual é a extensão do impacto? (3) Existem fenómenos novos, raros ou extremos? Quais são as razões complexas e os processos evolutivos por trás do impacto da estrutura de propriedade no valor da empresa? Devido às limitações e deficiências de métodos de pesquisa individuais, este estudo tenta complementar a pesquisa quantitativa com resultados de pesquisa qualitativa.

Este estudo utilizou estatística descritiva para adicionar variáveis de controle no processo de regressão. Após a obtenção dos resultados da regressão, foi realizado novamente um teste de robustez. Por meio de pesquisa quantitativa, constatou-se que a concentração de propriedade, o equilíbrio de propriedade e a proporção de investimentos em private equity nas empresas listadas no Conselho de Inovação Científica e Tecnológica apresentam uma relação positiva significativa com o valor da oferta pública inicial (IPO) da empresa. e o valor após o término do período de lock-up. Embora a natureza da propriedade tenha uma correlação significativamente negativa com o valor do IPO da empresa, e o índice dívida/capital próprio tenha uma correlação significativamente positiva com o valor do IPO da empresa, nenhum dos dois afetou o valor da empresa no momento do vencimento do lock-up nem após o período de bloqueio. Entretanto, as participações de gestão não mostraram qualquer relação significativa com o valor da empresa no IPO ou após o período de lock-up. Além disso, através de entrevistas em profundidade, verificou-se que uma maior concentração de propriedade pode levar a problemas no controlo e e equilíbrios de propriedade, mas evita as desvantagens do moderno sistema de gestão empresarial mencionado em teorias como a teoria da agência, teoria dos direitos de controle e teoria do controle interno. A proporção de propriedade estatal, o rácio dívida/capital próprio e a proporção de investimento em capital privado são os resultados de um jogo multipartidário, que visa, em última análise, ajudar as empresas a obter o financiamento e os recursos necessários.

Com base nas conclusões e na discussão dos resultados, insights de gestão e recomendações de supervisão com significado prático são fornecidos aos principais acionistas, executivos de empresas, investidores e entidades governamentais.

Palavras-chave: Estrutura de capital; Valor da empresa; Investimento em capital privado; Estudo empírico

JEL: G32, G34

摘要

股权结构对于公司价值甚至企业整体运营的影响一直存在，本研究聚焦厘清股权结构影响公司价值的维度与方式，具体问题包括：（1）股权结构通过哪些变量与公司价值之间产生影响？（2）股权结构从股权集中度、股权制衡、股权性质、管理层持股、资本结构、私募股权投资等多个变量对公司价值会产生如何的影响？会产生多大的影响程度？（3）是否存在新颖、罕见或极端的现象？股权结构对公司价值影响的复杂原因及演变过程又是如何？由于单一研究方法的限制与不足，本次研究尝试在定量研究的基础上，补充了定性研究的成果。

本次研究通过描述性统计的方法，在回归过程中依次加入控制变量，在得到回归结果后，再次进行了稳健性检验。通过量研究发现，在科创板上市公司的股权集中度、股权制衡度、私募股权投资比例与企业的首发公司价值、解禁公司价值呈现显著性正向关系。虽然股权性质与首发公司价值成显著性负相关，债务股本比与首发公司价值成显著性正相关，但均未影响到解禁时公司价值及解禁后公司价值。而管理层持股则与首发、解禁后公司价值均无显著性影响关系。同时，研究通过深度访谈发现，股权集中度越高，可能会产生股权制衡失控的问题，但规避了委托代理理论、控制权理论以及内部人控制理论提到的现代企业管理制度的弊端。而国有股权比例、债务股本比、私募股权投资比例则是多方博弈的结果，最终目的是帮助企业获取必需的资金与资源。在研究结论与结果讨论的基础上，向公司大股东、公司高管、投资人、政府监管部门提供了具有实践意义的管理启示及监督建议。

关键词：股权结构；公司价值；私募股权投资；实证研究

JEL: G32, G34

[This page is deliberately left blank.]

Acknowledgements

As I complete this doctoral dissertation, my heart is filled with reflection and gratitude. Looking back on the years spent in pursuit of my DoM, I realize that every step I have taken was supported and assisted by many.

I would like to express my sincere gratitude to my Portuguese supervisor, Professor Álvaro Dias of ISCTE, Portugal. You provided me with valuable academic resources and a research platform, allowing me to smoothly conduct my research work even from afar in China. Your patient guidance and detailed explanations, and every piece of advice for my dissertation, have helped me gain a clearer thought process, significantly improving the quality of my thesis.

I am thankful to my Chinese supervisor, Professor Li Ping from the University of Electronic Science and Technology of China, for your meticulous guidance in my course studies and thesis writing. You have been a beacon of stability, your rigorous scholarship and hard-working spirit have deeply influenced me, allowing me to thrive academically and advance continuously.

Gratitude is also due to the translators who assisted me during my research process. Their attention to detail in formatting and fluent expression was impeccable. Likewise, I must thank my classmates and friends who studied alongside me. We discussed academic problems together and spent many unforgettable moments; their encouragement and support made life much more enjoyable and easier.

Lastly, I want to thank my family, who have always been my strongest support and the driving force behind my continual progress. No matter the difficulties or setbacks I faced, you offered me unconditional support and encouragement. "A wonderful feast" is how I summarize my DoM journey; immersing in it has been a rare and precious joy. Ups and downs, steep slopes make the memories of life more memorable, and I am grateful for such experiences.

[This page is deliberately left blank.]

致谢

当我完成这篇博士论文之际，内心充满了感慨与感激。回首博士在学的时光，我深感自己走过的每一步都离不开众多人的支持与帮助。

我要衷心的感谢葡方导师葡萄牙里斯本大学学院 Álvaro Dias 教授，您为我提供了宝贵的学术资源和研究平台，让我远在中国也能顺利开展研究工作。您的耐心指导和细致讲解，在博士论文的写作中的每次建议都让我有了更加清晰的思路，使我的论文质量得到了极大的提升。

感谢我的中方导师电子科技大学李平教授，感谢老师在课程学习、论文写作等方面的悉心指导，您是犹如定心针一般的存在。您的严谨治学、勤奋工作的精神，深深影响了我，让我在学术道路上如沐春风、不断前行。

感谢在我研究过程中提供帮助的翻译老师，无论从格式规范、流利的表达等方方面面都无微不至。同时，我也要感谢一起同窗治学的同学和朋友们，我们一同探讨学术问题，一起度过了许多难忘的时光；朋友们给予我的鼓励与支持，使得生活变得更加轻松愉快。

最后我要感谢我的家人，你们始终是最坚实的后盾，是我不断前行的动力。无论我遇到多大的困难与挫折，你们都给予我无条件的支持与鼓励。“一场美妙的宴席”是我对博士时光的概括，能够沉浸其中是一种难得可贵的快乐。起伏和陡坡能让生活的记忆更具有回味的意义，我感谢自己有过这样的经历。

[This page is deliberately left blank.]

Contents

Chapter 1 : Introduction	1
1.1 Research background	1
1.2 Research significance	5
1.2.1 Theoretical significance	6
1.2.2 Practical significance.....	7
1.3 Research approach.....	9
1.3.1 Research problem and questions	9
1.3.2 Research framework.....	10
1.4 Research methods.....	13
Chapter 2 : Literature Review	15
2.1 Conceptualization and definition of research variables	15
2.1.1 Concept and research overview of equity structure	15
2.1.2 Concept and research overview of company value	22
2.2 Hypotheses development.....	41
2.2.1 Ownership concentration and company value	43
2.2.2 Corporate governance, equity checks and balances, and company value	46
2.2.3 Nature of shares and company value.....	49
2.2.4 Management and company value	53
2.2.5 Capital structure and company value	56
2.2.6 Private equity and company value	59
2.3 Research theories.....	65
2.3.1 The Modigliani-Miller (M&M) theorem.....	65
2.3.2 Principal-agent theory	66
2.3.3 Control theory	69
2.3.4 Theory of insider control.....	70
2.4 Summary	71
Chapter 3 : Research Methods	73
3.1 Summary of research methods	73
3.2 Quantitative study	74
3.2.1 Data collection and sample characteristics.....	74

3.2.2 Variable definitions and data description	75
3.3 Qualitative research method.....	77
3.3.1 Advantages and limitations of in-depth interview.....	77
3.3.2 In-depth interview and case selection	77
Chapter 4 : Results Analysis.....	81
4.1 Quantitative analysis results.....	81
4.1.1 Regression model	81
4.1.2 Regression results.....	81
4.1.3 Robustness test	88
4.2 Qualitative analysis results.....	98
4.2.1 The increased concentration of equity ownership has enhanced the operational efficiency of startups while reducing the margin for error.....	98
4.2.2 Equity checks and balances exist within the ownership structure, but the strength and the subjects of balance vary significantly in different scenarios	99
4.2.3 Diversification of equity types represents an ideal model, where the crux of enterprise development lies in its suitability	101
4.2.4 The dilemma of corporate value under insider control necessitates a resolution through alignment of interests within the "principal-agent" framework.....	102
4.2.5 The capital structure, influenced by the stage of the enterprise, decides the rate of company value growth.....	104
4.2.6 The dual-edged nature of private equity investment is evident, impacting both the increase and decrease in company value significantly	105
Chapter 5 : Discussion of Results	107
5.1 Discussion on the relationship between equity concentration and corporate market value	107
5.2 Discussion on the relationship between equity checks and balances and corporate value	110
5.3 Discussion on the relationship between equity nature and corporate value.....	112
5.4 Discussion on the relationship between management shareholding and company value	114
5.5 Discussion on capital structure and firm value	115
5.6 Discussion on private equity investment and firm value	116
Chapter 6 : Research Conclusions.....	121
6.1 Research summary	121
6.1.1 Research conclusions	121

6.1.2 Theoretical contributions.....	122
6.2 Practical implications and management recommendations	123
6.3 Research limitations	125
Bibliography.....	127
Other References	141
Annex A: Interview Outline	143

[This page is deliberately left blank.]

List of Tables

Table 3.1 Variable definitions.....	75
Table 3.2 Descriptive statistics.....	76
Table 4.1 Estimation Result: Log_firm_value	82
Table 4.2 Estimation Result: Log_first_value.....	83
Table 4.3 Estimated results: the unlock market value.....	85
Table 4.4 The estimated results: the unlock market value (robust standard errors adjusted for potential heteroskedasticity).....	85
Table 4.5 The correlation matrix for the variables	86
Table 4.6 Robustness test: using Firm_value as the dependent variable.....	88
Table 4.7 Robustness test: First_value as the dependent variable.....	89
Table 4.8 Robustness test: several unlock market values as the explained variable (robust standard errors adjusted for possible heteroscedasticity).....	91
Table 4.9 Robustness test: unlock market values as the explained variable (robust standard errors adjusted for possible heteroscedasticity)	91
Table 4.10 Robustness test: Log_firm_value as the explained variable.....	93
Table 4.11 Robustness test: Log_first_value as the dependent variable	94
Table 4.12 Robustness test: Log_expiration_in_year as the dependent variable.....	95
Table 4.13 Robustness test: Log_expiration_after_month as the dependent variable	96
Table 4.14 Robustness test: Log_expiration_after_halfyear as the dependent variable.....	96
Table 4.15 Robustness test: Log_expiration_after_year as the dependent variable.....	97

[This page is deliberately left blank.]

List of Figures

Figure 1.1 The research framework for this study	11
Figure 2.1 Number of existing studies on share/equity structure published in China from 1980 to 2022.....	16
Figure 2.2 Number of existing studies on share/equity structure published in countries other than China from 1980 to 2022.....	16
Figure 2.3 Number of existing studies on enterprise/firm/company/corporate value published in China from 1980 to 2022	16
Figure 2.4 Number of existing studies on enterprise/firm/company/corporate value published in countries other than China from 1980 to 2022.....	17
Figure 2.5 The five stages of equity investment and the number of publications on share structure	18
Figure 2.6 Conceptual model and hypotheses of this study	72

[This page is deliberately left blank.]

List of Acronym

IPO	Initial Public Offering
STAR Market	Science and Technology Innovation Board

[This page is deliberately left blank.]

Chapter 1: Introduction

1.1 Research background

Companies play a pivotal role in the advancement of society and economic development. Outstanding companies not only generate substantial economic benefits for shareholders but also produce significant social impact (Di Domenico et al., 2010; T. T. Li et al., 2021; Sparviero, 2019). Identifying and investing in such excellent companies create both economic and social value. With the widespread diffusion of entrepreneurial mindset and the maturation of entrepreneurial environments, the fervor for entrepreneurship in China is reaching unprecedented heights under the guidance of benchmark Companies (Y. L. Y. L. Zhang, 2019). Transitioning from establishing a business to taking it public is no longer considered an unreachable pinnacle of business operation; instead, it has become an original intention for every entrepreneur (Ahmad-Zaluki & Badru, 2021; Carbone et al., 2022; L. Wang & Wang, 2020). For many startup companies, although listing on major capital markets could result in greater financing opportunities, what is more essential is that it demonstrates the company's position as an industry leader or high-quality company under the guidance of the core team and the efforts of all shareholders. Due to strict regulation in capital markets, listed companies have higher social credibility in terms of operational control and performance expectations compared to non-listed companies. As shareholders maximize shareholder value, they also maximize both the economic and social value of the company (Kanagaretnam et al., 2022; Kong et al., 2021).

Deng and Cheng (2019) and Feng et al. (2018) argue that in the evaluation system of local/regional economies, key indicators include the number of listed companies, the total market capitalization of listed companies, and their contribution to gross domestic product (GDP). Shareholders, as the owners of listed or to-be-listed companies, aim to collaboratively grow and develop the company, which is a crucial goal for effectively maximizing its social value (Dutta & Ring, 2021; Inkpen & Sundaram, 2022).

The structure of shareholders is a central component of corporate development and a hot topic in academic research (Javeed & Lefen, 2019; Vu et al., 2018; Zaid et al., 2020). In recent years, there has been a growing number of academic research works centered around

this topic in increasingly popular fields. With the maturation of China's market economy, markets are becoming increasingly flexible, and the freedom for company establishment and growth has also elevated. While the increased market flexibility is favorable for the market's tolerance of corporate development, it also poses more diversified challenges for corporate growth. Darko et al. (2016) contend that the rationality of equity structure design is directly related to multiple aspects such as corporate governance and business innovation. Incorporating the rationality of equity structure into the core issues of company development from its inception can play a vital role in utilizing equity incentives to stimulate the enthusiasm of management and core personnel throughout the company's growth trajectory.

With the improvement of China's capital markets, innovative companies that previously had to resort to listing on America. or Hong Kong stock exchanges can now find more suitable and convenient capital operation opportunities in China's A-share market. This is a significant advantage for companies but also places new requirements on corporate development and even equity structure (J. B. Chen et al., 2018). For this study, finding an appropriate equity structure from already-listed innovative companies can help this study refine the evaluation system for high-quality companies in the investment process.

In the process of corporate development, shareholders have clear-cut roles, serving as an important microcosm of social division of labor (D. K. Liu, 2018). For shareholders with varying types, characteristics, identities, and experiences, their contributions to the company differ, and to some extent, they may amplify or offset the collective shareholder impact on corporate development and operations. Changes in shareholder structure unfold as a gradual, dynamic process. Both the equity structure and shareholder identities require continuous iterations and updates, evolving in tandem with the company (Gan et al., 2021).

Siciński (2020) posits that during the course of corporate development, some shareholders can even play a substantial role in accelerating business growth. For instance, in a startup's early stages, the founding team can help solidify the company's initial vision, allowing it to rapidly distinguish itself in the industry. Meanwhile, other shareholders like angel investors provide the necessary funding and relevant industry resources, acting as a catalyst for rapid growth. During these times, rich managerial experience, stringent financial standards, and mandatory disclosure obligations may not be focal points for the core team or shareholders.

However, by the Pre- Initial Public Offering (IPO) phase, elements like financial credibility, the actual implementation of internal controls, and information communication with strategic investors become increasingly important. Different shareholders serve different roles at various stages, and there can even be a "relay" among them. Angel investors often do

not stay with the company from its inception to its listing, making way for financial investors or strategic investors in the later stages. Companies have different phases of development, and shareholders have appropriate “entry periods” to exercise their agency. Complementing and synergizing functions and roles can maximize shareholder contributions to the company. Shareholders who adopt a “free-rider” mentality are increasingly being left behind by the times; the role of shareholders is becoming more concrete and more specialized, a trend that is itself a necessary outcome of the joint development and progress of entrepreneurs, companies, and society.

According to the experience of the author, mMany companies that experience periodic setbacks or ultimately fail in their development often have issues related to inappropriate shareholder structures. Essentially, either a weakening or excessive strengthening of complementary and counterbalancing roles among shareholders affects their impact on the company, leading to its failure (Bushe, 2019; Quan, 2015). Different shareholders correspond to different proportions of capital contributions, as well as associated rights and responsibilities. When a shareholder has a higher investment ratio, they often request the appointment of directors, supervisors, and other managerial staff, thereby intervening in business operations and significant decision-making processes. The shareholder structure, to some extent, can influence the final quality of corporate decisions.

D. Xu (2021) and Muslim and Setiawan (2021) argue that a scientifically designed equity structure—or, more broadly, an equity structure commonly employed by leading industry players—can significantly mitigate risks emanating from industry competitors, market dynamics, internal management, and operations. It helps to ensure the company’s orderly and rational development. Moreover, the design of an equity structure must also consider the company’s overall development strategy. Managers, core employees, and emerging talents are all internal members who need to be considered for shareholder status. An irrational equity structure could lead to relative chaos in corporate development, internal friction among shareholders, loss of key talents, and low decision-making efficiency. Thus, a rational shareholder structure first addresses internal consumption issues within the company.

Under the premises of no internal wastage and high-quality decision-making, only then can the company achieve a development speed that is higher than the industry average. A scientifically designed equity structure is itself one of the characteristics of a high-quality company (Bassiouny, 2016; Waweru & Riro, 2013; Y. Zhang et al., 2019). When a company has the capacity to choose its investors, it is at least successful at that particular moment. Investors, as potential shareholders of a company, focus more on the firm’s future

development prospects rather than its past achievements. A scientific and reasonable equity structure can assist companies in gradually fulfilling their initial expectations and thereby achieving the investment objectives of shareholders. It can prevent the dominance of a single or concerted group of shareholders due to a relatively low degree of separation between ownership and control rights, avoiding the lack of necessary checks and balances among shareholders, which indirectly harms the interests of minority shareholders (Barroso Casado et al., 2016; Shao et al., 2013; Srivastav & Hagendorff, 2016). Additionally, by regulating and constraining the actions of controlling shareholders, it can increase the cost of illegal and non-compliant behaviors for both the controlling shareholders and others, thus preventing controlling shareholders and their concerted actors from engaging in actions detrimental to the corporation (Stracar, 2017).

Simultaneously, when companies focus solely on financing for survival and neglect the shareholder structure, they often overlook the positive and negative impacts of shareholders entering the company (Aslan, 2020; Hsu & Lawrence, 2016). In many failed entrepreneurial endeavors, the companies, due to their intrinsic issues, face capital strains and thus lose the ability to choose among potential investors—or simply do not have enough potential investors to select from. This leads to the onset of a vicious cycle in corporate development. Therefore, when investors plan to invest in a company, focusing on the existing shareholder structure, the management team's plans regarding that structure, and the situation of other investors can provide a comprehensive basis for making sound final investment decisions (Jensen & Meckling, 2019; Rubin, 2014; G. P. Tang & Li, 2013).

Listed innovative enterprises represent a relatively successful segment within the broader category of innovative businesses, offering market-aligned guidance to innovative enterprises that have yet to achieve success, as well as to investors. With the establishment and commencement of trading on the Science and Technology Innovation Board (STAR Market) and the Beijing Stock Exchange, and the clear designation of the innovation attributes for the Growth Enterprise Board and Small and Medium Enterprise Board, quality SMEs in China, especially small and medium-sized innovative enterprises, are increasingly becoming the core of China's corporate structure.

The Government Work Report of 2022 emphasizes the focus on cultivating specialized, refined, distinctive, and innovative enterprises. China's SMEs are characterized by contributing 50% of tax revenue, over 60% of GDP, more than 70% of technological innovation, over 80% of urban employment, and over 90% of the number of businesses (summarized as “five, six, seven, eight, and night” features). They form an essential part of

the national economy and are vital engines for economic growth, the core entities for technological innovation, and the primary driving force for high-quality economic development. Corresponding to the government's call, capital markets provide numerous small and mid-sized innovative/high-tech enterprises with direct financing channels, effectively alleviating the significant capital demands faced by high-tech enterprises in their development. However, for small and medium-sized innovative/high-tech enterprises that have not been able to list, more direct financing channels are still needed.

In China, while the specialized market segments targeting innovative companies are rapidly developing, they also exhibit certain issues. The number of investment targets is relatively low, resulting in high stock valuations; excessive liquidity often leads to significant stock price volatility, among other problems. A considerable number of innovative companies have a strong familial business management mindset prior to going public. Compared to the main boards of the Shanghai and Shenzhen Stock Exchanges, companies listed on the STAR Market display unique characteristics in their equity structure, such as high concentration of ownership, a low proportion of state-owned shares, and a high proportion of executive shareholding. As a key variable in corporate governance, the equity structure directly determines the power structure within the company, subsequently influencing its value. To maintain the stability of the capital market and promote the healthy development of the STAR Market, it is essential to study the issues surrounding the equity structure of companies listed on this board.

1.2 Research significance

The objectives of corporate operation and development inherently possess multi-dimensional characteristics. As owners of the company, there is a need to pursue not only the maximization of corporate benefits but also the maximization of shareholder interests, as well as the maximization of interests for relevant stakeholders. The core factor capable of achieving diversified corporate objectives is that the company's value surpasses that of companies in the same market segment or leads peer companies in the same industry, thereby attracting more investor attention. The fundamental investment need of rational investors is to seek profits and avoid risks. When a high-quality company faces a sufficiently large number of investors, its value will, based on supply and demand considerations, exceed that of similar companies with fewer investors.

Although the equity structure has consistently been a focal point in academic research,

existing literature reveals that studies have yet to systematically examine the structural relationship between equity structure and corporate value. Some research focuses on particular regions or industries and has not yet offered substantial insights applicable to practical investment work and corporate operation management.

Based on the above analysis, this thesis primarily investigates the mechanism by which corporate equity structure influences corporate value. Leveraging Modigliani-Miller theorem, agency theory, control rights theory, and insider control theory. as its main theoretical foundations, this research explores how companies can improve their governance levels and enhance corporate value through the scientific design of their equity structure, thereby achieving their diversified objectives.

1.2.1 Theoretical significance

This thesis aims to further expand theoretical research on the value of companies listed on the STAR Market from the perspective of equity structure. Existing research, both domestic and international, has not directly focused on corporate value. Much of the attention has been given to the relationships and functions between the shareholders' meeting, board of directors, board of supervisors, and management, somewhat diminishing the fundamental purpose and objectives of corporate governance (Gao et al., 2019; Gomes, 2001; Huang, 2013; Jaiswall & Firth, 2009; Ni, 2019; Sitorus & Sitorus, 2017; J. Q. Zhang et al., 2013). The factors influencing the impact of equity structure on company value are not merely direct relationships; the internal dynamics of equity structure consistently affect company value. This is precisely what is lacking in current research. Many firms experience hindrances to the improvement of company value due to the irrationality of their equity structure. However, upon reviewing existing literature, there is a scarcity of research that clarifies the dimensions and mechanisms through which equity structure affects company value. The varying conclusions from existing research on corporate governance also indicate that solely focusing on governance itself is inadequate for effective theoretical innovation and research breakthroughs. This study believes that the ultimate goal of corporate governance research should be to reduce agency costs and internal transaction costs, enhance governance levels, improve overall company management and operational efficiency, and ultimately reflect the actual level of corporate governance through higher market valuations. Therefore, it is necessary to conduct a rational quantitative assessment of the relationship between equity structure and the ultimate outcomes of corporate governance.

Secondly, this thesis attempts to construct a framework and system for corporate valuation research through innovative research approaches. Building on existing studies, the research synthesizes the equity structure research system and evaluation metrics for corporate value. Considering data availability, credibility, and comprehensiveness, the thesis proposes to use the fluctuation of interval market value and the overall growth of corporate value to define the ultimate achievements of corporate governance. Solely relying on financial and non-financial evaluation metrics for research seems somewhat biased, and comprehensive evaluation is hard to achieve due to low operability. Therefore, this thesis plans to employ neural network methods to extract variable features and build comprehensive indicators for analyzing the relationship between equity structure and corporate value. In addition to explicit operational and financial metrics, such as growth rates in business revenue and return on equity (ROE), implicit indicators related to the company's sustainable and healthy growth will also be incorporated into the overall evaluation system, ultimately providing scientific reference values for management and investors in assessing corporate development.

Lastly, this thesis attempts to propose a relatively complete analytical framework for the equity structure of innovative companies. The core of the equity structure involves clarifying the ownership structure, defining property rights, and determining the allocation ratios of corporate resources and residual claim rights. Based on these, the configuration of corporate power and rights, as well as the arrangement of management systems, are derived. Modern corporate governance has witnessed the separation of ownership and control, inevitably leading to information asymmetry and objective discrepancies between principals and agents. In many companies' actual management, disagreements arise between managerial decisions and the optimal paths for corporate development. By establishing multidimensional measurement indicators between equity structure and corporate value, this thesis hopes to scientifically design the equity structure to meet the diversified objectives of the company. It aims to clarify the mutual interactions and influences between different subjects within corporate contractual relationships through quantitative research, thereby providing some reference value for the design of equity structures in innovative or modern companies.

1.2.2 Practical significance

Research on innovative companies can provide investors with a better basis for an evaluation system. Innovative companies serve as the driving force for industry innovation and are also a critical focus for investors seeking high-quality investment opportunities in untapped value

niches. By investigating the relationship between equity structure and corporate value, investors can be better assisted in intervening during the mid-to-late stages of the development of innovative companies, thereby facilitating the fulfillment of the company's diversified objectives. The design and construction of the equity structure in innovative companies are not only related to the corporate property rights system but are also closely linked with decision-making systems, incentive policies, and sources of resources. This study aims to provide reference suggestions for the equity design of pre-IPO innovative companies, as well as important references for maintaining the market value of publicly traded companies. Ultimately, the study hopes to contribute to the rapid consensus among controlling shareholders, other shareholders, management, and stakeholders on issues such as aligned incentives and integrated interests through a scientifically appropriate equity structure. This would not only enhance the governance level of innovative companies but also facilitate their long-term healthy growth, offering beneficial recommendations for innovative companies at different stages of development.

This study attempts to offer improved equity design recommendations for the corporate management layer concerning corporate governance. The management layer serves as a pivotal role in the governance and healthy growth of a company. Theoretically, stock ownership by the management can effectively lower agency costs and minimize the difference in utility functions between the principal and the agent in the principal-agent relationship, allowing the management (agents) to directly participate in the allocation of residual claim rights. Whether management holds shares and the proportion of their shareholding are also crucial indicators of a company's equity structure and are hot topics in current research. This study plans to quantitatively analyze the impact of the management's equity proportion on corporate value while integrating the company's incentive mechanisms. This will analyze the correlation between the two, providing effective references for the practical implementation of incentive mechanisms.

The study employs quantitative research methods to provide a reference path for identifying the value of publicly listed companies and their respective sectors. It intends to select companies listed on the STAR Market as subjects for research. By extracting features from equity indicators, operational indicators, financial indicators, and market value indicators, we aim to construct a relatively complete systematic evaluation system. This will offer innovative perspectives for existing shareholders and potential future investors in judging corporate value and provide a basis for retracing past investments and forecasting the value of future investments. Additionally, the quantitative research methods employed in this

study are scalable and replicable. To a certain extent, they could offer valuable insights for judging companies listed on other similar platforms, such as the Beijing Stock Exchange and the Shenzhen Stock Exchange's Growth Enterprise Market, thereby aiding investors in finding higher-quality investment opportunities within the A-share capital market.

1.3 Research approach

1.3.1 Research problem and questions

(1) Research problem

While reviewing relevant literature, the majority of literature reviews within those articles have predominantly summarized works from the 1990s and 2000s. This study contends that from the 1990s to the present, global companies have undergone at least four significant transitions. The first transition is from traditional companies to modern corporate management; the second is from non-digitized to digitized companies; the third transition is from a hierarchical management model to a flatter organizational structure; and the last is a change in the business environment and business models. The primary customer base today differs substantially from that of 20 years ago in terms of needs, experiences, and consumption patterns, which has led to a shift in the business ecosystem. After these major changes in corporate management and business administration, I believe that existing empirical studies are unlikely to provide insights that are useful for forecasting the future. For future companies, digitalization will reduce the scope of management, and the hierarchical system will no longer be applicable to the majority of digitized firms. Therefore, it is necessary to redefine the concept of an company, which will, in turn, necessitate a fresh investigation into the relationship between equity structure and corporate value.

The impact of equity structure on corporate value and even the overall operation of a firm has always been present. Based on the companies in which I have been involved for investment and due diligence, most companies have been more or less hindered in increasing their value due to irrational equity structures. For instance, in one invested company, the founder comes from a technical background, skilled in R&D but not adept at management. During his first venture, he was passively ousted from the management team due to minority shareholders forming a coalition, leading to dilution of his equity and ultimately, the collapse of the company. Often, entrepreneurs place greater emphasis on internal control management and neglect the maintenance and optimization of the structure between voting rights and cash

flow rights.

This study on the relationship between equity structure and corporate value aims to achieve two objectives. First, it seeks to clarify the dimensions and methods by which equity structure affects corporate value through study. Second, it hopes to guide future investment activities by including equity structure as one of the criteria for selecting investment targets.

(2) Research Questions

The research questions are formulated as the impact of equity structure on corporate value among firms listed on China's STAR Market. The objective of this study is to collect data and conduct in-depth interviews with case studies, carrying out data mining and research on both listed and select unlisted companies. Through quantitative research, we aim to explore the interrelationship between a company's equity structure and its corporate value. Based on the literature mentioned above, the research questions are as follows:

- Through which variables does ownership structure affect company value?
- How does ownership structure affect company value in terms of concentration of ownership, checks and balances of ownership, nature of ownership, management holdings, capital structure, and private equity investment? What is the extent of the impact?
- Are there any novel, rare, or extreme phenomena? What are the complex reasons and evolutionary processes behind the impact of ownership structure on company value?

1.3.2 Research framework

Initially, this study aims to begin with a comprehensive literature review and theoretical foundation, examining the existing state of research in areas relevant to equity structure, corporate value, sub-domains within equity structure, and their interrelationship. Utilizing foundational theories such as the Principal-Agent Theory, we aim to sort out issues related to agency conflicts within companies listed on the STAR Market, thereby preliminarily establishing the theoretical basis for this research. Furthermore, we will analyze the main contributions and limitations of existing studies, thereby outlining the research objectives and analytical framework of this study.

Subsequently, an analysis of the impact of equity structure on corporate value will be conducted. We aim to construct a basic analytical framework of "Equity Structure—Corporate Governance—Corporate Value" and, following an analysis of the mechanisms, propose research hypotheses as theoretical groundwork for subsequent empirical verification.

Next, we will elucidate the thought process and methodology choices behind the research design, including sample selection, metrics identification, and regression modeling. Particular emphasis will be given to the extraction of characteristics from company growth indicators, so as to construct composite corporate value metrics for analysis. Thereafter, the selected research data will be verified, further exploring the impact of variables such as ownership concentration, control rights concentration, balance of power within equity, nature of equity, management shareholding ratio, capital structure, and dual power concentration on corporate growth. Observations of statistical results will be used to validate the proposed hypotheses, culminating in the conclusions of the study.

Lastly, further discussion, summarization, and extensions will be made based on the research findings. Attempts will be made to combine current economic practices and the state of company development to propose relevant recommendations. Innovations and limitations of the study will be clarified, and prospects for future research will be outlined.

The research framework for this study, as shown in Figure 1.1, primarily includes phases such as problem formulation, literature review and synthesis, hypothesis development, data collection, model design, statistical results, and analysis summary.

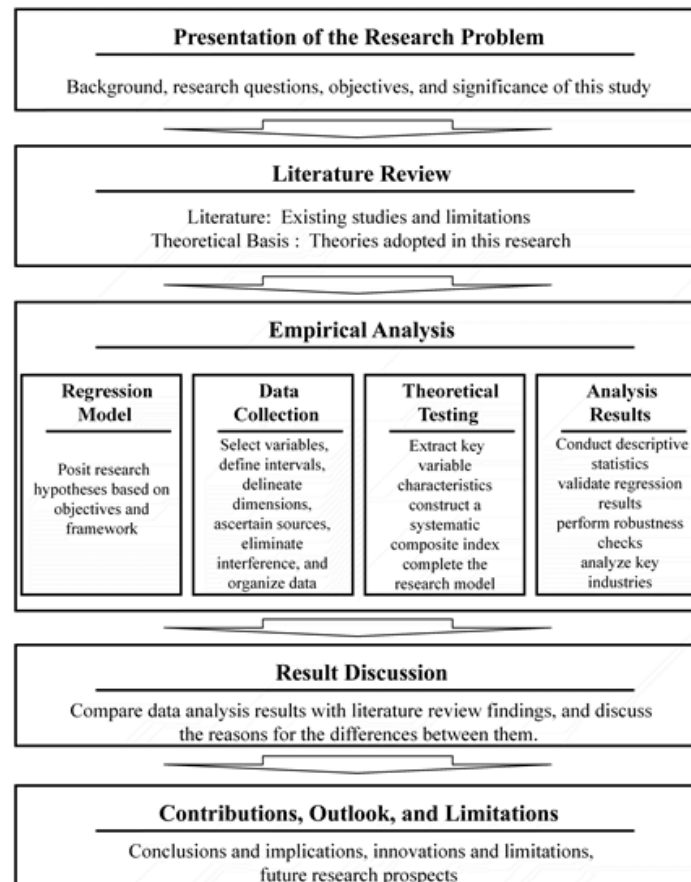


Figure 1.1 The research framework for this study

The content of this thesis is organized into six chapters, with the specific arrangement of each chapter as follows:

Chapter One: Introduction. This chapter elaborates on the background and topic selection for the study, considering the importance of companies in domestic economic development and challenges encountered by innovative companies. The purpose of the study is introduced from both theoretical and practical perspectives. Based on a literature review, the research questions for this study are identified, and the research methodology and structure of the thesis are described.

Chapter Two: Literature Review. This chapter employs the method of literature research to collate the existing state of research in related fields, including equity structure, corporate value, and their relationships. Limitations, constraints, and useful aspects of existing research are analyzed. The scope of the study subject is defined to provide guidance and direction for subsequent research. This chapter also combines literature review with the current study to determine research hypotheses. In addition, it will summarize relevant foundational theories like the Principal-Agent Theory to establish the basic logic of how equity structure affects corporate value.

Chapter Three: Research Methods and Data Processing. This chapter constitutes the quantitative empirical research section, including the study's methodology, field survey data, and processed data results. The chapter plans to first determine the data sources for the study subject while eliminating any data that might influence the results. A descriptive statistical analysis of corporate equity structures will be conducted, followed by a comparison of various equity structure indicators between family and non-family businesses. Correlation verification will be performed on growth indicators to ensure their scientific validity. Then, using neural network methods, a new comprehensive evaluation indicator will be extracted from multi-dimensional quantitative indicators for corporate value assessment. Further, multi-dimensional sorting of equity structure indicators for this study will be undertaken to choose the quantitative indicators for statistical analysis. Regression analysis will then be employed to empirically test the hypotheses, leading to specific variables and their degree of influence on corporate value, thus forming the conclusions of the study.

Chapter Four:

Research Results. In this chapter, we first conduct robustness tests and elaborate on the internal logic analysis of hypotheses and variables concerning quantitative research. Subsequently, we present the quantitative research results. Following that, we utilize semi-structured interviews with selected participants to delve deeper into the complex reasons

behind the research questions, complementing the quantitative findings..

Chapter Five: Discussion of Results. This chapter integrates and discusses the results obtained from both quantitative and qualitative research..

Chapter Six: Conclusion. This chapter will summarize the results, significance, and limitations of the study. Recommendations for enhancing management in already listed companies and companies planning to list from the perspective of equity structure design will be proposed.

1.4 Research methods

The research methods of this thesis mainly integrates theoretical research with empirical research, combining literature analysis with econometric analysis. Through hypothesis testing, the study explores the relationship between different equity structures and corporate growth in companies listed on the Science and Technology Innovation Board. The specific methods are as follows:

First, literature analysis. Literature analysis is a scientific method of forming factual knowledge through reading, sorting, identifying, and analyzing literature. It typically includes five basic steps: proposing research hypotheses, designing the research topic, collecting relevant literature, organizing the research literature, and conducting a literature review. Literature analysis involves multi-faceted examination and analysis of existing research findings and dimensions, helping us quickly understand the current status and latest developments in the research field. Its core value lies in identifying gaps in existing research and proposing new research topics accordingly. This study will systematically organize and analyze theories and viewpoints related to family businesses, equity structures, corporate governance, and corporate growth. It will also explore the application of Principal-Agent Theory in innovative companies, thereby constructing the theoretical model for this research.

Second, empirical analysis. Empirical analysis is a method that involves collecting, organizing, analyzing, and interpreting data to form conclusions. It is a method for studying the macroscopic properties and laws of materials or phenomena from a microscopic structural perspective.

In terms of data collection, this study primarily relies on official public data published on relevant professional database platforms. It selects data related to equity structure, operational metrics, financial metrics, and value indicators of companies listed on the Science and Technology Innovation Board from 2019 to 2022. The study analyzes the impact of internal

equity structures on corporate value in these companies.

Based on the sample data, empirical analysis is conducted on the value feature variables and equity structure feature variables of companies listed on the Science and Technology Innovation Board. Before formally testing the hypotheses derived from our research mechanism, statistical descriptive analysis is employed to give us a preliminary understanding of the basic situations of equity structure and growth in these companies. Hypotheses will be verified after constructing the theoretical model for the research.

Chapter 2: Literature Review

2.1 Conceptualization and definition of research variables

2.1.1 Concept and research overview of equity structure

In recent years, with the optimization and adjustment of China's industrial landscape and the increasingly sophisticated division of labor in industries and organizations, equity investment in the primary market has become an important part of the Chinese capital market over the past two decades. The emergence of Internet enterprises followed by innovative enterprises is an opportunity for not only industrial upgrading but also capital market investment (Zhan & Zhao, 2016). From the development perspective, global enterprises have undergone at least three transformations since the 1990s. The first was the transformation from the traditional enterprise management approach to a modern enterprise management approach; the second was the transformation from non-information enterprises to information enterprises; and the third was the transformation from a hierarchical management model to a flat management model. This thesis holds that after the major changes in enterprise management and enterprise operation management, the existing empirical studies cannot draw conclusions that are relevant for the future. In the future, information technology will be increasingly used in enterprise management, and the hierarchical management system will no longer be applicable for most information-based enterprises. Therefore, it is necessary to redefine enterprises and re-examine the relationship between share structure and company valuation.

A search of existing studies was conducted with “share/equity structure” and “enterprise/firm/company/corporate value” as keywords. Enterprise/firm/company/corporate value is the goal and core variable of the present study. A search of all the existing studies at home and abroad with share/equity structure as the topic and economic and management science as the target discipline led to the results shown in Figure 2.1 and Figure 2.2. Specifically, the number of studies on share/equity structure in China exhibited a brief downward trend from 2019 to 2021. The decline was not the result of reduced attention but due to the fact that many studies explored the subdivision of share structure. The number of publications started to rebound in 2022, with the number of publications in the last six months exceeding the number of all publications in 2021. Based on the search results, dominant

secondary topics include ownership concentration, equity checks and balances, company performance and the shareholding ratio of the substantial shareholder. This trend is consistent in existing literature published in both English and Chinese.

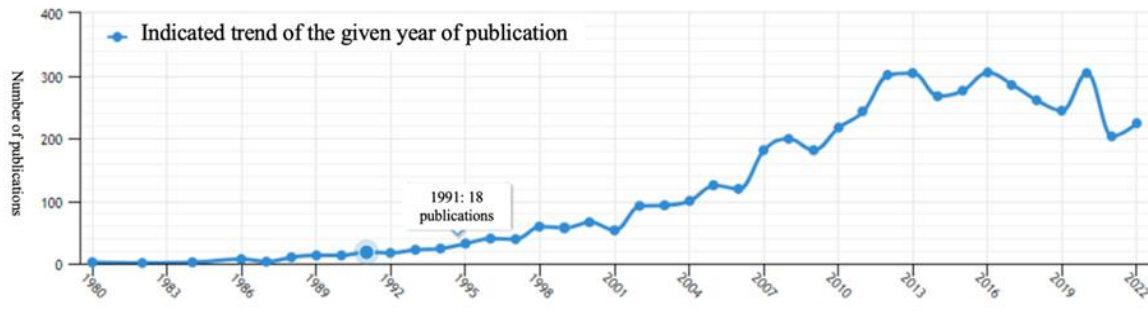


Figure 2.1 Number of existing studies on share/equity structure published in China from 1980 to 2022

Source: Created by this study

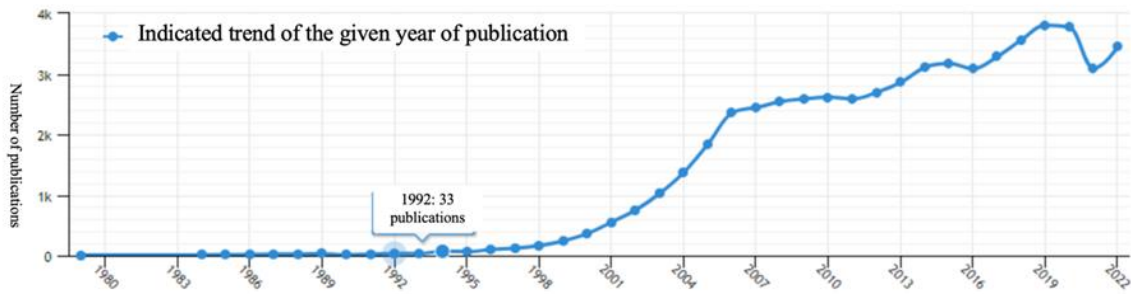


Figure 2.2 Number of existing studies on share/equity structure published in countries other than China from 1980 to 2022

Source: Created by this study

By searching the existing Chinese literature with “enterprise/firm/company/corporate value” as the topic, the relevant keywords include creation, Tobin’s Q, maximization, chain, effects, capital structure and corporate governance. The results are in Figure 2.3 and Figure 2.4.

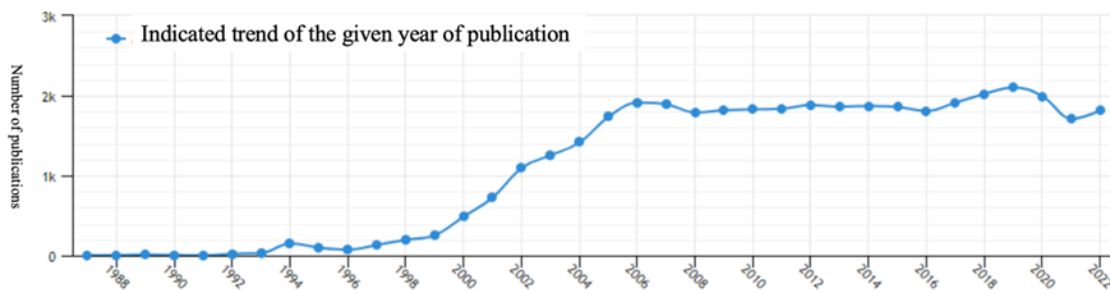


Figure 2.3 Number of existing studies on enterprise/firm/company/corporate value published in China from 1980 to 2022

Source: Created by this study

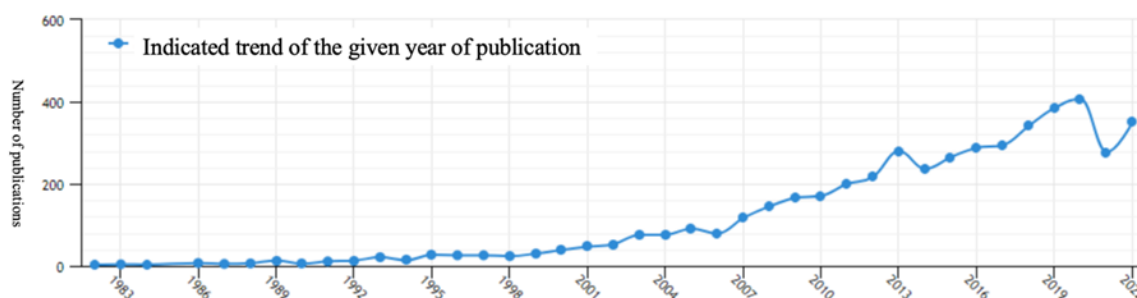


Figure 2.4 Number of existing studies on enterprise/firm/company/corporate value published in countries other than China from 1980 to 2022

Source: Created by this study

Based on the distribution of studies by topic, studies on the influence of share structure on company value have been conducted in different countries (regions) and specific industries from various perspectives such as ownership concentration, equity checks and balances, specific shareholders, management shareholding and capital structure. In recent years, the impact of share structure on company value has been usually studied from three pathways: 1) financial indices (Graham et al., 2014; Hirdinis, 2019; Maneerattanarungrot & Donkwa, 2018; Putri & Rahyuda, 2020); 2) company performance (Uzliawati et al., 2018); and 3) emerging markets such as Vietnam, Thailand, Indonesia, China and India as well as the impact of innovative firms' financing behavior (Musah, 2018).

The concentration of existing literature is also an interesting element found when reading the relevant Chinese literature. In actual investment, the various stages of equity investment appear to have a high degree of consistency with the published literature on share structure. As shown in the Figure 2.5 below, the five stages correspond to the budding stage (1985-1990), the start-up stage (1991-1998), the development stage (1999-2004), the accelerated growth stage (2005-2012) and the normative (2013-present) stage of equity investment in China. From the early budding stage to the late normative stage, the years of academic research publications increasingly fit with the stage nodes, and the peak in 2019 was also consistent with the time node of the official opening of China's Science and Technology Innovation Board (STAR Market).

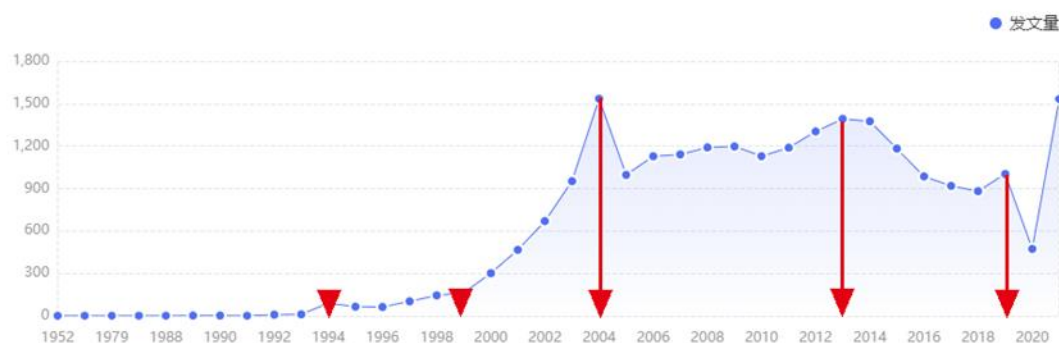


Figure 2.5 The five stages of equity investment and the number of publications on share structure

Source: Created by this study

Compared with studies on the relationship between capital structure and company value, the existing studies on the direct relationship between share structure and company value is less, and most studies have been conducted from the perspectives of such dimensions as shareholder rights as well as specific shareholder claims/complaints (Cremers & Ferrell, 2014; Grennan & Michaely, 2021; Krause & Tse, 2016; Wies et al., 2019). The share structure, as the upper base of the whole firm, affects the company value through other moderators. Therefore, some studies have analyzed the impact on company valuation from multiple dimensions such as corporate finance and dividend policy (Salvi et al., 2021; Wijaya & Asyik, 2021). A large number of studies have been conducted mainly based on theories such as trade-off theory, signaling theory and agency theory.

2.1.1.1 Definition equity structure

(1) Legal definition

The share structure usually refers to the proportion of shares held by different types of investors in the total share capital of a limited liability company or a joint stock company and their interrelationships. Different share structures may entail different rights and obligations of shareholders due to various factors such as the type of company and applicable laws. In China, the share structure usually refers to an ordinary share structure rather than a dual-class share structure (a specific share structure termed as different rights for the same shares). Take the Company Law of the People's Republic of China (referred to as "the Company Law" below) for example. It has different provisions on the share structure of limited liability companies and joint stock companies, as well as the rights and obligations corresponding to the share structure. As per Article 42 of the Company Law amended on October 26, 2018, "The shareholders shall exercise their voting rights at the shareholders' meetings based on their

respective percentage of the capital contributions unless it is otherwise prescribed by law (National People's Congress, 2023)". This indicates that the Chinese law allows limited liability companies to agree on the voting rights of shareholders in the articles of association. However, for joint-stock companies, it is stipulated that "the issuance of shares shall comply with the principle of fairness and impartiality. The shares of the same class shall have the same rights and benefits." This means that at present, China still mainly applies the statutory requirement of "the same rights for the same shares". As of the time when this thesis was written, China had not allowed the emergence of listed companies with a dual-class share structure, except for some enterprises listed on the STAR Market. For joint-stock companies, especially those listed on the A-shares market, the listing of UCloud Technology Co., Ltd. on the STAR Market signaled that the absolute principle of "the same rights and benefits for the same shares" was broken.

(2) Ordinary share structure and dual-class share structure

According to China's current Company Law, the ordinary share structure means that the holder of ordinary shares/stocks owns the corresponding proportion of the rights and interests of the company to which he/she belongs according to the number and corresponding proportion of the shares/stocks and needs to assume the corresponding proportion of liabilities and responsibilities. Claiming rights to the company is a right granted to the holder by holding shares, and assuming liabilities and responsibilities of the company is an obligation based on due rights. The share structure determines who owns the company and lays the foundation for corporate governance. Corporate governance requires governance rules, and the specific rules and the essence of their implementation are the forms of operation of the share structure. In a company, different types of shares and different share structures determine the management structure of the company, which in turn substantially affects the structure of corporate governance and ultimately finds expression in the operation and value of the company.

The dual-class share structure is essentially an effective means of exercising effective control over a company by separating cash flow and control. Dual-class share structure refers to an arrangement where a company issues shares representing distinct voting rights, and the founders achieve strong control of the company through prevention of the dilution of voting rights in the financing process by holding high voting shares (Rydqvist, 1992). The birth of the non-one-share-one-vote rule is due to the development of modern capital markets and is the result of a mutual game between investors and founders. The understanding and acceptance of the dual-class share structure varies significantly across different countries or regions. Specifically, companies with a dual-class share structure are more common in the U.

S., Canada, Switzerland, Denmark and Norway than in the U. K., Germany and France (Howell, 2017; Rydqvist, 1992; Yin et al., 2018; Yong, 2019). Some studies, by analyzing the basic characteristics of companies with a dual-class share structure, argue that the dual-class share structure is mainly applicable to family-controlled or minority-controlled companies, focusing on those with good growth potential (DeAngelo & DeAngelo, 1985). Such companies that adopt a dual-class share structure tend to have high value and low debt (Taylor & Whittred, 1998) as well as high performance growth rates (Lehn et al., 1990). For example, distributed industries are dominated by communications, business services, media and machine manufacturing. Meanwhile, in the U.S., companies with a dual-class share structure typically outperform those with a single-class share structure (Amoako-Adu et al., 2014).

The dual-class share structure has been applied internationally for a long time, yet it is still a new system for the Chinese capital market. The development of the dual-class share structure is a process full of twists and turns. The earliest adoption of this system was in the U.S., where the operation and practice of this structure in its capital market was relatively mature due to the sophisticated legal system and related supervision mechanism. However, in fact, in the early days of the U.S. capital market, the implementation and application of the dual-class share structure was prohibited because, to a certain extent, this system might infringe on the interests of general public investors. Nevertheless, with the development of technology and the rapid rise of the Internet, the Securities and Exchange Commission (SEC) promulgated Rule 19C-4 to help these Internet companies better raise funds for their IPOs, which marked the recovery of the dual-class share structure.

The breakthrough of the above-mentioned absolute principle in China can be traced back to as early as March 2014 when the China Securities Regulatory Commission (CSRC) issued the Measures for the Administration of the Pilot Program of Preferred Shares (CSRC, 2014), which clarified the regulations for companies to issue preferred shares. Although the principle is gradually being broken, the ordinary share structure remains the dominant share structure in force in China. In particular, as of the time when this thesis was written, only one of the companies listed on the STAR Market was allowed to adopt a dual-class share structure. In other words, the ordinary share structure remained the dominant share structure for the companies listed on the STAR Market.

(3) Definition of share structure in this study

For concept clarification, it is necessary to make a distinction between ownership structure and shareholder structure. In terms of the shareholder structure, existing studies

focus on different aspects, such as the impact of shareholder complaints and adversity on company value (Kuzey & Uyar, 2017; Wies et al., 2019), listed enterprises in specific regions (Jentsch & Lunsford, 2019; Kim et al., 2018; Mishra & Kapil, 2017; Varghese & Sasidharan, 2020) and industry-specific enterprises in a certain region (Aggarwal & Padhan, 2017; S. Wang, 2018).

The term “ownership structure” or “equity structure” is often used to indicate the share arrangement of a company. However, the term “dual-class share structure” is used to indicate the share arrangement characterized by same shares with different voting rights. From a comparative point of view, “ownership” is more related to “shareholders”, and thus “ownership structure” is identical to “shareholder structure”. In the strict sense, “ownership/shareholder structure” emphasizes the distinction in the nature and number of shareholders. In comparison, “share structure” emphasizes the number and proportion of shares held by shareholders. The “share structure” used in this thesis is an integrated concept that encompasses both the number and characteristics of shareholders and that gives rise to a series of concepts and considerations which ultimately affect the company value. For the purpose of this study, the term “share structure” will be consistently used in the following text. However, to ensure the rigorousness of research, identical or similar terms, such as “shareholder structure”, “ownership structure”, “shareholding structure” and “equity structure” were used as keywords for literature search.

The share structure is the composition of the owners of a company, and more importantly, the foundation for and core of a company’s development. Share structure is closely related to the growth and fluctuations of a company’s value and has been a topic of keen research interest over the years. The share structure of an enterprise is not only one of the results of direct financing, but also one of the most important issues of concern to the shareholders’ meeting and the actual controllers in the process of enterprise operation. Under the modern enterprise system, the share structure is the foundation of the corporate governance structure, and different share structures have different impacts on the corporate governance structure and thus on the ultimate development path of the enterprise. The share structure determines the shareholding structure of different types of shareholders and the style of the shareholders’ meeting. It also influences the composition of the board of directors and the board of supervisors through the shareholders’ meeting, which directly affects the supervision mechanism and decision-making mechanism of the enterprise and dominates the governance structure of the whole enterprise. The effectiveness and rationality of the corporate governance structure will directly affect the company value. Specifically, a reasonable and

efficient share structure will optimize the governance structure and organizational structure of the company, improve its efficiency of resource allocation, and have a positive impact on the company value (Y. J. Li et al., 2006; Wen & Li, 2017; Xie, 2017).

2.1.2 Concept and research overview of company value

2.1.2.1 Definitions of concepts

(1) Company and enterprise

When searching the literature, whether to search for “enterprise value”, “company value” or “firm value” came as a question. In the Chinese context, “company” was introduced to China from the West as a foreign concept. According to the book entitled *An Illustrated Gazette of Overseas States*, “a company is operated by dozens of merchants with convergent capital, out of which they cooperate with each other, and back to which they count the capital evenly, and whose bureau is large and united”. “Enterprise” refers to the department engaged in production, transportation, trade and other economic activities. From the Chinese interpretation, the company highlights the concept of “shareholder”, and the descriptions “cooperate with each other”, “operate with convergent capital” and “count the capital evenly” indicate that a company grows in size with the efforts of shareholders in a joint state. In comparison, enterprise refers to a sector that underlines function, a function that is tied together in a chain. The sector at this point is not necessarily a company but can also represent a specific functional department below the company. Therefore, the subject under discussion in this thesis would be a company consisting of multiple functional departments rather than an enterprise (the term is defined similarly to a functional module). However, in the process of literature search, a large body of literature fails to clearly distinguish between company and enterprise. So, to achieve a comprehensive representation of literature, existing studies will be searched using both “company value”, “enterprise value” and “firm value”. But in the writing of this thesis, only “company value” is used to indicate the subject under discussion.

Since the three words “firm”, “company” and “enterprise” are identical, it is necessary to make a distinction between their concepts and legal applications to accurately identify the corresponding English literature. A “firm” usually does not have a fixed size. From the legal perspective, “a business organization consisting of two or more partners” can be called a firm. “Firm” is also predominantly used in “law firm” or “accountancy firm”. In addition, another characteristic of “firm” is that most firms are companies offering services. Firm is used mostly in written language. In contrast to the other two terms, “firm” is rarely found in laws

and regulations or in formal business law. The term “company” is usually used in the current legal language. The term “company” or the plural form “companies” is also used in most legal provisions related to the formation or operation of companies, such as “company director” instead of “firm director” and “The Companies Act” instead of “The Firms Act”, including The Companies Act in the UK.

Company is used more frequently than the other two words in English. A company is usually referred to as “company” either alone or as a “company with a commercial nature”. “Formal registration” and “shareholders” are usually indispensable for a company. Frequently used business terms include “public limited company” and “private limited company”.

“Enterprise” is used less frequently than the other two words. Etymologically, enterprise usually refers to “a small or medium-sized business that is just starting out”, “late Middle English: from Old French, “something undertaken”, based on Latin *prendere*, *prehendere* “to take”. From the English etymology, enterprise is usually applied to “small and medium enterprises”. The main difference between the term “enterprise” and “company”, both at the practical and legal levels, is that enterprise is sometimes not a formally registered company but may also be a division representing a function. In the U.K., for example, there are many small businesses that are set up to help the community, not for profit, and they are often referred to as “community enterprises”. We often see “enterprise” in the products or services offered by many IT companies, such as “enterprise solution”, where “enterprise” is more of a solution for a particular department.

Based on the above studies, enterprises are the main participants of market economic activities, and the social value and economic value they create are also their own value. The specific distinction between a company and an enterprise is as follows: (1) a company is an enterprise legal person established by shareholders’ joint capital, in accordance with legal conditions and procedures, for profit-making purposes; (2) an enterprise refers to any economic organization engaged in production, distribution or service activities for economic benefits; (3) according to the different ways of enterprise property organization, enterprises can be legally classified into three types: sole proprietorship, partnership and incorporated business. The sample of this thesis consists of the companies listed on the STAR Market. Although these companies are innovative enterprises, they have gradually grown into industry leading companies with certain scale and core innovative technologies. The independent variable is the share structure, and the entire thesis discusses the impact of share structure on company value, without discussing a specific function or department of the company in depth.

Therefore, the term “company” will be used consistently in this thesis. Given that the large number of studies do not make a distinction between company value, firm value and enterprise value, they will all be used as keywords for literature search. However, only “company value” prevails when expressed in this thesis.

(2) Value

Value belongs to the category of relations, which epistemologically refers to the relationship of benefits in which an object can satisfy the needs of a subject and is a philosophical category that represents a relationship of utility, benefit or effect between the properties and functions of an object and the needs of a subject. There are many ways to define value or interpret the essence of value. In the English etymology, “value” first originated from the Latin word “valere”, which mainly expressed the meaning of price; then came the French word “valoir” and the English word “value” representing value, price, moral value and reputation. In recent times, “value” has come to mean “the intrinsic value of a thing” and “the degree to which something is useful or valuable”.

In Chinese, value is usually interpreted in four ways: (1) the price of an item in general; (2) the value expressed by various standards of equivalence or exchange, such as cost, replacement cost and market value; (3) contributing to the promotion of the moral good; and (4) having a positive effect.

Regarding value, Western political economy has established a complete system of value theory on the concept. Adam Smith insisted that labor time determines value and put forward the use value and exchange value of commodities for the first time, which laid the foundation for the study of value theory. Then, the concept of value in economics was extended to the field of philosophy, which gave rise to the philosophical “value in general” and formed the subjective value theory, objective value theory and relational value theory. At the economic level, there are three major systems of value theory, namely, the Marxist value theory system, the neoclassical value theory system and the Sraffa price theory system. Since the dependent variable explored in this thesis is company value, which is a concrete value concept after the subdivision of the value theory system, value theory and its contents are not among the main contents of this study.

Summarizing the Chinese and Western explanations of value, value in this thesis refers to the meaning, pricing and benchmarking criteria of the physical object itself and its contribution to other physical objects. The value studied in this thesis is the value of the company, i.e., the difference in company value performance under different share structures. Value at this point needs a meaning that can be expressed figuratively, or even a concept that

needs to be measured and compared quantitatively, rather than a positive role, a standard of measurement, or even a meaning of goodness.

(3) Definition of this study

After clarifying the company, enterprise and value above, the focus is shifted to the research variable of this thesis, company value. What is company value? Company value, also known as enterprise value in many journals and dissertations, is an economic entity that is organically constituted as one of the modes of unitary organization within the scope of the commodity economy, according to laws and regulations or its own charter, and in accordance with certain organizational laws. The company generally aims at profit-making and maximizes the interests of its stakeholders (including investors, customers, employees, society and associated regions) by providing products or services in exchange for income. The company is a product of social development, an organic unit of social division of labor, and grows and develops due to the refinement of social division of labor.

The concept of company value was introduced with the establishment of the property rights market, focusing on the economic meaning of value. The existing research results mainly focus on the assessment and comparison of company value (Liachovičius et al., 2020; Pavel, 2018; Zhuravka et al., 2018). Later, the scope of research on company value was gradually expanded, giving rise to multi-concept studies on a variety of concepts, such as valuation methods, value maximization, value management and value creation.

The increase of research on company value is often based on academic innovation with practical applications. As the study of company value deepened, academics began to focus on the social meaning of company value and studied company value from the perspective of stakeholders and the philosophical “value in general”, thus broadening the way of company value creation. The value of a company can often be divided into three aspects: basic value, core value and subsidiary value (X. Zhang, 2019). The company value in this study by the author is essentially the basic value of the company, i.e., the equity price of the company recognized by investors. In order to be able to facilitate comparative calculations in the subsequent quantitative methods, the market value of the company is therefore tentatively used as the conceptual content of the company value.

Market capitalization of listed companies is still essentially a market approach to calculating the company value. This approach is based on stock price and integrates multiple elements such as equity value, debt value and social value of a listed company. Market value is the product of the unit price of the stock and the total equity, which is a relatively subjective calculation compared to other methods. However, although the method is subjective, the

author believes that the subjective method contains objective facts such as the company's accounting data and operating ability, as well as subjective judgments such as market sentiment, sector driven and investor perception. Therefore, it is the most realistic value of the company's value assessment, and the valuation method with the best liquidity.

In addition to the market approach to valuation, the methods of calculating company value also include the book value approach, the discounted earnings approach and the Tobin's Q approach, but each of these approaches has its own advantages and disadvantages. At the financial level, the book value approach is the most straightforward and simple approach. The book value approach is mainly based on the balance sheet and is based on the opening cost of assets/historical cost, multiplied by a certain factor to complete the assessment of the company value. The biggest problem with the book value approach is that the book value/historical cost does not truly reflect the true market value of the assets, and the coefficients are often too general. Book value is usually limited to asset-heavy companies, and has some reference value for banks and trusts, but not much reference value for innovative companies. The discounted future cash flow method is a method to estimate the value after discounting the expected future cash flows. For companies that can achieve stable cash flow, the discounted future cash flow approach is feasible. However, for innovative companies, future earnings are highly uncertain, and there is a large gap between management's expectations for future earnings and investors' expectations for future earnings. For the measurement and evaluation of the company value, there will be a large difference. Tobin's Q is the ratio of a company's market value to its initial input cost. Tobin's Q approach is usually used more often for real estate-related company valuation compared to other valuation methods, and the Tobin's Q approach can reasonably represent the company value or asset value in recent years when land appreciation has been faster. For innovative new companies, core technologies cannot be understood in a reset manner, and value cannot be assessed with quantifiable indicators.

A company's market capitalization is a dynamic and changing concept in the stock market, influenced by the company's operations, its industry/sector, market sentiment and surrounding sentiment. Although sometimes, the market capitalization of a company in the secondary market can be very volatile, it is more market-based than other indicators (such as financials and performance) and can be reflected more quickly in response to positive or negative news. Besides, market capitalization is investors' recognition of the price at which a company is bought or sold.

Therefore, the value explored in this thesis is the price at which the company is

recognized by investors in the market, i.e., the share price or market capitalization. Since different companies, share capital and share price at the beginning of the period are not consistent, the company value in this thesis is the market capitalization of a listed company.

Company value, which can be traced back to the early 1900s according to a search in Google Scholar, has been widely applied in different fields. Company value can be roughly sorted out from three aspects. The first is the company value based on the perspective of its own factors of production. In this sense, company value can be called the value created by the enterprise, and the value created by the enterprise determines the value of the enterprise itself. The second is the company value based on the perspective of chain network, which can be divided into the value of industry chain links and the perceived value of end customers. The third is the company value based on the current book and future expectations of the company value calculation. In general, this type of company value tends to ignore external factors such as the social environment and industry chain in which the company is located and pay more attention to the endogenous qualities of the company, such as economic value added (EVA), value expectation, value balance, fair value, present value, final value, replacement value, liquidation value, book value and going concern value in finance.

2.1.2.2 Company value from a production perspective

A company is a collection of production factors, and the process of interaction of production factors to provide products and services to customers is a value creation process. The essence of company value is created by the factors of production owned by the enterprise, and different factors of production can create heterogeneous value nature and value quantity. The status and role of specific factors of production vary in different industries, societies, sectors and other premises. Labor, capital, land, management, knowledge, information, and technology have all been or are becoming the primary factors of production.

Classical political economy is the bourgeois political economy of the period when capitalism arose in Western Europe. It came into existence in the mid-17th century and was completed in the early 19th century. Its main achievement was to lay the foundation for the labor theory of value and to explore, to varying degrees, the various forms of surplus value, such as profit, interest and ground rent. Constrained by historical conditions, it viewed economic relations and various economic categories as natural and eternal, with an inevitable element of vulgarity. Classical political economy began in England with William Petty, developed in the middle with Adam Smith, and ended with Ricardo; in France it began with Pierre Le Pesant de Boisguilbert and ended with Jean Charles Léonard de Sismondi. Milano

et al. (2011) suggests that there are two main views in classical economics about the source of commodity value: one is supply determinism; the other is demand determinism. Supply determinism holds that commodity value comes from the production process and is created by production, which is subdivided into labor theory of value and factor theory of value because the production process is the result of the combined action of capital, labor and land. The labor theory of value holds that only labor creates value, and that capital and land do not participate in the creation of value. The value of a commodity is the abstract human labor condensed in the commodity, and therefore labor is the only source of value.

The debate between the labor theory of value and the factor theory of value is whether value originates from labor or from all factors of production, including labor. But both theories recognize that all factors of production jointly create output, and all contribute to output increase. In this sense, the study of output increase should consider the role of all factors of production. In different economic periods, the status and role of various factors of production in output are different. In the “primitive uncivilized state” (Adam Smith), the main source of value was labor (land was unpaid); in the natural economy of the feudal system, the main source of value was labor and land; in the capitalist industrial economy, the main source of value was capital. In 1890, the British economist Marshall proposed a new factor of production: production management, to reflect the important role of entrepreneurs in the production process. In today’s new historical conditions, intangible assets such as technology, knowledge and information play an increasingly important role and become the main factors of production. In the course of historical development, labor, land, capital, management, technology, knowledge and information, all have acted or are acting as the main creators of production value, which is the inevitable result of the development of the conditions of the times. No matter how the dominant position of the factors of production changes, they all act in concert and cooperate with each other to jointly create the value of commodities and become an indispensable part of value. Under the new historical conditions, any one of the factors of production, as long as it can greatly promote the liberation and development of social productivity, will irreversibly join the ranks of production costs and become an indispensable part of production value.

2.1.2.3 Company value from a chain network perspective

While the production perspective views the value of a company as the result of factor inputs, the chain network perspective sees the value of a company as the result of outputs. The measurement of value is not the same for different companies. The company value in the

production perspective can be considered as the sum of the values of all the factors of production owned by the company, then the company value in the chain network perspective is the size of the production value of the factors of production, and the calculated company value can be very different between the two. The value of the company depends not only on the type and quantity of production factors, but also on the input and integration of other factors in the process of combining production factors.

Hammer (1990) argued that processes in economic activities are the output of one or more elements into activities that are valuable to the end users (institutions or customers) in the form of networks or chains. Davenport and Short (2003), however, argues that networks or chains are collections of economic activities that, based on specific input elements and activity processes, produce specific outputs for a specific market or a specific customer generating specific outputs, where value can be further enhanced in the process specification. The essence of company value based on the chain network perspective is to study the process of value creation, i.e., in what way it is possible to provide more value output to the end, and the common methods of analysis are value chain, virtual value chain and value network. Value creation through chain network form, on the one hand, weakens the factors of production at the beginning of the period. On the other hand, it is considered that value creation is dynamic and requires upstream and downstream support.

The study of company value from a chain network perspective usually includes the view put forward by Porter (1985) in his book *Competitive Advantage* that breaks down the overall business activities of a company into individual, specific activities. In Chapter 8, *Competitive Advantage and Value Creation*, Porter (1985) argues that all business activities are in different process steps, and different activities have different nature and role of activities. All activities create value for the company and the terminal for competitive advantage, so it is called “value creation”. In the whole process, value is created not only by basic activities (including production, marketing, transportation and after-sales service) and auxiliary activities (including raw material supply, technology, human resources and finance), but also by the communication of value signals, which is a very important element. If a company cannot effectively communicate value signals, it cannot realize the premium that the actual value of the company deserves. Different economic activities within the company together form the value chain within the company, and different companies, which are the basic units in the industrial process, form the value system of the industry.

Hines (1993) expands the definition of value chain on the basis of Porter’s definition of value chain, and calls it “the transportation line that integrates the value of materials”. Hines

(1993) includes upstream raw materials and downstream customers in the value chain and treats raw materials and customer demand as the purpose and goal of the value chain, while combining Porter's theory with the final profit as a by-product of the complete process. In the study by Hines (1993), basic activities need to have cross-application functions among multiple elements such as technology, production and market, and all value activities need to be established along the process of a company's value chain, rather than existing only dependent on the production process. The study by Hines (1993) is both a supplement and a breakthrough to Porter's value chain view.

With the research on value chain based on factors of production and factual production, there also emerged the research on value chain based on information flow and network virtualization. Rayport and Sviokla (1996) proposed the concept of virtual value chain. Due to the progress of the information age, they argue that enterprises need competition by managers not only in the Market Place but also in the Market Space. And the difference between the two is that Market Place is a real existing physical space, while Market Space is a virtual existence, and enterprises compete in different rules between the two areas/fields. In the Market Place and Market Space, enterprises use physical resources and information resources to create products and values for customers respectively. The major difference between virtual value chain and physical value chain is that the process of virtual value chain is non-linear, and the input and output points have randomness. Meanwhile, it can help the physical value chain realize value addition in each process link. In the traditional value chain theory, information is not considered as one of the factors of production, but an auxiliary element in the production activities, and does not bring additional value because of information. Virtual value chain, on the other hand, considers that a company can add further value through activities such as information collection, organization, selection, synthesis and distribution.

With the further development of information production (mainly referring to the application of Internet), the concept of value chain was expanded to value network by Slywotzky et al. (2007). They point out in their book entitled *The Profit Zone* that the impact of the Internet on traditional industries has increased the demand of end customers and expanded the external channels of the company's value chain, at which time enterprises should quickly change their original production plans. When a single value chain is transformed into a value network, it can better help enterprises face international competition, and provide clients with services through more channels of resource sharing and complementarity. Bovet and Martha (2000) pointed out in *Value Nets* that value networks are new value chain models applicable to the network society, which can improve the efficiency

of production activities, meet the rapidly changing needs of customers as well as the company's ability to obtain more profits through the digital information supply chain model in the rapidly developing production activities. Compared with the value chain, the value network not only expands the degree of external connection of the company, but also shifts the focus of the company's value from production factors to customer value. All production activities should first of all be based on the creation of customer value, while the interest subjects in each production link should be combined according to the principle of maximizing the overall value of the network. With Porter's signal transmission theory, the essence of value network is that under the premise of customer value as the focus, production links specialize in division of labor, and each link is combined according to the signal transmission of value maximization to create maximum value for customers while maximizing the company value.

As customer value becomes an important source of company value, more and more companies internalize customers as their strategic assets and study the value-added effect of their assets, with the studies on customer lifetime value and customer assets being the most representative. In the study of Customer Lifetime Value (CLV), the view of Reichheld and Sasser (1990) is most representative. Their study shows that the profit from loyal customers increases over time. This profit is derived from five main sources: underlying profit, revenue growth, cost savings, word-of-mouth effect and value premium. According to the study by Reichheld and Sasser (1990), customer lifetime value can be expressed as the present value of the profit stream that a company derives from that customer's continued purchase under the condition of maintaining the customer (Kotler, 2012). Srinivasan and Hanssens (2009) first reviewed important investor response indicators and related analytical models, followed by a summary of existing empirical findings on how marketing creates shareholder value, including the impact of brand equity, customer equity, customer satisfaction, research and development, and product quality, as well as specific marketing mix actions. Customer equity is the sum of the net present value of all a company's customer lifetimes and is the most important value asset of the company. The quantitative study of customer equity requires the identification of the type of customer lifetime value and the range of customers. As customer lifetime value is a marketing-related concept, this thesis will not go into too much detail as the topic under discussion is company value.

2.1.2.4 Company value from a financial perspective

Based on the author's experience, company value from a financial perspective is a method

second only to the market valuation, which is able to truly measure the true value of an enterprise in the market circulation. But in some industry and enterprise stages, the target enterprise does not have a benchmark valuation. So, the judgment of the company value needs to rely on the financial basis of the enterprise. In the actual operation and economic activities, with the gradual increase in the transaction behaviors of enterprises in investment, mergers, acquisitions and equity restructuring, the price of the company has become a market-based application of the company's value theory, and the expectation of future value creation of the enterprise has become one of the core elements of the enterprise's financial management activities.

American scholars Modigliani and Miller (1958) first proposed the M&M theorem, one of the core ideas of which is that if corporate income tax and bankruptcy risk are not considered and capital markets are fully developed and operating effectively, the capital structure of a company is irrelevant to the total cost of capital and the company value. In other words, changes in the capital structure of a company will affect neither the weighted average total cost of capital nor the company's market value. This is because, despite the low cost of debt, as the debt ratio rises, investors will demand a higher rate of return and thus the cost of equity of the company will also rise. In other words, the lower cost of capital due to the increase in debt will be offset by the increase in the cost of equity, and more debt will not help lower the total cost of capital.

On the basis of the M&M theorem, scholars have continuously explored company valuation models and methods, and have formed asset-, market-, earnings-, and option-based valuation models. Entering the 1990s, company value increasingly became the core of business activities, and theoretical research began to shift from company value measurement to company value management. Modigliani and Miller (1958) first proposed the concept of company value in the paper entitled "The Cost of Capital, Corporation Finance and the Theory of Investment". They argued that company value is a discounted value of the cash flows generated by the business activities of a company in the future operating period, i.e., the M&M theorem. According to Modigliani and Miller (1958), without considering income tax, capital structure does not affect company value, which mainly depends on investment and the efficiency of the company's production and operation activities. The future net cash flow created by investment determines the level of company value, and the impact of financing activities on company value is only expressed as the tax-saving value of debt interest. Later, the two published another two papers respectively entitled "Dividend Policy, Growth, and the Valuation of Shares" (Miller & Modigliani, 1961) and "Corporate Income Taxes and the Cost

of Capital: A Correction” (Modigliani & Miller, 1963), which supplemented and improved the theory of company value and proposed the revised M&M model under the condition of the existence of corporate income tax.

The M&M theorem is a study of the relationship between company capital structure and company value. Under this theorem, the concept of company value is strictly defined; the relationship between company value and enterprise risk and cost of capital is defined; the correlation between company value and investment and financing decisions is clarified by means of a model; and the methodological status of arbitrage analysis in financial management and in financial economics as a whole is established. The most important contribution of the M&M theorem lies in that it reveals the essence of financial management: creation of company value (C. L. Xu, 2005).

Stern et al. (1995) proposed the concept of economic value added (EVA). Stewart (1995) put forward that the essence of economic increase is that an enterprise creates value only when the return of an investment project is higher than all the operating costs and the cost of capital of that enterprise. In other words, in the process of business operation, the project creates value and satisfies the basic requirements of the capital market only when the return on capital investment is higher than the cost of capital. In EVA concept, not only the common cost-interest on debt, but also the cost of equity should be considered. EVA calculation is often used in energy companies such as oil companies. For example, global oil companies often use EVA method to calculate. The main reason is still due to the high beta coefficient resulting in a high weighted average cost of capital (WACC), while EVA reflects the fact that enterprises pay more attention to the return on investment rather than simple scale expansion.

In addition, under a standardized valuation system, human factors can also have an impact on company value. Da Costa et al. (2021) argue that human factors and synergies among related factors also need to be taken into account when exploring a standardized approach to M&A valuation. Factors such as management arrogance, lack of technological synergies, and emotional attachment of traders can all have an impact on the valuation of companies in M&A. In the legal field, for example, standardization is often gainful even if it can have a positive effect based on the relevant content and the flexibility of timing. But for M&A valuations, in many cases, valuation assessments are not standardized, and trying to get more value often increases the risk of deal failure.

The above-mentioned studies on company value do not have significant practical guidance for actual investment practice. Non-value-assessed company value studies focus more on the company as a network node that collectively generates value through a chain or

relationship between networks. Although this type of value has a significant impact on company value, it is not an absolute judgment of the ultimate company market value. As an investor, the most important thing is the actual value that distinguishes itself from the nominal value. The review of existing studies further strengthens the author's determination to use secondary market capitalization. The study of secondary market capitalization will extend to various aspects, but these aspects can correspond to how the equity structure breakdown factors, such as corporate governance, management shareholding and capital structure influence the company's operations and corporate finance as well as the impact of ownership concentration on the company's management. Therefore, measuring the source of comprehensive factors by the result of a comprehensive factor created together may, in the author's view, produce unexpected results.

2.1.2.5 Methods on company valuation

The valuation of companies first originated from the valuation of real estate in Europe and the U.S. With the gradual formation of the modern valuation industry, the theory of valuation has gradually matured and formed its own system. Unlike other theories, the valuation theory has its own derivation path and has formed a set of theoretical contents with multiple branches and methods.

(1) Capital value theory

The capital value theory was gradually refined by Fisher (1906, 1907). Fisher (1906) considered capital value as the discounted value of future income cash flows, which is both a description of capital value and a refinement of the process of forming the relationship between capital value and future income. The discounting of future cash flows involves not only future income, but also the discount rate, i.e., interest, which is the time value of money. The capital value theory can be seen as the beginning of the discounting of future cash flows, where specific investment projects implement the fictitious concept of "capital" by providing future cash income. However, Fisher's theory is still premised on the certainty of future earnings, which is an inherently uncertain assumption, and has led to the fact that the value of the company estimated by Fisher according to his theory is far from the actual value. Besides, the application of the theory is limited to academic research. It is not a good solution to real-world problems.

(2) Real estate valuation model

Marshall took the real estate valuation method as the entry point for valuation and proposed some classic ideas. For example, "discounted earnings determine value";

“depreciation of fixed assets affects company value”; and “building type and land use affect company value”. Inspired by Marshall, the current cost method, income method and market method of asset valuation are the systematic appraisal procedures formed on this basis and developed into a modern appraisal theory independent of the value theory in the group (T. D. Li, 2014).

(3) Dividend discount model

Gordon (1959) proposed the dividend discount model (DDM) for valuing companies (stocks) on the basis of the theory of investment value by Williams (1938), which laid the theoretical foundation for quantitative analysis of virtual capital, assets and company value, and provided a strong theoretical basis for fundamental analysis of securities investment. According to DDM, the intrinsic value of a company is the value that the stock itself should have, rather than its market price. The intrinsic value of a stock can be evaluated by the sum of the present value of the stock’s annual dividend income; dividend is the return given to the shareholders by the joint stock company that issued the stock. The profit is distributed in proportion to the shareholders’ shareholding ratio, and the profit shared by each share is the dividend per share. With the broadening of the application scenarios, some simplified models and multi-segment models have emerged in the DDM model, such as zero growth model, inconvenient growth model and multi-segment growth model.

(4) Capital Asset Pricing Model (CAPM)

Markowitz (1952) established the modern portfolio theory (MPT), according to which Lintner and Sharpe (1972) and Mossin (1966) put forward the Capital Asset Pricing Model (CAPM). The CAPM, developed on the basis of asset portfolio theory and capital market theory, focuses on the relationship between expected returns on assets and risky assets in the securities market and how equilibrium prices are formed. It is the backbone of modern financial market price theory, which is widely used in investment decision making and corporate finance. However, because the CAPM is based on the assumptions of “systematic risk” and “unsystematic risk” as exogenous risks, the theory is limited in the following three aspects: First, the risk evaluation is based on the perfect market, which is not an actual capital market environment and cannot be obtained through simulation; second, there is no arbitrage, which is an efficient market theory based on the perfect market; third, the evaluation results are less credible when the company’s risk cannot find a suitable counterpart in the market.

(5) Adjusted Present Value (APV) method

The Adjusted Present Value (APV) method was first proposed by Myers (1974). According to the APV method, each cash flow of the project is divided into two components:

the unleveraged (all equity capital) operating cash flow and the cash flow linked to the project financing. By valuing these two components of cash flows, the cash flows are classified to adopt different discount rates, resulting in $APV = \text{unleveraged project value} + \text{project financing value}$. The APV method first assumes all-equity financing of the project, calculates a base present value, and adjusts it for the increase or decrease in value caused by the financial strategy planned to be adopted to arrive at the final APV. This method avoids the large errors that may arise from the weighted average of the cost of capital of different nature, and the various value creations are clear. However, it is not widely used in practice due to its complexity.

(6) Economic Value Added (EVA) method

Stern et al. (1995) proposed the economic value added (EVA) method. EVA is expressed as the income from net operating profit after taxes after deducting the full cost of invested capital, including equity and debt. The core of it is that capital investment entails a cost, and an enterprise's earnings create value for shareholders only if they are higher than their cost of capital (including cost of equity and cost of debt). From the management's perspective, the ultimate increase in an enterprise's owner's equity requires further removal of the cost of capital after net income. The prerequisites for EVA include the need for consistency between management decisions and the appreciation of shareholders' equity, and thus has become a common tool for assessing the performance of business operators. However, EVA indicators are short-term financial indicators. Although the use of EVA can effectively prevent managers' short-term behavior, managers serve a certain term in the company. For their own interests, they may only care about EVA in each year of their term of service. Nevertheless, the maximization of shareholders' wealth depends on the economic value added created by the company in each future period. If only the achieved economic value added is used as the performance evaluation indicator, enterprise managers, in their own interest, will lack motivation to maintain or expand market share, reduce unit product costs and make necessary investments in R&D projects, which are the key factors to ensure the sustainable growth of economic value added in the future.

(7) Option pricing models

The option pricing models have been continuously improved by scholars such as Sprenkle (1961), Boness (1964) and Samuelson (1965). Black and Scholes (1973) proposed the first complete option pricing model (Black-Scholes option pricing model), which mainly priced stocks based on stock option prices, and mainly included buyer option pricing and European seller option pricing. Since the effect of dividends was not taken into account, Cox et al.

(1979) proposed the binomial option pricing model (BOPM), which complements the Black-Scholes option pricing model. BOPM is simpler to derive and more suitable for illustrating the basic concepts of option pricing. It is based on a basic assumption that the price of a security moves in two possible directions over a given time interval: up or down. Although this assumption is very simple, BOPM is suitable for dealing with more complex options because a given period can be broken down into smaller time units.

(8) Real option model

Inspired by the option pricing model for the study of financial options, Myers (1977) was the first to propose the concept corresponding to financial options: real option, which gradually extended the idea of option pricing from the financial market to the field of real assets and investment management. Geske (1979) proposed a compound option formula on this basis, which provided an important solution for analyzing the decision evaluation of continuous investment projects or phased investment projects in which the execution of prior rights brings growth opportunities later. Real options have since been applied to a number of fields such as natural resources, land development, R&D and other project investment and corporate strategic decision making, experiencing an evolutionary path from qualitative to quantitative research, and creating a large number of real options models.

(9) Arbitrage pricing theory (APT)

Cox and Ross (1976) proved based on the no-arbitrage equilibrium in capital markets and full diversification of capital assets that asset prices are linear functions of a few fundamental factors, and systematically proposed the Arbitrage Pricing Theory (APT), a multi-factor asset pricing model. APT is a broadening of CAPM. The pricing model given by APT is the same as CAPM, which is a model in equilibrium, but the difference is that APT is based on a multi-factor model. APT considers arbitrage behavior as a determinant of the formation of modern efficient markets (i.e., market equilibrium prices). Risk-free arbitrage opportunities exist in the market if the market has not reached equilibrium. Multiple factors are used to explain the risky asset returns, and according to the no-arbitrage principle, an approximately linear relationship is obtained between the risky asset equilibrium returns and multiple factors. Besides, the previous CAPM model predicts a linear relationship between the returns of all securities and the returns of a unique common factor (the market portfolio).

(10) Other valuation theories

In addition to the valuation methods mentioned above, there are some other valuation theories, such as the Dividend Policies and Common Stock Price (DPCSP) model established by Walter (1956), which incorporates indicators such as company profits, dividend payout

rates, reinvestment yields and market benchmark yields into the company valuation system. For example, the M&M theorem introduced at the beginning of this section, also known as dividend irrelevance theory, suggests that dividend policies do not have any effect on the value of a company or the price of its stock, subject to certain assumptions. The price of a company's stock is determined solely by the profitability and risk profile of the company's investment decisions, independent of the company's profit distribution policy. The theorem is based on the theory of perfect markets. Tobin's Q theory is a famous coefficient introduced by the economist Tobin in 1969, known as the "Tobin's Q" coefficient (also known as the Tobin's Q ratio). This coefficient is the ratio of the market value of a company's stock to the replacement cost of the assets represented by the stock, and in Western countries, the Q ratio fluctuates between 0.5 and 0.6. As a result, many companies looking to expand their production capacity will find that it is much less expensive to acquire additional production capacity by acquiring other companies than it is to start from scratch themselves.

(11) Innovative company valuation methods

The following difficulties exist in the valuation of innovative companies, which are a focus of this thesis: a. difficulty in accurately predicting future earnings. The growth of innovative companies is accompanied by uncertainty in performance. This corporate characteristic is determined by innovation itself, which is a breakthrough attempt with uncertainty, and innovative companies are making targeted breakthroughs on the basis of existing industries. It is even more difficult to predict the method of discounting future cash flows; b. the financing process is faster than the industrial process. For many innovative companies, multiple financings may be achieved within a year, and based on the conventional anti-dilution clause, the investment valuation only goes up but not down, but the speed of technological breakthrough and market application follows, leading to the disconnection of progress between company value and corporate development, and thus the problem of valuation difficulties; c. single financing method. Innovative companies only rely on a single way of financing, which is private equity investment, in their growth process. Due to book restrictions, banks and other financial institutions can not intervene in this period. Unlisted companies cannot be valued through the public market, which then leads to difficulties in accurate valuation; d. comparable companies may not provide accurate comparisons. Innovative companies in the same category vary significantly in valuation. Based on the author's experience, companies in the same track may appear to have very little technological difference but can vary significantly in investment valuation. For some tracks, established innovative companies may create an increasingly large moat with their followers, affecting

the valuation of the company.

Since the maturity of foreign investment system for innovative companies was earlier than that of China, the research carried out by foreign scholars on the valuation method of innovative companies took an earlier start than that in China. However, synthesizing the results of existing studies, at present, valuation methods for innovative companies mainly include improved traditional valuation methods and innovative valuation methods.

(1) Improved traditional valuation methods

Modified cash flow method. The discounted cash flow (DCF) method is one of the traditional methods of company valuation. However, for innovative companies where future cash flows are difficult to determine, scholars have modified it according to the characteristics of the company. Koller et al. (2010) proposed an innovative model for high-growth innovative companies, and the innovation of the model lies in the assessment of the persistence of the company's profitability. When assessing the value of the company, the range of current company value is projected based on not only the past financial indicators but also future earnings level. Bauer and Hammerschmidt (2005) introduced customer value into the financial indicators based on the DCF model, but the modified approach requires two conditions to be met. First, the company is in the early stage of its business and is profitable; and second, the end customers of the company are individual customers rather than institutional customers. Gupta et al. (2005) showed how customer value makes it feasible to value companies, including high-growth companies with negative earnings. They defined the value of a customer as the expected sum of discounted future earnings. They demonstrated their valuation methodology using publicly available data for five companies. The results showed that every 1% increase in retention, profitability or acquisition cost increases company value by 5%, 1%, and 1%, respectively. J. Huang (2013) used a DCF model to value the company using Tencent as a case study for its company value, using a multiplier valuation model in parallel and giving reasons for the difference between the two. B. C. Zhang and Feng (2005) argue that company value comes from customers, and the value of end customers and the present value of tangible net assets are the core components of the value of innovative companies (especially Internet companies), and they use the customer lifetime value method for customer value assessment. In comparison, S. H. Wang and Li (2000) assessed the value of a company by valuing its overall assets, which requires a combination of the discounted cash flow method and the option pricing method. Both methods were used to estimate the current value and the future value of the company, arriving at the reasonable average.

Real options approach. Krafft et al. (2005) based their innovative options model on

customer value and calculated the value of customer value options before deriving the company value. However, this correction has the limitation that it is not possible to assess the value of innovative companies that have already achieved profitability. Jiang (2017) argues that for the valuation of high-tech enterprises, the real option method is more applicable to assess company value from a dynamic perspective. The article takes Fiberhome Telecommunication Technologies Co., Ltd. as a case and adopts the DCF model and Black-Scholes pricing model to assess the standalone value and potential value of the company, respectively. Y. Liu (2005), on the other hand, derived the value of the company's options through an option pricing model by modeling the company's options-based investment from an investor's perspective, and then derived the company value. This method was empirically analyzed in a B2B e-commerce enterprise. She believes that the advantage of option pricing models over traditional methods is that they can accurately reflect the growth potential offered by unique business models.

Multiplier valuation model. Ho et al. (2011) modified the traditional multiplier valuation model based on data envelopment analysis (DEA). They argue that companies with similar assets should have similar values and the valuation results of the target company can be obtained by modifying the multipliers of a series of comparable companies. Tan and Dong (2010) introduced the customer value theory, the core of which is also based on the growth of customer value driving the growth of company value. In addition, they proposed a value assessment model for Internet companies, which improves the model in three aspects: revenue contribution per customer, customer size and cost of equity.

Brokerage firms' internal methods. The method focuses on the valuation methods used by domestic brokerage firms' research departments for their own use. H. Q. Yu (2017) draws on the Guotai Junan valuation model to quantify customers' comprehensive evaluation of enterprises into enterprise nodal spaces and to value the ele.me food ordering platform (unlisted). Wei and Tian (2015) as well as S. H. Fan (2016) combined the Guotai Junan valuation formula with the market approach to define and determine the model parameters for the valuated enterprises using the values of known enterprises of the same type of business, and inferred the value of the subject from comparable company data. The limitations of this method lie in the dependence on the appraiser's industry experience and the need to find companies with high comparability. X. Y. Shi (2017) combined the market approach with the user value approach, selected comparable companies, and used the company's financial data to assign values to the model variables to assess the overall value of video-based websites.

(2) Innovative evaluation methods

Currently, innovative valuation methods are mainly focused abroad, and existing innovative valuation methods are mainly used by introducing innovative company characteristics or business models into traditional valuation methods. Milano et al. (2011) divided the company value into two modules, namely company operational value (COV) and future growth value (FGV), for valuation, instead of a single overall assessment of the company value. This innovation uses methods such as backward projection of stock prices to revenue growth rates and backward projection of current financial indicators using expectations. Estrada and Blakely (1999) proposed the Theoretical Earnings Multiple Analysis (TEMA) model, mainly enterprises in the maturity stage. The method is to predict two indicators of operating income growth rate and operating profit margin in the enterprise's earnings, and then calculate the enterprise's P/E ratio based on the above two indicators and the current stock price. Nedjati and Izbirak (2013) proposed the Analytical Network Process (ANP) model and selected Haraz Dairy, the most successful dairy company in Iran, as a case company for company valuation using the model.

Company valuation, as explained in the above section, is often constructive valuation based on a number of assumptions and a thorough study of the internal and external aspects of the company. Compared to unlisted companies, the value of a listed company tends to be much more intuitive and simpler. Any news about the company, whether positive or negative, is fed back into the company value (share price) in its entirety, which is in line with the Efficient Markets Hypothesis (EMH). Therefore, this study selects the companies listed on the STAR Market as sample and uses the market value (share price) as the company value, which is closer to the real market and has more practical guidance for the author's practice.

2.2 Hypotheses development

Shareholders are the founders and owners of an enterprise. The ultimate goal for shareholders to found and operate an enterprise is to maximize the value of the enterprise through its growth, and then to realize the value of shareholders. The share structure reflects the composition of an enterprise's owners, and more importantly, it is the foundation and core of the enterprise's development. The share structure is closely related to the growth and fluctuations of the company value and has been a topic of keen interest over the years. The share structure of an enterprise is both one of the results of direct corporate financing and one of the most important issues of concern to the shareholders' meeting and the actual controller in the process of enterprise operation (Hang et al., 2021; Vo & Ellis, 2017). Under the modern

enterprise system, the share structure is the basis of corporate governance structure, and different share structures have different impacts on the corporate governance structure and thus on the ultimate development path of the enterprise. The share structure determines the shareholding ratios of different types of shareholders and the style of shareholder meetings, and also influences the composition of the board of directors and the board of supervisors through shareholder meetings, thus directly influencing the supervision mechanism and decision-making mechanism of the enterprise and dominating the overall corporate governance structure (R. Fan et al., 2022; Galbreath, 2017; Jangu et al., 2014; Pan, 2019). Pan (2019) studied the effectiveness of external control through the share structure using multiple regression with the companies listed on the A-shares market of Shanghai Stock Exchange (SSE) from 2015 to 2017 as the sample, and selected ownership concentration, equity checks and balances, the nature of controlling shareholders, the proportion of institutional investors and the proportion of executives as variables. The results suggested that the indicator measurement system that most scholars tend to use to study the relationship between share structure and company value is composed of such factors as ownership concentration, equity checks and balances and the proportions of shares with different attributes. Y. G. Liu et al. (2010) and Z. S. Wang et al. (2014) defined share structure in a targeted manner using specific criteria or concepts such as ownership concentration and equity checks and balances.

Currently, the world is in the stage characterized by accelerated process of emerging industries and adjustment of the industrial structure. The information technology reform of Chinese traditional enterprises and the rise of emerging industries are not only reflected in the upgrading of enterprise hardware and systems. In the meantime, the direct and indirect effects of the share structure will be directly reflected in the ultimate value growth of the enterprise. In turn, with the change of capital structure, many innovative companies have a greater demand for a more suitable share structure. Finding a share structure that is conducive to the value of the company can help optimize the governance structure and organizational structure of the relevant companies, enhance their transformation and upgrading efficiency, and maximize enterprise valuation (Bebchuk et al., 2009; Roy, 2016; Schmidt & Fahlenbrach, 2017). Sound industry development is not only conducive to the transformation and upgrading of the enterprises within the industry but can also achieve industrial radiation to drive the development of regional industries as well as the development of upstream and downstream enterprises in the industrial chain, forming a better industrial cluster.

Based on a review of the existing studies on share structure, the research on the

relationship between share structure and company value are mainly focused on the following six aspects:

- (1) influence of ownership concentration on company performance and subsequently on company value;
- (2) influence of the diversification of substantial shareholders and equity checks and balances in the share structure on company value;
- (3) influence of the nature of the shareholding on company value;
- (4) influence of the shareholding ratio of executives on company value;
- (5) influence of enterprise capital structure on company value;
- (6) influence of the proportion of private equity institutions and the number of appointed executives on company value

Share structure is a general concept that is perceived and defined differently in different regions, industries and research fields. Although a unified perception can be formed in a broad sense, there is no uniform definition in various studies. Due to its diverse attributes, the share structure can be defined in terms of such aspects as the type (nature) of composition, share ratio and the roles of different shares. Since this study focuses on the share structure associated with company value, it does not intend to engage in a comprehensive and thorough discussion of share structure (e.g., equity circulation, ownership structure, family business), but will focus on the six aspects mentioned above.

2.2.1 Ownership concentration and company value

Ownership concentration is usually not linked to company value. Many studies directly examine the relationship between ownership concentration and company performance, which in turn infers a consistent relationship with company value. However, studies conducted in different industries, from different research perspectives, among different samples, and with different indicators can hardly lead to consistent conclusions. Some scholars argue that ownership concentration has a significant positive impact on company performance. For example, Chatterjee and Bhattacharjee (2021) identified a positive relationship between ownership concentration and R&D intensity in Indian technology-based SMEs, and the “value creation” hypothesis in corporate governance in the context of ownership concentration was supported, which had a positive impact on the performance of Indian technology-based SMEs. A study by Y. Liu and Han (2021) also showed that ownership concentration positively moderates the relationship between R&D investment and company value, and that firms with

high ownership concentration tend to invest in R&D to enhance company value.

Iwasaki and Mizobata (2020) conducted a large-scale meta-analysis of the relationship between ownership concentration and company performance in the emerging economies of Eastern Europe and the former Soviet Union. A comprehensive integration of 1,517 estimates collected from 69 previous studies suggested that ownership concentration has a statistically significant positive impact on company performance. Foss et al. (2021) argue that shareholders possess different levels of competence and that differences in share structure are critical to company value creation. Equity, also known as ownership, is composed of a value-creating capability that is positively related to ownership concentration, which can play a strategic role in the company value creation process. In addition, some scholars (Agrawal & Mandelker, 1990; Claessens et al., 1997; Jensen & Meckling, 2019; Pedersen & Thomsen, 1999; Shleifer & Vishny, 1986; Sun & Huang, 1999; Xiao, 2003; H. J. Zhang, 2000) also argue that ownership concentration can be more conducive to company performance, that Tobin's Q value tends to be positively related to ownership concentration, and that a high degree of ownership concentration also has a positive effect on corporate governance. X. Y. Xu and Zhang (2008) quantitatively described the share structure using the shareholding ratio of the first largest shareholder, the shareholding ratios of state-owned shareholders and the ownership concentration of the second to tenth minority shareholders as explanatory variables. They argue that the value of companies with a lower proportion of state ownership and generally legal persons as the first largest shareholder is relatively greater, which can indicate that this type of share structure is relatively more conducive to company value. J. W. Zhao and Yu (2005) distinguished between concentrated and relatively decentralized types of share structures based on the degree of equity checks and balances and concluded that among companies of similar sizes in the same industry, those with a dominant shareholder outperform those with equity checks and balances in terms of business performance.

However, many studies have also concluded that ownership concentration has a significant negative relationship or a non-significant linear relationship with company performance and even company value. Nguyen et al. (2017) argue that the dominance of ownership concentration leads to information asymmetry and expertise disadvantage that prevent independent directors from performing their governance oversight functions and have an overall negative impact on the company's business performance. Shatnawi et al. (2021) analyzed the annual observation data of 828 firms listed on the Amman Stock Exchange (ASE) in the industrial and service sectors from 2009 to 2017. The results of their study indicate that ownership concentration has a direct positive effect on return on equity (ROE) and return on

assets (ROA) as well as a direct negative effect on Tobin's Q. The hypothesis is accepted in terms of ROA and ROE while rejected in terms of Tobin's Q. S. K. Wu (2002) argues that ownership concentration (the study is based on the Herfindahl-Hirschman Index (HHI) and the shareholding of the last nine substantial shareholders) shows a significant inverted U-shaped relationship with company performance, and that the shareholding of substantial shareholders is positively related to company performance. Some researchers also argue that the degree of ownership concentration is not related to company performance. For example, W. X. Zhu and Song (2001) as well as D. Z. Yu (2001) concluded that the relationship between ownership concentration and performance is not significant after studying specific industries. Besides, H. Y. Shen et al. (2017) and Johnson et al. (2000) argue that controlling shareholders not only have benefit synergies, but also more often hollow out the company and pursue their own interests at the expense of other small and medium shareholders. Mehran (1995) as well as Demsetz and Lehn (1985) found that ownership concentration is not related to either value indicators of company value (such as Tobin's Q) or the financial indicators representing company performance (various types of returns).

Synthesizing the above research literature, existing theoretical and empirical studies have concluded that ownership concentration may have both positive and negative effects on company value, or the two variables show a positive linear relationship or an inverted U-shaped relationship. This thesis argues that the following areas of improvement can be made in the current research on ownership concentration and company value: (1) The divergence of research findings indicates the existence of more micro factors between ownership concentration and company value, and only after analyzing the micro factors can the relationship between the two be further clarified under specific hypothetical conditions. Studying the relationship without analyzing the micro factors will inevitably lead to the inability to find commonalities between the studies; (2) in the existing studies, there is no clear indication of whether ownership concentration ultimately seeks to maximize enterprise profit or company value (shareholder utility). This study holds that the lack of clarity of the above purpose is the main reason why many studies focus on whether ownership concentration is related to company performance; (3) in essence, the impact of ownership concentration on company value is diversified, with such manifestations as ineffective management or supervision by substantial shareholders leading to insider control, deliberate harm of the interests of small and medium shareholders by substantial shareholders to achieve further control, as well as conflicts of interest brought about by agent problems.

Since ownership concentration acts directly on shareholder behavior and governance

behavior and has an impact on company performance, this thesis aims to use ROE and Tobin's Q to measure company performance and indirectly derive its relationship with market value. It involves the relationship between company performance and company value. According to common knowledge and experience from practice, there is a positive relationship between company performance and company value. Therefore, in this study, the default independent variable acts in the same direction on company performance and company value. The thesis argues that the more extreme the ownership concentration, the more unfavorable it is for the company value. Therefore, this thesis puts forward the following hypothesis:

H1: The concentration of equity ownership is negatively related to company value.

2.2.2 Corporate governance, equity checks and balances, and company value

Equity checks and balances refers to a share arrangement characterized by mutual supervision between substantial shareholders where the control is shared by multiple shareholders, and no single substantial shareholder can control the decision alone due to internal checks and balances. It not only retains the advantage of relative concentration of ownership but also effectively inhibits the infringement of interests of listed companies by substantial shareholders. Equity checks and balances often goes hand in hand with corporate governance, and the two cannot be completely separated from each other. Therefore, this section mainly focuses on reviewing the literature on corporate governance and the impact of equity checks and balances on company value.

Pagano and Röell (1998) argue that the significance of equity checks and balances for enhancing company performance and company value is reflected in two aspects. On the one hand, the absence of a significant substantial shareholder in the company or the diversity of substantial shareholders will facilitate shareholders' monitoring of managers; on the other hand, the diversity of shareholders can weaken the ability of substantial shareholders to seek control for personal gain through mutual monitoring. Zheng et al. (2019) empirically investigated shareholders' social responsibility and its ultimate mediating role on company value by selecting listed companies published in CSR reports from 2011 to 2016 as the research sample. The regression results indicate that social responsibility plays a partially mediating role in the effect of equity checks and balances on company value such that a certain degree of equity checks and balances can promote corporate social responsibility and thus enhance company value. Gugong et al. (2014) analyzed the panel data of 17 companies during the period between 2001 and 2010 (ten years) and identified a significant positive

relationship between equity checks and balances in corporate governance and company performance. Gomes and Novaes (2005) used the equity checks and balances ratio to reflect the correlation of the company's share structure and put forward that equity checks and balances can reduce enterprise managers' acts of favoritism while protecting the interests of small and medium shareholders based on the checks and balances among multiple substantial shareholders in practice. This can enhance the reputation of the company and bring additional economic and social value to the company. J. Q. Zhang et al. (2013) conducted a static study on corporate governance and company performance. The results showed that the impact of corporate governance mechanisms on company performance differs in different stages of the life cycle. Strengthening equity checks and balances can significantly improve company performance in the growth stage. Gomes (2001) as well as Y. X. Huang et al. (2003) argue that the more obvious the equity checks and balances is, the lower the degree of infringement of the interests of substantial shareholders on small and medium shareholders will be, and the more the company value can be reflected. This conclusion is supported both in listed and unlisted companies. X. Xiao and Si (2009), using a sample of non-financial listed companies in Shenzhen and Shanghai from 2004 to 2006, empirically tested that there is a double agency conflict between shareholders who check each other, and that equity checks and balances will reduce agency costs and improve company performance.

Some studies argue that the relationships between equity checks and balances, corporate governance and company value are neutral. By analyzing 120 pieces of data from financial statements and other documents observed over four years for five banks (six branches under each bank), Sitorus and Sitorus (2017) found that sound equity checks and balances is beneficial for creating good corporate governance, but neither of which has a significant effect on company value increase. Jaiswall and Firth (2009) analyzed a large and broad sample and found that the choice of board leadership is associated with governance characteristics and that CEO diversity can adversely affect the value and operating performance of the company later in life if equity is not balanced against each other in the early stage. These results support the life-cycle theory and suggest that equity checks and balances is a dynamic process, with weaker checks and balances being beneficial in the early stage of the company's lifecycle but detrimental in the later stage. Regardless of the stage of corporate development, companies need checks and balances, not dictatorship. A study by H. J. Zhu and Wang (2004) revealed that equity checks and balances does not necessarily improve the governance efficiency of private listed companies in China. Y. X. Sun and Huang (1999) consider the share structure the distribution of the proportions of shareholders' shares

in the company, which differs from the liquidity structure and ownership structure of equity. They also believe that this defined share structure is more meaningful from the perspective of studying corporate governance. Ni (2019) analyzed the data of listed commercial banks in China using descriptive statistics, correlation analysis and regression analysis and concluded that the shareholding ratio of state-owned shares in China's listed commercial banks should be reduced, social capital should be introduced, and equity checks and balances should be enhanced to ensure the maximization of the value of commercial banks. Chen and Bian (2015) conducted an empirical study on the relationships between equity checks and balances, agency costs and enterprise benefit based on a quantitative analysis of the equity structure of private companies listed in China from 2007 to 2013 with equity checks and balances as explanatory variables. The results showed that a mutually balanced share structure plays an important role in improving the governance mechanism of private listed companies and improving company performance.

K. Gao et al. (2019) examined the effect of cross-ownership (IICO) of institutional investors in the same industry on enterprise innovation. The effect of cross-ownership on innovation is more significant when there are weak checks and balances among the substantial shareholders of the company. In this case, the company is able to gain more value through innovation, and there is a negative relationship between equity checks and balances and company value. Ibrahim and Samad (2011) examined how family and non-family ownership in Malaysian listed firms between 1999 and 2005 was related to corporate governance mechanisms and performance. Equity checks and balances affects the size of the board of directors, independent directors, and duality of family and non-family ownership with a significant negative effect on company performance. The empirical evidence of L. P. Xu et al. (2006) also indicated a negative effect of excessive equity checks and balances on a company's business performance.

The purpose of equity checks and balances is twofold. The first is to ensure that shareholder rights are not abused resulting in harmed rights and interests of some shareholders; the second is to ensure that shareholder actions acting on corporate governance do not affect the normal operation of the company and eventually lead to a decrease in company value due to the personal/institutional characteristics of unchecked shareholders. In the existing studies, most scholars have concluded that there is a linear relationship between equity checks and balances and company value. As with ownership concentration, a few studies also suggest an inverted "U-shaped" relationship between the two, indicating that some scholars seek a relatively optimal range of checks and balances. Meanwhile, equity

checks and balances is not exactly equal to ownership concentration, as a higher degree of ownership concentration does not lead to weaker equity checks and balances. In particular, for listed companies, under the regulatory requirements of the CSRC, the behavior of substantial shareholders will be subject to more supervision, while small and medium shareholders can also protect their rights through the applicable laws and regulations to limit the “excessive” behavior of substantial shareholders. Industry practices also indicate that good equity checks and balances can ensure the optimization of a company’s decision making and the maximization of the company’s operational efficiency. Although equity checks and balances is a dynamic factor, its importance is self-evident for listed companies. Based on this, this thesis puts forward the following hypothesis.

H2: Equity checks and balances is positively related to company value.

2.2.3 Nature of shares and company value

There are different types and natures of shareholders. In terms of the type of shareholders, there are mainly corporate shareholders and natural shareholders; while in terms of the nature, shares can be categorized into state shares, state-owned corporate shares, private corporate shares and natural person shares. (1) State shares refer to shares formed by departments or institutions that have the right to invest on behalf of the state with state assets, including shares converted from the existing state assets of the company; (2) state-owned corporate shares refer to shares formed by the investment of state-owned enterprises, public institutions and other entities with legal person status with their legal person assets occupied by them in accordance with the law in a joint stock company independent of themselves or acquired in accordance with legal procedures. The above distinctions between state shares and state-owned corporate shares are also explicitly stipulated in China’s economic laws. In addition to differences in definitions, the two also differ in the way of management. Specifically, dividends on state-owned corporate shares are collected by the state-owned legal entity and used in accordance with the law; dividends from state shares are supervised and collected by the state-owned asset management department, incorporated into the state-owned asset management budget in accordance with the law and arranged for use in accordance with relevant state regulations. Furthermore, compared with the transfer of state-owned corporate shares, the government is stricter in approving the transfer of state shares; (3) private corporate shares refer to the shares owned by enterprise legal persons and non-state entities and social organizations with legal personality. Their source is the capital, equipment, raw

materials, invention rights, patents and other assets invested by these social legal persons into the enterprise; (4) natural person shares, a concept relative to corporate shares, refer to the shares of a company acquired by natural persons participating in a share offering or by way of promotion and establishment and are also known as individual shares.

Since the term “share” is an umbrella concept, research on shares is often carried out based on the nature of shares. However, to achieve research depth, targeted research on shares of different nature is often carried out with the specific connotations provided. Claessens et al. (2002) as well as Cohen and Zarowin (2010) argue that controlling shareholders holding shares of different nature and the shareholding ratio represent shareholders’ different needs for the company’s interests. If the private gains obtained are less than the losses from the decline in market value, shareholders of different nature will weaken the incentive to plunder private gains through control of the company. Demsetz and Villalonga (2001) found in their study that if the nature of shares is not concerned, the share structure can function as an independent variable that can substantially affect company value; while if the intrinsic nature of the share structure is taken as the premise of the study, the company value changes from a dependent variable into an independent variable. Since the nature of shares in countries outside China does not share the specificity of that in China, it tends to be mentioned occasionally under the framework of studies on share structure. However, an important part of Chinese research on the relationship between enterprise share structure and company value is the research on how the nature of shares affects company value.

In the research on the share structure of enterprises in China, state-owned shares are an indispensable element. Research on the nature of shares is generally carried out from the perspectives of the proportion of state-owned shares, the proportion of corporate shares and the proportion of shares in circulation. Among them, state-owned shares are a characteristic type of shareholders in Chinese enterprises, both in terms of their own special characteristics and their special impact on company value. Tao et al. (2009) argue that the higher the proportion of shares held by state-owned shareholders, the more detrimental to the enhancement of company value. Q. Wang and Guan (2017) argue that what can really affect company value is the share structure that is in line with the development stage and management level of the company, and that there is no need to pay excessive attention to the ratio of state-owned shares and the involvement of state-owned shareholders in management in the process of the study, and that deepening the shareholding reform is the key to improving the market competitiveness of the company. L. L. Wang (2017), on the other hand, argues that ownership concentration is positively related to company value, that there is no

significant relationship between state shares and company value, and that corporate shares are positively related to company value. Qin (2010) used 758 observations from the Shenzhen Stock Exchange during the period from 2006 to 2008 as sample and concluded that the change in the proportion of state-owned shares has a positive effect on company value. However, K. G. Zhou and Li (2006) as well as Yang and Zhang (2008) studied in depth the impact of state ownership on the value of listed companies using a fractional regression model approach and dissected the degree of impact of the proportion of state-owned shares on company value for companies with different performance. The results showed that regardless of the company value, state-owned shares have a consistent negative impact on the company value of listed companies. Besides, the degree of impact on company value is significantly different for different companies such that the higher the company value, the greater the degree of negative impact.

Research on the effect of corporate shares on company performance is also predominately focused on the Chinese context. J. R. Tang (2018) studied the differences in the role of corporate shares within companies due to regional differences between eastern China and western China, and the results showed that corporate shares have a positive effect in the eastern region and a negative effect in the western region. Lu et al. (2020) found through studying companies listed in China's A-stock exchange in Foshan City that the percentage of shares held by the company's largest shareholder and the percentage of general corporate shares are positively related to business performance. Therefore, they suggested that listed companies in Foshan should further reduce the proportion of state-owned shares and moderately increase the proportion of general corporate shares so as to control the ownership and operation of the company in an appropriate proportion and to balance the interests of all shareholders as much as possible while improving the company performance. However, some scholars believe that there is no significant relationship between company performance and corporate shares. After studying the effect of share structure of listed retail companies on operating performance, F. R. He and Zhou (2021) concluded that the coefficients of legal person shares are very small negative values and zero, respectively, and the effect of the proportion of legal person shares in listed retail companies on company performance is not significant. Y. A. Zhou (1999), X. N. Xu (1999), H. J. Zhang (2000) and S. K. Wu (2002) contend that there is a non-linear relationship between the proportion of company shares and company performance, with some of their studies showing "U-shaped" relationship between the two.

Another important component of the nature of shares is the impact of private shareholders

on company performance and even company value. Due to the private nature of private shares, private shareholders play a more active role in corporate governance. However, existing studies have not arrived at a consensus on this point. X. D. Xu and Chen (2003) found that companies with non-state shares have significantly higher Tobin's Q, ROA, return on main business, and return on net assets than companies whose first largest shareholder is a state shareholder. Besides, the market return of shares of companies whose first largest shareholder is a non-state shareholder is better than that of companies whose first largest shareholder is a state shareholder. L. D. Wu et al. (2019) argued that the executives of companies with directors from private shareholders received higher compensation, that executive compensation increases motivated by economic incentives had a significant positive effect on company performance, while executive compensation increases motivated by political alliances had a significant negative effect on company performance. Lin et al. (2018) mainly studied the propensity of shareholders of different nature in pledge of shares. They analyzed the impact of controlling shareholders' pledge of shares on company performance of listed companies in China from 2011 to 2015 and identified a negative relationship between the percentage of shares held by controlling shareholders and the pledge of shares, and such negative relationship was affected by the nature of shares. The controlling shareholders of private listed companies were more willing to accept the "valuation adjustment mechanism", and negative relationship is more significant.

The nature of shares represents, to some extent, the management style and governance of the shareholders in corporate governance. The same controlling shareholder usually adopts a very similar management style for subsidiaries. International studies tend to explore corporate shareholders and natural person shareholders. However, due to its specific national conditions, there are also state-owned shareholders and partnership shareholders in addition to the above two types of shareholders. State-owned shareholders tend to focus more on compliance rather than profitability and efficiency, while partnership shareholders are the opposite of state-owned shareholders. The original purpose of holding shares or even major shares in a partnership is to ensure the ability to exit quickly after receiving established returns. In terms of the willingness to hold shares, partnership shareholders also tend to be weaker than the shareholders of shares of other nature. In addition, existing research tends to focus on the contrasting nature of shares, i.e., the effect of either/or on company value. However, as shareholders, the common goal is to maximize company value and shareholder benefits. Therefore, this study aims to examine the relationship between the two from a diversified perspective. For innovative companies, it is hoped that on the one hand, the majority of the

shares can be held for a long time, and on the other hand, some shareholders can decently exit after completing the missions of the certain stages of the company's growth process. Such an arrangement can ensure the uninterrupted support of capital and resources required for the company's development, while also reflecting the stability of the company's share structure and corporate governance. Based on this, this thesis proposes the following hypothesis:

H3: Diversification of the nature of shares is positively related to company value.

2.2.4 Management and company value

Management can usually be considered as the top management of a company, including the board of directors and the managerial team. Management and company value have been the focus of theoretical research and empirical studies. Particularly, power of the management and management shareholding (which can also be considered as management incentives) are the direct influencing factors of the overall corporate governance. Therefore, existing studies tend to select variables in such dimensions as management shareholding, concurrent positions in the board and management, the personal competence of core personnel and board independence. Regardless of the indicators, they all ultimately point to the rights of management in the corporate governance process. In this sense, the research on the relationship between management and company value is essentially the research on the relationship between power of the management and company value.

By surveying Japanese companies listed on the Tokyo Stock Exchange that had appointed at least one independent director or independent statutory auditor, Ahmed and Iwasaki (2021) found that foreign ownership is significantly and positively related to the appointment of independent directors and company value, respectively. A path analysis further revealed that foreign shareholding affects company value through the appointment of independent directors. Although foreign investors hold less shares, they increase company value by improving the monitoring of managers. Another study indicated that CEO duality (duality) has an inverse relationship with company performance, while board size, board composition and CEO duality have a significant positive effect on company value (Harun et al., 2020). Y. Li et al. (2018) found that the higher the power of CEO, the greater the impact of ESG disclosure on company value and that there is a positive relationship between the level of ESG disclosure and company value, which indicates the role of increased transparency and accountability and enhanced stakeholder trust in enhancing company value. Akram (2018) analyzed the data of sugar and allied industry of Pakistan Stock Exchange in 2014 using PLS-SEM approach. The

results showed that the managerial power had no direct effect on company performance but had a significant effect on executive remuneration. In addition, managerial power had a significant impact on company performance through executive remuneration or executive remuneration played a mediating role between managerial power and company performance. Nazir and Afza (2018) concluded from an empirical study that corporate governance has a significant positive impact on company value, confirming the positive effect of corporate governance in mitigating agency problem and increasing company value. In addition, the findings suggest that managers' opportunistic behavior may undermine current and subsequent company value through manipulation of the reported accounting surpluses, making this opportunistic behavior a negative moderator of the already established positive relationship between corporate governance and company value.

Existing studies on the relationship between management shareholding and company value have led to mixed findings, and many of them classify management into board of directors and managers (executives). In terms of management (executive) shareholding, Studies have shown that executive shareholding has an incentive effect on the company's operating performance (Kaplan, 1989; Mehran, 1995; A. J. Smith, 1990). Some studies used two parameters, Tobin's Q and return on total assets, to measure company performance and showed that they had a significant positive relationship with the percentage of shares held by executives. Jensen and Meckling (2019) used the shareholding ratio of company executives to describe the company's share structure. Their study led to the conclusion that the lower the percentage of shares held by shareholders in the company, the lower the managerial incentives, and the higher the agency costs. Singh and Davidson III (2003) as well as Ang et al. (2000) found in a study of U.S. companies that an increase in executive shareholding significantly mitigated the principal-agent problem. However, Demsetz (1983) as well as Fama and Jensen (1983) argue that management can have a cost offsetting effect and weaken company performance if they hold a large amount of shares. Some studies uncovered a nonlinear relationship between management shareholding and company value (Hermalin & Weisbach, 1991; Holderness et al., 1999; Morck et al., 1988), while some demonstrated a significant inverted U-shaped relationship between executive shareholding and company performance (Fernandez, 2019; McConnell & Servaes, 1990; Short & Keasey, 1999; Stulz, 1988; S. K. Wu, 2002).

The findings on the relationships between management shareholding, company performance and company value also vary. Rashid (2020) identified a significant positive effect of foreign shareholding and director shareholding on the performance of both

accounting and market-based enterprises, while institutional shareholding had a positive effect on the performance (return on assets) of accounting-based enterprises only. After studying enterprises in several countries, many studies have concluded that board shareholding has a positive effect on company performance (Al Farooque et al., 2020; Mishra & Kapil, 2017; Puni & Anlesinya, 2020; D. H. Yu & Yu, 2003; Zraiq & Fadzil, 2018). Hidayat and Utama (2017) found that the proportion of family commissioners and family directors only has a positive effect on Tobin's Q positively, while the proportion of independent directors increases Tobin's Q and ROA. The study revealed that the proportion of former government officials on the board has no effect on company performance and that board size has a U-shaped non-linear relationship with company performance, represented by Tobin's Q and ROA. Another study suggested a significant non-monotonic relationship between Tobin's Q and the proportion of directors' shareholding (Morck et al., 1988).

The studies conducted by Banerji (2017) and Zona et al. (2018) did not prove the relationship between board shareholding and company performance, while a significant positive relationship was identified between board shareholding and financial performance indicators, namely ROA and ROE (Gurusamy, 2017). Some studies have concluded that the effect of board shareholding on Tobin's Q is not significant (W. D. He & Zhang, 2002; Sun & Zhang, 2000; Vafeas & Theodorou, 1998; Yu, 2003). Merendino and Melville (2019) as well as L. Gao and Song (2007) found that company performance and company value were significantly negatively related to the percentage of executive shareholders.

All studies on the relationship between management and company value are based on the agency problem of the conflict between the management's personal interests and the company's interests, and very few studies consider management shareholding to be irrelevant to company value. In fact, with the gradual improvement of the capital market, both regulators and companies themselves hope to find the best relationship paradigm that balances the management's personal interests and the company's interests. China's capital market took a late start. The early listed companies were mainly restructured state-owned enterprises, while most private enterprises were still under the influence of family enterprises and failed to realize the management mode of modern enterprises, and thus had inadequate corporate governance. However, with the gradual popularization of the concept of modern corporate governance in China, more and more owners of enterprises are aware of the importance of management for the enterprise. Equity incentive and grant of multiple rights are also important exploration contents of the development of existing enterprises in China. The author believes that this is one of the characteristics of the transition from the emerging

capital market to the mature capital market. Meanwhile, the traditional personal management model of private enterprises will not allow management to hold a too high proportion of equity. So, there will basically be no problem of management losing control due to an excessive proportion of equity. Therefore, this thesis puts forward the following hypothesis that:

H4: Management shareholding is positively related to company value.

2.2.5 Capital structure and company value

A concept that is more representative of the asset structure and ownership structure of a company than the share structure is the capital structure, but the debt portion of the capital structure only has the right to earn income and does not have the right to manage in the event of non-exercise or liquidation. Therefore, the whole process goes back to the capital structure. In Chinese, capital structure represents the composition of the capital behind the enterprise, i.e., the structure of shareholders and creditors, and is represented in the enterprise financial statements in separate strokes for net assets and liabilities.

Some scholars believe that capital structure affects the profitability of a company and subsequently the company value. Sinaga (2016), on the other hand, suggested that corporate financial decision makers use more long-term debt than equity capital in financing their operations because it has a greater impact on company value. The path analysis made by Sari and Sedana (2020) showed that profitability has a significant positive impact on capital structure; liquidity has a significant negative impact on capital structure; capital structure has a significant positive impact on company value; profitability has a significant positive impact on company value; liquidity has an insignificant negative effect on company value; and capital structure moderates the effect of profitability and liquidity on company value. Bestariningrum (2015) argues that, to some extent, capital structure has a positive and significant effect on company value, and firm size has a positive and significant effect on company value. Using a certain level of debt as a source of funding to determine the capital structure can increase the profitability and company value. Aggarwal and Padhan (2017) took into consideration such variables as company quality, leverage, size, profitability, tangibility, growth, liquidity measured by the Altman Z-score as well as macro variables of GDP growth and inflation to examine their impact on company value. The results of the study indicate that there is a significant positive relationship between company value and leverage, size and economic growth. Khanh et al. (2020) determined from a study of Vietnamese firms that

capital structure has a non-linear effect on fair value, but company size (which tends to increase debt) is positively related to fair value.

Some studies based on emerging markets, however, argue that raising debt too high, on the contrary, reduces company value. For example, Sinaga (2016) uncovered a significant negative impact of capital structure on company profitability and company value. Company growth has a significant negative impact on profitability and company value. An analysis of the accounting and stock market data of companies listed on the Ho Chi Minh City Stock Exchange during the period between 2007 and 2013 revealed a negative relationship between financial leverage and company value, indicating that the cost of debt financing for Vietnamese companies is inversely proportional to earnings (Vo & Ellis, 2017); only low leveraged companies are likely to create value for shareholders. Ezirim et al. (2017) argue that leverage is significantly negatively related to company value, contrary to the traditional and modified Modigliani-Miller (M&M) theorem. However, changes in leverage are significantly positively related to value, consistent with a static trade-off, contrary to the pecking order theory. Across periods, leverage exerts a negative signaling effect on company value, consistent with negative signaling theory but contrary to positive signaling theory. Using fixed effects estimation, Loncan and Caldeira (2014) analyzed the relationship between capital structure, cash holdings and company value in a sample of Brazilian listed companies through panel data regressions. Regarding the effect of capital structure on company value, short-term debt, long-term debt and financial constraints have a negative marginal effect on company value, indicating risk averse behavior of investors towards debt. Manurung et al. (2014) argue that capital structure has a significant negative effect on company value. The higher the debt of a company, the lower its value. Capital structure significantly affects profitability, i.e., the profit of a company with high capital structure will decrease. Profitability positively affects company value.

Some studies have examined capital structure as a mediator. Setiadharmas and Machali (2014) argue that capital structure, as an intervening variable, cannot intervene in the relationship between asset structure and company size on company value by acting as a mediator. Mubyarto (2020) used capital structure as a mediator in his study and found that capital structure had a significant negative effect on company value, while the introduction of profitability variable in the relationship had a positive and significant effect. Similarly, the direct effect of profitability on company value with capital structure as a control variable was found to be positive and significant.

Putri and Rahyuda (2020) concluded from their study that capital structure had negative

and insignificant effect on company value, meaning that capital structure has no effect on company value. Rehman (2016) used leverage ratio, profit sustainability ratio and shareholders' equity in capital structure as independent variables and found that they had a significant effect on the dependent variable (Tobin's Q), while the remaining two variables performance ratio of capital structure and cash flow indicator ratio of dividend policy did not have a significant relationship with Tobin's Q. Uzliawati et al. (2018) concluded that the higher the capital structure with debt-to-equity ratio and long-term debt to asset ratio, the higher the company value, while the lower the long-term debt-to-equity ratio, the lower the company value. Kodongo et al. (2015) concluded that leverage significantly and negatively affects company profitability but not company value.

Chinese scholars' research on capital structure and company value is more middle of the road. Xin and Zhang (2018) took listed companies in strategic emerging industries in Yangtze River Economic Zone as sample and found that capital structure does not affect company value singularly. Sometimes, it is reflected in equity concentration and equity checks and balances, and a suitable debt ratio can instead enhance profitability and company value. Some empirical studies suggested a negative relationship between corporate debt and profitability (D. Z. Yu, 2001). The study by Y. C. Li and Jiang (2001) identified a significant negative relationship between Tobin's Q and asset-debt ratio in most years, and the regression results of annual average data also showed a highly significant negative association. It is suggested that asset-debt ratio is negatively related to company value (Z. P. Xiao, 2003) while the presence of debt financing has a positive effect on company performance (M. J. Zhang, 2006). However, a higher debt financing ratio is not necessarily a good thing as debt financing ratio and company performance exhibit an "inverted U-shaped" relationship.

The evolution from the early use of leverage to increase company value, to the M&M theorem arguing that capital structure is not related to company value, to the tax shield after modifying the M&M theorem, is the theoretical basis of the existing research. Based on a review of existing studies, moderate debt can enhance financial leverage, amplify the utility of capital and increase company value, but at the same time increasing the risk accordingly. Capital structure has been studied in many studies only through the relationship between financial indicators and company value, ignoring the real meaning of capital structure. Capital structure can elevate the owner of a company from shareholder to stakeholder and consider the creditor as one of the owners of the company, which is essentially a diversification of the company's financing path and market-based pricing of company value. As a double-edged sword, leverage will inevitably backfire on the enterprise in extreme cases, but financing

preference is a natural characteristic of the enterprise shown in its development and growth. This thesis argues that a diversified ownership structure is the only reasonable ownership structure for a company to grow. Therefore, this thesis postulates that:

H5: Diversification of creditors is positively related to company value.

Since the paths of direct financing and indirect financing are relatively fixed, and the types of investment institutions are clear, capital structure diversification tends to show a single performance in the actual measurement process, and subsequent tests may not yield persuasive results. Therefore, a detailed classification of capital structure diversification leads to such subdivisions indicators as the debt ratio and debt maturity. Both the debt ratio and the debt maturity are within the reasonable range requirements of the industry, and excessive increase in debt will eventually lead to uncontrolled debt due to the rapid increase in marginal cost. Therefore, on the basis of Hypothesis 5, this thesis further proposes the following two sub-hypotheses:

H5a: Asset-debt ratio is positively related to company value.

2.2.6 Private equity and company value

(1) Definition of private equity investment

In the course of the development of Chinese enterprises, shareholders were first classified into corporate shareholders and natural shareholders. Corporate shareholders further consist of state-owned enterprise shareholders, private enterprise shareholders and foreign shareholders according to the identity of the shareholders of the enterprise legal person. In the history of the development of Chinese enterprises, the shareholders of state-owned enterprises are a very special existence, generating a main body of literature on the impact of state-owned shareholders on company value. In recent years, with the gradual implementation of mixed ownership reform in SOEs, more and more studies have started to focus on enterprise mixed ownership reform. A large number of studies have argued that the addition of non-state shareholders increases equity checks and balances, improves governance efficiency, and can effectively enhance company value. G. L. Cai et al. (2018), X. Zhang et al. (2019) and Y. A. Zhou (1999) argue that since state-owned shareholders pay more attention to compliance and tend to ignore efficiency, in many cases, the shareholding ratio of state-owned shareholders is negatively related to company value due to excessive occupation of management positions, which reduces the proportion of directors, supervisors and executives appointed by non-state-owned shareholders. In fact, there was a large disagreement about the impact of

SOE shareholders on company value before mixed ownership reform was implemented by a large number of companies. X. Chen and Jiang (1999) argued that the impact of SOE shareholding on company value tends to be limited to more competitive industries and is less significant in industries with less competition. Even one study concluded that there is no significant difference in company value with or without SOE shareholding (D. H. Shi, 2000).

In the growth process of innovative enterprises, state-owned shareholders do not play a significant role. In the existing investment pattern in China, state-owned capital often forms funds of hundreds of billions of yuan, which is invested in some strategic industries, such as chips and new energy. But for a large number of innovative enterprises, more private equity institutions assume a very important capital role and resource role. Without the support of private equity investment, a large number of innovative companies cannot achieve rapid growth. Therefore, state-owned shareholders are not used as the main variable in this study, and private equity investment institutions will be selected as a variable for specific shareholders. The companies listed on the STAR Market are all companies with the attribute of science and technology innovation, which are essentially technology-based innovative enterprises. Therefore, this study on the nature of equity is mainly based on private equity investment institutions.

Private equity investments originated early in the 19th century in the U.S., where many wealthy banks, individuals and households invested their money in emerging industries, such as oil, steel and railroads through introductions and arrangements by lawyers and accountants. At that time, there was a huge risk. This type of investment was entirely at the discretion of the investor, without a specialized institution. It was the prototype of private equity investment. Since the introduction of the concept of venture capital in China in 1984, it has become an investment sequence with a sound system. After three stages of development, China's private equity investment not only has a sound project valuation system, but has also evolved from a single division of labor to a diversified professional system of intermediary services, capital services and resource services (H. Hu, 2017).

Private equity, or PE for short, is relative to public equity investment. The "private" of private equity investment is reflected in the private, non-public and targeted aspects of the fund-raising process. Equity investment usually refers to the investment behavior of acquiring the equity of the invested enterprise by investing capital, resources and technology and profiting from the growth of the company value. For private equity investment in China, a more common investment method in the process of innovative enterprise development usually refers to the invested enterprise's acquisition of financial support from qualified investors or

private equity investment institutions after official approval and filing. Seen from more than 30 years of private equity development and the author's work experience, the most difficult to control and the most difficult to achieve in the process of private equity investment is how to exit the invested funds safely, timely and in full amount according to the initial expectations.

The concept of private equity investment can be defined in the broad sense or in the narrow sense. Private equity investment in the broad sense is mainly the equity investment in the various stages of the company before the public offering of shares. Here, in addition to PE, the concept of venture capital (VC) is also crucial. VC is often a form of private equity investment. Within the industry, investors will broadly divide PE investment into early-stage investment, mid-to-late-stage investment, and Pre-IPO investment, and this division corresponds to VC, PE, and pre-IPO. Based on the stage of development, PE investment covers seed stage (angel round investment), start-up stage (Series A), development stage (Series B), expansion stage (Series C), maturity stage and Pre-IPO stage. For investors in the industry, different stages of enterprise development/investment have different valuation systems and investment methods, which are not relevant to this thesis and will not be elaborated here. PE investment in the narrow sense usually refers to the collective term for PE investment in a company before the company goes public. But the common feature of PE investment in the broad sense and that in the narrow sense is that the company has not launched its IPO, and the ultimate exit goal is to exit in the secondary market through IPO.

There are certain differences between the above-mentioned VC and PE investment in actual investment practices. In general, investors will think that the return of VC comes from the compensation benefits from high risks, while income from PE investment is considered as the value of enterprise growth and the benefits obtained from the eventual IPO. Although conceptually, there is a clear distinction between VC and PE, in actual investment operations, there is no substantial difference between the two, except that they depend on the two ends of the enterprise development process.

Despite the differences in scale and investment philosophy mentioned in some studies, both VC and PE investment share the same essence. The essence of VC or PE for relatively mature companies is to obtain excess returns by taking high risks. In many studies, the two are also studied as a whole. Therefore, in this thesis, PE funds as a specific type of shareholder, include VC and PE investments, which will not be additionally distinguished. In addition, PE investment in this thesis is understood in a narrow sense, with no further distinction made.

(2) PE and company value

PE is an important way of investment in the growth cycle of innovative companies listed on the STAR Market. In the development process of many companies, PE has become a very important shareholder. This is because many innovative companies rely on PE for financial and resource support to grow during the start-up process. Switching the research perspective to the technical team or company founders, PE investment appears to be a capital investment for the invested company, but in fact provides the technical team or company founders with a longer time to create value. The core way to benefit from PE investment is through the growth of the company's value to obtain the due income.

In the actual practice, PE investors tend to negotiate VAM terms with the company, controlling shareholders and core members so that they can exit after getting certain benefits through the buyback. This kind of VAM-based buyback is essentially a risk compensation for PE investment. For early-stage investment, the future development of the company is mainly described verbally through the core team. How should we ensure the reasonableness and validity of the core team's expectations about the future? How can the professional ethics of the core team be ensured? In addition to the professional judgment of investors, the most effective way is the VAM terms. The valuation of early-stage investment is largely based on future expectations. Between the actual value of the largest company and future expectations, PE investment limits the over-optimism of the core team through a betting clause. While it is one way to exit, it is not a profitable way to make a PE investment.

A review of the existing literature on the relationship between PE investment and company value reveals a near unanimous agreement that PE investment has a positive effect on company value compared to the mostly divergent findings above. Biesinger et al. (2020) argue that PE investment for an enterprise is tailored to the needs and circumstances of the enterprise and often varies by transaction type, ownership, growth strategy and geographic focus. Investment customization is a key driver of returns for PE investors, with improvements in company operations and profitability aligned with investment plans and even beyond PE fund exits. Acharya et al. (2013) hold that general partners with industry experience are associated with top-performing deals focused on internal value creation programs, and that the deal partners of large PE transactions possess positive but heterogeneous skills. Ahlers (2014) concluded that PE investors primarily targeted companies with growth potential but were highly leveraged and dependent on external financing. After investment, the target companies grew rapidly, especially those that made add-on acquisitions, and profitability improved for both profitable and unprofitable targets. Research evidence suggests that PE creates company value by easing financing constraints for companies with

strong investment opportunities and improving the performance of weak companies. Park and Ryu (2020) find that investors have an incentive to increase firm investment when liquidity in the unlisted stock market improves with PE investment, implying that PE investment further enhances the company value and corporate governance of portfolio companies.

Some studies have incidentally demonstrated the effectiveness of PE investments in enhancing company value in the process of exploring other influences on company performance and company value. Schoenmaker and Schramade (2019) found in their study of ESG that consistent with the goal of enterprises increasingly adopting long-term value creation, PE investments tend to be a long-term investment program that integrates investment value and company value. The study by Bosio (2020) aims to assess the impact of PE investment on value creation in Italy from 2009 to 2019. By examining the time lapse, performance impact, and post-investment management, the study revealed that PE investment provided a leverage on key value creation for the internationalization of Italian firms. Ali and Anwar (2021) found through a questionnaire survey that the relationship between human capital provided by PE firms as a component of intellectual capital and enterprise value creation is most effective, while the relationship between shareholding ratio and company value creation is the least effective. To extend the existing research, Jiu Jin et al. (2020) examined whether PE and corporate governance affect company value using empirical data from the Chinese companies listed on the small and medium-sized enterprise board. The empirical results showed that PE not only increases company value, but also influences management behavior at the macro level. At the micro level, the higher the shareholding of PE companies, the higher the company value, and the company value is positively influenced by the duration of the PE shareholding. PE reputation and foreign PE also have a positive influence on company value. Finally, corporate governance partially mediates the relationship between PE investment and company value. Gompers et al. (2016) investigated the practices of 79 PE investors with total assets under management of over USD 750 billion in terms of company valuation, capital structure, governance, and value creation. PE investors rely primarily on internal rates of return and price-to-earnings ratios to evaluate investments. Their limited partners are more concerned with absolute performance than risk-adjusted returns. PE investors expect companies in their portfolios to add value, and they focus more on growing company value than on reducing costs.

The consistency of existing research findings leads to the question: “Why will PE investment” enhance the company value? Based on the author’s own work experience, PE investment plays the following roles: (1) to reduce the overall risk of the invested enterprise

through portfolio investment. The most important role of introducing PE investment is to provide the capital needed for the development of the enterprise, which is an important support for the development of the enterprise; (2) PE investment sets strict investment terms for the invested companies to maximize the interests of investors, and at a certain level can restrain the behavior of the invested companies; (3) PE investment looks for invested companies with both high risk and high growth characteristics; (4) PE investment has a certification role for the development of enterprises. Excellent PE institutions are more closely aligned with the market frontier in selecting the investment target and are able to take more risks, while also providing an endorsement for the enterprise. In other words, the technology owned by the enterprise represents the frontier of the industry and market, which can not only bring the siphon effect of capital, but also promote the development of the industry to a certain extent. Cumming et al. (2016) studied the impact of international VC investors on the success of private companies in 81 countries between 1995 and 2010. The research data suggested that deals where the investor base is purely domestic and private companies with an international investor base are more likely to exit through initial public offerings (IPOs) and higher IPO proceeds. The research evidence is consistent with the view that while the benefits of internationalization can be difficult and costly to manage, companies that have launched IPO are potentially valuable for those companies that successfully manage the costs of cross-border coordination. In contrast, the benefits of internationalizing the investor base of private firms sold by acquisition are much less costly in relative terms. The most important source of such benefits appears to be access to capital.

On this basis, this thesis puts forward the following hypothesis:

H6: Private equity investment is positively related to the value of the invested company.

After proposing H6 on the relationship between PE investment and company value, to further explore the relevant effects of the characteristics of PE investment institutions on company value, this thesis will continue to test the micro factors in PE investment and propose three sub-hypotheses of H6.

As an important part of the shareholders and growth of the enterprise, the shareholding ratio of the PE investment institution in the target company determines to a certain extent the enthusiasm of the PE investment institution in the subsequent investment and enterprise management. In the author's view, the higher the shareholding ratio of PE investment institutions, the greater the value of the target enterprise. In addition to the shareholding ratio, the holding period of shares of the PE investment institution also reflects investors' confidence in the target enterprise. When a PE investor holds shares of the target company for

a long period of time, it can be considered as recognition of the current value and future value growth expectations of the target company. In addition, the certification role of PE investment institutions mentioned above makes the more reputable PE investment institutions able to pull other investors to follow up. World-class PE investment institutions can not only drive more followers in the process of leading investment, but also the overall valuation of the enterprise will be more solid because of the increase in the number of investors. Therefore, this thesis proposes the following three sub-hypotheses of H6:

H6a: The proportion of private equity investment is positively related to the value of the invested enterprise.

H6b: The holding period of private equity investments is positively related to the value of the invested enterprise.

2.3 Research theories

2.3.1 The Modigliani-Miller (M&M) theorem

Modigliani and Miller (1958) first proposed the M&M theorem, the core of which is that the purpose of an enterprise, whether investing or financing, is to maximize the market value of the enterprise. Under the ideal premise of no taxation (including corporate income tax and personal income tax), no incentive and information problems as well as the above ideal assumptions, due to the complete symmetry of information in the capital market and the complete freedom of arbitrage, whatever financing method and whatever capital structure will have no impact on the company value. Instead, the company value will only be related to the capitalization value of discount rate appropriate to the degree of risk to discount the expected profitability. But the ideal premise of the theory becomes the biggest drawback that limits the application of the theory. Modigliani and Miller (1963), by introducing corporate income tax as an additional factor, analyzed that since interest payments on bonds are deductible before taxes, which is equivalent to the formation of a tax shield effect, debt is a financing handicap that can help reduce the tax burden of the enterprise in the capital structure. The larger the debt ratio, the higher the value of the enterprise. The M&M theorem studies the relationship between capital structure and company value through the internal operating mechanism of the company.

The M&M theorem attempts to find out the relationship between the capital structure of a company and the company value by examining the internal mechanisms of the capital

structure of the company through the surface of the capital structure. The landmark significance of the theorem is that it shifts the previous normative study of the investment, financing and dividend policies of capital structure to an empirical study of the impact of alternative investment, financing and dividend policies on the company value. Its methodological innovation changed the role of economic analysis in capital structure problems, laying a foundation for the subsequent options pricing and even the whole theory of the capital structure of modern enterprises.

Since the ideal premise of the M&M theorem is difficult to be realized in reality, the M&M theorem that has considered the realistic conditions is difficult to be established. Jensen and Meckling (2019) pointed out that the market value of a company is not constant, and the change of the company value depends on the behavior of the management, especially the “extra allowance” consumption. This consumption decreases the company value because the shareholders share the cost of this consumption. In their view, the optimal capital structure should be an equilibrium point that ensures a significant reduction in the “extra allowance” consumption while ensuring the alignment of objectives between managers and shareholders. This is the principal-agent theory mentioned below.

2.3.2 Principal-agent theory

The principal-agent theory can be considered to have been first proposed by Adam Smith. In his book entitled *The Wealth of Nations*, it was suggested that when one works for others, one cannot work harder than for oneself and that negligence and waste occur if the identity of the manager and owner of a company are separated. A. Smith (1937) was expressing that the separation of individual identities leads to divergent interests, and the separation of ownership and control of a company leads to the inconsistency between the interests of managers and shareholders. In the 1830s, Berle and Means proposed a study on the separation of the two rights based on the separation of ownership and control that emerged at that time (Mizruchi, 2004). Ross (1973) formally introduced the “principal-agent relationship” in the text. Both Smith and Ross have proposed one of the most common problems - the principal-agent problem - in the current corporate governance process. In some studies, it is also known as agent conflict, which refers to a series of principal-agent problems such as conflict of perceptions and conflict of interests due to information asymmetry and inconsistent interests after the separation of ownership and management control of a company.

In the paper entitled “Theory of the Firm: Managerial Behavior, Agency Costs and

Ownership Structure”, Jensen and Meckling (2019) conducted a systematic study based on the agency problem between management and shareholders. The principal-agent theory argues that the information asymmetry between management (agents) and shareholders (principals) leads to inconsistency in the ultimate goals of management (agents) and shareholders (principals) under the premise that the management thinks out of its own interests, and management will do things that benefit agents and harm principals based on its own information asymmetry advantage. In half of the enterprises, there are two principal-agent relationships: shareholder-manager agency relationship and shareholder-creditor agency relationship. The principal-agent conflict between shareholders and management is mainly due to the fact that management often has no equity or residual claim in the company. Management undertakes all management affairs and creates basic and excess returns for shareholders, but ultimately only receives the originally agreed benefits itself. When excess returns are too large, management becomes inconsistent with shareholders’ goals. When management increases consumption and increases some of the costs while in office, management can receive more benefits but only bear some of the costs by holding a smaller percentage of shares. It is also for this reason that when management’s shareholding is small, it tends to behave in a way that is detrimental to the long-term benefit of shareholders by satisfying its own needs. In addition, management tends to prefer economic activities that will yield greater returns in the short term in enterprise operation, while foregoing economic activities that will achieve long-term profitability for the company and help maximize the interests of shareholders. The main reason for this is still because it is the company’s short-term earnings that benefit management with smaller shareholdings, but this affects the value of the company. Therefore, when the company value is less than the value of the company when management is the full owner, the difference between the two is the “agency cost”.

When management’s absolute investment in the company remains unchanged, increasing the proportion of debt in the company’s financing ratio will disguise an increase in management’s shareholding ratio, which in turn can reduce agency costs. Since a large amount of debt needs to be paid by the company through cash, it will restrict the limits of the company’s cash being used by management. From this perspective, a moderate increase in debt can not only help the company use leverage to improve operational efficiency, but also discourage management’s personal consumption and raise costs, alleviating the conflict between management and shareholders.

The second principal-agent relationship, namely the shareholder-creditor relationship, can

also entail agency costs. When the company is able to make better profits, creditors can only enjoy fixed income, and a large amount of surplus value is enjoyed by shareholders; when the company is operating in difficulty, creditors may be harmed because the company cannot pay interest and principal. In other words, in front of the benefits, shareholders enjoy more benefits because of ownership. In addition, when the company raises a large amount of debt, shareholders face more opportunities, while the risks caused by operational failure need to be borne by creditors. Creditors need to face greater risk exposure because of the debt covenant, while shareholders do not need to face such risk. The shareholder is willing to take more risk to get more excess return, but the creditor only wants the business to grow smoothly and eventually get the benefit of the principal and the agreement. The inequality between the two risks and returns leads to the principal-agent problem and principal-agent cost between shareholders and creditors.

Principal-agent theory suggests that the asymmetry between principal and agent exists in two aspects: information asymmetry and interest asymmetry. Scholars take ownership of the company as a determinant of principal-agent costs and divide principal-agent costs into external equity agency costs and debt agency costs. Regarding agency costs, shareholders as well as creditors as principals must establish mechanisms with effective checks and balances and balanced incentives and use both constraints and incentives to minimize agency costs and reduce micro-investment agency problems. Whether it is shareholder-management principal-agent relationship or shareholder-creditor principal-agent relationship, the fundamental lies in the attribution of the right to claim the residual value and the need for risk and benefit equivalence. For shareholder-management principal-agent relationship, the usual incentive for shareholders is to ensure that the management's income is not only derived from salary, but also converges with the shareholders' utility function by transferring part of the residual value claim to management. By increasing the shareholding ratio or increasing the residual value claim, management benefits not only in the short term, but also in the long term for the company.

After solving the interest asymmetry, the principal still needs to prevent the agent from doing harm to it through information asymmetry, so it will supervise the agent. However, too harsh supervision leads to not only more costs but also harmed interests of the company due to inefficient operation caused by the supervision; however, too lax supervision cannot ensure sound protection of the principal's interests. Ross (1973) and Mirrless (1976) used a state-visible modeling approach and a parametric approach to distribution functions to model the principal-agent relationship in modern companies. The results showed that agents have an

information advantage, have private information about the enterprise's operations, and there is information asymmetry. Since the agent is characterized by bounded rationality, such agency problems as adverse selection and moral hazard arise.

In contemporary companies, the separation of powers is itself a regular requirement in the corporate governance process. It can effectively prevent the substantial shareholder from dividing the corporate surplus to the maximum extent possible for its own benefit, to the detriment of the small and medium shareholders and the employees of the company where the substantial shareholder is both the owner and the operational controller. In companies with separation of powers, by separating ownership from control, management is given sufficient management allocation rights to allocate corporate surplus in a way that is most beneficial to corporate development. By taking care of multiple aspects such as shareholder earnings, employee incentives and business re-expansion, it ensures both shareholder satisfaction, employee passion, and continued corporate growth and development. Such rationalization not only curbs incidents of substantial shareholders infringing on the interests of small and medium-sized shareholders and employees, but also satisfies shareholders' needs and provides sufficient motivation for sustainable corporate development. Many innovative companies use a dual shareholding agency structure. The essence of such a structure is that the promoters, by giving up their residual value claim, seek more capital for the company in the process of its development and reduce themselves to minority shareholders while firmly controlling the management of the company. Such an approach is a more appropriate corporate governance model that can satisfy all three parties as described above.

2.3.3 Control theory

Control theory can be defined in the broad sense or in the narrow sense. In the broad sense, control theory identifies control as the organic integration of law, culture and system, and through the organic integration of different elements, it achieves the purposes of determining the company's business strategy, operating control team, restraining incentive behavior, and deciding the distribution of corporate surplus and how to deal with risks. Control theory in the narrow sense usually focuses on the ability and power to dominate the company's internal assets and resources, which plays a substantial role in the company's operational and financial decisions, and even directly affects the company's profitability.

Control is a necessary product in the share structure. Although the separation of powers under the corporate governance system allows management to control the company in actual

operation, the share structure based on control is the fundamental of corporate governance, and management control cannot play a decisive role in front of equity control. The essence of the share structure and even equity control is the power to manage and distribute the enterprise and its surplus value. When the shares of the enterprise are more dispersed and there is no clear controlling shareholder, the control of the enterprise lies in the management, and even the shareholders need to listen to the management's opinions on management allocation. However, when there is a controlling shareholder in the share structure, the controlling shareholder can control the enterprise. In this case, under the premises that the shareholder is stable and the enterprise's development strategy and goal achievement will be relatively stable, the enterprise itself will be stabler than other shareholder-dispersed enterprises because the control lies in one or more shareholders.

2.3.4 Theory of insider control

Insider control is formed in a modern enterprise in which ownership and management (control) are separated, and the inconsistency between the interests of the owner and the operator results in the operator controlling the company, or "insider control". The right to raise capital, investment right and personnel rights are in the hands of the company's management, i.e. insiders, and it is difficult for shareholders to effectively supervise their behavior. Because of the excessive concentration of power in the "insiders", the interests of shareholders and others will be harmed to varying degrees. Morck et al. (1988) suggested that when the company's shares are highly dispersed, shareholders and other parties can hardly replace the controlling position of managers on the company, i.e., insider control. With the prevalence of separation of powers i.e., the establishment of principal-agent relationship, various roles related to the company can be divided into internal roles and external roles; internal roles include management and company employees, while external roles include company shareholders, company creditors and company authorities. Although the company's shareholders are the owners of the company, they are also classified as external roles because they are not directly involved in the specific operations of the company. In contrast to the shareholders, the company's management and employees are the internal roles of the company, which are determined by their direct relationships with the company's operations. When the internal and external roles are not aligned and the internal roles take advantage of the existing control of the company, it is easy to create insider control problems such as risky investments, excessive consumption and excessive appropriation of corporate benefits to the detriment of external

roles.

There are mainly two reasons for the formation of insider control: the first is the absence of the company's shareholders in the corporate governance process, especially in the actual operation process - the absence of the owners of property rights. In essence, this is because the company's shareholders have given up control of the company and have not been able to exercise supervisory and management power well; the second is a mismatch between the residual claim (equity) and the control of the company. This happens when the management of the actual operation cannot be satisfied with a fixed benefit, so it increases its income through some insider control behaviors. So, when the shareholders of the company relax the supervisory and management rights of the company and the management elevates the desire to increase their personal income, the combination of the two together leads to the emergence of the insider control as well as the deterioration of the corporate governance structure.

Insider control is closely related to ownership concentration. When the company's shares are scattered and there is no controlling shareholder or persons acting in concert who can effectively control the company, the company's shareholders would lack enthusiasm for the company's operation and management. In this case, the shareholders will rely on each other, which leads to a "free-rider" mentality among them. When all or most of the shareholders of the company have this mentality, the management and supervision system of the company's shareholders in the company's operation and corporate governance will be ineffective. Meanwhile, inconsistency in rights and responsibilities in the company's management that operates and controls the company will cause them to engage in acts for their self-interests to the detriment of the interests of shareholders without sufficient supervision and management constraints, which inevitably leads to insider control problems.

2.4 Summary

Share structure is the foundation of corporate structure and the source of corporate governance. All corporate governance behaviors and business behaviors can be traced back to the share structure of the company. Most of the existing literature studies the relationship between share structure and company value through the variables sorted out above, and no comprehensive study with share structure as the independent variable and company value as the dependent variable had been found yet by the time of this thesis. On the surface, there is no direct relationship between share structure and the ultimate company value. But the two influence each other through different factors and variables. Based on the needs of daily

practice, investment teams seldom pay attention to the influence of share structure and its extension factors on company development in actual operation. This study aims to comprehensively explore the relationship between the influence of company share structure on company value, to identify the paradigm of share structure of high-quality companies, and to shed light on the relationship between share structure and company value by exploring multiple factors. The main objective of this study is to examine the impact of ownership structure on firm value. Based on the literature review and theoretical framework, the conceptual model of this study is illustrated in Figure 2.6.

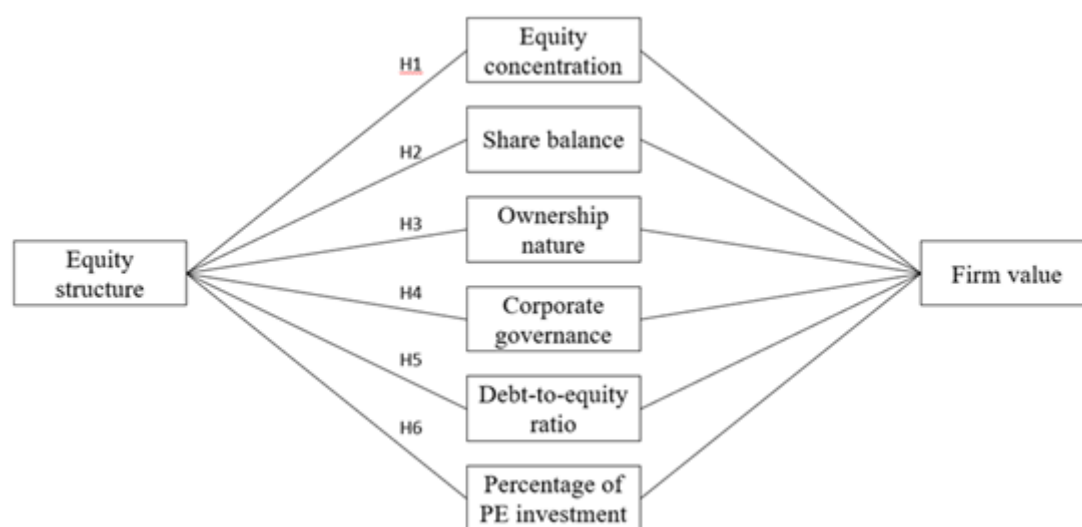


Figure 2.6 Conceptual model and hypotheses of this study

This chapter aims to analyze and investigate the current state of the art, identify theoretical gaps, and understand the development trends related to the research topic. This chapter will help clarify what has been studied and highlight potential limitations, providing a foundation for constructing a framework that overcomes current research limitations and guides practical applications. The research intends to build on the existing hypotheses of linear relationships by incorporating more detailed indicators to create a comprehensive research model. This model will reduce the emphasis on single relationships and standardize the study of the true relationship between equity structure and company value. Only a comprehensive research model can be applicable to this theme. Additionally, the selection of international data should consider the internalization of enterprises and specific industry backgrounds. One of the motivations for this research is that the final results can serve as a guide for actual investment. High professionalism in many decision-making processes requires maintaining a dynamic valuation assessment. This may also be considered an innovation of this study.

Chapter 3: Research Methods

3.1 Summary of research methods

This study employs regression analysis as the primary quantitative research method to conduct a comprehensive analysis of the selected targets. Regression analysis is a predictive modeling technique that examines the relationship between a dependent variable (target) and independent variables (predictors). This technique is commonly used for predictive analysis, time-series modeling, and discovering causal relationships between variables, playing a crucial role in economic research modeling (You & Yan, 2017). Regression analysis allows us to compare the mutual influences of variables measured on different scales, aiding in the elimination and estimation of the optimal set of variables for constructing predictive models. The main objective of this study is to investigate the real reasons for the impact of equity structure on company value by exploring the relationships between different variables. Therefore, the primary research method adopted in this study is quantitative research analysis.

The collected data for this study comprises a total of 532 sample objects. In addition to ensuring the applicability of quantitative research, this study aims to make breakthroughs in the depth of individual research. Therefore, alongside quantitative analysis, qualitative research methods, specifically in-depth interviews, were employed. In-depth interviews serve as a qualitative research method and hold a significant position in the current field of sociology. In essence, in-depth interviews are primarily semi-structured interviews (You & Yan, 2017).

The reasons for using in-depth interviews in this study are threefold. Firstly, in-depth interviews can uncover novel, rare, or extreme phenomena among the 532 sample objects, phenomena that are often excluded in quantitative research. Secondly, in-depth interviews facilitate a profound analysis of the complex reasons behind the impact of equity structure on company value, showcasing the evolutionary process of the research phenomenon. Thirdly, in-depth interviews can reveal data features or reasons that differ from those identified in quantitative research, providing more detailed insights into the underlying causes. In essence, through exploring beyond surface reasons, the aim is to delve into deeper facts (Wengraf, 2001). Considering these reasons collectively, this study integrates in-depth interviews

alongside quantitative research, aiming to enhance the depth of the research.

3.2 Quantitative study

3.2.1 Data collection and sample characteristics

This quantitative data was primarily collected from the public data of all listed companies in the Science and Technology Innovation Board (STAR Market) through a financial terminal, Wind. As a financial terminal, Wind can access the public data of every company listed on the STAR Market. Wind is a leading financial data service provider in China, comparable to Bloomberg. In domestic academic research, Wind data stands out as one of the primary sources for financial data (Cao et al., 2019; X. H. Chen, 2019; C. Y. Hu & Yu, 2019; Yao & Zhao, 2019). Specifically, hypotheses proposed in this study (see Figure 3.1) focus on variables of equity concentration (major shareholder ownership percentage), ownership balance (combined ownership percentage of the 2nd to 5th largest shareholders/major shareholder ownership percentage), nature of ownership (proportion of state-owned shares among the top ten shareholders), corporate governance (proportion of independent directors among all directors), debt-to-equity ratio (total debt/equity), and the proportion of private equity investments, extracting data on these six aspects. Regarding company value, to match the dynamic nature of the overall analysis and eliminate biases caused by regulatory lock-up, data was collected not only on the initial public offering (IPO) market value but also on the market value 1 year after IPO, 1 month after lock-up period ends, 6 months after lock-up period ends, and 1 year after lock-up period ends, among other metrics. It should be noted that due to significant differences in the listing times of different companies, although data collection was conducted from the point of IPO onwards, some companies have not been listed for a full year, resulting in the unavailability of certain market value data.

It is necessary to clarify two indicators: the nature of equity and the proportion of private equity investment. Regarding the nature of equity, Wind cannot distinguish between state-owned and private equity, and this distinction is also difficult for mixed-ownership companies in banking, securities, insurance. Although these mixed-ownership companies have private shareholders, the ultimate controllers are almost always local State-owned Assets Supervision and Administration Commissions (SASAC, dedicated investment departments directly under the Chinese government) or other government investment departments. Private shareholders cannot provide dominant opinions and suggestions in the actual operation and

decision-making process of the enterprise. Therefore, this indicator counts state-owned controlling shareholders, with individual and private corporate shareholders classified as non-state owned.

As for the proportion of private equity investment, it calculates the proportion of private equity investments among all shareholders. Due to tax considerations, private funds typically invest in listed companies in the form of limited partnerships. It should be noted that enterprises investing in the form of limited partnerships usually have a medium to long-term holding period. After calculating the shareholding ratios of limited partnership enterprises at the end of each quarter, it was found that due to the new rules on share reduction by the China Securities Regulatory Commission, the proportion of private equity investment has hardly changed within two years after listing. Therefore, to compare the overall data and eliminate the variance in company value at different time points (since the timing of listing is random, not fixed), one of the assumptions for data analysis is that the proportion of equity held by private funds has not changed within two years after listing.

The data was collected through Wind during June to July 2023. A total of 533 companies' data was gathered, with 506 samples being observable. Due to STAR Market's requirement that prospective listed companies must possess "innovative attributes," the industries covered include new generation information technology, high-end equipment, new materials, new energy, energy conservation and environmental protection, and biomedicine. Although there are significant differences in some fields, from the dimensions of high-tech and entrepreneurial types, companies listed on the STAR Market' must meet both criteria, hence they can be regarded as the same type of company.

3.2.2 Variable definitions and data description

This data primarily focuses on the relationship between private equity investment ratio and company value, initial market value, and several market values after the unlock. The specific definitions of the variables are presented in Table 3.1.

Table 3.1 Variable definitions

Variables	Definitions	Computation Methods
Firm value	Log_firm_value	A natural logarithm transformation of firm value, specifically calculated as (market value + debt) / net assets. A natural logarithm transformation of the initial market value A natural logarithm transformation of the market value when the stock is unlocked
Initial market value	Log_first_value	
Unlock market value	Log_expiration_in_year	

Market value one month after the unlock	Log_expiration_after_month	A natural logarithm transformation of the market value one month after the unlock
Market value six months after the unlock	Log_expiration_after_halfyear	A natural logarithm transformation of the market value six months after the unlock
Market value one year after the unlock	Log_expiration_after_year	A natural logarithm transformation of the market value one year after the unlock
Percentage of private equity investment in the company	VC	
Equity concentration	Top	The largest shareholder's ownership percentage
Share balance	Share_balance	Sum of the ownership percentages of the second to fifth largest shareholders / the largest shareholder's ownership percentage
Ownership nature	State	Percentage of state-owned shares among the top ten shareholders
Corporate governance	Ind_ratio	Proportion of independent directors on the board
Debt-to-equity ratio	Equity_lev	Total debt/owner's equity

Table 3.2 reports the descriptive statistics, where the continuous variables have undergone truncation at the 1st and 99th percentiles. The sample consists of 506 observations, with an average company value of 20.153, average initial market value of 22,960, and average 1-year unlocked market value of 22.763. As for the explanatory variables, the average private equity investment ratio among the sampled firms is 17.7%. The correlation analysis table for the main variables is provided at the end of the document.

Table 3.2 Descriptive statistics

Variable	N	Mean	Sd	Min	Median	Max
Log_firm_value	506	20.153	1.311	17.545	20.010	23.725
Log_first_value	506	22.960	0.880	21.578	22.798	25.590
Log_expiration_in_year	426	22.763	0.996	21.119	22.627	25.600
Log_expiration_after_month	364	22.716	1.011	21.050	22.541	25.619
Log_expiration_after_halfyear	290	22.678	1.033	21.047	22.531	25.509
Log_expiration_after_year	200	22.747	1.045	21.037	22.614	25.320
VC	506	0.177	0.162	0.000	0.135	0.647
Top	506	0.305	0.133	0.099	0.278	0.714
Share_balance	506	1.063	0.644	0.072	0.942	2.935
State	506	0.014	0.025	0.000	0.000	0.121
Ind_ratio	506	0.374	0.045	0.333	0.345	0.500
Equity_lev	506	0.470	0.496	0.032	0.295	2.534

3.3 Qualitative research method

3.3.1 Advantages and limitations of in-depth interview

In recent years, an increasing number of scholars have attempted to integrate quantitative and qualitative methods, constructing new mixed research models. They employ both positivist and constructivist paradigms to address research questions (Y. F. Shen, 2014). The combination of these two approaches not only maintains the breadth and coverage of quantitative research but also ensures the ability to extract meaningful insights through in-depth interviews, thereby enhancing the efficiency of the interviews. This mixed research model strives to preserve the depth and micro-level analysis of qualitative research while simultaneously maintaining the efficiency and macro-level considerations of quantitative research. Appropriately selecting relevant interviewees to further verify certain hypotheses not only ensures the extension of research depth but also serves as part of a mixed research method. In-depth interview are often crucial for open research in management theory. Despite skepticism from many scholars and researchers, they enable the acquisition of a vast amount of unstructured material and data, with materials derived from practical evidence, making them more realistically valid compared to quantitative analysis (Y. Zhang et al., 2020). This study adopts semi-structured interview. Qualitative analysis through in-depth interview first breaks free from the constraints of data analysis in quantitative research, adopting a more open attitude towards other data and information. Furthermore, in-depth interview can re-examine hypotheses on the basis of existing quantitative analysis. Lastly, compared to quantitative research, conclusions from in-depth interview are more direct and timelier, more objectively reflecting real-world issues (Eisenhardt, 1989).

On another note, in-depth interview has its limitations. First, using literature research and interviews for case studies does not provide as clear boundaries on some issues as quantitative methods do. Second, the researcher's involvement in interviews might introduce empathy bias, affecting the objectivity and independence of the research. Third, limitations such as the researcher's interviewing skills, interviewees' availability, and personal circumstances might mean that the data collected may not fully represent the issue, only capturing a portion of the relevant information.

3.3.2 In-depth interview and case selection

Building on the foundation of quantitative analysis to further enhance research depth, this

study selects three companies listed on the STAR Market, aiming to validate and complement the quantitative findings through in-depth interview. Founders and executives in the three companies chosen for this study were invited as interviewees. The interview structure for this study is primarily based on the interview outline (see Annex A) and corresponding questions in the attached document. The enterprises were categorized into three periods: the startup phase, growth phase, and post-IPO phase. Based on the different developmental characteristics of enterprises in these three periods, in-depth interviews were conducted covering various aspects such as entrepreneurial experience, business development, financing, shareholder relationships, business operations, and management challenges. During the interview process, as some internal information of publicly listed companies was involved, we compiled and organized the interview content. Only after obtaining confirmation from the interviewees, the information was used in this research. Furthermore, media news, company announcements, and other material were adopted for analysis. The distinction of this qualitative study lies in the fact that, unlike traditional qualitative research which requires researchers to deeply engage with the study group and collect relevant data in an uncontrolled environment, this study supplements quantitative research without immersive observation of companies or interview subjects. This qualitative study serves as a supplement to the quantitative research, thus not engaging in immersive observation of the companies and interviewees. The interview is based on the guidance provided in the Annex, with questions expanded upon during the interviews.

Choosing qualitative analysis (in-depth interview) presents certain issues and drawbacks. Firstly, the findings might only represent a subset of cases with significant practical implications. Secondly, results could entirely contradict quantitative outcomes, possibly due to a divergence between interviewee perspectives and actual business development. Lastly, while in-depth interview delve deeply into specific issues, they cannot cover the breadth of all subjects as comparative qualitative research might.

The three companies chosen are HYC Technology (688001), Seeyon (688369), and Cathay Biotech (688065). HYC Technology is a leading provider of testing equipment and comprehensive testing system solutions in China, focusing on the development, production, and sales of testing equipment for flat panel displays and integrated circuits. The company's main products include testing devices and fixtures, primarily used in industries such as LCD and OLED displays, integrated circuits, and automotive electronics. HYC Technology holds a competitive edge and innovative capabilities in high-speed digital and analog signal testing boards, machine vision image algorithms for flat panel display testing, and the design and

manufacturing of high-precision automation and precision connection components, boasting multiple proprietary core technology achievements in signal and image algorithm fields.

Seeyon is a leading provider of collaborative management software in China, integrating product design, development, sales, and services in the enterprise management software sector. It offers collaborative management software products, solutions, platforms, and cloud services. The company has developed the advanced collaborative management platform V5 and created products tailored for small and medium-sized businesses (A6), medium to large enterprises and groups (A8), and government organizations and institutions (G6).

Cathay Biotech is a high-tech enterprise grounded in synthetic biology and other disciplines, utilizing biomanufacturing technology for the research, development, production, and sales of new bio-based materials. Its commercialized products mainly focus on the polyamide industry chain, offering bio-based polyamides and raw materials for their production, including long-chain dicarboxylic acids like lauric acid and brassylic acid, and bio-based pentamethylenediamine, positioning it as a global leader in utilizing biomanufacturing for the scaled production of new materials.

Choosing HYC Technology as one of the cases is due to it not only being the first company listed on the STAR Market but also having distinct characteristics in ownership concentration. Cathay Biotech was selected mainly because it is one of the researcher's successful investment cases. The researcher has years of communication with the founder, who has typical experiences in financing and company ownership disputes, especially with state-owned shareholders. Seeyon was chosen for its typicality in shareholder structure and corporate governance. It has very low proportion of private equity investment, which can serve as a strong counterexample for this study's hypotheses.

In the selection of interviewees, the founder from each of the three companies were chosen, denoted as C, L, and X in the subsequent text. Additionally, an executive, P, and a state-owned capital shareholder, G, were included for interviews.

[This page is deliberately left blank.]

Chapter 4: Results Analysis

4.1 Quantitative analysis results

4.1.1 Regression model

To explore the relationship between the private equity investment ratio, company ownership structure, and company value, initial market value, and several market values after the unlock, we first constructed the following regression model 4.1.

$$\text{Value}_i = \beta_0 + \beta_1 \text{VC}_i + \delta X_i + \varepsilon_i \quad (4.1)$$

Model 4.1 represents the regression model used in this study. It is essential to note that the dataset used in this study comprises cross-sectional data at the individual firm level. Hence, we initially constructed the regression model as described above. In model 4.1, Value_i represents a series of dependent variables, VC_i denotes the private equity investment ratio of firm i , and X_i encompasses a series of control variables related to the company's ownership structure. During the regression process, we gradually included control variables and reported the estimation results using robust standard errors.

4.1.2 Regression results

Table 4.1 presents the estimation results for Log_firm_valu as the dependent variable. Columns (1) and (2) show the estimation results with the gradual inclusion of control variables, while Columns (3) and (4) report the results adjusted for potential heteroskedasticity using robust standard errors. The results indicate that the estimated coefficients for VC are all significantly positive at the 1% level, indicating that companies with higher private equity investment ratios tend to have higher company values. Private equity funds usually invest in high-quality startups, targeting companies with both high risk and growth potential. Moreover, private equity investments serve as endorsements, as reputable private equity firms tend to select cutting-edge targets that align closely with market trends, providing further certification for the invested companies. Additionally, private equity firms often participate in corporate governance, assisting companies in achieving stability and growth after going public. Therefore, companies with private equity investments may attain higher market values. Specifically, a 1% increase in the private equity investment ratio leads

to an approximately 1.263% increase in a company's market value.

Table 4.1 Estimation Result: Log_firm_value

	(1)	(2)	(3)	(4)
	Log_firm_value	Log_firm_value	Log_firm_value	Log_firm_value
VC	1.037*** (2.903)	1.263*** (4.670)	1.037*** (2.907)	1.263*** (4.936)
Top		1.512*** (3.114)		1.512*** (2.649)
Share_balance		0.170* (1.691)		0.170* (1.663)
State		-1.704 (-0.971)		-1.704 (-1.105)
Ind_ratio		-0.740 (-0.824)		-0.740 (-0.724)
Equity_lev		1.872*** (22.741)		1.872*** (18.243)
Constant	19.969*** (232.836)	18.709*** (45.600)	19.969*** (244.238)	18.709*** (42.601)
N	506	506	506	506
R ²	0.016	0.522	0.016	0.522

Note: Columns (1) and (2) present the estimation results without and with the inclusion of control variables, respectively, and columns (3) and (4) report the estimation results adjusted for potential heteroskedasticity using robust standard errors. The significance levels *** (1%), ** (5%), and * (10%) are used to indicate statistical significance.

Company ownership structure variables also significantly influence firm value. The estimation results show that the coefficient for Top is significantly positive at the 1% level, indicating that companies with higher equity concentration tend to have higher market values. Specifically, a 1% increase in equity concentration results in an approximately 1.512% increase in a company's market value. The coefficient for share balance is 0.170, which is significantly positive at the 10% level. When the equity checks and balances increase by 1 unit, the company's market value increases by approximately 17%. This suggests that sound equity checks and balances and organizational arrangement optimize decision-making and maximize operational efficiency within a company. Although the estimated coefficient for ownership nature is negative, it is not statistically significant. Similarly, the coefficient for Ind_ratio, representing corporate governance, is also not statistically significant. Lastly, we investigate the impact of debt-to-equity ratio (equity leverage) on firm value. The estimation result for corporate governance indicates a significant positive relationship with firm value at the 1% level. Specifically, a 1% increase in the debt-to-equity ratio corresponds to an approximately 1.872% increase in a company's market value.

Table 4.2 reports the estimation results for Log_first_value as the dependent variable. Columns (1) and (2) show the estimation results with the gradual inclusion of control variables, while Columns (3) and (4) present the results adjusted for potential

heteroskedasticity using robust standard errors. The results indicate that the estimated coefficients for VC are all significantly positive at the 1% level, suggesting that companies with higher private equity investment ratios have higher initial market values. Specifically, a 1% increase in the private equity investment ratio leads to an approximately 1.026% increase in a company's initial market value. This finding highlights the positive role of private equity holdings in providing funds, enhancing operations, and promoting corporate governance in startups, ultimately reflected in the initial market value of the company.

Table 4.2 Estimation Result: Log_first_value

	(1) Log first value	(2) Log first value	(3) Log first value	(4) Log first value
VC	0.821*** (3.436)	1.026*** (4.040)	0.821*** (3.569)	1.026*** (4.214)
Top		1.796*** (3.937)		1.796*** (3.683)
Share_balance		0.318*** (3.370)		0.318*** (3.686)
State		-2.892* (-1.755)		-2.892** (-2.074)
Ind_ratio		-0.280 (-0.331)		-0.280 (-0.308)
Equity_lev		0.177** (2.291)		0.177** (2.396)
Constant	22.814*** (397.562)	21.955*** (56.968)	22.814*** (433.799)	21.955*** (53.425)
N	506	506	506	506
R ²	0.023	0.065	0.023	0.065

Note: Columns (1) and (2) present the estimation results without and with the inclusion of control variables, respectively, columns (3) and (4) report the estimation results adjusted for potential heteroskedasticity using robust standard errors. The significance levels *** (1%), ** (5%), and * (10%) are used to indicate statistical significance.

Equity concentration is positively correlated with a company's initial market value. Specifically, a 1% increase in equity concentration leads to an approximately 1.796% increase in a company's initial market value. This effect is statistically significant at the 1% level. The coefficient for share balance is significantly positive at the 1% level, indicating that companies with higher equity checks and balances have larger initial market values. When the equity checks and balances increase by 1 unit, the company's initial market value increases by approximately 31.8%. Regarding the variable share balance, when using the initial market value as the dependent variable, the estimated coefficient is significantly negative at the 10% level. This indicates that companies with a higher percentage of state-owned shares among the top ten shareholders have lower initial market values. The coefficient for corporate governance is not statistically significant. The debt-to-equity ratio is positively related to a company's initial market value, with the estimated coefficient being significant at the 5% level.

Specifically, a 1% increase in the debt-to-equity ratio corresponds to an approximately 0.177% increase in a company's initial market value.

Table 4.3 reports the estimation results for the unlock market value as the dependent variable. Columns (1) to (4) present the estimation results without the inclusion of control variables, while Columns (5) to (6) report the results with the inclusion of control variables. Table 4.4 presents the same estimated results as Table 4.3, with the additional use of robust standard errors to address potential heteroskedasticity issues. Table 4.5 is the correlation matrix for the variables.

Table 4.3 Estimated results: the unlock market value

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log_expiration_in_year	Log_expiration_after_month	Log_expiration_after_halfyear	Log_expiration_after_year	Log_expiration_in_year	Log_expiration_after_month	Log_expiration_after_halfyear	Log_expiration_after_year
VC	2.422*** (8.188)	3.031*** (8.363)	3.386*** (8.210)	4.383*** (8.392)	2.531*** (7.919)	3.329*** (8.717)	3.544*** (8.183)	4.861*** (8.814)
Top					2.167*** (4.167)	2.457*** (4.517)	1.857*** (2.888)	2.495*** (3.379)
Share_balance					0.389*** (3.584)	0.446*** (3.807)	0.405*** (2.949)	0.466*** (2.956)
State					-1.401 (-0.601)	-2.604 (-0.982)	-1.547 (-0.525)	-5.647* (-1.758)
Ind_ratio					-1.110 (-1.142)	-1.459 (-1.403)	-1.344 (-1.120)	-1.357 (-0.991)
Equity_level					0.094 (1.097)	0.101 (1.106)	0.205* (1.911)	0.226* (1.877)
Constant	22.366*** (338.130)	22.271*** (309.296)	22.189*** (274.421)	22.160*** (234.417)	21.670*** (49.466)	21.545*** (45.537)	21.614*** (38.950)	21.345*** (32.650)
N	426	364	290	200	426	364	290	200
R ²	0.137	0.162	0.190	0.262	0.175	0.214	0.229	0.325

Note: Columns (1) to (4) present the estimated results without incorporating controlling variables, while Columns (5) to (8) present the estimated results after including controlling variables. The significance levels are denoted as *** for 1% significance level, ** for 5% significance level, and * for 10% significance level.

Table 4.4 The estimated results: the unlock market value (robust standard errors adjusted for potential heteroskedasticity)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log_expiration_in_year	Log_expiration_after_month	Log_expiration_after_halfyear	Log_expiration_after_year	Log_expiration_in_year	Log_expiration_after_month	Log_expiration_after_halfyear	Log_expiration_after_year
VC	2.422*** (9.025)	3.031*** (8.698)	3.386*** (8.442)	4.383*** (8.374)	2.531*** (8.577)	3.329*** (8.376)	3.544*** (8.025)	4.861*** (8.057)
Top					2.167*** (3.926)	2.457*** (4.212)	1.857*** (2.662)	2.495*** (3.250)

The Impact of Equity Structure on Firm Value

Share_balance					0.389***	0.446***	0.405***	0.466***
					(3.839)	(3.939)	(2.799)	(3.161)
State					-1.401	-2.604	-1.547	-5.647**
					(-0.650)	(-1.027)	(-0.512)	(-2.022)
Ind_ratio					-1.110	-1.459	-1.344	-1.357
					(-1.031)	(-1.375)	(-1.091)	(-0.970)
Equity_lev					0.094	0.101	0.205*	0.226*
					(1.132)	(1.147)	(1.854)	(1.861)
Constant	22.366***	22.271***	22.189***	22.160***	21.670***	21.545***	21.614***	21.345***
	(375.156)	(346.000)	(312.284)	(264.946)	(46.576)	(44.661)	(38.407)	(34.208)
N	426	364	290	200	426	364	290	200
R ²	0.137	0.162	0.190	0.262	0.175	0.214	0.229	0.325

Table 4.5 The correlation matrix for the variables

	Log_firm_value	Log_first_value	Log_expiration_in_year	Log_expiration_after_month	Log_expiration_after_halfyear	Log_expiration_after_year	VC	Top	Share_balance	State	Ind_ratio	Equity_lev
Log_firm_value	1.000											
Log_first_value	0.536***	1.000										
Log_expiration_in_year	0.545***	0.858***	1.000									
Log_expiration_after_month	0.563***	0.800***	0.946***	1.000								
Log_expiration_after_halfyear	0.608***	0.724***	0.908***	0.959***	1.000							
Log_expiration_after_year	0.628***	0.732***	0.887***	0.938***	0.963***	1.000						
VC	0.128***	0.151***	0.370***	0.402***	0.436***	0.512***	1.000					
Top	0.077*	0.070	0.050	0.056	-0.019	-0.013	-0.125**	1.000				
Share_balance	-0.072	0.033	0.068	0.057	0.082	0.083	0.114***	-0.776***	1.000			
State	0.031	-0.011	0.125***	0.101*	0.111*	0.071	0.361***	-0.029	0.039	1.000		
Ind_ratio	-0.025	-0.001	-0.032	-0.041	-0.064	-0.109	-0.000	0.089**	-0.051	-0.034	1.000	
Equity_lev	0.702***	0.083*	0.058	0.083	0.146**	0.155**	-0.009	0.012	-0.076*	0.010	-0.014	1.000

Firstly, when considering the unlock market value as the dependent variable, the estimated coefficients for VC are significantly positive at the 1% level, indicating that companies with higher private equity investment ratios tend to have larger unlock market value. Specifically, a 1% increase in the private equity investment ratio leads to an approximately 2.531% increase in a company's unlock market value. This finding could be attributed to two possibilities: firstly, private equity funds generally invest in high-quality start-up companies for the long term and assist these companies in gradually exiting after the IPO stage. Such companies tend to have better corporate governance and stronger market competitiveness, resulting in higher market values.

Additionally, during the process of unlocking private equity exits, there might be a coordinated release of positive news and market value management strategies to artificially boost stock prices and realize high-level arbitrage for greater investment returns. Analyzing the market value one month, six months, and one year after the unlock, we find that the estimated coefficient of VC remains significantly positive at the 1% level of significance, indicating sustained growth in market value after the unlock.

Moreover, as we examine the regressions using market value one month, six months, and one year after the unlock as the dependent variable, the estimated coefficient of VC progressively increases, and there is no evidence of market value decline after cashing out at a high price. This finding supports the first possibility that private equity ownership plays a positive role in various aspects of start-up companies' operations, development, and governance, thereby enhancing the overall market value of the firms.

In the context of control variables related to equity structure, the estimation results with the 1-year unlocked market value as the dependent variable show that the estimated coefficient of equity concentration is significantly positive at the 1% significance level. When the equity concentration increases by 1%, the 1-year unlocked market value increases by 2.167%. The estimated results using the unlock market value as the dependent variable reveal that the coefficient of equity concentration is significantly positive at the 1% level of significance. Specifically, a 1% increase in equity concentration corresponds to a 2.167% increase in the unlock market value. Similarly, equity checks and balances are positively correlated with the unlock market value, as a 1-unit increase in equity checks and balances leads to a 38.9% increase in the unlock market value. Furthermore, in the regressions using the unlock market value, market value one month, six months, and one year after the unlock as the dependent variables, the positive relationships between equity concentration and equity checks and balances remain statistically significant. However, the estimated coefficients of

equity nature, corporate governance, and debt-to-equity ratio are nearly insignificant in all these regressions, indicating that these variables have limited impact on the market value in the specified time frames.

4.1.3 Robustness test

4.1.3.1 Replacing the dependent variable

In the baseline model, the study used logarithmic form to measure the market value, initial public offering (IPO) value, one-year post-lockup market value, post-lockup one-month market value, post-lockup six-month market value, and post-lockup one-year market value of the firms. In this section, the study employs the absolute values without taking logarithms to measure these variables, and all values are standardized to billion RMB in order to avoid the influence of large scale.

Table 4.6 presents the estimation results using the market value (Firm_value) of the firms as the dependent variable. The estimated coefficient for the proportion of private equity investment (VC) is 25.961 and significant at the 1% level, indicating that the higher the proportion of private equity holdings in start-up companies, the higher their market value. Additionally, the estimated coefficients for the variables representing ownership concentration (Top), ownership balance (Share_balance), and debt-equity ratio (Equity_lev) are all significant at the 1% level, suggesting that ownership concentration, ownership balance, and debt-equity ratio are positively related to the market value of start-up companies. These conclusions are consistent with the results from the baseline regression.

Table 4.6 Robustness test: using Firm_value as the dependent variable

	(1) Firm value	(2) Firm value	(3) Firm value	(4) Firm value
VC	18.105** (2.127)	25.961*** (3.608)	18.105** (2.183)	25.961*** (3.976)
Top		69.493*** (5.378)		69.493*** (3.500)
Share_balance		7.132*** (2.667)		7.132*** (2.482)
State		-51.975 (-1.114)		-51.975 (-1.398)
Ind_ratio		30.033 (1.257)		30.033 (0.986)
Equity_lev		37.423*** (17.085)		37.423*** (8.146)
Constant	11.905*** (5.825)	-46.308*** (-4.242)	11.905*** (6.949)	-46.308*** (-3.129)
N	506	506	506	506
R ²	0.009	0.400	0.009	0.400

Note: Column (1) and (2) present the estimation results without and with the inclusion of control variables, respectively. Column (3) and (4) report the estimation results after adjusting for heteroskedasticity using robust standard errors. The significance levels are denoted by ***, **, and *, representing the 1%, 5%, and 10% levels of significance, respectively.

Table 4.7 provides the estimation results with the dependent variable being the IPO market value (First_value). The regression results reveal that the coefficient for private equity investment is statistically significant at the 1% level. Specifically, a 1% increase in the proportion of private equity investment is associated with an approximately RMB 2.27 billion increase in the IPO market value of the company. Furthermore, ownership concentration shows a positive and significant correlation with the IPO market value, with a 1% increase in ownership concentration leading to an approximately RMB 4.60 billion increase in the IPO market value, significant at the 1% level. The coefficient for share balance is also statistically significant at the 1% level. Conversely, the coefficient for ownership nature is significantly negative at the 10% level. This implies that start-up companies with a higher proportion of ownership held by state shareholders among the top ten shareholders may have a lower IPO market value. Additionally, the debt-equity ratio exhibits a positive relationship with the IPO market value, and the coefficient is significant at the 5% level. These findings are consistent with the results obtained from the baseline regression.

Table 4.7 Robustness test: First_value as the dependent variable

	(1) First value	(2) First value	(3) First value	(4) First value
VC	172.292*** (3.172)	226.539*** (3.945)	172.292*** (2.900)	226.539*** (3.800)
Top		459.683*** (4.457)		459.683*** (3.505)
Share_balance		67.964*** (3.185)		67.964*** (3.951)
State		-664.737* (-1.785)		-664.737** (-2.421)
Ind_ratio		150.842 (0.791)		150.842 (0.623)
Equity_lev		38.342** (2.193)		38.342** (1.977)
Constant	118.737*** (9.105)	-168.110* (-1.930)	118.737*** (11.144)	-168.110 (-1.484)
N	506	506	506	506
R ²	0.020	0.071	0.020	0.071

Note: Columns (1) and (2) present the estimation results without and with the inclusion of control variables, respectively. Columns (3) and (4) report the estimation results after adjusting for heteroskedasticity using robust standard errors. The significance levels are denoted by ***, **, and *, representing the 1%, 5%, and 10% levels of significance, respectively.

Table 4.8 and 4.9 report the estimation results with the dependent variables being the unlock market value, market values one month, six months, and one year after the unlock, respectively. In the estimation results with the unlock market value as the dependent variable,

the coefficient for private equity investment is statistically significant at the 1% level. Specifically, a 1% increase in the proportion of private equity investment is associated with an approximately RMB 3.80 billion increase in the company's 1-year post-lockup market value. Moreover, in the regressions with the market values one month, six months, and one year after the unlock as the dependent variables respectively, the coefficient for private equity investment remains statistically significant at the 1% level, and the estimated coefficients exhibit an increasing trend. Regarding ownership concentration, in the estimation results with the unlock market value as the dependent variable, the coefficient for ownership concentration is statistically significant at the 1% level. A 1% increase in ownership concentration is associated with an approximately RMB 5.15 billion increase in the company's unlock market value. In the regressions with the market values one month, six months, and one year after the unlock as the dependent variables, the coefficient for ownership concentration remains statistically significant at the 1% level. The coefficient for ownership balance is also statistically significant at the 1% level, indicating a significant positive correlation between ownership balance and the unlock market value, as well as the market values one month, six months, and one year after the unlock. These results are consistent with the findings from the baseline regression, providing robust evidence of the relationships between the variables.

Table 4.8 Robustness test: several unlock market values as the explained variable (robust standard errors adjusted for possible heteroscedasticity)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Expiration_in_ year	Expiration_after_ month	Expiration_after_ halfyear	Expiration_after_ _year	Expiration_ in_year	Expiration_after_ _month	Expiration_ after_halfy ear	Expiration _after_yea r
VC	325.272*** (5.141)	392.474*** (4.941)	412.449*** (5.007)	590.983*** (5.951)	380.129*** (5.602)	496.861*** (5.975)	481.936*** (5.606)	743.744*** (7.275)
Top					515.440*** (4.669)	575.568*** (4.859)	434.930*** (3.406)	541.128*** (3.953)
Share_balance					73.594*** (3.192)	84.629*** (3.316)	79.292*** (2.908)	89.119*** (3.049)
State					-722.430 (-1.458)	-1.2e+03** (-2.018)	-956.314 (-1.635)	-1.9e+03*** (-3.195)
Ind_ratio					-5.730 (-0.028)	-227.667 (-1.006)	-122.495 (-0.514)	-27.997 (-0.110)
Equity_lev					27.425 (1.500)	18.082 (0.910)	41.991* (1.968)	51.714** (2.318)
Constant	83.727*** (5.917)	77.371*** (4.903)	71.180*** (4.408)	58.828*** (3.273)	-161.813* (-1.740)	-112.472 (-1.092)	-116.745 (-1.060)	-208.275* (-1.719)
N	426	364	290	200	426	364	290	200
R ²	0.059	0.063	0.080	0.152	0.114	0.132	0.135	0.262

Note: Columns (1) to (4) report the estimated results without the inclusion of control variables, while Columns (5) to (8) report the estimated results with the inclusion of control variables. The significance levels are denoted as ***, **, and * representing 1%, 5%, and 10% levels of significance, respectively.

Table 4.9 Robustness test: unlock market values as the explained variable (robust standard errors adjusted for possible heteroscedasticity)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Expiration_in_ year	Expiration_after_ month	Expiration_after_ halfyear	Expiration_after_ _year	Expiration_ in_year	Expiration_after_ _month	Expiration_ _after_half year	Expiration_ after_year
VC	325.272*** (5.496)	392.474*** (5.246)	412.449*** (5.234)	590.983*** (5.424)	380.129*** (5.922)	496.861*** (5.471)	481.936*** (5.195)	743.744*** (5.575)
Top					515.440*** (3.520)	575.568*** (3.654)	434.930*** (2.763)	541.128*** (3.184)
Share_balance					73.594*** (4.228)	84.629*** (3.627)	79.292*** (2.907)	89.119*** (3.062)

The Impact of Equity Structure on Firm Value

State					-722.430*	-1.2e+03**	-956.314*	-1.9e+03***
					(-1.858)	(-2.323)	(-1.839)	(-3.658)
Ind_ratio					-5.730	-227.667	-122.495	-27.997
					(-0.020)	(-0.944)	(-0.507)	(-0.100)
Equity_lev					27.425	18.082	41.991	51.714*
					(1.326)	(0.819)	(1.592)	(1.922)
Constant	83.727***	77.371***	71.180***	58.828***	-161.813	-112.472	-116.745	-208.275
	(8.304)	(7.685)	(6.970)	(5.177)	(-1.360)	(-1.088)	(-1.047)	(-1.593)
N	426	364	290	200	426	364	290	200
R ²	0.059	0.063	0.080	0.152	0.114	0.132	0.135	0.262

Note: Columns (1) to (4) report the estimated results without the inclusion of control variables, while Columns (5) to (8) report the estimated results with the inclusion of control variables. The significance levels are denoted as ***, **, and * representing 1%, 5%, and 10% levels of significance, respectively.

4.1.3.2 Replacement of explanatory variables

In this section, robustness tests were conducted by considering the replacement of explanatory variables. Specifically, we redefine the proportion of private equity investment as follows: for each startup company, if it has received investment from private equity funds, we denote VC_0 as 1; otherwise, it is denoted as 0. If the proportion of private equity investment is relatively small, it may indicate that the funds brought in by private equity funds are relatively limited, and their influence in the startup company is not significant. Therefore, based on the size of the proportion of private equity investment (5%, 10%), we set two threshold values to determine whether private equity funds are major shareholders. We create two dummy variables accordingly: VC_5, where VC_5 is set to 1 if the proportion of private equity investment is greater than or equal to 5%, otherwise it is set to 0; VC_10, where VC_10 is set to 1 if the proportion of private equity investment is greater than or equal to 10%, otherwise it is set to 0.

Table 4.10 presents the estimation results with Log_firm_value as the dependent variable. Columns (1) to (3) show the results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. The coefficients for VC_0, VC_5, and VC_10 are all statistically significant at the 1% level. Specifically, compared to companies with private equity ownership below 5%, companies with private equity ownership above 5% exhibit a market value approximately 45.5% higher; similarly, compared to companies with private equity ownership below 10%, companies with private equity ownership above 5% show a market value approximately 41.2% higher. Other variables related to corporate ownership structure are consistent with the baseline regression and are not further analyzed here. These results indicate that private equity ownership significantly enhances the market value of startup companies, and even after the replacement of explanatory variables, the robustness of our findings remains intact.

Table 4.10 Robustness test: Log_firm_value as the explained variable

	(1) Log_firm value	(2) Log_firm value	(3) Log_firm_v alue	(4) Log_firm_v alue	(5) Log_firm_v alue	(6) Log_firm_v alue
VC_0	1.229*** (4.664)			1.174*** (5.439)		
VC_5		0.367*** (2.987)			0.455*** (5.117)	
VC_10			0.379*** (3.306)			0.412*** (4.639)
Top				1.558*** (2.733)	1.504*** (2.692)	1.494*** (2.650)

Share_balanc				0.200*	0.182*	0.180*
				(1.946)	(1.760)	(1.774)
state				0.758	-1.269	-1.778
				(0.502)	(-0.804)	(-1.102)
Ind_ratio				-0.881	-0.578	-0.509
				(-0.843)	(-0.563)	(-0.497)
Equity_lev				1.862***	1.879***	1.866***
				(17.896)	(18.144)	(18.292)
Constant	18.946***	19.890***	19.936***	17.757***	18.527***	18.610***
	(73.763)	(197.519)	(244.200)	(36.217)	(41.459)	(42.173)
N	506	506	506	506	506	506
R ²	0.015	0.016	0.020	0.515	0.523	0.522

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Table 4.11 presents the estimation results with Log_first_value as the dependent variable. Columns (1) to (3) and (4) to (6) respectively report the estimation results with the stepwise inclusion of control variables. Although the coefficient for VC_0 is not statistically significant, the coefficients for VC_5 and VC_10 are both significant at the 1% level. Specifically, compared to companies with private equity ownership below 5%, companies with private equity ownership above 5% exhibit a first value approximately 32.1% higher; similarly, compared to companies with private equity ownership below 10%, companies with private equity ownership above 5% show a first value approximately 38.7% higher. These findings indicate that private equity ownership is positively associated with the first value of startup companies, further confirming the robustness of our baseline regression results.

Table 4.11 Robustness test: Log_first_value as the dependent variable

	(1) Log_first_ value	(2) Log_first_ value	(3) Log_first_v alue	(4) Log_first_v alueL	(5) Log_first_v alue	(6) Log_first_v alue
VC_0	0.158 (0.638)			0.256 (0.959)		
VC_5		0.265*** (3.463)			0.321*** (3.837)	
VC_10			0.313*** (4.184)			0.387*** (4.593)
Top				1.719*** (3.437)	1.775*** (3.661)	1.798*** (3.719)
Share_balanc				0.330*** (3.745)	0.328*** (3.732)	0.327*** (3.771)
State				-0.601 (-0.440)	-2.270 (-1.572)	-3.335** (-2.233)
Ind_ratio				-0.253 (-0.271)	-0.155 (-0.170)	-0.075 (-0.083)
Equity_lev				0.173** (2.232)	0.182** (2.354)	0.172** (2.285)
Constant	22.805***	22.770***	22.781***	21.856***	21.846***	21.839***

	(93.269)	(387.386)	(464.323)	(44.739)	(51.668)	(52.344)
N	506	506	506	506	506	506
R ²	0.001	0.018	0.031	0.036	0.058	0.075

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Table 4.12 reports the regression results with unlock market value (Log_expiration_in_year) as the dependent variable. Columns (1) to (3) and (4) to (6) respectively present the estimation results with the stepwise inclusion of control variables. In all results presented in Columns (1) to (6), the coefficients for VC_0, VC_5, and VC_10 are all statistically significant at the 1% level. The economic interpretation of the VC_5 coefficient suggests that compared to companies with private equity ownership below 5%, companies with private equity ownership above 5% exhibit the unlock market value approximately 73.0% higher. Similarly, the economic interpretation of the VC_10 coefficient indicates that compared to companies with private equity ownership below 10%, companies with private equity ownership above 10% show the unlock market value approximately 78.9% higher. These findings are consistent with our baseline regression results, further confirming the robustness of our baseline findings.

Table 4.12 Robustness test: Log_expiration_in_year as the dependent variable

	(1) Log_expiration_in_year	(2) Log_expiration_in_year	(3) Log_expiration_in_year	(4) Log_expiration_in_year	(5) Log_expiration_in_year	(6) Log_expiration_in_year
VC_0	1.248*** (25.814)			1.050*** (11.771)		
VC_5		0.733*** (8.410)			0.730*** (7.669)	
VC_10			0.768*** (8.773)			0.789*** (8.057)
Top				1.970*** (3.327)	2.153*** (3.966)	2.161*** (3.977)
Share_balance				0.412*** (3.844)	0.422*** (4.081)	0.416*** (4.151)
State				5.808*** (2.885)	1.131 (0.539)	-0.897 (-0.419)
Ind_ratio				-0.889 (-0.769)	-0.876 (-0.811)	-0.695 (-0.653)
Equity_lev				0.114 (1.181)	0.122 (1.325)	0.098 (1.104)
Constant	21.519*** (9.0e+07)	22.252*** (346.534)	22.345*** (396.073)	20.899*** (48.820)	21.416*** (44.649)	21.467*** (45.610)
N	426	426	426	426	426	426
R ²	0.004	0.115	0.148	0.054	0.155	0.186

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Tables 4.13, 4.14, and 4.15 respectively report the estimation results with market value one month after the unlock (Log_expiration_after_month), market value six months after the unlock (Log_expiration_after_halfyear), and market value one year after the unlock (Log_expiration_after_year) as the dependent variables. Columns (1) to (3) and (4) to (6) respectively present the estimation results with the stepwise inclusion of control variables. In all three tables, the coefficients for VC_0, VC_5, and VC_10 are all statistically significant at the 1% level. These findings indicate that private equity ownership has a positive and significant impact on the market value of start-up companies, and in the long run, it is beneficial for enhancing the market value of these firms. The consistency of the estimation results after replacing the explanatory variables with the baseline regression demonstrates the robustness of the conclusions drawn in this study.

Table 4.13 Robustness test: Log_expiration_after_month as the dependent variable

	(1) Log_expiration_after_month	(2) Log_expiration_after_month	(3) Log_expiration_after_month	(4) Log_expiration_after_month	(5) Log_expiration_after_month	(6) Log_expiration_after_month
VC_0	1.468*** (27.678)			1.293*** (13.481)		
VC_5		0.872*** (9.523)			0.903*** (9.073)	
VC_10			0.930*** (9.955)			1.002*** (9.601)
Top				1.855*** (2.924)	2.182*** (3.870)	2.320*** (4.179)
Share_balance				0.387*** (3.268)	0.432*** (3.820)	0.461*** (4.364)
State				5.093** (2.289)	-0.894 (-0.386)	-3.612 (-1.498)
Ind_ratio				-1.103 (-0.933)	-0.956 (-0.894)	-0.671 (-0.640)
Equity_lev				0.156 (1.527)	0.153 (1.614)	0.116 (1.299)
Constant	21.252 (.)	22.122*** (340.054)	22.235*** (383.496)	20.749*** (46.504)	21.283*** (43.721)	21.249*** (44.902)
N	364	364	364	364	364	364
R ²	0.006	0.162	0.212	0.051	0.206	0.261

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Table 4.14 Robustness test: Log_expiration_after_halfyear as the dependent variable

	(1) Log_expiration_after_halfyear	(2) Log_expiration_after_halfyear	(3) Log_expiration_after_halfyear	(4) Log_expiration_after_halfyear	(5) Log_expiration_after_halfyear	(6) Log_expiration_after_halfyear
VC_0	1.636*** (26.950)			1.454*** (12.946)		

The Impact of Equity Structure on Firm Value

VC_5		0.950*** (9.309)		0.970*** (8.826)	
VC_10			1.012*** (9.596)		1.074*** (9.243)
Top				1.026 (1.363)	1.346** (2.012)
Share_balance				0.292* (1.886)	0.344** (2.367)
State				5.274* (1.916)	-0.764 (-0.273)
Ind_ratio				-1.288 (-0.946)	-1.260 (-1.039)
Equity_lev				0.271** (2.024)	0.293** (2.475)
Constant	21.047 (.)	22.033*** (311.656)	22.165*** (348.182)	20.923*** (40.573)	21.598*** (39.668)
N	290	290	290	290	290
R ²	0.009	0.185	0.241	0.053	0.225

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

Table 4.15 Robustness test: Log_expiration_after_year as the dependent variable

	(1) Log_expiration_after_year	(2) Log_expiration_after_year	(3) Log_expiration_after_year	(4) Log_expiration_after_year	(5) Log_expiration_after_year	(6) Log_expiration_after_year
VC_0	1.587*** (21.437)			1.482*** (10.400)		
VC_5		1.068*** (8.946)			1.149*** (8.592)	
VC_10			1.125*** (9.043)			1.227*** (8.670)
Top				1.243 (1.355)	1.935*** (2.617)	1.898** (2.547)
Share_balance				0.307* (1.724)	0.360** (2.394)	0.475*** (3.312)
State				2.729 (1.064)	-4.337* (-1.663)	-6.538** (-2.273)
Ind_ratio				-2.488 (-1.521)	-1.911 (-1.369)	-0.617 (-0.449)
Equity_lev				0.311* (1.870)	0.370*** (2.829)	0.288** (2.217)
Constant	21.168*** (7.2e+07)	22.026*** (273.252)	22.179*** (294.531)	21.354*** (33.088)	21.617*** (33.415)	21.238*** (35.151)
N	200	200	200	200	200	200
R ²	0.012	0.230	0.291	0.063	0.293	0.353

Note: Columns (1) to (3) present the estimation results without the inclusion of control variables, while Columns (4) to (6) report the results with the inclusion of control variables. Robust standard errors are used in all models. The symbols ***, **, and * represent the significance levels of 1%, 5%, and 10%, respectively.

4.2 Qualitative analysis results

4.2.1 The increased concentration of equity ownership has enhanced the operational efficiency of startups while reducing the margin for error

All 5 interviewees agree that high equity concentration is a fundamental characteristic in the early stages of a company's founding. Four of them believe that high equity concentration in the early stages is beneficial for the company to focus on its development direction. However, if the equity concentration remains too high in the later stages, it may lead to excessively centralized management authority. It could indicate issues with the company's equity structure development or suggest that the company has failed to attract other shareholders during its growth. The founders or founding team having a certain percentage of equity advantage, but not an absolute advantage, is considered an important feature of the company's value manifestation. However, Interviewee C believes that the equity structure should match the company's development, and the percentage of equity held by founders or the founding team is not a universally applicable standard.

C thought that with the increase in equity concentration, the control of the company's development is in the hands of the founders. This leads to higher overall development efficiency; however, it also comes with a relatively lower margin for error. HYC has claimed the title of "the first stock on the STAR Market." From the perspective of equity structure, HYC is a typical "family-run business" as the control is concentrated within the founders, resembling a "husband-wife" partnership.

Interviewee C stated, *"We established HYC on June 15, 2005. At that time, based on the contribution ratio, the two of us held 90% and 10% of the company's shares, respectively. I served as the Chairman and CEO of the company, while Zhang Qian served as a director. Prior to the IPO, the two of us collectively held 93.15% of the company's shares, thus maintaining absolute control over the company."*

From the early stages of joint entrepreneurial efforts by a married couple to the eventual listing of the company, it becomes evident that the "family-owned business" model has garnered market recognition. Simultaneously, it underscores that the ownership structure of such enterprises does not hinder their ability to shape economic and societal values. The "family-owned business" is an extension of the small-scale agricultural economic model, but it exhibits distinct characteristics and missions at different stages and types. In the context of a market-driven economy, "family-owned businesses" tend to have a more concentrated

ownership structure, foster greater trust among shareholders, and rely on the married couple's ownership during the early stages of development, thereby achieving higher operational efficiency. However, such enterprises possess a limited margin for error in their development. Many businesses have faced significant risks, or even losses and closures, due to poor decision-making by major shareholders.

Interviewee C reflected on this by stating, *"The term 'family-owned business' was initially used jokingly, implying that the two of us, as a married couple, held too much ownership. Even when other shareholders joined later on, they held smaller stakes and had limited influence over the company's decision-making. On the contrary, during the early stages when the company had limited financial resources, we had to be extremely resourceful and make rapid progress. There was no room for even the slightest mistake because a major error could set us back for years. "*

As a company matures in its development, the dominance of shareholder-driven decision-making (or “rule of man”) must gradually give way to modern corporate governance practices (or “rule of systems”). Even when the major shareholder holds an absolute controlling stake, it is essential to ensure the scientific management of modern enterprises. Decision-making regarding company operations should not be solely governed by the ideas of the managers.

Interviewee C explained, *"As the company expanded, we realized the need to acquire modern management knowledge, and corporate governance gradually fell into place. Although we are still major shareholders, we come from a technical background, and there are certain limits to what science and technology alone can achieve. In comparison, many township enterprises that started with us ultimately faltered due to their reliance on traditional ways of doing things. Their management practices were mismatched with the company's development stage, making them susceptible to issues."*

4.2.2 Equity checks and balances exist within the ownership structure, but the strength and the subjects of balance vary significantly in different scenarios

Regarding the impact of equity checks and balances on company value, the three founding shareholders generally agree that equity checks and balances require a careful equilibrium. In significant events, someone needs to take responsibility, and there should be foresight in proposing innovative paths suitable for the company's development or researching new cutting-edge technologies. However, investors and executives believe that equity checks and

balances need to consider both the daily operations of the management and the protection of the interests of small shareholders. Not every decision is entirely correct, and the degree of balance will also make the party with power advantages more cautious.

Equity checks and balances are mechanism of power constraint that gradually evolves during the course of enterprise development. It is also a natural outcome of aggregating capital and resources. However, equity checks and balances should not become an obstacle to the company's development. A certain degree of balance advantage can ensure that the company continues to develop along its initially designed path.

As X explained, *"In the very beginning, we were a group of colleagues who came together and ventured into the industry we are in now. When the company was just established, it was essential to have a core leadership and a guiding figure. At that time, we agreed that one person would provide the capital, and the other would provide the technical expertise. Since all of us were technically oriented, the person with the idea and the one contributing more capital had more say". As a major shareholder or a shareholder with significant equity advantage, the rights and responsibilities are equal. When the company is profitable, major shareholders can indeed gain more benefits, but in the case of continuous losses, major shareholders also incur greater losses. Additionally, for those who were not willing to take significant risks, I, as the largest shareholder, provided some guarantees. Although there was talk of a major shareholder, during the early days of the startup, we openly discussed matters among ourselves, arrived at outcomes that everyone accepted, and then worked together diligently."*

For companies seeking listing on the STAR Market, equity checks and balances necessitate varying degrees of balance in different scenarios. Under the precondition of highly concentrated equity ownership, equity checks and balances remain closely tied to the ownership structure and the distribution of shareholder power. The degree of balance comes from the concentration of the equity structure. As stated by Respondent C, *"Equity checks and balances essentially revolve around whether there are mechanisms in place to stop me when I make incorrect decisions. You can see that even after going public, I still hold a substantial amount of equity. From a governance perspective, within legal limits, I have considerable leeway."* However, *for the STAR Market, when the founder has clear technical research and development capabilities and mature product production considerations, they should gain the trust of other shareholders and the management team. From a technical perspective, I'm the boss. The entire company is built on my technical expertise. So when it comes to equity balance, you can't really meddle with me on the path of technical development. In terms of*

technology, if you can't convince me, many times I'll still be a bit stubborn. After all, I'm the technical leader of the company."

The ultimate state of equity checks and balances development involves restricting the rights of specific shareholders to the extent that they are no longer involved in the operational and developmental aspects of the company. When equity checks and balances become a means of removing shareholders' influence, especially when certain shareholders no longer align with the interests of the company, the question arises whether equity checks and balances lose its purpose. During the interview process, it becomes evident that after the extreme polarization of equity checks and balances, the company's subsequent development may face significant challenges.

As described by Respondent L, *"Initially, I was involved in the fermentation production of a colloidal product within a company that had transitioned to the private sector. I was a technical shareholder. After successfully developing the product and gaining some market share, we sought financing. However, as we progressed in terms of technical development and product research, significant disagreements and conflicts arose between me and the controlling shareholder. Eventually, I had no choice but to leave. The departure of the technical core led to certain product issues, and subsequently, the company's development did not meet the initial expectations."*

4.2.3 Diversification of equity types represents an ideal model, where the crux of enterprise development lies in its suitability

In relation to state-owned equity, all five respondents believe that state ownership can bring certain advantages to the enterprise. However, they assert that state ownership is unlikely to be involved in the early stages, and the initial funding primarily relies on the team and a significant amount of venture capital. With the exception of state capital investors, the remaining interviewees contend that in the later stages of development, state-owned capital can provide substantial support and may even offer a level of credibility endorsement. However, they also acknowledge that it may come with stringent conditions, and at critical moments, it could even pose a threat to the sustained operation of the enterprise.

During the early to middle stages of corporate development, there is limited shareholder selection discretion. Particularly prior to the enterprise reaching a stage of cash flow self-sufficiency, shareholders capable of timely capital infusion or addressing immediate operational challenges are deemed beneficial in that phase of the enterprise's lifecycle.

As mentioned by Interviewee P, "It mostly involves angel investors and Series A shareholders. They may not invest large sums of money, but they stay with the company for a period, providing significant support in terms of market positioning and management. "

When state-owned capital engages in investments, it tends to adhere to investments within its relevant field of expertise and lower-risk investment opportunities. Additionally, state-owned capital often imposes more stringent guarantee requirements. Therefore, when state-owned capital injects funds into a company and brings the brand value of state ownership, it also demands that the company, majority shareholders, and other shareholders collectively provide assurances to safeguard the security of state-owned capital.

As described by Interviewee G, *"From the perspective of state-owned capital, on the one hand, it has relatively large capital resources. Consequently, it is less inclined to participate in high-risk early-stage projects, unless it is directly related to its field of expertise, such as a semi-research, semi-development, and semi-production endeavor."*

State-owned shareholders are categorized into industrial investment types and professional investment types. In the context of investment decisions by professional investment-type state-owned shareholders, it is imperative to ensure the security of state-owned capital while also aligning with policy incentives and industrial orientation. Although professional investors possess a certain degree of risk exposure, their strategy fundamentally achieves a balance between asset safety and policy mandates. Furthermore, investment decisions, driven by considerations of risk and adherence to policy, necessitate a degree of personal charisma.

As explained by Interviewee G, *"Industry investors generally tend to avoid investments that carry significant risks, have uncertain future prospects, or entail high valuations. However, for professional state-owned investment companies, the situation is different. These entities might be more willing to accept certain risk exposures because they are driven by the future development needs of the country's industries. "*

4.2.4 The dilemma of corporate value under insider control necessitates a resolution through alignment of interests within the "principal-agent" framework

Regarding management shareholding, it is a common scenario for already listed companies. Since the STAR Market primarily features technology and innovation-oriented enterprises, founders often play the dual role of being both initial shareholders and operational decision-makers. Consequently, the quantity and proportion of management shareholding tend

to be higher compared to companies listed on other boards. All five respondents believe that granting a certain amount of equity or providing stock incentive plans can alleviate the conflict of interest between "principal-agent," allowing the management to simultaneously receive long-term benefits from the company's growth and short-term operational gains.

Insider control refers to the scenario where the prerogatives of financing, investment, and personnel are monopolized by the company's operators, i.e., insiders, rendering shareholders' effective oversight of their actions challenging. The excessive concentration of power in the hands of "insiders" thus leads to varying degrees of detriment to the interests of shareholders and other stakeholders (Morck et al., 1988). Management, representing insiders, prioritizes personal interests over corporate interests, aligning with the characteristics of a rational actor (X. L. Xu, 2018).

As expressed by Interviewee P, *"Personally, the interests of shareholders were hardly reflected before the company went public. So, as executives, we had to agree on things in advance, including our salaries, performance bonuses, and business commissions. In the short term, for the management team, it was about our salary income. Shareholder rights and dividend income were matters for after going public."*

The conflict of interests in the "principal-agent" relationship stems not only from distrust between shareholders and management but also from the chasm created by differing entrepreneurial backgrounds and professional expertise. As explained by Interviewee X, *"If you have never been an entrepreneur before, investors often don't trust your judgment. Moreover, the development of new products is challenging, and entering the market is difficult. Just because a new product based on new technology offers better performance doesn't mean the market will readily accept it. It's not that simple."*

Furthermore, Interviewee L added, *"When working on a project, you can't entirely ignore investors. However, most investors don't understand what you're doing; they judge based on outcomes. You can't blindly follow investors. If you truly have a promising project and outlook, you need to believe in your own expertise."*

During critical phases of technological development, management must possess sufficient confidence and concurrently persuade shareholders to endorse their forecasts regarding technological innovations and new product manufacturing. Such endorsement is essential to ensure the diversification of the enterprise's revenue structure and the continual enhancement of the company's value. L said, *"Sometimes, when you're developing a new product, it can be challenging because investors may not have the patience to evaluate the prospects of similar developments. In such markets, where there are no direct benchmarks or even if there are,*

investors may not trust them, I believe it's crucial to rely on your own judgment. The background and experience of the entrepreneur are essential, although there can be contradictions in this regard. After achieving success, we have an additional source of income, and it complements and enhances our existing business. "

4.2.5 The capital structure, influenced by the stage of the enterprise, decides the rate of company value growth

Regarding the capital structure of the company, all five interviewees expressed that, before a company has the ability to choose, any source of cash flow that can help solve cash flow problems is welcomed. However, when both equity financing and debt financing can provide funds, senior executives believe that the proportion of equity financing should be appropriately increased. This is because too much debt only delays the cash flow issue and increases the cash flow burden on the company. Three founders and one investor, on the other hand, believe that excessive equity financing can lead to the dilution of the company's value. Therefore, they suggest considering more debt financing. However, the choice should be determined based on the company's development stage and goals, without favoring a single method.

In the balance sheet, borrowings and equity investments are delineated in the upper and lower sections on the right side, collectively constituting the enterprise's asset scale. Given adequate cash flow, the efficiency of enterprise development and the rate of increase in company value are both likely to exhibit satisfactory conditions. X mentioned, *"Whether it's equity or debt, it's money for the company. Every penny counts. We are a private enterprise, and since the beginning of our entrepreneurship, capital has always been tight Every time a sum of money comes in, our market and technological innovations tend to progress smoothly. However, when you don't have money, you can't expand the market recklessly, and research and development expenses may also need to be reduced."*

The composition and changes in capital structure are determined by consensus between the company and investors. At the company level, there is a need to meet cash requirements while avoiding significant changes in the equity structure. From the investor's perspective, investments in a project need to balance profitability and safety. G mentioned, *"For projects where we invested in both equity and debt. It's because we were concerned that if we invested too much equity, it might affect the founder's controlling stake. Secondly, if we invest entirely in equity in a project, it carries higher risks. So, we decided to do a mix of equity and debt."*

This way, we could address both investment returns from equity and cash flow needs."

The preference for debt and equity financing remains almost the same in different stages of a company's development. X mentioned, *"When we first started, our company's valuation was low. At that time, the only option was external financing, but both had limited amounts. As your business gradually stabilized and our valuation increased, when the company needed funds, we could secure larger amounts through equity financing. Of course, credit lines were also necessary. "*

4.2.6 The dual-edged nature of private equity investment is evident, impacting both the increase and decrease in company value significantly

Regarding private equity investment, all five interviewees agree that private equity funds are the main investment group in China's primary market. The founders of the first three companies visited also believe that private equity investment has played a significant role in the development of their companies. At the same time, all five interviewees mentioned that when the interests of private equity investment deviate significantly from the expected development of the company, private equity investors will advocate for the fulfillment of the performance-based clauses initially agreed upon with the founders and the company.

As a cornerstone of capital market investments, private equity investment is a crucial driving force for enterprises moving from the primary to the secondary market. Enterprises in the middle and later stages have already established a market foundation and received investor support. However, they also face significant temptations. Accelerating financing, while boosting company value, can also create bubbles, especially when the enterprise's development speed does not match the pace of financing. This scenario can harm investors' interests, and the inherent dual nature of capital can conversely damage the development of the enterprise.

L stated, *"The biotechnology industry has gained more attention from the capital market, which has both advantages and disadvantages. On the positive side, the industry can access more capital, allowing good projects to come to fruition and ultimately speeding up industry development. However, there are also some very negative aspects that concern me. The first negative aspect is the lack of realism. When the capital market heats up, a small group of people starts to get excited, often exaggerating certain stage achievements. This can easily harm investors and create a 'boy who cried wolf' situation, where genuine breakthroughs in the industry might not receive the attention they deserve."*

Private equity investments that focus on specialized fields can rival industrial investments in terms of expertise and sustainability. Under the combined influence of technology, professionalism, and investment philosophy, private equity funds that understand the importance of focusing can more effectively assist enterprises in rapid growth.

P mentioned, *"During our development, we encountered several institutions that were highly professional. Their teams included experts in our field who understood our strengths and were familiar with the industry chain we belong to. In their investment plans, we were not seen in isolation but rather connected to other upstream and downstream companies. When they invested in us, they not only provided us with capital but also carefully considered follow-up investments in subsequent rounds and prepared to connect us with relevant upstream and downstream resources. In contrast, some financial investors only pursued profits and demanded buybacks when the time came. This was essentially a practice of issuing debt disguised as equity. It not only harmed the companies but also the industry and even the other peers they had invested in."*

Chapter 5: Discussion of Results

5.1 Discussion on the relationship between equity concentration and corporate market value

The hypothesis regarding the concentration of ownership and firm value in this study is that they are negatively correlated, meaning that as the concentration of ownership in a company increases, the firm value decreases. However, beyond a certain concentration level, an excessive concentration of equity may lead to a decline in corporate value. According to the estimated results from the data, the coefficient of equity concentration is significantly positive at the 1% significance level. Specifically, when equity concentration increases by 1%, the market value of the enterprise increases by approximately 1.512%. Similarly, a 1% increase in equity concentration corresponds to a roughly 1.796% increase in the initial market value of the company. This effect is significant at the 1% significance level. The estimated results for the unlocking market value after one year as the dependent variable show that a 1% increase in equity concentration leads to a 2.167% increase in the one-year unlocking market value, corresponding to an increase of approximately 515 million RMB. The estimated coefficients of equity concentration remain significantly positive at the 1% significance level in the results where the dependent variables are the market value one month after unlocking, the market value six months after unlocking, and the market value one year after unlocking. Clearly, the results of this study indicate that higher equity concentration is associated with higher corporate value for companies listed on the STAR Market, contrary to the hypothesis of a negative correlation between equity concentration and corporate value.

The findings of this study on the relationship between equity concentration and corporate value align with the many research results (Agrawal & Mandelker, 1990; Claessens et al., 1997; Jensen & Meckling, 2019; Pedersen & Thomsen, 1999; Shleifer & Vishny, 1986; Sun & Huang, 1999; Z. P. Xiao, 2003; X. Y. Xu & Zhang, 2008; H. J. Zhang, 2000). These scholars suggest that higher equity concentration is relatively favorable for the enhancement of corporate value. Simultaneously, the results of this study are in line with the findings of H. Y. Shen et al. (2017) and Johnson et al. (2000) who argue that excessive equity concentration may harm the interests of other small and medium-sized shareholders, and contrary to the

pursuit of self-interest, it does not lead to a decline in corporate value due to an imbalance in equity proportions caused by a high ownership percentage by major shareholders.

The impact of equity concentration on corporate value is not direct. Unlike performance and corporate governance, equity structure primarily determines the ownership structure of a company. Shareholders, as owners of the enterprise, exercise different responsibilities, obligations, and rights based on their shareholding percentages. Therefore, when studying corporate value through the dimension of equity concentration, it is necessary to choose an intermediary factor between equity structure and corporate value. The obtained results reveal that there are more micro-level factors between equity concentration and corporate value. Only through the analysis of these micro-level factors can the relationship between them be further clarified under specific assumptions. Moreover, the results of this study indicate that the increase in equity concentration for companies listed on the STAR Market does not necessarily demonstrate ineffective management or supervision by major shareholders leading to internal chaos, intentional harm to the interests of small and medium-sized shareholders for further control, or conflicts of interest arising from agency problems.

Simultaneously, narrowing down the scope of equity concentration to technology or innovative enterprises often leads to research results that lean towards the positive impact of the interaction between founder ownership concentration and R&D intensity on the performance of technology-based SMEs. Chatterjee and Bhattacharjee (2021) found a positive correlation between equity concentration and R&D intensity in Indian technology-based SMEs. Under the context of equity concentration, the "value creation" hypothesis of corporate governance is supported, positively influencing the performance of Indian technology-based SMEs. Y. Liu and Han's research (2022) also indicates that equity concentration plays a positive moderating role in the relationship between R&D investment and corporate value. Companies with high equity concentration tend to invest in R&D to enhance corporate value.

The hypothesis of a negative correlation is primarily based on the premise that equity concentration, beyond a certain proportion, has a negative impact on the company. Nguyen et al. (2017) argue that the dominance of ownership concentration leads to information asymmetry and a disadvantage in expertise, hindering independent directors from fulfilling their governance and oversight functions, resulting in an overall negative impact on the company's operational performance. This is not only a scholarly finding but also common sense in conventional corporate governance processes. However, as a sector where entrepreneurial companies concentrate for listing, the STAR Market gathers more

"family-owned businesses" than other sectors. In these cases, major shareholders are often husband and wife jointly holding shares, and their shareholding percentages are relatively high.

As a unique type of family business, "family-owned businesses" successfully achieve market and technological breakthroughs, listing on the STAR Market with excellent technical advantages or profitability. Even after going public, they can still maintain an absolute controlling stake. The deviation in the hypothesis of this study is believed to be related to the prevalence of "family-owned businesses" on the STAR Market. The reasons for this deviation can be summarized in three points:

Firstly, spousal ownership tends to be more aligned with individual ownership. The inherent unified action relationship between spouses makes the spousal team more inclined towards individual attributes. Secondly, although spouses serve as major shareholders and controllers, they still need an effective corporate governance team, especially when the company reaches a sufficient size for listing. Balancing business development and corporate governance becomes challenging. Lastly, family-owned businesses, especially those led by spouses, often hold the position of holders of technology or market channels. Other industries may not tolerate spouses being the sole controllers in terms of corporate governance. Therefore, "family-owned businesses" on the STAR Market represent not only the concentration of advantageous resources but also the absence of effective corporate governance. Consequently, the relationship between equity concentration and corporate value may deviate and distort when compared with companies in other sectors.

In-depth interviews, particularly those with founders, reveal a discernible concern regarding equity control. This implies that founders seek to maintain control over the development trajectory of their enterprises, especially in the early and middle stages. Analyzing data from the Wind system for the period from June 2022 to June 2023, we found that 117 enterprises with joint spousal control or management successfully conducted IPOs, constituting 22.29% of the total 525 listed companies during this period. This surpasses a proportion of two-fifths of listed companies having spousal controllers. Specifically, the Sci-Tech Innovation Board (STAR Market) had 20 "family-owned businesses" (spousal control) in its IPOs, with 8 of them having initial market values exceeding 100 billion yuan, with Loongson Technology having an initial market value of 63.843 billion RMB. Among the remaining 97 family-owned businesses, only 4 had market values exceeding 100 billion RMB. Within the STAR Market, family-owned businesses represent just one manifestation of equity concentration. Similar to the STAR Market (Shanghai Stock Exchange), the Growth

Enterprise Market (GEM) on the Shenzhen Stock Exchange has a comparable positioning. According to Wind system statistics as of June 2023, the median initial market value for GEM is only 28 billion yuan. Merely through frequency statistics, it is evident that within the STAR Market, only the category of "family-owned businesses," characterized by high equity concentration, exhibits higher initial market values compared to other sectors.

In the early stages of entrepreneurial ventures, considering the scale of the enterprise and the efficiency of utilizing existing resources, excessive internal management is deemed inappropriate. Drawing from the entrepreneurial experiences in Silicon Valley, garage startups of yesteryears have evolved into trillion-dollar top-tier technology companies. Small teams, high efficiency, and rapid decision-making are effective management approaches during the early stages of a business. The advantage of having an absolute controlling shareholder lies in the ability to facilitate an efficient decision-making process and effectively navigate opposing views. However, as mentioned in interviews, the margin for error in the development of such enterprises can be quite low. A single wrong decision by the controlling shareholder not only consumes a significant amount of company resources but may also narrow the gap between the company and its competitors. This contributes to the lower success rate of entrepreneurial ventures and underscores why investors focus on the entrepreneurial experiences of founding teams.

As for enterprises with absolute controlling shareholders, in the interviews conducted, the management team is often composed of or appointed by the controlling shareholders. In such cases, the company has already mitigated the drawbacks of modern corporate governance systems mentioned in the principal-agent theory, control theory, and insider control theory. The controlling shareholder and the management team can be considered synonymous, aligning the interests of representation and delegation almost perfectly, resulting in low agency costs. Therefore, an increase in the controlling stake significantly enhances the corporate value of startup companies. However, it is crucial to note that the above discussion is contingent on the assumption that the decisions made by the controlling shareholder are relatively correct, and there has been no significant deviation from the intended course.

5.2 Discussion on the relationship between equity checks and balances and corporate value

The results concerning the relationship between equity governance, equity checks and balances, and corporate value reveal an estimated coefficient of 0.170 for equity checks and

balances, which is significantly positive at the 10% significance level. As the degree of equity checks and balances increase, the initial market value of the enterprise also tends to be larger. There is a positive correlation between equity checks and balances and the one-year unlocking market value, with a 1-unit increase in equity checks and balances leading to a 38.9% increase in the one-year unlocking market value. In regressions with the market value one month after unlocking, market value six months after unlocking, and market value one year after unlocking as the dependent variables, the positive relationship between equity concentration and equity checks and balances remain significant. This indicates that a well-balanced equity structure and arrangement can ensure optimal decision-making and maximize operational efficiency for the company (Gomes, 2001; Gugong et al., 2014; Zheng et al., 2019).

Equity checks and balances, whether limiting the abuse of controlling rights by major shareholders or reducing favoritism, serve the positive purpose of protecting the rights of minority shareholders (Gomes & Novaes, 2005). Despite playing different roles in various stages of corporate growth, equity checks and balances, on the whole, mitigates the dual agency conflicts between shareholders, reducing agency costs, and enhancing corporate performance (X. Xiao & Si, 2009). Nevertheless, some studies suggest that equity checks and balances may have negative effects on corporate innovation, performance, and governance (K. Gao et al., 2019).

The results of this study contradict some previous research findings, primarily due to the focus on the nature of the enterprises and the degree of balance. Regarding the nature of the enterprises, since all companies listed on the STAR Market are technology-oriented, major shareholders are often the inventors and owners of the technology. From the initial stages of the company, innovation and breakthroughs in technology are mainly achieved under the guidance of the founder or major shareholder, gradually realizing market positioning. This aligns with the discussion in the previous section on equity concentration. In contrast to other types of enterprises, such as family businesses opposing excessive balance (Ibrahim & Samad, 2011), technology-oriented companies emphasize technological innovation as their core. They highlight the ownership of core technology while also specifying the priority of being led by major shareholders in the company's development. Whether in the early stages of development or the later mature stages, core technology remains crucial for the entire company, and binding major shareholders is equivalent to binding technology. In the absence of significant operational issues, shareholders outside the major shareholder are willing to cooperate with the major shareholder's development plans, jointly achieving the company's growth.

Concerning the degree of equity checks and balances, it tends to manifest in the mature stages of enterprise development. When the enterprise matures, and both technological research and market recognition are essentially completed, the major shareholder representing technological research may not necessarily excel in scientifically rigorous corporate governance. At this point, some governance decisions made by major shareholders may affect the company's overall performance (L. P. Xu et al., 2006). However, it is essential to note that the company is relatively mature at this stage, with various governance systems already established. The rights of major shareholders can now be constrained through some of the company's systems, without the need for other shareholders to form a unified action relationship to constrain major shareholders. Therefore, companies able to list on the STAR Market have relatively well-established corporate systems, comprehensive governance structures, and more scientifically effective corporate governance and operations. Additionally, regarding the checks and balances on the power of major shareholders, besides the checks and balances between shareholders, the legal system is also a potent tool for restraint. Small and medium shareholders use relevant laws and regulations to uphold their rights, employing corresponding measures from regulatory authorities to restrict major shareholders' excessive behavior.

5.3 Discussion on the relationship between equity nature and corporate value

Hypothesis 3 posits that the diversification of equity nature is positively correlated with corporate value, implying that shareholder nature should be more diversified. The data results indicate that, when the initial market value of the enterprise is the dependent variable, the estimated coefficient of equity nature is significantly negative at the 10% significance level. This suggests that when the top ten shareholders collectively hold a higher percentage of shares, the initial market value of the enterprise tends to be lower. The estimated coefficient for corporate governance is not significant. In regressions with the unlocking market value one year later, market value one month after unlocking, market value six months after unlocking, and market value one year after unlocking as the dependent variables, the estimated coefficient for equity nature is almost non-significant. In other words, the influence of state ownership on the initial market value is significant, but its impact on post-unlocking value is not significant.

Existing research on the impact of state ownership on corporate value yields diverse

results. Studies focusing on publicly listed companies generally argue that state ownership has a consistent negative impact on the corporate value of listed companies, with varying degrees of influence based on the companies' different values. The higher the company's value, the greater the negative impact (Yang & Zhang, 2008; K. G. Zhou & Li, 2006). The results of this study present a notable milestone reversal. Specifically, before going public, the higher the proportion of state ownership, the higher the initial market value. However, post-unlocking, this relationship becomes almost non-significant.

The main reason for the discrepancies in results is the variation in the research stages. Existing studies have primarily focused on the current value and equity structure of already listed companies. In contrast, this study tracked the corporate value over time. While state ownership did not change (due to lock-up periods), there were significant differences in the company's value before and after the IPO.

For unlisted companies, the proportion of state ownership holds substantial significance in China. Investments with state ownership undergo relatively rigorous due diligence processes and strict investment agreements. Companies receiving investments from state capital need to align with industries encouraged by existing policies, ensuring relatively standardized operations and governance with minimal potential risks. Additionally, state-owned investments may influence product development, market strategies, and policy compliance. Therefore, the proportion of state ownership before listing has considerable implications for companies in terms of funding and resources.

The results indicate that state ownership has a significant impact on the initial market value because, before IPO, the proportion of state ownership influences companies in terms of funding, resources, and potential biases in product, market, and policy aspects. However, after IPO, the company becomes a leading player in its niche, possessing a certain production scale, market share, and profitability. At this stage, state capital has the flexibility to choose suitable listed companies based on its investment strategy. The dynamics of secondary market investment differ fundamentally from primary market investment. Primary market investments anticipate rapid growth in company profitability, while secondary market investments focus more on sector trends, market sentiment, and other factors. Therefore, the role of state ownership post-IPO is fundamentally different from its role pre-IPO, leading to the almost non-significant results after unlocking.

Through interviews, interviewees express the belief that equity diversification is an ideal type, emphasizing the comprehensive utilization of resources and advantages from different shareholders. The core idea is to complement each other and address the deficiencies in the

company's development. In the context of Chinese investments, the involvement of state-owned investors holds a unique significance. The participation of state-owned investors indicates a lower probability of future risks for the invested company, primarily because state capital demands a high level of security for its investments. The entry of state capital provides a certain endorsement for the later expansion of business, mainly due to the high requirements of state capital regarding the operational standardization and compliance of the invested company.

For early and middle-stage companies that lack both funding and market channel resources, industry investors or state-owned investors can indeed offer more resources compared to pure financial investments. The essence of equity diversification lies in seeking resource inputs beyond financial investments. State-owned investors, with their special identity, contribute not only financial support but also bring operational norms, compliance standards, and credibility to the companies they invest in. This dual contribution makes equity diversification, especially with the involvement of state-owned investors, a strategic pursuit beyond mere financial backing.

5.4 Discussion on the relationship between management shareholding and company value

Similar to the nature of equity, the estimated coefficient of management and company value is also not significant. In the regressions with 1-year lock-up market value, market value after one month of lock-up, market value after six months of lock-up, and market value after one year of lock-up as dependent variables, the estimated coefficients for equity nature, corporate governance, and debt-equity ratio are almost not significant. This result aligns closely with the findings of scholars such as Banerji (2017) and Zona et al. (2018).

Regarding this result, the first issue lies in the significant variation in the definition of management, especially when it comes to executives (senior management). Some companies have personal direct holdings by executives, while others require executives to hold shares in specific employee stock ownership plans. Therefore, for this hypothesis, we adopted the analysis of the proportion of independent directors on the board. Independent directors are those who are independent of company shareholders, have no significant business or professional connections with the company or its managers, and make independent judgments on company affairs. In China, the shareholding ratio of independent directors cannot exceed 1% and cannot enter the top ten shareholders. Compared to independent directors, directors are

appointed by major shareholders or shareholders with higher shareholding ratios, and can be considered as direct shareholding. Hence, the non-significant relationship between management shareholding and company value may be due to data selection, making it impossible to validate the hypothesis. During the writing of this thesis, the China Securities Regulatory Commission (CSRC) redefined the rights and responsibilities of independent directors, no longer giving individual independent directors a veto over board discussions. This change in regulation may also contribute to the non-significant results.

In the realm of agency theory, it is susceptible to the emergence of agency problems, commonly referred to as principal-agent conflicts (Ross, 1973). This issue fundamentally arises from the information asymmetry between the management (agent) and shareholders (principal), allowing the management (agent) to act in their self-interest, leading to a misalignment of goals between the management (agent) and shareholders (principal). Due to the information advantage, the management may make decisions favoring the agent while harming the principal. If both the management and shareholders hold a certain amount of equity, and the primary source of the management's income is the premium on equity prices, then a series of agency problems, such as conflicts of ideas and interests arising from information asymmetry, can diminish accordingly.

5.5 Discussion on capital structure and firm value

In the context of Hypothesis 5, which posits a positive correlation between capital type diversification and firm value, we used the debt-equity ratio as a quantitative indicator for the study. The statistical results reveal that the estimated coefficient of the debt-equity ratio is significantly positive at the 1% significance level, indicating a positive correlation between the debt-equity ratio and the market value of the enterprise. The debt-equity ratio exhibits a positive relationship with the initial market value of the enterprise. However, in the regressions where the dependent variables are the market values after one year, one month, six months, and one year of the lock-up period, the estimated coefficients of the debt-equity ratio are almost non-significant. This suggests that while there is a positive association between the debt-equity ratio and the initial market value, this relationship does not persist after the lock-up period. The nuances in the dynamics of capital structure and firm value require further exploration to understand the underlying mechanisms.

Whether through debt (indirect financing) or equity (direct financing), both serve as sources of cash flow for business operations. Debt encompasses interest-bearing liabilities as

well as operating liabilities. Regardless of the liability type, it indirectly provides funds for the enterprise's operations. For unlisted companies, both types of funding are beneficial for development. When a company possesses significant development advantages, the management team tends to use debt to supplement cash flow, primarily because high-quality businesses attract loans from institutions such as banks. Additionally, high-quality businesses with positive prospects may prefer debt financing over equity financing, which would dilute existing shareholders, especially major shareholders, and entail certain performance obligations.

As for the non-significant coefficients post-listing, this can be attributed to companies having already conducted a significant financing through the secondary market at a higher market value after listing. Moreover, listed companies operate under regulatory scrutiny, adhere to more standardized practices, exhibit excellent profitability, and can attract low-interest funds from financial institutions. When planning expansion or increased investment, these companies can resort to methods like private placements to carry out additional financing through the secondary market. With more diversified funding options after listing, the direct influence of funding sources on firm value diminishes, and factors like equity structure become more indirect yet consequential determinants of company value.

Through interviews, respondents expressed the view that changes in capital structure do not affect the ultimate amount of funds a company obtains. Modigliani and Miller (1958) proposed that, whether in investment or financing, a company's goal is to maximize its market value. Debt and equity financing have different costs, with debt reflecting short-term benefits, i.e., interest expenses, and equity financing reflecting long-term benefits, such as dividends from the company's growth and repurchase. During interviews, we initially assumed that companies prefer equity financing in the early stages of development and debt financing in later stages. The rationale behind this assumption was the perceived difference in company value and business stability at different stages. However, it became apparent that early-stage equity financing might be insufficient, requiring supplementary debt. Conversely, in later stages, when valuations are high and capital needs are substantial, debt remains necessary. This explanation sheds light on the lack of significance in the quantitative analysis of the relationship between capital structure and firm value.

5.6 Discussion on private equity investment and firm value

Hypothesis 6 posits that private equity investment is positively correlated with the value of

the invested companies. However, private equity investment, as a form and entity of investment, does not directly influence the firm's value. The initial rationale for this hypothesis was that private equity investment would primarily aid companies by injecting funds to overcome financial difficulties, expand production capacity, and streamline market channels. Additionally, it was assumed that private equity investment would offer positive resources such as managerial and market experience, which many companies need beyond just ample funding.

In the process of private equity investment, the focus is often on various aspects, including company operations, governance, capital market operations, market value maintenance, and market channel promotion. Private equity investors contribute significantly by participating in company operations, facilitating rapid development (H. Hu, 2017). To further elucidate the relationship between private equity investment and the value of invested companies, two sub-hypotheses were introduced: the proportion of private equity investment is positively correlated with the value of the invested company, and the holding period of private equity investment is positively correlated with the value of the invested company.

More specifically, a higher proportion of private equity investment is associated with a higher IPO and a larger market value after the lock-up period expiration. In regression analyses considering different time frames after the lock-up period (one month, six months, and one year), the estimated coefficient of the proportion of private equity ownership remains significantly positive at the 1% significance level. Moreover, the coefficient shows an increasing trend. Robustness tests were conducted by replacing the dependent variable, and the results indicate that private equity ownership significantly enhances the market value of start-up companies. Even after changing the dependent variable, the results remain robust.

The outcomes largely validate the research hypothesis. Whether considering the initial market value or market valuation at different periods after the lock-up, the findings consistently demonstrate that private equity ownership significantly increases the market value of start-up companies. The robustness of the results, even after changing the dependent variable, further strengthens the credibility of this conclusion. In terms of results, high-quality start-up companies often attract substantial private equity investments, and these investors retain ownership until the IPO, subsequently reducing their holdings through the secondary market, thereby realizing profits. Through multiple rounds of financing, start-up companies, subject to various private equity requirements, tend to have improved corporate governance and stronger market competitiveness, contributing to their higher market value.

Beyond the initial explanations, upon obtaining data results, we identify four additional

reasons contributing to the enhancement of firm value by private equity funds:

1. High-Level Sell-Off during Market Value Management: During the process of private equity exit through stock unlocking, there may be cooperation with positive developments in the company, coupled with certain market value management strategies to keep the stock price at a high level, realizing more investment gains. Private equity funds often engage in long-term investments in high-quality start-ups, seeking companies with both high risk and high growth potential.

2. Profit-Driven Nature of Private Equity: The fundamental purpose of private equity investment is to gain investment returns alongside the company's growth. Holding equity in high-quality companies is the core profit-making method for private equity investment and a criterion for evaluating the professional competence of investment professionals.

3. Funding Momentum: Recognized private equity funds play a role in certifying a company's development. Notable private equity investment institutions are more aligned with the market frontier, providing endorsement and certification for companies. Top-tier private equity firms, after early involvement, create a brand effect in terms of financing. Well-known institutions, such as Sequoia Capital and Hillhouse Capital, can significantly reduce the difficulty of subsequent financing after continuous investment in 1-3 rounds.

4. Survivorship Bias: The data for this study is sourced from companies listed on China's Science and Technology Innovation Board. From a data selection perspective, there exists a survivorship bias logical fallacy. The companies that successfully list on the Science and Technology Innovation Board represent strong attributes of innovation. They serve as benchmarks for all domestic science and technology enterprises and start-ups. Therefore, in data selection, the study focuses on the most successful companies. In this group, numerous high-quality private equity investment institutions and substantial ownership percentages can be observed. As these are IPO companies, investment institutions often choose to hold equity until after listing for divestment. Hence, a longer holding period is demonstrated in the ownership cycle.

Considering the points mentioned, a legitimate concern arises about whether the data results have practical significance. We argue that the success of companies listed on the Science and Technology Innovation Board can be attributed not only to their excellence in corporate governance and market positioning but also to their ability to sustain operations and effectively handle anti-dilution clauses. While survivorship bias is acknowledged, investing is inherently a high-probability event. It requires a sufficient number of investment targets to ensure capital deployment, and a certain success rate to cover costs and generate returns.

Therefore, investment is a high-probability event, where a few successful cases can cover all investment costs and generate returns. This study precisely focuses on studying the characteristics of already successful companies and comparing them in subsequent project selections. Additionally, we believe that, using the same development stage as a benchmark, there are significant differences between companies listed on the STAR Market and those that have not achieved listing.

Firstly, there are differences in profit generation and sustained operation between companies that fail to achieve IPO during the mature stage and those that do. Companies that do not mature into IPO either lack profitability or face compliance issues, leading to significant cash flow problems or even challenges in sustained operation in the future. However, already high company valuations introduce considerable uncertainty in subsequent equity financing, as investors take into account the uncertainty of project exits, thereby hindering further fundraising. On the other hand, publicly listed companies inherently possess a certain financing capacity. Even in the case of short-term losses, they can still engage in direct and indirect financing in the secondary market, ensuring the continuity of their operations.

Secondly, there are differences in corporate governance legality and compliance. Publicly listed companies exhibit compliance and legality in their operations, subject to joint supervision from regulatory authorities and the public, and are less likely to engage in frequent illegal activities. Conversely, companies that have not gone public, to a certain extent, lack the scrutiny of regulatory authorities and the public. They are constrained by the overall level of corporate governance and are more prone to compliance shortcomings. Lastly, there are differences in shareholder power. Private equity investments often involve the signing of lock-up agreements and the stipulation of lock-up periods during the investment stage. Companies that have not gone public may face challenges in adhering to lock-up agreements at specific stages, leading to abnormal changes in shareholder structure. Shareholders who advocate for their rights, especially if they fail to adhere to agreements or lack the capacity to do so, often resort to legal litigation to safeguard their interests. In such cases, legal actions can severely disrupt normal business operations, suspend subsequent financing, and even lead to the closure of the company. In contrast, shareholders of publicly listed companies, before going public, strive for consistency in shareholder power. They demand the removal of various lock-up agreements and priority powers to ensure equality between original and new shareholders in terms of shareholder rights. The absence of constraints like lock-up agreements on shareholder priority powers means that companies and major shareholders are

not exposed to risks and are not hindered by shareholder priority powers affecting normal business operations.

In conclusion, we believe that screening non-public companies based on the criteria of publicly listed companies does not guarantee a certain achievement of IPO at the expected time. However, it can increase the IPO ratio of invested companies, thereby reducing investment risks. Therefore, this study holds practical guiding significance.

During the interview process, interviewees expressed the view that private equity fund investments tend to lean towards financial investment, primarily driven by the growth dividends brought about by the company's growth. However, the focus of this study is on companies listed on the STAR Market, which reasonably avoids shareholder protection measures such as fulfilling lock-up agreements due to unexpected company development. The interviews, whether based on interviewees' experiences or other aspects, indicate the dual nature of private equity investments as a double-edged sword. However, this study on STAR Market companies only captures the positive side of capital benefits, overlooking situations where capital may harm the company. Additionally, compared to diversified private equity investments, companies tend to favor private equity investments focused on their own industry or field. This preference is driven by the need for resources beyond funding, as mentioned earlier.

Chapter 6: Research Conclusions

6.1 Research summary

6.1.1 Research conclusions

Outstanding enterprises have the ability to create both economic and social value (Sparviero, 2019; L. Wang & Wang, 2020). Since its establishment in 2019, the China STAR Market has provided a dedicated capital market platform for outstanding technology and innovation-driven companies in China. Companies listed on the STAR Market are often industry leaders or high-quality enterprises. Due to the stringent supervision of the capital market, these listed companies generally possess higher social credibility in terms of operational internal controls and performance expectations compared to non-listed companies. Equity structure is not only one of the results of a company's direct financing but also a crucial concern for the company's shareholders' meeting and the actual controllers during the operation of the enterprise (Sparviero, 2019; L. Wang & Wang, 2020). As a core element of the development of excellent enterprises (Zaid et al., 2020), the relationship between equity structure and corporate value is often complex. Only by reasonably incorporating the rationality of equity structure into the core issues of company development from the early stages of establishment can the internal role of equity incentives be exerted, stimulating the enthusiasm of management and key personnel during the company's growth process.

The quantitative research results of this study indicate a significant positive correlation between equity concentration, equity checks and balances, the proportion of private equity investment, the holding period of private equity investment, and company value. In other words, the larger these four variables are, the greater the company value, initial market capitalization, and post-lockup market capitalization. At the same time, variables such as state-owned equity, corporate governance, and debt-equity ratio have a significant impact on company value and initial market capitalization but do not have a significant impact on post-lockup value. As this study conducted a phased verification of company value, the hypothesis tests for the impact of equity checks and balances, private equity investment, state-owned equity, corporate governance, and debt-equity ratio on company value were not rejected. However, concerning post-lockup market capitalization, except for private equity

investment, all hypothesis tests were rejected.

To further explore the underlying reasons and reconstruct the development process of the issues, this study has supplemented the quantitative analysis with semi-structured interviews of five participants. Through these interviews, consensus was reached among the founding shareholders, state-owned investors, and executives on aspects such as the concentration, balance, diversification, and private equity investment within the equity structure. However, when viewed from the perspective of their respective roles, differences in opinions emerged regarding technical proficiency, tolerance for corporate development risks, equity checks and balances, and decision-making in company operations.

6.1.2 Theoretical contributions

(1) Extension of research scope

This study extends the theoretical research on the value of companies listed on the STAR Market from the perspective of equity structure. It innovatively expands beyond the traditional focus on the role relationship of the boards (shareholders' meeting, board of directors, and board of supervisors) and executives and the governance mechanism. Most previous studies have concentrated on research subjects centered around individuals, investigating their influence on corporate governance and performance based on intention variables. However, this study focuses on specific sectors of listed companies and analyzes various time points of company value, such as market value before and after the lifting of restrictions, shedding light on the impact direction of certain variables and elucidating the effects of some variables that do not have a clear impact.

(2) Model framework

This study integrates literature on equity structure and corporate value to establish a model framework based on the relationship between equity structure and corporate value, thus broadening the scope of research and exploring the influence of equity structure on corporate value at different levels. The study decomposes the equity structure into six aspects: equity concentration, equity checks and balances, equity nature, management shareholding, capital structure, and private equity investment. It examines the impact direction and degree of each aspect of equity structure on corporate value. Most existing literature on equity structure typically focuses on the structure itself, emphasizing its direct impact on listed companies without further extension. This study attempts to extend the research scope to the value goals of listed companies, investigating the objective influence of the company's equity structure on

corporate value. Additionally, it assesses the dual impact of variables in terms of degree and time span across periods of value.

(3) Enrichment of research

This study enriches research on companies listed on the STAR Market in China and the influence of equity structure on corporate value. As a relatively late-starting IPO sector, research on the STAR Market still predominantly relies on in-depth case studies, lacking comprehensive studies on all listed companies in the sector. This study examines the influence of each variable on corporate value under the influence of equity structure, rather than simply assessing the direct impact of equity structure on corporate value. Some findings from the interviews suggest that the impact of certain equity structures on corporate value often contradicts existing literature and even overturns common sense.

(4) Methodological combination

By combining quantitative and qualitative methods, this study not only clarifies the relationships between the six variables and corporate value but also attempts to establish multidimensional measurement indicators for the relationship between equity structure and corporate value. This approach meets the diversification goals of companies and to some extent clarifies the interactions and influences between different subjects in corporate contracts, providing valuable reference for research on the equity structure of innovative enterprises or modern enterprises.

6.2 Practical implications and management recommendations

The starting point of this study is to guide company management and provide decision-making basis for regulatory authorities through research results. Therefore, recommendations based on the results of this study are proposed from four dimensions: major shareholders, management, regulatory authorities, and investors.

For major shareholders, especially those of technology innovation companies, the results of this study indicate that equity concentration does not necessarily affect the company's value or overall operational development, even if it is highly concentrated. Many cases in the study sample show that companies with highly concentrated ownership still lead the industry. For major shareholders of technology innovation companies, it is more important to focus on research and development of technology rather than capital operation. Particularly for major shareholders with technical expertise, focusing on the company's core business and products ensures competitiveness and continuous enhancement of corporate value. Interview results

also indicate that having a certain level of controlling stake can prevent excessive dilution of ownership during subsequent financing rounds, thus reducing the risk of losing management and technological influence. However, major shareholders should not be autocratic. Technical advantages cannot replace financial management, and maintaining openness and inclusiveness in research can attract more professionals and improve the overall professionalism of the company. At the management level, major shareholders should avoid undue dilution of their voice and prevent excessive dominance. A reasonable balance of equity ownership is also a characteristic of a company's healthy development.

For the executives, adopting a dual role as both "principal" and "agent" helps reduce agency costs in the company's operations. By reasonably pursuing their own interests while fully leveraging their professional expertise, management can complement technical research and product development with expertise in areas such as finance, legal compliance, and business management. This complementary effect enhances the overall professionalism of the company and contributes to its technological development. Furthermore, compared to shareholders, management has greater access to potential investors and can better address shareholder needs. Choosing funding sources that are more beneficial to the company and capable of generating industry synergies is conducive to the growth of corporate value. Whether appointed by shareholders or hired from the market, management should maintain basic professional ethics of professional managers. Overemphasis on the professionalism and compliance of their own scope may lead to unnecessary internal conflicts, increase management costs, and ultimately undermine corporate value.

For investors, when evaluating the equity structure of potential investments, it is essential to look beyond the surface and analyze the underlying factors comprehensively. During due diligence, simply dismissing a company's current value or future potential based solely on the perception of high ownership by major shareholders or low ownership by management can lead to missed investment opportunities. While some investors value team ownership, believing it can command a higher premium for the company's value, this contradicts the hypothesis test results regarding management ownership. In practice, management's ownership or equity incentives often align with their actual performance. That is, based on existing performance, management often receives a certain amount of equity incentives or exercise opportunities. Therefore, in the later judgment process, it is essential to clarify causality and avoid mistaking the means for the end. Additionally, when analyzing the equity structure, attention should also be paid to the proportion of private equity investment and the establishment of corresponding clauses. As private equity funds, driven by profit, while

weaker in terms of industrial synergy compared to state-owned shareholders or other industrial investment shareholders, they can still bring capital benefits and brand effects to the company. The profit-driven nature of private equity investments indicates that the higher the proportion of private equity holdings, the more investment institutions are bullish on the company. Similar to the segmentation variables in this study, investors need to delve into the underlying factors behind the equity structure and shareholder nature before making investment decisions.

For regulatory authorities, this study can provide valuable insights into flexible audit standards across multiple dimensions such as shareholder structure, corporate governance, and debt situation, for future supervision and issuance audits. The focus of China Securities Regulatory Commission (CSRC) when reviewing companies for listing often includes identifying shareholder nature and quantity, and strictly limiting the involvement of certain types of shareholders. Compared to concentrated ownership, an overly dispersed ownership structure without an actual controller should be one of the key points of scrutiny for regulatory authorities. Companies lacking an actual controller are often controlled by the management team, which may lead to actions by the management that harm the interests of other shareholders for their own benefit. For technology innovation companies, the stability of the actual control by major shareholders can also affect the legitimacy of core technology usage and the sustainability of research and development. Therefore, for regulatory authorities, future inspection and supervision should shift the focus from singular points to a chain of clues, by examining the interconnectedness between shareholder structure and various dimensions such as products, technology, management team, and operations, to clarify internal relationships and achieve effective, systematic, and comprehensive inspections.

6.3 Research limitations

Both quantitative and qualitative research methods have their own strengths and limitations. Solely relying on one method, such as quantitative research, may only provide a partial understanding and analysis of phenomena. Similarly, using only qualitative research methods might struggle to provide scientific insights and discoveries. Therefore, this study attempts to complement quantitative research with qualitative findings. By combining the results from both approaches, this research aims to enhance mutual support and assistance, thereby offering a more comprehensive understanding of the phenomena under investigation.

Both quantitative and qualitative research methods were employed in this study to gain a

comprehensive understanding of the research subject. However, limitations and shortcomings still exist.

In the quantitative research method, there is a tendency to fragment the research object. The artificial isolation of variables from a dynamic and evolving system transforms the variables from dynamic to static, and the mathematical treatment of this part may not necessarily reflect the attributes of the overall development of the enterprise. The sum of fragmented individual variables may not equal the entirety of the enterprise's development. The quantification process oversimplifies and solidifies complex phenomena in enterprise management, overlooking the underlying significance and value. In reality, the development and management of enterprises cannot be solely expressed through specific quantitative relationships. Additionally, some underlying assumptions may not entirely align with reality. The process of analysis was overly procedural in the quest to identify scientifically valid factors influencing the relationship between equity structure and company value. Some of the objective assumptions introduced exhibit potential subjectivity.

In the qualitative research process, a primary limitation is the small number of interviewees, highlighting individual heterogeneity but lacking group homogeneity. Consequently, the direction, conclusions, and judgments lack statistical significance. Furthermore, due to factors such as the state of interviewees and interviewees, confidentiality of information, some interview content may not be an entirely genuine expression. Lastly, qualitative research, lacking robust data support, tends to emphasize descriptive aspects in the research process and results. It serves as directional exploration and cannot represent the whole.

As more outstanding companies go public on the STAR Market, this study represents a phased result focused on companies listed on the board. In the future, efforts will be made to enhance data and models, enrich interview guidelines, increase the number of interviewees, and further deepen the research on the relationship between equity structure and company value for companies listed on the STAR Market or outstanding innovative companies based on the foundation of this study.

Bibliography

- Acharya, V. V., Gottschalg, O. F., Hahn, M., & Kehoe, C. (2013). Corporate governance and value creation: Evidence from private equity. *The Review of Financial Studies*, 26(2), 368-402.
- Aggarwal, D., & Padhan, P. C. (2017). Impact of capital structure on firm value: Evidence from Indian hospitality industry. *Theoretical Economics Letters*, 7(4), 982-1000.
- Agrawal, A., & Mandelker, G. N. (1990). Large shareholders and the monitoring of managers: The case of antitakeover charter amendments. *Journal of Financial and Quantitative Analysis*, 25(2), 143-161.
- Ahlers, O. (2014). *Family firms and private equity: A collection of essays on value creation, negotiation, and soft factors*. Springer Gabler.
- Ahmad-Zaluki, N. A., & Badru, B. O. (2021). Intended use of IPO proceeds and initial returns. *Journal of Financial Reporting and Accounting*, 19(2), 184-210.
- Ahmed, A. S., & Iwasaki, T. (2021). Foreign ownership, appointment of independent directors, and firm value: Evidence from Japanese firms. *Journal of International Accounting, Auditing and Taxation*, 43, 100401.
- Akram, F. (2018). Assessing the effect of managerial power on firm performance through the perceptual lens of executive remuneration. *Pertanika Journal of Social Sciences & Humanities*, 27(1), 293-309.
- Al Farooque, O., Buachoom, W., & Sun, L. (2020). Board, audit committee, ownership and financial performance – emerging trends from Thailand. *Pacific Accounting Review*, 32(1), 54-81.
- Ali, B. J., & Anwar, G. (2021). Intellectual capital: A modern model to measure the value creation in a business. *International Journal of Engineering, Business and Management*, 5(2), 31-43.
- Amoako-Adu, B., Baulkaran, V., & Smith, B. F. (2014). Analysis of dividend policy of dual and single class US corporations. *Journal of Economics and Business*, 72, 1-29.
- Ang, J. S., Cole, R. A., & Lin, J. W. (2000). Agency costs and ownership structure. *Journal of Finance*, 55(1), 81-106.
- Arksey, H., & Knight, P. T. (1999). *Interviewing for social scientists: An introductory resource with examples*. Sage.
- Aslan, H. (2020). Shareholders versus stakeholders in investor activism: Value for whom? *Journal of Corporate Finance*, 60, 101548.
- Banerji, A. (2017). Corporate governance, ownership and firm performance: A review of impact of financial globalization. *Academy of Accounting and Financial Studies Journal*, 21(3), 1-11.
- Barroso Casado, R., Burkert, M., Dávila, A., & Oyon, D. (2016). Shareholder protection: The role of multiple large shareholders. *Corporate Governance: An International Review*, 24(2), 105-129.
- Bassiouny, S. W. (2016). The impact of firm characteristics on earnings management: an empirical study on the listed firms in Egypt. *Journal of Business and Retail Management Research*, 10(3), 34-45.
- Bauer, H. H., & Hammerschmidt, M. (2005). Customer - based corporate valuation: Integrating the concepts of customer equity and shareholder value. *Management Decision*, 43(3), 331-348.

- Bebchuk, L., Cohen, A., & Ferrell, A. (2009). What matters in corporate governance? *The Review of financial studies*, 22(2), 783-827.
- Bestariningrum, N. (2015). Analyzing the effect of capital structure and firm size on firm value (case study: Company that listed in LQ-45 index period 2010-2014). *Jurnal Berkala Ilmiah Efisiensi*, 15(4), 245-365.
- Biesinger, M., Bircan, C., & Ljungqvist, A. (2020). Value creation in private equity. *Swedish House of Finance*, 242, 17-20.
- Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy*, 81(3), 637-654.
- Boness, A. J. (1964). Elements of a theory of stock-option value. *Journal of Political Economy*, 72(2), 163-175.
- Bosio, A. O. (2020). *Private equity and venture capital strategies for value creation: an empirical analysis of the italian market* [Doctoral dissertation]. LIUC-Universita Carlo Cattaneo.
- Bovet, D., & Martha, J. (2000). *Value nets: breaking the supply chain to unlock hidden profits*. John Wiley & Sons.
- Bushe, B. (2019). The causes and impact of business failure among small to micro and medium enterprises in South Africa. *Africa's Public Service Delivery and Performance Review*, 7(1), 1-26.
- Cai, G. L., Zheng, G. J., Ma, X. X., & Lu, R. (2018). 国有企业的政府放权意愿与混合所有制改革 [The government's willingness to decentralize state-owned enterprises and mixed ownership reform]. *Economic Research*, 53(9), 99-115.
- Cao, S. W., Cai, S. B., Yang, Y., & Ye, J. Y. (2019). 国有企业和非国有企业的创新产出与创新特征分析——基于 2016 年广州市创新调查和 Wind 数据库的实证研究 [Analysis of innovation output and innovation characteristics of state-owned enterprises and non-state-owned enterprises - an empirical study based on the 2016 Guangzhou Innovation Survey and Wind database]. *China Science and Technology Forum*, (6), 102-108.
- Carbone, E., Cirillo, A., Saggese, S., & Sarto, F. (2022). IPO in family business: A systematic review and directions for future research. *Journal of Family Business Strategy*, 13(1), 100433.
- Chatterjee, M., & Bhattacharjee, T. (2021). Ownership concentration, innovation and firm performance: empirical study in Indian technology SME context. *South Asian Journal of Business Studies*, 10(2), 149-170.
- Chen, J. B., Gao, S. Y., & Cui, Z. (2018). 中国 A 股市场与世界主要股市的非对称相依性 [The asymmetric dependence between China's A-share market and the world's major stock markets]. *Journal of Xiamen University (Philosophy and Social Sciences Edition)*, (6), 62-73.
- Chen, Q. K., & Bian, Y. T. (2015). 股权制衡, 代理成本与企业绩效——基于我国 A 股民营上市公司的实证分析 [Equity checks and balances, agency costs and corporate performance—an empirical analysis based on my country's A-share private listed companies]. *Scientific Decision*, (5), 74-92.
- Chen, X. H. (2019). “保险+ 期货” 的基差风险及其影响因素研究——基于大豆基差数据的分析 [Research on basis risk and influencing factors of "insurance + futures" - analysis based on soybean basis data]. *Price Theory and Practice*, 10, 4.
- Chen, X., & Jiang, D. (2000). 股权多元化, 公司业绩与行业竞争性 [Equity diversification, company performance and industry competitiveness]. *Economic Research*, 8, 28-35.
- Claessens, S., Djankov, S., Fan, J. P., & Lang, L. H. (2002). Disentangling the incentive and entrenchment effects of large shareholdings. *The Journal of Finance*, 57(6), 2741-2771.

- Claessens, S., Djankov, S., & Pohl, G. (1997). *Ownership and corporate governance: Evidence from the Czech Republic*. World Bank Publications.
- Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1), 2-19.
- Cox, J. C., Ross, S. A., & Rubinstein, M. (1979). Option pricing: A simplified approach. *Journal of Financial Economics*, 7(3), 229-263.
- Cox, J. C., & Ross, S. A. (1976). The valuation of options for alternative stochastic processes. *Journal of Financial Economics*, 3(1-2), 145-166.
- Cremers, M., & Ferrell, A. (2014). Thirty years of shareholder rights and firm value. *The Journal of Finance*, 69(3), 1167-1196.
- Cumming, D., Knill, A., & Syvrud, K. (2016). Do international investors enhance private firm value? Evidence from venture capital. *Journal of International Business Studies*, 47, 347-373.
- Da Costa, R. L., Miguel, J., Dias, Á., Pereira, L., & Santos, J. (2021). Exploring the cultural, managerial and organizational implications on mergers and acquisitions outcomes. *Organizacija*, 54(1), 18-35.
- Darko, J., Aribi, Z. A., & Uzonwanne, G. C. (2016). Corporate governance: the impact of director and board structure, ownership structure and corporate control on the performance of listed companies on the Ghana stock exchange. *Corporate Governance*, 16(2), 259-277.
- Davenport, T. H., & Short, J. E. (2003). The new industrial engineering: Information technology and business process redesign. In M. Lewis & N. Slack (Eds.), *Operations Management* (pp. 97-123). Routledge.
- DeAngelo, H., & DeAngelo, L. (1985). Managerial ownership of voting rights: A study of public corporations with dual classes of common stock. *Journal of Financial Economics*, 14(1), 33-69.
- Demsetz, H. (1983). The structure of ownership and the theory of the firm. *The Journal of Law and Economics*, 26(2), 375-390.
- Demsetz, H., & Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance*, 7(3), 209-233.
- Deng, X., & Cheng, X. (2019). Can ESG indices improve the enterprises' stock market performance?—An empirical study from China. *Sustainability*, 11(17), 4765.
- Di Domenico, M., Haugh, H., & Tracey, P. (2010). Social bricolage: Theorizing social value creation in social enterprises. *Entrepreneurship Theory and Practice*, 34(4), 681-703.
- Dutta, K., & Ring, K. (2021). Do do-gooders do well? Corporate social responsibility, business models and IPO performance. *Journal of Applied Business and Economics*, 23(2), 2169-2189.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.
- Estrada, J., & Blakely, B. (1999). *The pricing of internet stocks*. IESE.
- Ezirim, C. B., Ezirim, U. I., & Momodu, A. A. (2017). Capital structure and firm value: theory and further empirical evidence from Nigeria. *International Journal of Business, Accounting & Finance*, 11(1), 56-61.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26(2), 301-325.
- Fan, R., Pan, J., Yu, M., & Gao, H. (2022). Corporate governance of controlling shareholders and labor employment decisions: Evidence from a parent board reform in China. *Economic Modelling*, 108(5), 105753.
- Fan, S. H. (2016). 基于齐普夫法则的互联网企业估值研究——以“东方财富”为例的分析 [Research on the valuation of Internet companies based on Zipf's law—an analysis

- taking "Oriental Fortune" as an example]. *Journal of Hubei University of Economics: Humanities and Social Sciences Edition*, 13(8), 55-56.
- Feng, Y., Chen, H. H., & Tang, J. (2018). The impacts of social responsibility and ownership structure on sustainable financial development of China's energy industry. *Sustainability*, 10(2), 301.
- Fernandez, P. (2019). *EVA and cash value added do not measure shareholder value creation*. IESE.
- Fisher, I. (1906). *The nature of capital and income*. Macmillan.
- Fisher, I. (1907). *The rate of interest: Its nature, determination and relation to economic phenomena*. Macmillan.
- Foss, N. J., Klein, P. G., Lien, L. B., Zellweger, T., & Zenger, T. (2021). Ownership competence. *Strategic Management Journal*, 42(2), 302-328.
- Galbreath, J. (2017). The impact of board structure on corporate social responsibility: A temporal view. *Business Strategy and the Environment*, 26(3), 358-370.
- Gan, Q., Yang, L., Liu, J., Cheng, X., Qin, H., Su, J., & Xia, W. (2021). The level of regional economic development, green image, and enterprise environmental protection investment: Empirical evidence from China. *Mathematical Problems in Engineering*, 2021, 1-12.
- Gao, K., Shen, H., Gao, X., & Chan, K. C. (2019). The power of sharing: Evidence from institutional investor cross-ownership and corporate innovation. *International Review of Economics & Finance*, 63, 284-296.
- Gao, L., & Song, S. L. (2007). 治理环境, 治理结构与代理成本——来自国有上市公司面板数据的经验证据 [Governance environment, governance structure and agency costs - Empirical evidence from panel data of state-owned listed companies]. *Economic Review*, (3), 35-40.
- Geske, R. (1979). The valuation of compound options. *Journal of Financial Economics*, 7(1), 63-81.
- Gomes, A. R., & Novaes, W. (2005). *Sharing of control as a corporate governance mechanism (Working Paper No. 01-029)*. Penn Institute for Economic Research.
- Gomes, J. F. (2001). Financing investment. *American Economic Review*, 91(5), 1263-1285.
- Gompers, P., Kaplan, S. N., & Mukharlyamov, V. (2016). What do private equity firms say they do? *Journal of Financial Economics*, 121(3), 449-476.
- Gordon, M. J. (1959). Dividends, earnings, and stock prices. *The Review of Economics and Statistics*, 41(2), 99-105.
- Graham, E. J., Galbraith, C., & Stiles, C. (2014). Real estate ownership and closely-held firm value. *Journal of Property Investment & Finance*, 32(3), 229-243.
- Grennan, J., & Michaely, R. (2021). Fintechs and the market for financial analysis. *Journal of Financial and Quantitative Analysis*, 56(6), 1877-1907.
- Gugong, B. K., Arugu, L. O., & Dandago, K. I. (2014). The impact of ownership structure on the financial performance of listed insurance firms in Nigeria. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(1), 409-416.
- Gupta, S., Lehmann, D. R., & Stuart, J. A. (2004). Valuing customers. *Journal of Marketing Research*, 41(1), 7-18.
- Gurusamy, P. (2017). Board characteristics, audit committee and ownership structure influence on firm performance of manufacturing firms in India. *International Journal of Business and Economics Research*, 6(4), 73-87.
- Hakim, C. (1987). *Research design: Strategies and choices in the design of social research*. George Allen & Unwin Ltd.
- Hammer, M. (1990). Reengineering work: Don't automate, obliterate. *Harvard Business Review*, 68(4), 104-112.
- Hang, M., Geyer Klingeberg, J., Rathgeber, A. W., & Stöckl, S. (2021). Rather complements

- than substitutes: Firm value effects of capital structure and financial hedging decisions. *International Journal of Finance & Economics*, 26(4), 4895-4917.
- Harun, M. S., Hussainey, K., Mohd Kharuddin, K. A., & Farooque, O. A. (2020). CSR disclosure, corporate governance and firm value: a study on GCC Islamic banks. *International Journal of Accounting & Information Management*, 28(4), 607-638.
- He, F. R., & Zhou, H. (2021). 公司股权结构对企业经营绩效的影响——以零售业上市公司为例 [The impact of company equity structure on corporate operating performance - taking listed companies in the retail industry as an example]. *Business Economics Research*, (24), 67.
- He, W. D., & Zhang, J. Y. (2002). 所有权结构, 资本结构, 董事会治理与公司价值 [Ownership structure, capital structure, board governance and company value]. *Nankai Management Review*, 5(2), 17-20.
- Hermalin, B. E., & Weisbach, M. S. (1991). The effects of board composition and direct incentives on firm performance. *Financial Management*, 20(4), 101-112.
- Hidayat, A. A., & Utama, S. (2017). Board characteristics and firm performance: Evidence from Indonesia. *International Research Journal of Business Studies*, 8(3), 137-154.
- Hines, P. (1993). Integrated materials management: the value chain redefined. *The International Journal of Logistics Management*, 4(1), 13-22.
- Hirdinis, M. (2019). Capital structure and firm size on firm value moderated by profitability. *International Journal of Economics and Business Administration*, 7(1), 174-191.
- Ho, C. T., Liao, C. K., & Kim, H. T. (2011). Valuing internet companies: A DEA-based multiple valuation approach. *Journal of the Operational Research Society*, 62, 2097-2106.
- Holderness, C. G., Kroszner, R. S., & Sheehan, D. P. (1999). Were the good old days that good? Changes in managerial stock ownership since the great depression. *The Journal of Finance*, 54(2), 435-469.
- Howell, J. W. (2017). The survival of the US dual class share structure. *Journal of Corporate Finance*, 44, 440-450.
- Hsu, L., & Lawrence, B. (2016). The role of social media and brand equity during a product recall crisis: A shareholder value perspective. *International Journal of Research in Marketing*, 33(1), 59-77.
- Hu, C. Y., & Yu, Y. Z. (2019). 政府补助与企业全要素生产率——对 U 型效应的理论解释及实证分析 [Government subsidies and enterprise total factor productivity — theoretical explanation and empirical analysis of the U-shaped effect]. *Fiscal Research*, (6), 72-85.
- Hu, H. (2017). 私募股权基金在我国的实践与应用 [The practice and application of private equity funds in my country]. *Business Economics*, (9), 155-156.
- Huang, J. (2013). *Value assessment of Chinese Internet companies based on DCF valuation model* [Doctoral dissertation]. Beijing University of Posts and Telecommunications.
- Huang, Y. X., Sun, Y., Shao, Y. H., & Wang, S. J. (2003). 股权制衡与公司治理研究 [Research on Equity Checks and Balances and Corporate Governance]. *Journal of Tongji University: Natural Science Edition*, 31(9), 1102-1105.
- Ibrahim, H., & Samad, F. A. (2011). Corporate governance mechanisms and performance of public-listed family-ownership in Malaysia. *International Journal of Economics and Finance*, 3(1), 105-115.
- Inkpen, A. C., & Sundaram, A. K. (2022). The endurance of shareholder value maximization as the preferred corporate objective. *Journal of Management Studies*, 59(2), 555-568.
- Iwasaki, I., & Mizobata, S. (2020). Ownership concentration and firm performance in European emerging economies: A meta-analysis. *Emerging Markets Finance and Trade*,

- 56(1), 32-67.
- Jaiswall, M., & Firth, M. (2009). CEO pay, firm performance, and corporate governance in India's listed firms. *International Journal of Corporate Governance*, 1(3), 227-240.
- Jangu, T., Darus, F., Zain, M. M., & Sawani, Y. (2014). Does good corporate governance lead to better sustainability reporting? An analysis using structural equation modeling. *Procedia-Social and Behavioral Sciences*, 145, 138-145.
- Javeed, S. A., & Lefen, L. (2019). An analysis of corporate social responsibility and firm performance with moderating effects of CEO power and ownership structure: A case study of the manufacturing sector of Pakistan. *Sustainability*, 11(1), 248.
- Jensen, M. C., & Meckling, W. H. (2019). Theory of the firm: Managerial behavior, agency costs and ownership structure. In R. I. Tricker (Ed.), *Corporate governance* (pp. 77-132). Gower.
- Jentsch, C., & Lunsford, K. G. (2019). The dynamic effects of personal and corporate income tax changes in the United States: Comment. *American Economic Review*, 109(7), 2655-2678.
- Jiang, L. M. (2017). *Research on the value evaluation of high-tech enterprises based on real options* [Doctoral dissertation]. Jiangsu University.
- Jiujin, L., Gupta, R., Haihong, L., & Qiang, S. (2020). Private equity characteristics, corporate governance and firm value: empirical evidence from small and medium-sized enterprises. *Asian Economic Journal*, 34(2), 163-183.
- Johnson, M. F., Kasznik, R., & Nelson, K. K. (2000). Shareholder wealth effects of the private securities litigation reform act of 1995. *Review of Accounting Studies*, 5, 217-233.
- Kanagaretnam, K., Lee, J., Lim, C. Y., & Lobo, G. J. (2022). Trusting the stock market: Further evidence from IPOs around the world. *Journal of Banking & Finance*, 142, 106557.
- Kaplan, S. (1989). The effects of management buyouts on operating performance and value. *Journal of Financial Economics*, 24(2), 217-254.
- Khanh, V., Hung, D., Van, V., & Huyen, H. (2020). A study on the effect of corporate governance and capital structure on firm value in Vietnam. *Accounting*, 6(3), 221-230.
- Kim, W. S., Park, K., & Lee, S. H. (2018). Corporate social responsibility, ownership structure, and firm value: Evidence from Korea. *Sustainability*, 10(7), 2497.
- Kodongo, O., Mokoaleli-Mokoteli, T., & Maina, L. N. (2015). Capital structure, profitability and firm value: panel evidence of listed firms in Kenya. *African Finance Journal*, 17(1), 1-20.
- Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: Measuring and managing the value of companies* (Vol. 499). John Wiley and Sons.
- Kong, Q. Y., Zhang, C., & Min, K. S. (2021). 信任与激励: 上市公司高管的地缘关系与高质量信息披露 [Trust and incentives: Geographical connections and high-quality information disclosure among listed company executives]. *Journal of Chongqing University (Social Science Edition)*, 27(2), 67-81.
- Kotler, P. (2012). *Kotler on marketing*. Simon and Schuster.
- Krafft, M., Rudolf, M., & Rudolf-Sipötz, E. (2005). Valuation of customers in growth companies—a scenario based model. *Schmalenbach Business Review*, 57, 103-125.
- Krause, T. A., & Tse, Y. (2016). Risk management and firm value: recent theory and evidence. *International Journal of Accounting and Information Management*, 24(1), 56-81.
- Kuzey, C., & Uyar, A. (2017). Determinants of sustainability reporting and its impact on firm value: Evidence from the emerging market of Turkey. *Journal of Cleaner Production*, 143, 27-39.
- Lehn, K., Netter, J., & Poulsen, A. (1990). Consolidating corporate control: Dual-class

- recapitalizations versus leveraged buyouts. *Journal of Financial Economics*, 27(2), 557-580.
- Li, T. D. (2014). 论马歇尔理论框架下的不动产税构建 [On the construction of real estate tax under the framework of Marshall theory]. *Fiscal Research*, 30(9), 15-17.
- Li, T. T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). ESG: Research progress and future prospects. *Sustainability*, 13(21), 11663.
- Li, Y. C., & Jiang, Z. S. (2001). 上市公司资本结构与企业绩效的实证分析 [Empirical analysis of capital structure and corporate performance of listed companies]. *Quantitative Economics and Technical Economics Research*, 18(2), 118-120.
- Li, Y. J., Zhu, H. Q., Huang, D. S., & Zhou, Y. F. (2006). 股权结构与公司价值创造 [Equity structure and company value creation]. *Journal of Management Science*, 9(5), 65-74.
- Li, Y., Gong, M., Zhang, X., & Koh, L. (2018). The impact of environmental, social, and governance disclosure on firm value: The role of CEO power. *The British Accounting Review*, 50(1), 60-75.
- Liachovičius, E., Skrickij, V., & Podvieszko, A. (2020). MCDM evaluation of asset-based road freight transport companies using key drivers that influence the enterprise value. *Sustainability*, 12(18), 7259.
- Lin, Y., Wei, L. B., & Li, W. (2018). 控股股东股权质押, 股权性质与公司绩效研究 [Research on equity pledge of controlling shareholders, nature of equity and company performance]. *Business Studies*, (2), 50-56.
- Lintner, J., & Sharpe, W. F. (1972). Session topic: Portfolio theory and security analysis: Discussion. *The Journal of Finance*, 27(2), 453-458.
- Liu, D. K. (2018). 剩余索取权和控制权的偏离与企业效率 [Deviation of residual claims and control rights and corporate efficiency]. *Social Science Journal*, (3), 63-68.
- Liu, Y. G., Gao, Y., & Bai, W. Z. (2010). 股权结构与公司绩效相关性研究 [Research on the correlation between ownership structure and company performance]. *Manage World*, (9), 177-179.
- Liu, Y. (2005). 实物期权在网络企业估值中的应用——B2B 电子商务企业估值的实证分析 [The application of real options in the valuation of online enterprises - an empirical analysis of B2B e-commerce enterprise valuation]. *Business Studies*, (18), 69-72.
- Liu, Y., & Han, Q. Q. (2022). 研发投入对企业价值的影响——基于股权集中度的调节效应 [The impact of R&D investment on corporate value—the moderating effect based on ownership concentration]. *Business Accounting*, (6), 4.
- Loncan, T. R., & Caldeira, J. F. (2014). Capital structure, cash holdings and firm value: a study of Brazilian listed firms. *Revista Contabilidade & Finanças*, 25, 46-59.
- Lu, Y., Li, J., & Liang, S. A. (2020). 股权结构对公司绩效影响的研究——基于佛山 A 股上市公司的实证分析 [Research on the impact of ownership structure on company performance—an empirical analysis based on Foshan A-share listed companies]. *Modern Commerce*, (24), 74-75.
- Maneerattanarungrot, C., & Donkwa, K. (2018). Capital structure affecting firm value in Thailand. *ABAC Journal*, 38(2), 133-146.
- Manurung, S. D., Suhadak, S., & Nuzula, N. F. (2014). The influence of capital structure on profitability and firm value. *Jurnal Administrasi Bisnis*, 7(2), 1-8.
- Markowitz, H. (1952). The utility of wealth. *Journal of Political Economy*, 60(2), 151-158.
- McConnell, J. J., & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, 27(2), 595-612.
- Mehran, H. (1995). Executive compensation structure, ownership, and firm performance. *Journal of Financial Economics*, 38(2), 163-184.

- Merendino, A., & Melville, R. (2019). The board of directors and firm performance: empirical evidence from listed companies. *Corporate Governance*, 19(3), 508-551.
- Milano, G. V., Treadwell, S. C., & Hopson, F. (2011). How corporate diversity and size influence spinoffs and other breakups. *Journal of Applied Corporate Finance*, 23(2), 69-76.
- Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *Journal of Business*, 34(4), 411-433.
- Mirrless, J. (1976). The optimal structure of authority and incentives within an organization. *Bell Journal of Economics*, 7(2), 105-131.
- Mishra, R., & Kapil, S. (2017). Effect of ownership structure and board structure on firm value: evidence from India. *Corporate Governance: The international journal of business in society*, 17(4), 700-726.
- Mizruchi, M. S. (2004). Berle and Means revisited: The governance and power of large US corporations. *Theory and Society*, 33, 579-617.
- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261-297.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American Economic Review*, 53(3), 433-443.
- Morck, R., Shleifer, A., & Vishny, R. W. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics*, 20, 293-315.
- Mossin, J. (1966). Equilibrium in a capital asset market. *Econometrica*, 34(4), 768-783.
- Mubyarto, N. (2020). The influence of profitability on firm value using capital structure as the mediator. *Jurnal Ekonomika*, 16(2), 184-199.
- Musah, A. (2018). The impact of capital structure on profitability of commercial banks in Ghana. *Asian Journal of Economic Modelling*, 6(1), 21-36.
- Muslim, A. I., & Setiawan, D. (2021). Information asymmetry, ownership structure and cost of equity capital: The formation for open innovation. *Journal of Open Innovation*, 7(1), 48.
- Myers, S. C. (1974). Interactions of corporate financing and investment decisions-implications for capital budgeting. *The Journal of Finance*, 29(1), 1-25.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147-175.
- Nazir, M. S., & Afza, T. (2018). Does managerial behavior of managing earnings mitigate the relationship between corporate governance and firm value? Evidence from an emerging market. *Future Business Journal*, 4(1), 139-156.
- Nedjati, A., & Izbirak, G. (2013). Evaluating the intellectual capital by ANP method in a dairy company. *Procedia-Social and Behavioral Sciences*, 107, 136-144.
- Nguyen, T. T., Mia, L., Winata, L., & Chong, V. K. (2017). Effect of transformational-leadership style and management control system on managerial performance. *Journal of Business Research*, 70, 202-213.
- Ni, Y. (2019). Research on the ownership structure and market value of Chinese listed commercial banks. *American Journal of Industrial and Business Management*, 9(11), 1995-2007.
- Pagano, M., & Röell, A. (1998). The choice of stock ownership structure: Agency costs, monitoring, and the decision to go public. *The Quarterly Journal of Economics*, 113(1), 187-225.
- Pan, M. Y. (2019). 公司治理结构与企业价值的相关性分析——基于批发零售业上市公司经验数据 [Analysis of the correlation between corporate governance structure and corporate value - based on empirical data of listed companies in the wholesale and retail industry]. *Marketing World*, (24), 155-156.

- Park, D. H., & Ryu, D. J. (2020). Impact of private equity trading platforms on firm value and corporate governance. *Korean Journal of Financial Studies*, 49(4), 545-564.
- Pavel, Z. (2018). The impact of cash flows and weighted average cost of capital to enterprise value in the oil and gas sector. *Journal of Reviews on Global Economics*, 7(S), 138-145.
- Pedersen, T., & Thomsen, S. (1999). Economic and systemic explanations of ownership concentration among Europe's largest companies. *International Journal of the Economics of Business*, 6(3), 367-381.
- Porter, M. (1985). *Competitive advantage*. Free Press.
- Puni, A., & Anlesinya, A. (2020). Corporate governance mechanisms and firm performance in a developing country. *International Journal of Law and Management*, 62(2), 147-169.
- Putri, I. G. A. P., & Rahyuda, H. (2020). Effect of capital structure and sales growth on firm value with profitability as mediation. *International Research Journal of Management*, 7(1), 145-155.
- Qin, W. P. (2010). 国有股权与企业价值相关性研究 [Research on the correlation between state-owned equity and enterprise value]. *Market Forum*, (9), 39-40.
- Quan, L. (2015). 股权结构与资金占用的实证研究: 创业转型的视角 [An empirical study on ownership structure and capital occupation: The perspective of entrepreneurial transformation]. *Accounting Monthly (Part 2)*, (5Z), 39-42.
- Rashid, M. M. (2020). Ownership structure and firm performance: the mediating role of board characteristics. *Corporate Governance: The International Journal of Business in Society*, 20(4), 719-737.
- Rayport, J. F., & Sviokla, J. J. (1996). Exploiting the virtual value chain. *McKinsey Quarterly*, (1), 20-36.
- Rehman, O. U. (2016). Impact of capital structure and dividend policy on firm value. *Journal of Poverty, Investment and Development*, 21(1), 40-57.
- Reichheld, F. F., & Sasser, W. E. (1990). Zero defections: quality comes to services. 1990, 68(5), 105-111.
- Ross, S. A. (1973). The economic theory of agency: The principal's problem. *The American Economic Review*, 63(2), 134-139.
- Roy, A. (2016). Corporate governance and firm performance: A study of Indian listed firms. *Metamorphosis*, 15(1), 31-46.
- Rubin, P. H. (2014). The theory of the firm and the structure of the franchise contract. In F. Hoy & J. Stanworth (Eds.), *Franchising* (pp. 49-59). Routledge.
- Rydqvist, K. (1992). Dual-class shares: a review. *Oxford Review of Economic Policy*, 8(3), 45-57.
- Salvi, A., Vitolla, F., Rubino, M., Giakoumelou, A., & Raimo, N. (2021). Online information on digitalisation processes and its impact on firm value. *Journal of Business Research*, 124, 437-444.
- Samuelson, P. A. (1965). Using full duality to show that simultaneously additive direct and indirect utilities implies unitary price elasticity of demand. *Econometrica*, 33(4), 781-796.
- Sari, I. A. G. D., & Sedana, I. B. P. (2020). Profitability and liquidity on firm value and capital structure as intervening variable. *International Research Journal of Management, IT and Social Sciences*, 7(1), 116-127.
- Schmidt, C., & Fahlenbrach, R. (2017). Do exogenous changes in passive institutional ownership affect corporate governance and firm value? *Journal of Financial Economics*, 124(2), 285-306.
- Schoenmaker, D., & Schramade, W. (2019). Investing for long-term value creation. *Journal of Sustainable Finance & Investment*, 9(4), 356-377.
- Setiadharmas, S., & Machali, M. (2017). The effect of asset structure and firm size on firm value with capital structure as intervening variable. *Journal of Business & Financial*

- Affairs*, 6(4), 1-5.
- Shao, L., Kwok, C. C., & Guedhami, O. (2013). Dividend policy: Balancing shareholders' and creditors' interests. *Journal of Financial Research*, 36(1), 43-66.
- Shatnawi, S. A., Marei, A., Hanefah, M. M., Eldaia, M., & Alaaraj, S. (2021). Audit committee and financial performance in Jordan: The moderating effect of ownership concentration. *Montenegrin Journal of Economics*, 17(4), 45-53.
- Shen, H. Y., Wu, X. H., & Wu, S. N. (2017). 控股股东控制权与股价崩盘风险:“利益协同”还是“隧道”效应? [Controlling shareholder control rights and stock price crash risk: "interest synergy" or "tunnel" effect?]. *Economic Management*, (4), 65-83.
- Shen, Y. F. (2014). 深度访谈的混合模型: 个案金字塔阵 [A hybrid model of in-depth interviewing: case pyramid]. *Sociological Research*, (2), 98-105.
- Shi, D. H. (2000). 上市公司资本结构与融资行为实证研究 [Empirical research on capital structure and financing behavior of listed companies]. *Securities Market Herald*, (7), 31-35.
- Shi, X. Y. (2017). *Research on the application of user value method in Internet enterprise value evaluation* [Doctoral dissertation]. Liaoning University.
- Shleifer, A., & Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3, Part 1), 461-488.
- Short, H., & Keasey, K. (1999). Managerial ownership and the performance of firms: Evidence from the UK. *Journal of Corporate Finance*, 5(1), 79-101.
- Siciński, J. (2020). Negative externalities of shareholder value orientation and its impact on global financialization. *Acta Scientiarum Polonorum*, 19(2), 71-78.
- Sinaga, A. P. (2016). The effect of capital structure, firm growth and dividend policy on profitability and firm value of the oil palm plantation companies in Indonesia. *European Journal of Business and Management*, 8(33), 123-134.
- Singh, M., & Davidson III, W. N. (2003). Agency costs, ownership structure and corporate governance mechanisms. *Journal of Banking & Finance*, 27(5), 793-816.
- Sitorus, T., & Sitorus, T. V. T. (2017). Good corporate governance and firm value: The role of corporate social responsibility. *Corporate Ownership & Control*, 14(4-1), 328-336.
- Slywotzky, A. J., Morrison, D. J., & Andelman, B. (2007). *The profit zone: How strategic business design will lead you to tomorrow's profits*. Crown Currency.
- Smith, A. J. (1990). Corporate ownership structure and performance: The case of management buyouts. *Journal of Financial Economics*, 27(1), 143-164.
- Smith, A. (1937). *The wealth of nations*. Random House Publishing Group.
- Sparvierio, S. (2019). The case for a socially oriented business model canvas: The social enterprise model canvas. *Journal of Social Entrepreneurship*, 10(2), 232-251.
- Sprenkle, C. M. (1961). Warrant prices as indicators of expectations and preferences. *Yale Economic Essays*, 1(2), 178-231.
- Srinivasan, S., & Hanssens, D. M. (2009). Marketing and firm value: Metrics, methods, findings, and future directions. *Journal of Marketing Research*, 46(3), 293-312.
- Srivastav, A., & Hagendorff, J. (2016). Corporate governance and bank risk - taking. *Corporate Governance: An International Review*, 24(3), 334-345.
- Stern, J., Stewart, B., & Chew, D. (1995). The EVA financial management system. *Applied Corporate Finance*, 8(2), 32-46.
- Stracar, N. (2017). Applying a new regulatory framework to interested transactions by minority shareholders. *Journal of Business Law*, 20, 993.
- Stulz, R. (1988). Managerial control of voting rights: Financing policies and the market for corporate control. *Journal of Financial Economics*, 20, 25-54.
- Sun, Y. X., & Huang, Z. J. (1999). 上市公司的股权结构与绩效 [Equity structure and

- performance of listed companies]. *Economic Research*, 12(2007), 12.
- Sun, Y. X., & Zhang, R. (2000). 董事会规模, 公司治理与绩效 [Board size, corporate governance and performance]. *Business Economy*, (10), 13-15.
- Tan, D. J., & Dong, Y. J. (2010). 互联网企业的价值评估——基于客户价值理论的模型研究 [Value evaluation of Internet companies—model research based on customer value theory]. *Journal of Beijing University of Posts and Telecommunications: Social Sciences Edition*, (3), 34-39.
- Tang, G. P., & Li, L. H. (2013). 股权结构, 产权性质与企业环保投资——来自中国 A 股上市公司的经验证据 [Ownership structure, nature of property rights and corporate environmental investment—Empirical evidence from China's A-share listed companies]. *Research on Financial Issues*, (3), 93-100.
- Tang, J. R. (2018). *Research on the relationship between ownership structure and company performance based on regional differences* [Doctoral dissertation]. Shandong University.
- Tao, L. I., Sun, L. X., & Zou, L. (2009). State ownership and corporate performance: A quantile regression analysis of Chinese listed companies. *China Economic Review*, 20(4), 703-716.
- Taylor, S., & Whittred, G. (1998). Security design and the allocation of voting rights: Evidence from the Australian IPO market. *Journal of Corporate Finance*, 4(2), 107-131.
- Uzliawati, L., Yuliana, A., Januarsi, Y., & Santoso, M. I. (2018). Optimisation of capital structure and firm value. *European Research Studies Journal*, 21(2), 705-713.
- Vafeas, N., & Theodorou, E. (1998). The relationship between board structure and firm performance in the UK. *The British Accounting Review*, 30(4), 383-407.
- Varghese, G., & Sasidharan, A. (2020). *Impact of ownership structure and board characteristics on firm value: Evidence from China and India*. Emerald Publishing Limited.
- Vo, X. V., & Ellis, C. (2017). An empirical investigation of capital structure and firm value in Vietnam. *Finance Research Letters*, 22, 90-94.
- Vu, M., Phan, T. T., & Le, N. T. (2018). Relationship between board ownership structure and firm financial performance in transitional economy: The case of Vietnam. *Research in International Business and Finance*, 45, 512-528.
- Walter, J. E. (1956). Dividend policies and common stock prices. *Journal of Finance*, 11(1), 29-41.
- Wang, L. L. (2017). 上市公司股权性质, 股权集中度与公司绩效的关系分析 [Analysis of the relationship between the nature of listed companies' equity, equity concentration and company performance]. *Small and Medium Enterprise Management and Technology*, (34), 35-37.
- Wang, L., & Wang, X. W. (2020). 风险投资对上市公司全要素生产率的影响——基于独立创业投资与公司创业投资的比较分析 [The impact of venture capital on total factor productivity of listed companies: A comparative analysis based on independent venture capital and corporate venture capital]. *Financial Discussion Series*, 264(10), 55.
- Wang, Q., & Guan, H. S. (2017). 股权结构影响风险倾向, 企业价值关系的机制研究——基于金融类上市公司的分析 [Research on the mechanism of ownership structure affecting risk propensity and corporate value relationship - based on analysis of financial listed companies]. *Journal of Qingdao Administration College, Party School of Qingdao Municipal Committee of the Communist Party of China*, (3), 19-23.
- Wang, S. H., & Li, B. (2000). 网络公司价值分析及评估方法 [Internet company value analysis and evaluation methods]. *China Asset Valuation*, (6), 21-26.
- Wang, S. (2018, December 29-30). *Research on dual-class share structure and company performance*. 2nd International Conference on Economic Development and Education

- Management, Dalian, China.
- Wang, Z. S., Shi, D. L., & Sun, C. T. (2014). 股权结构与公司绩效关系的实证研究——基于动态内生性的视角 [An empirical study on the relationship between ownership structure and company performance—based on the perspective of dynamic endogeneity]. *Journal of Nanjing Audit Institute*, 11(4), 37-48.
- Waweru, N. M., & Riro, G. K. (2013). Corporate governance, firm characteristics and earnings management in an emerging economy. *Journal of Applied Management Accounting Research*, 11(1), 43.
- Wei, J. W., & Tian, X. J. (2015). 互联网 2.0 时代社交网站企业的估值研究 [Valuation research on social networking website companies in the Internet 2.0 era]. *Business Economy*, (8), 105-108.
- Wen, C. X., & Li, X. P. (2017). 股权结构对企业价值的影响 [The impact of ownership structure on corporate value]. *Cooperative Economy and Technology*, (5), 104-105.
- Wengraf, T. (2001). *Qualitative research interviewing: Biographic narrative and semi-structured methods*. Sage.
- Wies, S., Hoffmann, A. O. I., Aspara, J., & Pennings, J. M. (2019). Can advertising investments counter the negative impact of shareholder complaints on firm value? *Journal of Marketing*, 83(4), 58-80.
- Wijaya, E., & Asyik, N. F. (2021). Capital structure determinant and profitability and their impact on firm value: Study in Indonesian manufacturing sector. *International Journal of Economics and Finance*, 13(10), 1-99.
- Williams, J. B. (1938). *The theory of investment value*. BN Publishing.
- Wu, L. D., Fan, J. Y., & Wang, K. (2019). 民营股东派驻董事, 高管薪酬与企业绩效 [Directors assigned by private shareholders, executive compensation and corporate performance]. *Dongyue Forum*, (1), 143-154.
- Wu, S. K. (2002). 股权结构与公司绩效的 U 型关系研究——1997~2000 年上市公司的实证研究 [Research on the U-shaped relationship between ownership structure and corporate performance—an empirical study of listed companies from 1997 to 2000]. *China's Industrial Economy*, (1), 80-87.
- Xiao, X., & Si, F. (2009, July 10-11). *Influence of corporation governance structure on diversified operating*. 2009 WASE International Conference on Information Engineering, Taiyuan, China.
- Xiao, Z. P. (2003). 股权结构, 资本结构与公司价值的实证研究 [Empirical research on ownership structure, capital structure and company value]. *Securities Market Herald*, (1), 71-76.
- Xie, W. G. (2017). 创新投入, 股权结构与企业价值 [Innovation investment, ownership structure and corporate value]. *Accounting Newsletter: Part 2*, (4), 93-97.
- Xin, L., & Zhang, M. (2018). 企业吸收能力, 资本结构与企业价值——以长江经济带战略性新兴产业上市公司为例 [Corporate absorptive capacity, capital structure and corporate value - taking listed companies in strategic emerging industries in the Yangtze River Economic Belt as an example]. *Accounting Research*, (9), 47-55.
- Xu, C. L. (2005). 创造价值——财务管理的本质及特征 [Creating value: the essence and characteristics of financial management]. *Friends of Accounting*, (1), 11-12.
- Xu, D. (2021). 股权结构设计与公司治理创新研究 [Research on equity structure design and corporate governance innovation]. *Financial Circles*, (45), 17-23.
- Xu, L. P., Xin, Y., & Chen, G. M. (2006). 股权集中度和股权制衡及其对公司经营绩效的影响 [Equity concentration and equity checks and balances and their impact on company operating performance]. *Economy Research*, (1), 90-100.

- Xu, X. D., & Chen, X. Y. (2003). 第一大股东对公司治理, 企业业绩的影响分析 [Analysis of the impact of the largest shareholder on corporate governance and corporate performance]. *Economic Research*, (2), 2.
- Xu, X. L. (2018). 管理层权力与公司会计稳健性的相关性分析——兼论机构持股的约束作用 [Analysis of the correlation between management power and corporate accounting conservatism—also discussing the constraining role of institutional shareholdings]. *Accounting Monthly*, (3), 9.
- Xu, X. N. (1999). 方案与国情 [Plans and national conditions]. *Capital Market*, (3), 9-11.
- Xu, X. Y., & Zhang, L. D. (2008). 上市公司股权结构与公司价值关系研究——一个分组检验的结果 [Research on the relationship between listed company ownership structure and company value - the results of a group test]. *China's Industrial Economy*, (4), 102-109.
- Yang, X. Q., & Zhang, Z. N. (2008). 制度背景, 股权性质与公司持有现金价值 [Institutional background, nature of equity and value of cash held by the company]. *Economic Research*, (12), 111-123.
- Yao, L. S., & Zhao, J. H. (2019). 区域性股权交易市场融资效率及影响因素研究——基于不完全信息博弈的分析 [Research on financing efficiency and influencing factors of regional equity trading market - analysis based on incomplete information game]. *East China Economic Management*, 33(4), 84-89.
- Yin, X. S., Huang, S., & Yuan, X. P. (2018). 混合模式向选择模式的转变——我国上市公司治理的制度创新 [The transition from mixed mode to selective mode—Institutional innovation in the governance of listed companies in my country]. *Chinese Certified Public Accountant*, (4), 39-43.
- Yong, J. N. (2019). *Research on the inherent interest balance mechanism of the company's dual-class equity structure* [Doctoral dissertation]. Shandong University.
- You, S. B., & Yan, Y. (2017). 逐步回归分析法及其应用 [Stepwise regression analysis method and its application]. *Statistics and Decision*, 33(14), 31-35.
- Yu, D. H., & Yu, D. Z. (2003). 董事的持股权, 公司治理与绩效: 理论与经验 [Directors' shareholdings, corporate governance and performance: theory and experience]. *Journal of Yantai University: Philosophy and Social Sciences Edition*, 16(4), 425-431.
- Yu, D. Z. (2001). 股权结构, 治理效率与公司绩效 [Ownership structure, governance efficiency and company performance]. *China's Industrial Economy*, (5), 54-62.
- Yu, D. Z. (2003). 资本结构, 债权治理与公司绩效: 一项经验分析 [Capital structure, debt governance and corporate performance: an empirical analysis]. *China's Industrial Economy*, (1), 87-94.
- Yu, H. Q. (2017). *Research on value assessment methods of emerging Internet companies—taking online food ordering platforms as an example*. Capital University of Economics.
- Zaid, M. A., Abuhijleh, S. T., & Pucheta Martínez, M. C. (2020). Ownership structure, stakeholder engagement, and corporate social responsibility policies: The moderating effect of board independence. *Corporate Social Responsibility and Environmental Management*, 27(3), 1344-1360.
- Zhan, Y., & Zhao, C. K. (2016). 资本市场发展, 军民融合与产业结构优化升级 [Capital market development, military-civilian integration and industrial structure optimization and upgrading]. *Nankai Economic Research*, (5), 36-54.
- Zhang, B. C., & Feng, W. Q. (2005). 客户价值评估在网络企业并购中的应用研究 [Research on the application of customer value assessment in Internet enterprise mergers and acquisitions]. *Accounting Monthly (Part 2)*, (2), 72-73.
- Zhang, H. J. (2000). 中国上市公司股权结构与公司绩效的理论及实证分析 [Theoretical

- and empirical analysis of ownership structure and corporate performance of listed companies in China]. *Economic Science*, (4), 34-44.
- Zhang, J. Q., Zhu, H., & Ding, H. (2013). Board composition and corporate social responsibility: An empirical investigation in the post Sarbanes-Oxley era. *Journal of Business Ethics*, 114, 381-392.
- Zhang, M. J. (2006). *The governance effects of debt financing—a new empirical research design* [Doctoral dissertation]. Shanxi Finance University.
- Zhang, X. (2019). *Dual-class share structure: evolution, value, risk and its response path*. Southwest Finance Press.
- Zhang, Y. L. (2019). 开启中国创业型经济之路——评李政的《创业型经济：内在机理与发展策略》 [Opening the road to China's entrepreneurial economy——Comments on Li Zheng's "entrepreneurial economy: intrinsic mechanisms and development strategies"]. *Social Science Journal*, (4), 241-242.
- Zhang, Y., Liu, L. J., & Yin, Z. J. (2019). 股权结构特征与混合所有制企业效率 [Equity structure characteristics and efficiency of mixed-ownership enterprises]. *Accounting and Economic Studies*, (3), 92-107.
- Zhang, Y., Zhou, Y. J., Liu, J. P., & Jiang, H. (2020). 顾客多忠诚与新店铺寻求的融合行为研究——基于纵向追踪与深度访谈的混合方法 [Research on the integrated behavior of customer multi-loyalty and new store seeking—a mixed method based on longitudinal tracking and in-depth interviews]. *Nankai Management Review*, 23(5), 100-111.
- Zhao, J. W., & Yu, Z. B. (2005). 股权制衡与公司经营业绩 [Equity checks and balances and company operating performance]. *Accounting Research*, (12), 59-64.
- Zheng, W., Ding, Y., & Liu, D. (2019, July 19-21). *Research on the impact of equity check and balance on corporate value based on the mediating effect of corporate social responsibility*. 2019 3rd International Seminar on Education, Management and Social Sciences, Changsha, China.
- Zhou, K. G., & Li, T. (2006). 国有股权, 预算软约束与公司价值: 基于分量回归方法的经验分析 [State-owned equity, soft budget constraints and company value: an empirical analysis based on component regression method]. *World Economy*, 29(5), 84-94.
- Zhou, Y. A. (1999). 金融抑制对中国企业融资能力影响的实证研究 [An empirical study on the impact of financial repression on the financing capabilities of Chinese enterprises]. *Economic Research*, 2, 13-20.
- Zhu, H. J., & Wang, H. (2004). “股权制衡”可以改善公司治理吗?——宏智科技股份有限公司控制权之争的案例研究 [Can "equity checks and balances" improve corporate governance?——A case study of the dispute over control rights of Hongzhi Technology Co., Ltd.]. *Management World*, (10), 114-123.
- Zhu, W. X., & Song, Y. (2001). 股权结构与企业价值 [Equity structure and enterprise value]. *Economic Research*, 12(7), 66-72.
- Zhuravka, F. O., Kravchenko, O. V., & Ovcharova, N. V. (2018). Development of accounting-information provision of enterprise value-based management. *Financial and Credit Activity Problems of Theory and Practice*, 1(24), 113-122.
- Zona, F., Gomez-Mejia, L. R., & Withers, M. C. (2018). Board interlocks and firm performance: Toward a combined agency - resource dependence perspective. *Journal of Management*, 44(2), 589-618.
- Zrai, M. A. A., & Fadzil, F. H. B. (2018). The impact of ownership structure on firm performance: Evidence from Jordan. *International Journal of Accounting, Finance and Risk Management*, 3(1), 1-4.

Other References

CSRC. (2014). *Measures for the administration of the pilot program of preferred shares*.
National People's Congress. (2023). *Company law of the people's republic of China*.

[This page is deliberately left blank.]

Annex A: Interview Outline

I. During the Startup Phase:

1. Where did the initial idea for the startup come from?
2. What was your main occupation before starting the business?
3. Where did the funding for the startup come from?
4. What was the first milestone achieved by the company?
5. What was your attitude towards external investors during the middle to later stages of the startup?
6. Do you have any memorable experiences during the fundraising process?
7. Did you encounter any disagreements with investors during the startup phase?
8. Did investors assist in connecting market channels for early-stage products?
9. Did you have any preferences for the types of investors during the startup phase?
10. How did you balance direct and indirect financing during the startup phase?
11. How did you handle equity incentives for management and key personnel during the startup phase?

II. During the Growth Phase:

1. How many rounds of funding did the company go through during the growth phase?
2. Do you have any particularly memorable experiences during the fundraising process in the growth phase?
3. Were there any investors who provided significant assistance to the company during the growth phase?
4. Did you have any preferences for the types of investors during the growth phase?
5. How would you describe the functions of different types of investors?
6. Did investors intervene in corporate governance during the growth phase? If so, how?
7. How did you consider your personal shareholding percentage during the fundraising process?
8. How did the controlling stake of the founder manifest in the company's operations?
9. Did your controlling stake play a substantial role in the company's operations?
10. Did the company encounter any significant difficulties, such as a funding chain

rupture?

11. How did you address financing and equity ratio issues during particularly challenging times for the company?

12. During the growth phase, which was more important in your opinion: equity ratio or timely financing?

13. Did you ever explicitly reject certain types of investors during the growth phase?

14. How did you balance direct and indirect financing during the growth phase?

15. How did you incentivize management and key personnel during the growth phase?

III. Post-IPO:

1. How was the ownership structure arranged before the IPO, and why was it arranged that way?

2. Before the IPO, did the major shareholders have a consensus on maintaining market value?

3. After the IPO, were there any investors who provided significant assistance to the company?

4. Did any external investors express interest in holding a large portion of the company's stock?

5. How do you evaluate the current governance situation of the company?

6. Do you think that after the IPO, shareholders still contribute to innovation in technology or products?

7. How do you evaluate the relationships between various shareholders after the IPO?

8. What are the main aspects in which your controlling stake influences post-IPO?

9. How significant were the changes among the top ten shareholders after the IPO?

10. Are you satisfied with the current market value of your company?

11. If not, what do you think the appropriate level of market value should be?

12. What are your plans for your shares after they are unlocked?

13. How do you view equity incentives for management and key personnel post-IPO?