

**RESEARCH ON MERGERS AND ACQUISITIONS OF LISTED  
COMPANIES IN CHINA**

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## ABSTRACT

China's economy has shifted from the stage of rapid growth after the reform and opening up to the stage of high-quality development. 40 years of reform and opening up, China's economy through continuous development, is by the extensive rely on high investment growth mode to intensive rely on technological progress driven economic growth way transformation, are entered the stage of quality by the amount of expansion phase, is in the transformation of the mode of development, optimizing the economic structure, change research period of growth. In building a modern economic system, we must take improving the quality of the supply system as our main focus, promote the transformation and upgrading of the industrial structure and the economy, and optimize the allocation of existing resources to achieve long-term dynamic balance.

Enterprise merger and restructuring is a kind of enterprise investment way, is also the eternal topic of capital market; It is not only the adjustment means of industrial structure marketization, but also the important form of capital market resource allocation optimization. It is an important means of rapid expansion and integration of modern enterprises, and also an important force to promote the development of the capital market. Since the first wave of M&As in the United States at the end of the 19th century, there have been six large-scale M&As in the world, which has a significant and far-reaching impact on the world economy. Since then, M&As have become an important means for enterprises to realize their own expansion and optimize resource allocation. Compared with western countries, China started its M&A activities relatively late. Since the mid-1980s, China's M&A activities have gone through a development process from scratch, from small to large, from non-standard to standard. As an economic way to adjust economic structure, optimize

resource allocation and deepen enterprise reform, merger and restructuring has been more and more widely used in the socialist market economy with Chinese characteristics, and truly integrated into the sixth global M&A wave. It is worth noting that, as a major part of the world economy, China, like the rest of the world, was badly hit in the financial crisis, leading to the closure of export-oriented private enterprises. At the same time, because China is in the developing stage, the special background of China's stock market equity division, the domestic listed company M&A behavior there is a big difference with western enterprise, has its own characteristics and limitations, the special national conditions of western scholars research conclusions are not fully used in China. With the initial completion of the reform of non-tradable shares of listed companies in 2008 and the increasingly standardized development of control rights market, China's listed companies began to enter a new stage of development in terms of M&A scale, M&A mode, M&A purpose and other aspects, showing different characteristics from previous stages.

From the perspective of the market as a whole, the cause of the overall M & A activity is no longer limited to the local part of the market, but is the result of the M & A transaction between a large number of market players. The key link in M&A is the selection of target companies. In M&A, the characteristics of target companies can guide investors to carry out relevant investment strategies. It is worth noting that in the actual M&A activities, a large part of the M&A activities cannot achieve the expected effect, and a considerable number of them are directly or indirectly due to the failed cultural integration after the M&A activities are completed.

This study first reviews the research results of Chinese and foreign scholars in the field of M&A from the aspects of M&A motive, M&A mode and corporate value, defines

relevant concepts and research categories, and empirically studies the relationship between M&A activities of listed companies and corporate executive compensation and the integration of corporate culture after M&A. On this basis, based on the event research method, the M&A events in The Chinese market around 2015 were selected as samples to analyze the impact of M&A activities on the market value of both parties. Finally, the paper makes an empirical study on the influence of equity structure, industry characteristics, cash flow ability and other factors on M&A performance of listed companies.

In the discussion of the motivations for mergers and acquisitions in the Chinese market, the comparison with Asian, African, and developing countries is added to illustrate the uniqueness of mergers and acquisitions under China's special economic system. In the study of the relationship between executive compensation and mergers and acquisitions, some characteristics of Southeast Asian countries are also used for reference, and the factor of executive compensation is integrated into the case study of this article as a separate focus.

**Key Words:** Chinese listed companies; Strategic M&A; M&A and restructuring motives; M&A and restructuring mode; M&A performance

## TABLE OF CONTENTS

|  | Page |
|--|------|
| ABSTRACT.....  | iii  |
| LIST OF TABLES .....   | xi   |
| LIST OF FIGURES .....  | xiii |
| CHAPTER  |      |
| 1. INTRODUCTION .....  | 1    |
| 1.1 Research Background .....  | 1    |
| 1.1.1 Practical Background.....  | 1    |
| 1.1.2 Theoretical Background.....  | 10   |
| 1.2 Research Questions.....  | 13   |
| 1.3 Research Methodology .....   | 17   |
| 1.4 Main Findings and Conclusions.....   | 18   |
| 1.5 Possible Innovations .....   | 19   |
| 2. THEORETICAL FOUNDATION AND LITERATURE REVIEW OF<br>MERGERS AND ACQUISITIONS.....  | 21   |
| 2.1 Definition, Classification, and Basic Steps of Mergers and Acquisitions<br>..... | 21   |
| 2.1.1 Definition of Mergers and Acquisitions .....                                   | 21   |
| 2.1.2 Types of Mergers and Acquisitions .....  | 22   |
| 2.1.3 Basic Steps of Merger and Restructuring .....                                  | 25   |
| 2.2 Relevant Theoretical Basis .....   | 26   |
| 2.2.1 Basic Theory of Industrial Organization.....                                   | 26   |

|   |    |
|---|----|
| 2.2.2 Basic Theories of Mergers and Acquisitions .....              | 36 |
| 3. M&A MOTIVES AND PATTERNS OF CHINESE LISTED COMPANIES .....       | 48 |
| 3.1 Motives of Chinese Corporate M&As .....                         | 48 |
| 3.1.1 To Eliminate Loss-Making Enterprises .....                    | 51 |
| 3.1.2 To Acquire the Target Company's Land .....                    | 52 |
| 3.1.3 To Acquire "Shell Resources" .....                            | 54 |
| 3.1.4 To Benefit from Preferential Policies .....                   | 55 |
| 3.1.5 To Obtain Stock Subscription Rights and Avoid Delisting ..... | 55 |
| 3.1.6 Comparative Analysis with Other Countries .....               | 56 |
| 3.2 Main Modes of Chinese Corporate M&As .....                      | 58 |
| 3.2.1 Expansion Mode .....  | 58 |
| 3.2.2 Contraction Restructuring Model .....                         | 63 |
| 3.2.3 Restructuring Models .....                                    | 67 |
| 3.2.4 Control Change Patterns .....                                 | 70 |
| 4. FINANCIAL CHARACTERISTICS OF M&A TARGET COMPANIES .....          | 79 |
| 4.1 Theoretical Hypotheses and Variable Selection .....             | 80 |
| 4.1.1 Undervaluation Hypothesis .....                               | 80 |
| 4.1.2 Equity Dispersion Hypothesis .....                            | 81 |
| 4.1.3 Company Size Hypothesis .....                                 | 81 |
| 4.1.4 Inefficient Management Hypothesis .....                       | 81 |
| 4.1.5 Free Cash Flow Hypothesis .....                               | 82 |
| 4.2 Sample Selection and Research Methods .....                     | 82 |
| 4.2.1 Sample Selection and Data Processing .....                    | 82 |

|   |     |
|---|-----|
| 4.2.2 Research Methods .....  | 84  |
| 4.3 Analysis of Target Company Characteristics .....  | 85  |
| 4.3.1 Variable Design .....   | 85  |
| 4.3.2 Paired Sample T-Test.....   | 87  |
| 4.3.3 Logistic Regression.....  | 91  |
| 4.3.4 Conclusion Analysis .....   | 101 |
| 5. FACTORS INFLUENCING EXECUTIVE COMPENSATION IN<br>CORPORATE M&AS .....                                  | 102 |
| 5.1 Concepts and Types of Executive Compensation.....   | 103 |
| 5.1.1 Basic Concepts of Executive Compensation .....  | 103 |
| 5.1.2 Basic Types of Executive Compensation .....   | 104 |
| 5.1.3 Reclassification of Executive Compensation for M&A<br>Research.....                                 | 105 |
| 5.1.4 Executive Compensation Structure.....   | 107 |
| 5.2 Mechanism Analysis of the Relationship between Listed Company<br>M&A and Executive Compensation ..... | 108 |
| 5.2.1 Mechanism Analysis of the Impact Factors of Listed Company<br>M&A Performance.....                  | 108 |
| 5.2.2 Mechanism Analysis of Listed Company Executives Driving<br>M&A to Increase Their Own Income .....   | 109 |
| 5.3 Empirical Research Process and Results .....  | 109 |
| 5.3.1 Sample Data .....   | 109 |
| 5.3.2 Main Variables and Definitions .....  | 110 |
| 5.3.3 Model Design.....   | 111 |
| 5.3.4 Correlation Analysis .....  | 112 |
| 5.3.5 Multiple Regression Analysis .....  | 115 |

|  |     |
|--|-----|
| 5.4 Chapter Summary .....  | 118 |
| 6. STUDY ON TARGET COMPANY SELECTION TO ENHANCE M&A PERFORMANCE.....                       | 119 |
| 6.1 Research Approach and Sample .....   | 119 |
| 6.2 Selection of Financial Analysis Sample and Indicators.....                             | 120 |
| 6.3 Financial Analysis Model .....   | 123 |
| 6.3.1 Overview of Financial and Value-Based M&As .....                                     | 123 |
| 6.3.2 Financial Analysis Model for M&A Performance - Earnings-Based Method .....           | 127 |
| 6.4 Principal Component Analysis and Factor Analysis of Financial Analysis Indicators..... | 130 |
| 6.4.1 Mathematical Models of Principal Component Analysis and Factor Analysis .....        | 130 |
| 6.4.2 Principal Component Analysis and Factor Analysis of the Year Before M&A .....        | 131 |
| 6.4.3 Principal Component and Factor Analysis of Two Years Before M&A .....                | 135 |
| 6.4.4 Principal Component and Factor Analysis of Three Years Before M&A .....              | 138 |
| 7. CASE STUDY ON THE M&A AND INTEGRATION OF AIM VACCINE .....                              | 142 |
| 7.1 Overview of AIM Vaccine.....   | 142 |
| 7.2 Development of AIM Vaccine's M&A.....  | 143 |
| 7.3 Analysis of M&A Performance by AIM Vaccine .....                                       | 144 |
| 7.3.1 Financial Performance Analysis .....   | 144 |
| 7.3.2 Analysis of Technical Accumulation.....  | 146 |
| 7.3.3 Scale Effect Analysis .....  | 148 |
| 7.4 Application of Executive Compensation Design in AIM Vaccine .....                      | 148 |

|  |     |
|--|-----|
| 7.5 AIM Vaccine's Ongoing Integration and Future Integration Direction ..... | 152 |
| 8. CONCLUSION AND RECOMMENDATIONS .....                                      | 154 |
| 8.1 Conclusion .....   | 154 |
| 8.2 Recommendations and Insights .....                                       | 156 |
| 8.2.1 Insights .....   | 156 |
| 8.2.2 Recommendations .....  | 157 |
| REFERENCES .....   | 159 |

## LIST OF TABLES

| Table   | Page |
|---|------|
| Table 1-1 A comparison of research schools of enterprise M&A and their research perspectives .....      | 11   |
| Table 2-1 A comparison of different ways of classifying M&As .....                                      | 25   |
| Table 3-1 Features of different motivations .....   | 51   |
| Table 3-2 Loss Status of Independent Accounting Industrial Enterprises in China from 1984 to 1993 ..... | 51   |
| Table 4-1 Industry Distribution of M&A Target Companies .....   | 83   |
| Table 4-2 Variable Definition Table .....   | 85   |
| Table 4-3 Paired Sample T-test Results .....  | 88   |
| Table 4-4 Diagnosis of Multicollinearity .....  | 94   |
| Table 4-5 Variables in the Model .....  | 95   |
| Table 4-6 Model Summary and Test .....  | 95   |
| Table 4-7 Variables in the Equation .....   | 97   |
| Table 4-8 Model Summary and Test .....  | 97   |
| Table 4-9 Variables in the Model .....  | 99   |
| Table 4-10 Model Summary and Test .....   | 99   |
| Table 4-11 Variables in the Model .....   | 100  |
| Table 5-1 Main Variables and Definitions .....  | 110  |
| Table 5-2 Spearman Correlation Coefficient of Each Variable.....  | 112  |
| Table 5-3 Spearman Correlation Coefficient of Each Variable (Model 2).....                              | 113  |
| Table 5-4 Spearman Correlation Coefficient of Each Variable (Model 2).....                              | 113  |
| Table 5-5 Spearman Correlation Coefficient of Each Variable (Model 3).....                              | 114  |
| Table 5-6 Spearman Correlation Coefficient of Each Variable (Model 3).....                              | 114  |

|  |     |
|--|-----|
| Table 5-7 Regression Analysis Results of M&A Performance and Various Variables (Model 1).....                  | 115 |
| Table 5-8 Regression Analysis Results Classified by the Nature of the Controlling Shareholder (Model 2).....   | 116 |
| Table 5-9 Regression Analysis Results Classified by Whether Shareholding Reform was Implemented (Model 3)..... | 117 |
| Table 6-1 11 Financial Indicators.....   | 121 |
| Table 6-2 Comparison of mathematical models of principal component analysis and factor analysis.....           | 130 |
| Table 6-3 Variables.....   | 131 |
| Table 6-4 Principal Component Coefficient Matrix .....   | 132 |
| Table 6-5 Factor Score Matrix of Principal Components .....  | 133 |
| Table 6-6 Variables .....  | 135 |
| Table 6-7 Principal Component Coefficient Matrix .....   | 136 |
| Table 6-8 Factor Score Matrix .....  | 136 |
| Table 6-9 Variables .....  | 138 |
| Table 6-10 Principal Component Coefficient Matrix .....  | 139 |
| Table 6-11 Factor Score Matrix .....   | 140 |
| Table 7-1 displays the milestones in AIM Vaccine's M&A development.....  | 144 |
| Table 7-2 Basic Financial Data of AIM .....  | 145 |
| Table 7-3 Technology Platform.....   | 147 |
| Table 7-4 Authorized Licenses Distribution .....   | 148 |
| Table 7-5 Comparison of integration before and after integration .....   | 149 |

## LIST OF FIGURES

| Table  | Page |
|--|------|
| Figure 1-1: Chinese Domestic M&A Transaction Amounts and Case Numbers from 2013 to Q1 2019 ..... | 14   |
| Figure 1-2: Chinese Cross-border M&A Amount and Case Numbers from 2013 to Q1 2019.....           | 15   |
| Figure 2-1: The SCP Analysis Framework of Industrial Organization.....                           | 28   |

# CHAPTER 1

## INTRODUCTION

Mergers and acquisitions (M&A) represent a significant strategic approach for companies to improve their debt-to-asset structure, operational performance, core business profitability, and achieve sustainable development. The motives and performance of M&A activities in listed companies have been extensively debated by domestic and foreign scholars. Against the backdrop of the continuous optimization and upgrading of the industrial structure, Chinese listed companies bear the responsibility of revitalizing the local industry. Consequently, the frequency and depth of M&A activities are expected to increase to varying degrees, accompanied by an improvement in marketization. This development is expected to play a positive role in promoting the functionality of China's capital market and the adjustment and upgrading of its industrial structure. Therefore, studying the M&A activities of listed companies has significant importance for the development of China's national economy.

This chapter elaborates on the background of this study, including practical and theoretical backgrounds, which provide the basis for the research questions proposed in this study. Then, the main content and research framework of this study are determined around the core research question, and the research methods and possible innovative points are explained.

### **1.1 Research Background**

#### ***1.1.1 Practical Background***

Since the beginning of the 21st century, the operating environment of Chinese enterprises has undergone fundamental changes compared to the past. China's economy has become more integrated into the world economy and gained stronger global impact. In the meantime, the country has also started to be affected by globalization. In response to economic globalization, the pace of China's economic transformation has accelerated accordingly. Therefore, the future changes in the business landscape faced by Chinese enterprises under the new situation mainly come from factors such as economic globalization and economic transformation, and their interactive effects.

Economic globalization refers to the increasing degree of socialization and internationalization of production under the conditions of accelerated technological progress and the further division of labor worldwide. Economic activities around the world increasingly transcend national boundaries. Through the interconnection and mutual dependence of foreign trade and capital flows, economic globalization has created an organic economic whole on a global scale. Economic globalization includes the globalization of trade, finance, and enterprise production and operation. The increasing importance of international economic activities for countries (or regions) around the world is due to the increase in international commodity and capital flows. Along with the rising frequency of global trade, and rising intensity of economic cooperation and global competition, economic globalization has brought broad opportunities as well as a series of threats to both developed and developing countries. Economic globalization is a product of the world's scientific and economic development, which has promoted the continuous expansion and regional unity of the global market, and facilitated the rapid economic development of countries around the world. It allows countries (regions) to fully leverage

their own advantages, promote industrial transformation, and accelerate the flow of production factors such as capital and technology. Economic globalization encourages participation in international competition and enhances international competitiveness. It has accelerated the rapid development of the world's economies, enabled countries (regions) to fully leverage their strengths and participate in international competition, thereby improving their international competitiveness. However, while economic globalization promotes economic cooperation among countries (regions), it also poses risks to the development of the global economy. The economic fluctuations of one country (region) may affect other countries (regions) and even the world, leading to or exacerbating the instability of the world economy. With the acceleration of China's reform and opening-up, the trend of economic globalization has increasingly affected China. Chinese enterprises are now posed with a new challenge to strategize their approach to economic globalization.

Economic transformation refers to the fundamental changes in the economic structure and economic system of a country or region over a certain period. These changes consist of a series of systemic economic and social reforms carried out by developing countries to promote marketization and internationalization under the influence of economic globalization. Over the past four decades, China, as the world's most influential country in terms of economic transformation, has successfully transitioned from a planned economy to a market economy and from an agricultural society to an industrial one through a series of social system reforms. Since the beginning of the 21st century, the impact of globalization has presented new challenges to China's economic transformation. China will further accelerate its reform, formulate and implement reform measures that have a

significant impact on the strategic actions of enterprises, and support and encourage Chinese enterprises to enhance their international competitiveness.

### 1. The Impact of the “New Reality” on the Strategic Actions by Chinese Enterprises

China's reform and opening-up policy has been a significant driving force behind the country's economic and social development, and has served as a driving force behind China's ongoing economic transformation. Against the backdrop of an increasingly market-oriented and globalized landscape, Chinese enterprises are enabled to compete with multinational corporations on both domestic and international fronts. This “New Reality” represents a significant shift in the business environment in which Chinese enterprises operate, and has far-reaching implications for their strategic behavior. Specifically, its impact are reflected in the following two aspects:

Firstly, multinational corporations are now participating in the integration of the Chinese market and industries in a more direct manner. For a long time in the past, multinational corporations believed that the most important opportunity to maintain and enhance their international competitiveness was to take advantage of China's cost advantages in production and market scale. As a result, they transformed their investment strategies in China by taking advantage of a series of reforms designed to integrate China with the international community. Their investment strategies shifted rapidly from focusing on international trade, cooperation, joint ventures, and self-establishment to focusing on direct investment, wholly-owned subsidiaries, and M&As. In comparison to Chinese enterprises, multinational corporations generally possess advantages in terms of financial resources, technology, and management, as well as market control. The objective of these

multinational corporations in implementing strategic adjustments in China is to overcome cost disadvantages, gain monopolistic market share in China, and enhance their international competitiveness. In this context, even some strong Chinese enterprises have been quite passive in their strategic responses, facing the challenges of property rights transformation and improving governance structures. This reality has presented opportunities for multinational corporations to participate in equity and control stakes, while some enterprises have been unable to effectively implement and operate integration strategies due to constraints by the M&As market.

Secondly, facing the impact of economic globalization, Chinese enterprises must enhance their international competitiveness and participate in the integration of global markets and industries in order to break through the constraints of markets, resources, and the environment. This is the only way to achieve sustainable development. The problems that Chinese enterprises face in the context of economic globalization are becoming increasingly prominent, including large production with low quality, small scale with large quantity, and fast growth with low efficiency. These problems have led to increasingly obvious constraints on China's economic sustainable development in terms of markets, resources, and the environment. Therefore, nurturing a group of backbone enterprises with core competitiveness in the international market has become an inevitable choice for China's sustainable economic development.

With the promulgation of numerous reform measures to integrate China with the international community, some competitive private and state-owned enterprises have made breakthrough developments in enhancing their core international competitiveness in their main businesses. They have also improved their governance structures and financing

capacity by going public domestically and overseas, and have been actively implementing integration strategies in their main fields as well as upstream and downstream industries to grow their share in the domestic market. At the same time, other Chinese enterprises have improved their international market share by acquiring and merging with foreign companies, demonstrating "world-class" competitiveness. Through the practices of these Chinese enterprises, it has been proven that the Chinese market not only has world-class scale and potential, but also has world-class competitive intensity. Enterprises that can achieve the first place in the Chinese market may be able to convert China's national advantages into their own enterprises' ability to achieve sustainable development.

Industry integration is achieved by purposeful M&As, restructuring, actively expanding enterprise market share, changing the industrial organizational structure, and obtaining excess profits. There are two crucial things Chinese enterprises can do to enter or even dominate industry integration — enhance their industry integration capabilities and improve their industry integration speed. At the same time, enterprises should accurately assess their own M&As capabilities, fully respond to foreign M&As strategies, and develop strong integration capabilities, in order to steadily grow and expand during the process of industry integration.

## 2. The Impact of Strategic M&As on the Industrial Integration Capability of Chinese Enterprises

The vastly advantageous Chinese market has attracted numerous multinational corporations. With the further opening of the capital market, Chinese enterprises will inevitably face a very realistic question both globally and locally — whether to acquire or to be acquired other companies.

Compared with certain foreign-funded enterprises, most industries in China began their integration relatively late, and most industries will enter a stage of large-scale integration in the next few years. Therefore, M&As will become the primary means for Chinese enterprises to support their future development. The ultimate goal of industrial integration is to secure a strategically advantageous position, strengthen core competitiveness, and help enterprises become more specialized in addition to growing larger in terms of size and scale. In the M&A process, some advantageous enterprises achieve scale expansion not by enhancing their production capacity but by adjusting existing assets. This helps avoid the imbalance of supply and demand in the entire market caused by excessive expansion of production capacity, thus avoiding price wars and other forms of vicious competition. With the acceleration of global industrial integration and changes in China's overall economic environment, China's strategic M&As are no longer limited to earlier financial mergers, such as asset restructuring and shell listings. In recent years, Chinese M&As have achieved unprecedented development, turning the country itself into the primary battlefield for global M&As. The global wave of M&As has raised the awareness of industry mergers and integration among Chinese enterprises, which are now actively participating in M&As, effectively connecting China's industries with the international market. In the process of participating in global industrial integration, Chinese enterprises with M&A capabilities have a better chance to gradually grow into "world-class enterprises."

Large enterprises are a key indicator of a country's economic strength on the global stage, as well as a key pillar to a country's overall national strength and international economic status. Against the backdrop of economic globalization, the competition between

large enterprises has completely extended beyond national borders. The economic strength and international competitiveness of a country are now embodied by the strength and competitiveness of enterprise groups. Following the two World Wars, the United States relied on large enterprises and enterprise groups to maintain its hegemony in the international order. In the 1990s, changes in the international environment also led to a peak of M&As by American companies, producing a large number of super companies and enterprise groups, enhancing the country's competitiveness in dominant industries and further reinforcing its economic hegemony globally. Faced with competition from developed countries and multinational corporations, China's most effective option is to actively embrace challenges and nurture its own multinational enterprises. Currently, there is a wide gap between companies listed in Fortune Global 500 and China's large enterprises and large groups. To continuously enhance national strength in the new era, China must take strong measures and implement reasonable industrial M&A policies, so as to actively support and promote enterprise M&As, and strive to nurture a group of world-class enterprises with strong international competitiveness.

### 3. Opportunities and Challenges for Developing World-Class Enterprises in China

As economic globalization continues, Chinese enterprises face fierce competition with multinational corporations both domestically and internationally under more market-oriented and globalized conditions. For Chinese enterprises that are accelerating economic transformation and upgrading, this presents a rare historical opportunity to enhance their international competitiveness, but also poses a major challenge.

(1) Before China joined the WTO, most state-owned enterprises lacked the basic conditions to participate in international competition due to the single investment subject's

property rights pattern and management mechanism. At the same time, most private enterprises with a relatively reasonable property rights structure lacked the resources and capabilities to participate in the horizontal and vertical integration of their industries due to their small size and limited capabilities. Real practices have proven that promoting industrial restructuring of the basic sectors must be combined with the restructuring of enterprise property rights to achieve the diversification of investment subjects. The single state-owned property rights structure and governance structure of enterprises must be fundamentally changed to make way for a group of Chinese enterprises that are truly ready to join the global competition.

(2) After China joined the WTO, enterprises' ability to use resources globally has greatly improved. They have established research and development institutions and manufacturing bases overseas, and achieved significant breakthroughs in financing, listing, and M&As.

(3) In recent years, with the continuous improvement of financing capabilities, some Chinese enterprises have begun to return to their main business and implement horizontal and vertical integration strategies to improve their control ability in the industrial chain and market share in their main business. For example, Guangdong Galanz Group Co., Ltd. occupies 50% of the global microwave market, while Guangdong Donlim Kitchen Group Co., Ltd has the highest market share in electric kettles worldwide. Although certain Chinese enterprises have gained a larger share in the global market, their profitability and added value remain relatively low, primarily because too few large enterprises have international competitiveness in their main business. Therefore, the healthy and sustained growth of the Chinese economy depends on whether it can seize the opportunity in the new

era and cultivate a group of large enterprises with international competitiveness, rely on their internationally high competitiveness to resist the massive influx of foreign enterprises into the Chinese domestic market, and make an advantageous entry into the world market.

The profound impact of economic globalization provides good development opportunities for Chinese enterprises to enter the international market. Whether the Chinese economy can maintain healthy, stable, and high-quality growth largely depends on whether Chinese enterprises can seize such opportunities and resolve threats in the crucial historical period of continuing economic globalization, and whether the Chinese government can achieve the goal of establishing a unified market and developing large enterprises through economic system reforms. The low profitability and added value, as well as the low quality of economic growth, have become the primary shortcomings of Chinese enterprises in international competition. Therefore, on the one hand, M&As, as the primary means of enterprise expansion and industry integration, will be an important strategic action to take for Chinese enterprises in both the present and the future. On the other hand, continuing economic globalization will push the Chinese government to adhere to the core goal of developing large enterprises with international competitiveness, integrate key resources, and promote the healthy and sustained development of the Chinese economy. These two aspects constitute the background of this study.

### ***1.1.2 Theoretical Background***

The rapid development of enterprise M&As in practice has provided numerous valuable research topics for theoretical research. In the past four decades, the academic community has conducted in-depth and meticulous research on the motives for enterprise M&As, the evaluation of M&A value, and the standards for successful M&As. The related

research results have emerged endlessly, and research on enterprise M&As has become a hot topic in the international disciplines of business management and finance.

Currently, research on enterprise M&As can be roughly divided into four schools: financial economics, strategic management, organizational behavior, and integration. These schools respectively expound the general laws and characteristics of enterprise M&As from different perspectives, as shown in Table 1-1.

Table 1-1 A comparison of research schools of enterprise M&A and their research perspectives

| School                  | Representative Scholars  | Research Perspective   |
|-------------------------|--|--|
| Financial Economics     | Mandelker,1974;Jensen and Ruback,1983; Bradley,1988; Datta et al,1992; Loughran and Vihj,1997  | Analyzes the characteristics of M&A transactions, the characteristics of the two merging companies, and the creation of M&A value, and believes that the creation of M&A value is affected the characteristics of M&A transactions and the characteristics of the two merging companies.   |
| Strategic Management    | Elgers&Clark,1980;Sigh& Montgomery,1984; Lubatkin,1987;Scherman&P ettway,1987; Morck, Shleifer& Vishny,1990; Chatterjee& Wernerfelt,1991; Agrawal et al,1992; Berger &Ofeck,1999 | Divides M&As into horizontal, vertical, and mixed, and studies the creation of enterprise M&A value through the synergistic effects of operating, financial, and conspiratorial factors in strategic M&As. It also believes that the creation of M&A value is affected by the degree of strategic fit between the two merging companies before the merger. |
| Organizational Behavior | Datta,1991; Chatterjee et al,1992; Haleblian&Finkelstein.1999  | Focuses on the impact of M&As on individuals in the organization, and examines the impact of organizational culture fit and management experience of the management team of the two merging companies on the creation of value.  |
| Integration School      | Pablo,1994; Capron&Pistre,2002   | Explains the value of M&As from the degree of integration after M&A, etc.  |

Source: Zhou Xiaochun, Li Shanmin. Study on the Factors Affecting M&A Value Creation[J]. Management World, 2008.5: 134.

Corporate mergers and acquisitions (M&As) are very much financially motivated, as highlighted by the four major perspectives presented above. Despite the various theoretical approaches adopted by researchers, most studies follow a logical sequence of strategic orientation (motivation) — resource integration (action) — value judgment (corporate performance). The impact of external and internal environments on corporate M&A activities has been the focus of most scholars. Financial M&A research, as noted by Christian Berggren (2003), emphasizes the economic effects generated by M&As, whereas management and organizational science studies focus on the post-merger restructuring process, competition position, and potential mutual learning. After comparing research works in various fields on M&A, Haspeslagh & Jemison (1991) admitted that the evaluation of M&A value in the financial and accounting field is somewhat subjective. In fact, because no two M&A activities are exactly the same in reality, due to the complexity of corporate M&A, many studies lack universal significance and reference value. Bild (1998), Rau and Vermaelen (1998), and KPMG (1999) believe that in the long run, most M&As cannot create value for companies, and even harm shareholders' wealth and corporate value.

Although scholars have studied the value creation or destruction of M&As for decades, the results are still inconclusive. Two-thirds of corporate M&A activities fail, and many companies do not achieve the expected performance through M&As (Henry, 2002). However, researchers unanimously agree that post-merger restructuring plays a critical role in creating value from corporate M&As (Haspeslagh and Jemison, 1991). The success of

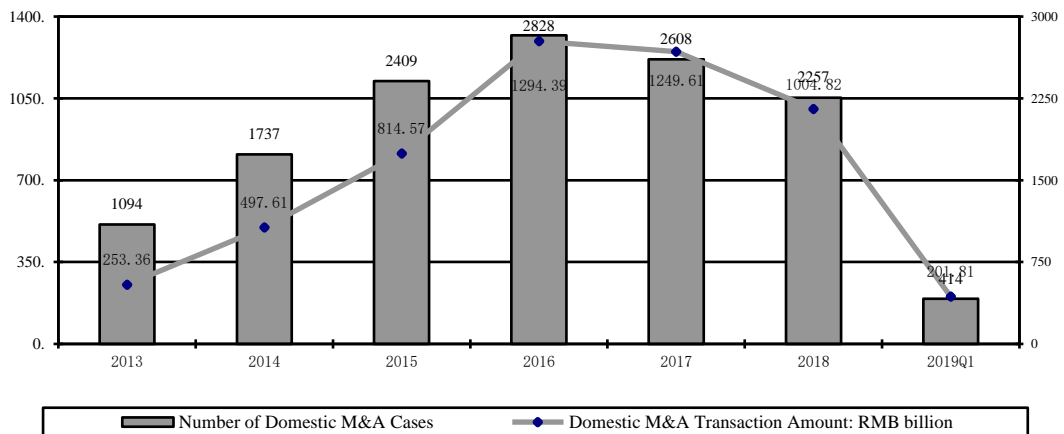
post-M&A restructuring is influenced by factors such as the autonomy of the acquired company (Grant and Rajagopalan, 1991), communication between employees of both companies (Ranft and Lord, 2002), the speed (Homburg and Bucerius, 2006), and degree (Zollo and Singh, 2004) of restructuring, and the fairness of the restructuring (Li, Bingham, and Umphress, 2007). However, the above research was not specifically conducted for Chinese companies. Therefore, studying how to implement effective restructuring following corporate M&As in a globalized economy has significant theoretical and practical significance for Chinese companies to implement industrial integration, improve international competitiveness, and increase their chance of successful M&As.

## **1.2 Research Questions**

As the Chinese M&A market continues to boom, corporate managers are increasingly concerned with the successful implementation of M&A activities. A complete M&A activity entails a complex process and numerous intermediary institutions such as law firms, accounting firms, and appraisal companies. If one of the M&A parties is a listed company or a state-owned enterprise, governmental and regulatory authorities may also have a significant impact. In addition to the substantial investment of manpower and physical resources, the success or failure of the transaction can significantly impact the company's stock price. Therefore, it is crucial to maximize the chance of success of M&A activities as long as they comply with the company's overall development strategy.

In recent years, China's capital market has witnessed a continuous surge in corporate M&As and restructuring due to their ability to quickly acquire resources and improve corporate performance. In 2013, China's capital market saw a significant increase in the willingness to integrate and merge, driven by domestic policies, resulting in a

skyrocketing number and scale of transactions. According to ChinaVenture's statistics, in 2013, the domestic M&A market transactions totaled 1,094, with a scale of RMB 253.361 billion (equivalent to USD 36.98 billion). Thus, some consider 2013 to be the start of China's M&A market. Since then, China's M&A market has witnessed rapid development, and both the number of corporate transactions and the scale of asset transactions have reached new heights. In 2016, the number of domestic M&A market transactions reached 2,828, with a transaction scale of RMB 1,294.386 billion (equivalent to USD 188.94 billion). If 2013 was the beginning of China's M&A restructuring, then 2016 was undoubtedly its peak, with new records set in both the number of domestic M&A transactions and the transaction amount, as illustrated in Figure 1-1.



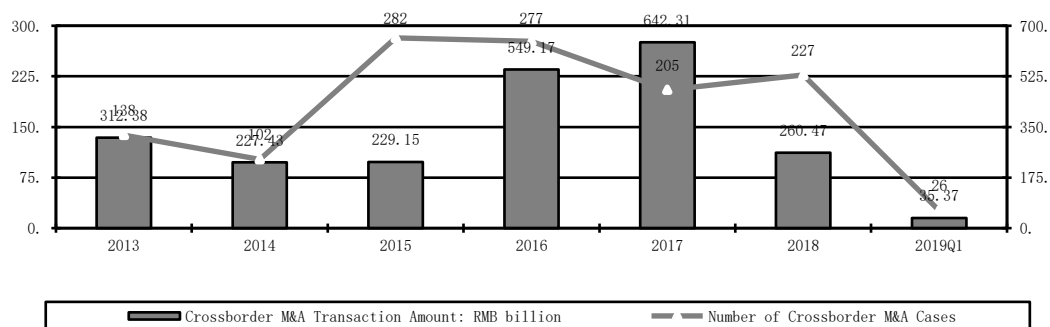
Data source: Compiled from public information

Figure 1-1: Chinese Domestic M&A Transaction Amounts and Case Numbers from 2013 to Q1 2019

In 2014, China became the second-largest M&A investment destination in the world, following the United States. However, since 2018, the number and scale of M&A transactions in China have shown a downward trend. The decline in overall activity of the

Chinese M&A market during the first quarter of 2019 was influenced by various factors, such as economic downturn, Sino-US trade conflicts, the impact of the Chinese New Year holiday, and the stock market turbulence in Shenzhen and Shanghai during the latter half of 2018.

In January 2019, the World Bank lowered its expectations for global economic growth in 2019. Subsequently, following the release of the World Economic Outlook report, the International Monetary Fund also lowered its expectations for global economic growth. China, however, was the only major economy with its expected economic growth raised. Against the backdrop of a sluggish global economy, brewing Sino-US trade tensions, and other factors, the overall volume of global M&A transactions declined in the first quarter of 2019. The number and scale of cross-border M&A transactions by Chinese companies also significantly declined, as shown in Figure 1-2.



Data source: Compiled from public information

Figure 1-2: Chinese Cross-border M&A Amount and Case Numbers from 2013 to Q1 2019

Based on Figures 1-1 and 1-2, it can be concluded that domestic M&A transactions remain the primary type of M&A activity in China. In the first quarter of 2019, the overall scale of domestic M&A transactions was RMB 201.811 billion yuan (equivalent to USD

29.38 billion), a year-on-year decrease of 26.4%, with 414 domestic M&A cases, a year-on-year decrease of 30.4%. The scale of cross-border M&A transactions in China was RMB 35.37 billion yuan (equivalent to USD 5.16 billion), a year-on-year decrease of 48.8%, with 26 cross-border M&A cases, a year-on-year decrease of 54.4%.

Since 2018, the scale of M&A transactions by Chinese companies has declined as a result of the macroeconomic downturn, stricter audits by the China Securities Regulatory Commission, and the impact of the COVID-19 pandemic in early 2020. However, the overall momentum has not shifted.

Drawing on the background and theoretical framework of this study, the research path of "enterprise control (root cause) - government control (motive) - M&A mode (action) - enterprise performance (result)" breaks down the core issues in this study as follows:

Firstly, based on the theory of enterprise control, from a micro perspective, this study aims to analyze the main reasons why government-controlled M&As may lead to low M&A efficiency.

Secondly, M&A transactions by listed companies involve many complex procedures and a significant investment of human and physical resources. Therefore, it is essential to improve the success rate of M&A transactions. What factors lead to the failure of M&A transactions? And what has been causing the increase in failed transactions?

Thirdly, this study uses an event study to examine the impact of M&A actions on the market value for both parties. It will examine the impact of different M&A motivations on enterprise resource allocation efficiency and enterprise value. A comprehensive model will be constructed to help investors identify companies that are prone to M&A activities in listed Chinese companies.

### **1.3 Research Methodology**

#### 1. A combination of empirical analysis and normative analysis.

Empirical analysis and normative analysis are fundamental methods for economic studies. Normative analysis, theoretical logical deduction, and inductive summary are used in combination to analyze the impact of payment control on enterprise M&A modes. Empirical research is conducted using Chinese listed companies as samples.

#### 2. Statistical analysis combined with group comparison analysis

General descriptive statistical analysis and group comparison analysis are adopted to study the real situation of government control in enterprise M&A and its impact on M&A performance. In addition, mean T-test and median Wilcoxon rank-sum test methods are utilized. The impact of government control on the M&A mode of companies is examined using a binomial logistic regression model, a type of General Linear Model (GLM). Furthermore, the optimal scaling regression analysis method is used to investigate the impact of government control on the M&A performance of companies through mode selection. The principal component analysis method adjusted by the industry median is used to measure the comprehensive M&A performance when evaluating the financial indicators.

#### 3. A combination of micro and macro analysis methods

The object of this study is the microeconomic issues of Chinese listed companies and their M&A restructuring actions, including the driving factors, modes, and performance attribution. However, M&A restructuring of listed companies is not an isolated issue but plays a significant role in optimizing and adjusting the overall industrial

structure and organization. Therefore, to conduct a thorough analysis of M&A restructuring, a combination of micro and macro analysis is necessary.

#### **1.4 Main Findings and Conclusions**

1. This study concludes some unique motives of M&A in China Market, and analyzes the deep reasons led to these motives. These unique motives, called 'Specialties', came out along with the developments of Chinese economics history. This Specialties may come out because of some special government policies and the reform of China economic system. This Specialties maybe a big difference from the economic motives which the most western researchers claimed.

2. This study may find some significant economic characters of the target companies by sample T-test and Logistic regression analysis in China M&A market. Such as, economic value, profit ability, and share concentration.

3. This study constructed a linear regression model to examine the relationship between the M&A performance of the acquirer and the performance of senior executives in the year before M&A, the enterprise life cycle, payment method, free cash flow, etc. The study found a positive correlation between the performance of senior executives in the previous year and the market performance of the enterprise. Moreover, better performance of senior executives in the previous year can lead to market recognition of their management and decision-making abilities, which in turn can lead to better profitability for the enterprise.

4. This study constructed a statistic model to analyze the M&A transactions which won the high performance. So that we may find the significant characters of good target companies.

5. This study deeply analyzed the key elements for M&A integration by case study. And it gave a lot suggestions for improve the performances of M&A integration.

### **1.5 Possible Innovations**

The main research focus and possible innovations of this study are as follows:

1. This study aims to investigate the relationship between enterprise control, government intervention, merger and acquisition patterns, and company performance, and to construct a comprehensive theoretical framework for government control rights. Based on the institutional background of government control in the Chinese M&A market, this study draws from several theoretical perspectives, including agency theory and the extended residual control rights hypothesis, to explore the intrinsic roots of inefficient government intervention in M&A activities. The study analyzes the inherent root causes of the inefficiency caused by excessive government intervention in M&A from a theoretical perspective. Furthermore, by studying the impact of government control on corporate M&A actions and performance under different driving factors, the study provides evidence that supports the theoretical root cause analysis, thus systematically analyzing the mechanism of M&A in Chinese listed companies.

2. Previous studies on corporate M&As have focused more on the factors affecting the success or failure of M&A activities, with a focus on cross-border M&A, and fewer studies on domestic M&A activities of listed companies in China. This study fills the gap in research on domestic M&A restructuring activities of Chinese listed companies by focusing on their domestic M&A restructuring. This research is also in line with the trend of domestic M&A outpacing cross-border M&A in recent years, and thus has broader significance for the study of domestic M&A influencing factors.

3. Previous studies have focused more on the driving factors and performance of M&A activities, with fewer studies on the factors contributing to their success or failure, while case analysis has been used more frequently than empirical analysis. One of the main focuses of this study is to identify the factors contributing to the success or failure of M&A activities. To achieve this, a sample of sufficient size has been selected for analysis using Stata statistical software. The success or failure of the M&A activity is used as the criteria for judgment, and the results obtained are considered reliable. The empirical analysis is expected to provide more accurate insights. Additionally, the study combines the latest M&A transaction characteristics and uses the latest M&A transaction factors such as "premium rate" and "performance commitment" as independent variables to explore their impact on the success or failure of M&A transactions, which have been less studied by previous scholars.

**CHAPTER 2**  
**THEORETICAL FOUNDATION AND LITERATURE REVIEW OF MERGERS**  
**AND ACQUISITIONS**

**2.1 Definition, Classification, and Basic Steps of Mergers and Acquisitions**

***2.1.1 Definition of Mergers and Acquisitions***

Mergers and acquisitions (M&A) refer to changes in corporate ownership and assets. A merger involves the consolidation of two or more independent companies into a single entity, often through the dominant company acquiring one or more companies. Following a successful merger, a new system is established, where the acquiring company manages the acquired company, retaining only the legal status of the acquirer, while the acquired company ceases to exist.

In contrast, an acquisition involves acquiring actual full or partial control over a target company's assets by purchasing its stocks or assets, and the acquired company retains independent legal ownership rights in form. As both mergers and acquisitions involve changes in corporate ownership, they are generally referred to collectively as M&A. The difference between a merger and an acquisition lies in the independent legal status of the acquired company.

In the academic community, M&A can be either broadly or narrowly defined. Broadly speaking, M&A includes activities such as company acquisitions and mergers, asset swaps, debt restructuring, and changes in company ownership structure. In contrast, narrowly defined M&A refers to the expansion of enterprises through the acquisition of

equity or assets to gain ownership of the target company's property or directly absorb and merge it.

Enterprise restructuring refers to the process of restructuring an enterprise's elements such as capital, assets, manpower, technology, and management to establish a new production and operation model to maintain competitive advantages in the face of changes. Enterprise restructuring runs through every stage of enterprise development. It is a process of restructuring, rectification, and integration of enterprises in terms of ownership relationships, as well as debts, assets, and management structures, to improve the overall and strategic management of enterprises, strengthen their competitiveness in the market, and promote corporate innovation.

In the current Chinese stock market, the supervision of M&A and restructuring is more or less mutually independent, but in practice, the two are often inseparable and used interchangeably.

### ***2.1.2 Types of Mergers and Acquisitions***

Regarding the types of M&As, there are many ways to classify them based on different criteria. This article introduces several common classification methods, as shown in Table 2-1.

First, based on industry relevance, corporate M&As can be classified into horizontal mergers, vertical mergers, and conglomerate mergers.

Horizontal mergers refer to the merger of enterprises with similar production processes or similar products, i.e., the merger of competitors. Its greatest advantage is that it can rapidly expand the production scale, achieve specialization and division of labor to

a larger degree and at a higher level, reduce product costs, enhance market competitiveness and profitability.

Vertical mergers refer to the integration of companies involved in the production and marketing of closely related products or services, such as between a company and its customers or suppliers. This type of merger creates a vertically integrated production system. Its advantage lies in facilitating integration after the merger and reducing transaction costs.

Conglomerate mergers refer to the merger of companies producing the same type of products to expand their competitive areas into one that has not been ventured into yet by competitors, or the merger of companies that produce similar products but have no relation to the enterprise's production and operation. Conglomerate mergers can achieve shared technology or market, expand market sales volume, and diversify business risks.

Second, based on the change in the legal status of the two parties after the M&A, corporate M&As can be classified into controlling acquisition, absorption merger, and new establishment merger.

Acquisition of control refers to a method of acquisition in which the acquiring party continues to exist after the merger and the acquired party is dissolved.

Absorption merger refers to the merger of the two companies where both survive, with the acquirer acquiring the target company and gaining a controlling position.

New establishment merger refers to the dissolution of both parties after the merger and the establishment of a new legal entity.

Third, based on the intention of the target company, corporate M&As can be classified into friendly acquisitions and hostile takeovers.

Friendly acquisitions refer to M&As that are completed through negotiations between the two parties before the merger. Most M&As between domestic companies in China are friendly acquisitions, with both parties generally reaching a merger agreement through friendly negotiations before the merger.

Hostile takeovers refer to M&As where the acquirer is met with resistance during the acquisition of the target company but still acquires it by force.

Fourth, based on the M&A process, corporate M&As can be classified into tender offers, negotiated M&As, and competitive bidding.

Tender offers refer to M&As completed by the acquirer making a purchase offer to the target company.

Agreement M&As refer to a type of M&A in which the acquiring party and the target company complete the transaction by negotiating and signing a relevant agreement for the purchase of equity or assets.

Competitive M&As refer to multiple potential acquirers competing with each other by offering bids, and the target company selects the acquirer based on price and other relevant conditions offered by each bidder.

Lastly, based on the payment method, corporate M&As can be classified into cash merger, debt merger, and equity merger.

Cash merger refers to the acquisition party directly purchasing the net assets of the acquired party, or acquiring control of the acquired party by paying cash to purchase its stocks.

Debt merger refers to the acquisition party assuming all or part of the debt of the acquired party to obtain control of the acquired party.

Equity merger refers to the acquisition party exchanging its own issued shares for the shares or net assets of the acquired party to obtain control of the acquired party.

Table 2-1 A comparison of different ways of classifying M&As

| Category              | Means  | Characteristics   |
|-----------------------|--|---|
| Industry relevance    | Horizontal merger<br>Vertical merger<br>Conglomerate merger                          | Within the same industry with similar main businesses<br>In different industries within the same industrial chain<br>In different industries and different industrial chain |
| Legal status changes  | Acquisition of controlling interest<br>Absorption merger<br>New establishment merger | Dissolution of the target company<br>Both acquiring and target companies continue to exist<br>Dissolution of both the acquiring and target companies                        |
| Acquisition intention | Friendly merger<br>Hostile takeover  | Friendly negotiation to reach a consensus<br>Hostile acquisition without negotiation  |
| Merger procedure      | Tender offer<br>Agreement merger<br>Bid merger                                       | Offer to be acquired<br>Signing of acquisition agreement<br>Joint bidding   |
| Payment method        | Cash merger<br>Debt merger<br>Equity merger  | Payment through cash<br>Payment through assuming debts<br>Payment through equity  |

Source: Compiled from Public Information

### ***2.1.3 Basic Steps of Merger and Restructuring***

#### **1. Pre-merger and Restructuring Stage**

The pre-merger and restructuring stage for a listed company involves several key steps. First, the company must work with financial advisors to formulate a merger and restructuring strategy that takes into account its own position as well as industry and operating conditions. Second, potential target companies must be screened, including conducting preliminary feasibility analysis and determining the proper timing for the M&A. Third, a detailed and thorough examination of the target company must be conducted, including financial, operational, tax, and litigation research.

## 2. Mid-merger and Restructuring Stage

The mid-merger and restructuring stage for a listed company includes several important steps, such as issuing a tender offer, negotiating, and closing the deal. Negotiations with the target company must take place at an agreed time, and the merger method, pricing model, and payment method must be agreed upon. Relevant legal documents must be drafted, and personnel arrangements for the management of the merged company and solutions for the existing employees must be determined until the completion of the M&A transaction.

## 3. Post-merger and Restructuring Stage

The post-merger and restructuring stage for a listed company involves completing the integration of the merged company. The management, production, marketing, and service systems of the merged and acquired companies must be organically integrated in order to create a whole entity that operates effectively.

## **2.2 Relevant Theoretical Basis**

### ***2.2.1 Basic Theory of Industrial Organization***

#### 1. Traditional Theory of Industrial Organization - Harvard School SCP Paradigm

The SCP analysis paradigm is based on the industrial theory proposed by Mason, the founder of the Harvard School of Industry, who argued that the behavior of companies within an industry often determines the efficiency level of that industry, and that it is often influenced by the market structure characteristics of the industry. Clark then introduced the concept of "effective competition" in 1940 to describe a competitive pattern that maintains competition and exploits economies of scale. Building on these ideas, Bain (1959) expanded the standard of effective competition from a dichotomy to a trichotomy and proposed three basic categories of modern industrial organization theory, namely, market structure, market behavior, and market performance. He then linked these categories with national industrial organization policies, standardized the theoretical system of industrial organization, and established the SCP analysis paradigm.

According to the SCP analysis paradigm, the market structure of an industry is determined by basic conditions such as technology and demand elasticity. The market structure, which includes the number of sellers, product differentiation, and cost structure, determines the behavior of companies, such as pricing, research and development, investment, and advertising. The behavior of companies, in turn, determines the market performance, such as efficiency, profits, and distribution. Bain focused on analyzing the market structure in each link of the SCP and believed that the abilities of companies to profit vary, which is the result of monopoly and collusion among some dominant companies. The most important market structure feature is the relationship between monopoly and competition, which determines the behavior and performance of companies. The degree of industry centralization and entry barriers are the main factors that affect the relationship between industry monopoly and competition. Bain believed that market

centralization depends on the relationship between market competition and economies of scale, which is the inevitable result of companies pursuing economies of scale. If a company achieves a monopoly based on economies of scale, it will limit product output and raise market prices to obtain high monopoly profits. Therefore, a highly concentrated market structure will produce market behavior characterized by oligopoly, which, in turn, will result in poor market performance. Effective industrial organization policies should first take strong regulatory measures against monopolies and oligopolies in economic life to maintain a market structure of effective competition.

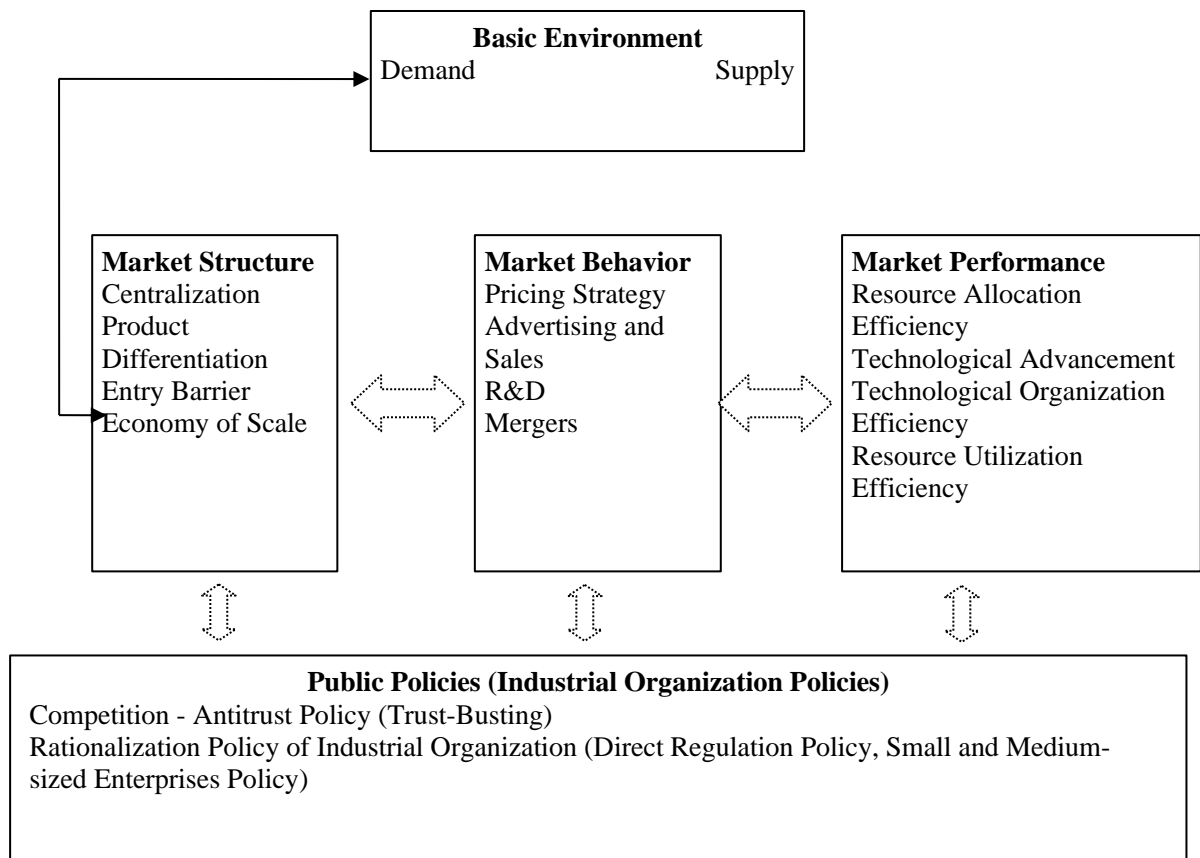


Figure 2-1: The SCP Analysis Framework of Industrial Organization

Source: Compiled from Public Information

The SCP analysis paradigm, while initially reflecting the industrial organization theory system, has some shortcomings in both theoretical foundation and research methods. Firstly, the microeconomic theory foundation of the Harvard School overlooks the differences between monopolistic and perfectly competitive enterprises, as well as those between manager-controlled and shareholder-controlled enterprises, treating the diverse enterprise behaviors resulting from differences in enterprise objectives as relatively uniform. Secondly, the SCP paradigm's static and one-sided analysis fails to account for the fact that the current market structure is the result of previous enterprise behaviors. Lastly, the SCP paradigm excessively emphasizes the role of market structure, preventing orthodox industrial organization theory from incorporating factors such as internal property rights, transaction costs, and confidence costs of enterprise behaviors into the analytical framework.

## 2. Chicago School of Industrial Organization Theory and Theory of Competitive Markets.

The "Chicago School" refers to a group of scholars represented by Professors Stigler and Demsetz at the University of Chicago, and is one of the Western bourgeois economic schools. Its members are mainly economists who emphasize the regulatory role of market mechanisms and teach at the University of Chicago. However, there are also individual scholars who, due to their academic views and tendencies, are considered members of this school despite not teaching at the University of Chicago.

Compared with the industrial organization theory of the Harvard School, the Chicago School differs mainly in the following aspects: Firstly, the theoretical viewpoints of the two are different. The Harvard School subscribes to the neoclassical price theory in

microeconomics, considers perfect competition and monopoly as two extremes, and uses the number of enterprises in the market as the basis for judging relative efficiency improvement. It believes that as the number of enterprises increases and the market approaches perfect competition, relatively ideal resource allocation efficiency can be achieved. The Chicago School, on the other hand, emphasizes the regulatory role of free market economic competition mechanisms and views market competition as a "survival test" process in which market forces are freely exerted, and the fittest survive and the unfit are eliminated. Secondly, the analysis tools of the two schools differ. The industrial organization theory of the Harvard School, influenced by Clark's theory of effective competition, mainly uses the SCP paradigm as its analytical tool, believing that in the process of market competition, a certain market structure determines certain market behavior, and certain market behavior determines certain market performance. It suggests a one-way relationship among market structure, market behavior, and market performance, with market structure being dominant. However, the industrial organization theory of the Chicago School believes that market performance plays a decisive role, and different enterprise efficiencies form different market structures. It is precisely because some enterprises are able to obtain higher production efficiency in intense market competition that they can earn higher profits, expand their scales, increase market concentration, and form a market structure characterized by large enterprises and high concentration. This position fiercely criticizes the SCP analysis paradigm of the Harvard School.

Thirdly, the two schools have different views on the "market concentration-profit" hypothesis. The Harvard School believes that in industries with oligopoly or monopoly market structures, collusion among a few enterprises and behavior that restricts

competition through high entry barriers weaken market competitiveness, resulting in excess profits and damaging resource allocation efficiency. The Chicago School believes that different market efficiencies will result in different market structures. The analysis of market competition conditions should not only focus on market structure, but also on market behavior and market performance. Oligopoly or monopoly market structures do not represent inefficiency. Antitrust laws should intervene only when firms adopt collusion or monopoly behavior to monopolize the market and harm consumer interests. With the decline of the US economy in the 1970s and the weakening of international competition in traditional industries, the US government has essentially adopted the Chicago School's proposal of "anti-monopoly."

The Contestable Market theory was proposed in the late 1970s and early 1980s based on the industrial organization theory of the Chicago School by William Baumol, a famous American new welfare economist, Professor Panzar of Northwestern University and Professor Willig of Princeton University. The theory believes that good market performance such as production efficiency and technical efficiency can still be achieved outside the ideal market structure as defined by the Harvard School, without the presence of numerous competitive enterprises. As long as market entry remains completely free and there are no special costs of entering and leaving the market, potential competitive pressures will force enterprises under any market structure conditions to adopt competitive behaviors. In this environment, highly concentrated market structures including natural monopolies can coexist with efficiency.

3. Theoretical perspectives of the new institutional economics: transaction cost theory, agency theory, and property rights theory.

The term "new institutional economics" was first proposed by Williamson, a representative figure of this school. Other representatives include Coase, North, and Alchian. This school inherits the tradition of the past institutional economics school and advocates reform according to institutional analysis and structural analysis on the basis of existing production materials under capitalism. At the same time, based on the new political and economic conditions after the end of World War II, this school started focusing on practical problems of capitalism and critiquing its shortcomings, and put forward more specific policy recommendations. While mainstream industrial organization theories such as the Harvard and Chicago schools focus on studying the structure of industrial markets, the new institutional economics theory studies industrial economic problems from an institutional perspective, deepening the research focus to the internal organization of the industry. It analyzes corporate behavior and market performance from changes in property rights and organizational structure inside the "black box" of enterprises, and introduces transaction costs to explain the boundary relationship between enterprises and markets. This has thoroughly changed the traditional idea that examines enterprises exclusively from a technical perspective and markets exclusively from a monopolies-versus-competition perspective. The new institutional economics theory provides a new theoretical perspective for the study of corporate behavior and directly promotes the deepening of industrial organization theory.

#### (1) Transaction cost theory

"Transaction cost" is an economic term that refers to the various costs that arise for both parties before and after the completion of a transaction. In 1937, the renowned economist Ronald Coase first proposed the transaction cost theory in his article "The

Nature of the Firm." This theory posits that enterprises and markets are two resource allocation mechanisms that can be mutually substituted. Transaction costs refer to the costs that enterprises incur in searching for trading partners, negotiating contracts, executing transactions, supervising breaches of contract, and other behaviors. Transaction costs refer to the costs incurred by companies in searching for transaction partners, negotiating contracts, executing transactions, monitoring compliance, and other related activities. These costs primarily consist of search costs, negotiation costs, contract costs, and supervision costs. The market and the company are two different ways of organizing labor division, and can also be understood as two different "transaction" methods. The reason why companies exist is that their transaction costs are lower than the costs of organizing labor through the market. By means of capital operations, such as mergers, acquisitions, and restructuring, enterprises can internalize the market, eliminate the risks caused by market uncertainty, and thereby reduce transaction costs. After Coase, Williamson and other economists further developed and improved the transaction cost theory. Williamson (1977) believed that the interaction between human factors and environmental factors, such as uncertainty, can easily lead to market failure. The good cooperation awareness, effective internal control mechanisms, and decision-making mechanisms within enterprises can make mergers more efficient than market mechanisms for resource allocation.

## (2) Agency theory

Agency theory is an important component of modern corporate theory that emerged in the late 1960s out of dissatisfaction with the "black box" theory of enterprises. At that time, economists began to study the problem of information asymmetry within enterprises in depth. Agency theory is based on the separation of ownership and management rights in

enterprises, emphasizing the existence of conflicting interests and information asymmetry between principals and agents. The origins of this theory can be traced back to Adam Smith (1776), who first discovered the existence of agency relationships in joint-stock companies. In "The Wealth of Nations," he noted that "the directors of such [joint-stock] companies, being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private co-partnery frequently watch over their own... negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such a company."

Due to inconsistent objectives between the principal and agent, as well as information asymmetry, the agent may deviate from the principal's objective, and the principal may find it difficult to monitor the agent's behavior. Moreover, the cost of monitoring may outweigh its benefits, leading to a non-cooperative relationship between the two parties. As a result, the agent may pursue self-interest maximization, which could potentially harm the interests of the principal.

Kenneth Arrow (1985) divided the principal-agent problem into two types: moral hazard and adverse selection. Moral hazard refers to the agent's opportunity to take actions that are unfavorable to the principal because it is difficult for the principal to observe and supervise the agent. Adverse selection refers to the agent's use of information that the principal cannot observe to make decisions. Therefore, the core goal of agency theory is to study how principals can design optimal contracts to incentivize agents under conditions of information asymmetry and conflicting interests.

In summary, the basic viewpoint of agency theory is that shareholders are the principals of the company, and managers are the agents of the company, and the agent should aim to maximize the profits of the principal. However, in practice, due to the incomplete alignment of interests between agents and principals, as well as information asymmetry, agents may act in their own interests at the expense of the principal's interests, leading to the phenomenon of agency costs (such as monitoring costs for principals, bonding costs for agents, and residual losses). The amount of agency costs mainly depends on two aspects: the degree of separation of ownership and management rights, and the number and scope of principal-agent hierarchies. The greater the degree of separation of ownership and management rights, the more dispersed the company's equity, or the greater the number and scope of principal-agent hierarchies, the higher the agency costs.

The solutions to agency problems are multifaceted, including the following specific measures: Firstly, reducing delegation and intermediaries can effectively lower agency costs. Secondly, effective incentive mechanisms should be established and improved, which include (1) basic wages and benefits to ensure the company's operation and (2) rewards linked to short-term and long-term benefits. Thirdly, internal supervisory and constraint mechanisms should be established and improved, which include (1) improving the legal governance structure to ensure the independence of each corporate institution's authority, ensuring the symmetry of power and responsibility, and ensuring that all power is held legally accountable; (2) fully utilizing the supervisory role of employees' congress; and (3) standardizing financial systems and leveraging the supervisory role of accounting personnel. Fourthly, external supervisory and constraint mechanisms should be established and improved, which include (1) using competitive mechanisms in product markets, capital

markets, and personnel markets to restrain agent behavior and (2) establishing and improving social and legal constraint mechanisms.

### (3) The Property Rights Theory

The property rights theory explores the role and significance of property rights in economic activities. Property rights, which encompass ownership, use, income, and transfer of a resource or property, are believed to have a significant correlation with the efficiency of resource allocation in economic activities.

## ***2.2.2 Basic Theories of Mergers and Acquisitions***

### I. Efficiency Theory

The efficiency theory posits that M&As, as well as other forms of asset restructuring activities, can potentially bring social benefits to enterprises, which is its core of the idea. For the participants involved in the transaction, M&As can improve efficiency. The efficiency theory also believes that M&As can create synergistic effects.

A company or department can be seen as a synergistic system, where synergy is a means for business operators to effectively utilize enterprise resources. The term "synergistic effect" refers to the value generated by two or more companies or departments through cooperation or integration being greater than the total value generated independently, often depicted as " $1+1>2$ " or " $2+2=5$ ."

In the 1960s, Igor Ansoff, an American strategic management expert, first introduced the synergy theory into the field of enterprise management. In his work "Corporate Strategy," he analyzed how the opportunity synergy theory's strategy can organically link a diversified business's operations, enabling enterprises to make better use

of existing resources and expand their development space. He listed "synergy" as one of the four elements of corporate strategy.

Of course, synergistic effects are not always positive. Sometimes there are negative synergistic effects, where the value generated by cooperation is less than that generated by independent operation, often depicted as " $1+1<2$ " or " $2+2=3$ ." When discussing the synergistic effects of M&As, unless otherwise specified, this article refers to positive synergistic effects.

The efficiency theory of M&As can be summarized as follows: management synergy theory, operational synergy theory, financial synergy theory, pure diversification theory, and long-term strategic planning theory.

#### (I) Management Synergy Theory

Management synergy theory consists of two branches: differential efficiency theory and inefficient manager theory.

The differential efficiency theory refers to a scenario where the low-efficiency enterprise's efficiency is raised to the same level as that of the high-efficiency enterprise after the latter acquires the former, thus improving the overall efficiency.

If an enterprise's management capacity is surplus and cannot be released by reducing management personnel, it can use this surplus management capacity to enter related industries via M&As. If the target enterprise lacks professional knowledge in its industry, it may not be profitable to enter its industry. Hiring management personnel with relevant experience may improve the management performance of companies with low management efficiency, but it is often far from enough, as an organization sometimes requires an effective management team. After merging the low-efficiency enterprise with

the high-efficiency enterprise, the non-management organizational capital of the target enterprise is combined with the surplus management capital of the acquiring enterprise to produce a synergistic effect. This theory is one of the theoretical foundations of horizontal mergers.

Ineffective managers refer to incompetent managers who can be outperformed by anyone else, or managers who are unable fully tap into the enterprise's potential operations, and another management team can manage the enterprise more effectively. This theory provides theoretical support for conglomerate mergers.

## (II) Operational Synergy Theory

Operational synergy theory refers to the changes in production and operating efficiency that enterprises bring about through merger activities, especially scale economy and scope economy. It is mainly reflected in horizontal mergers and vertical mergers.

### 1. Horizontal mergers and Operational Synergy

Scale economy is the primary source of operational synergy. The operational synergy theory assumes that scale economy exists in the industry, and before enterprise merger activities, the operational activity level cannot reach the potential requirements for achieving scale economy. However, horizontal mergers can expand the production scale of enterprises through resource complementarity in a very short period, achieving the optimal conditions for economic scale and improving production efficiency.

Scope economy is another source of operational synergy. Scope economy arises when the target enterprise has surplus production capacity for a certain product, and the cost of jointly producing the product is lower than that of each party producing it independently.

## 2. Vertical mergers and operational synergy

Vertical mergers involve the integration of production and marketing enterprises closely related to the acquiring enterprise, resulting in vertical production integration. Compared to competitors, vertical mergers offer significant cost advantages in terms of reduced transaction costs and decreased transaction uncertainty.

The primary objective of corporate M&As is to achieve some form of operational synergy. Although the operational synergy theory can explain most merger activities, such as strategic mergers, it falls short in explaining pure diversification mergers carried out by enterprises seeking to reduce risk. Hence, the operational synergy theory has certain limitations.

### (III) Financial Synergy Theory

The financial synergy theory posits that an M&A activity can boost the efficiency of capital utilization by investing the acquiring company's low-cost internal funds into the high-yielding projects of the acquired company. In essence, the financial synergy effect represents the overall improvement in the financial capabilities of the company after an M&A, resulting in significant benefits. The financial synergy effects realized through M&A activities can be classified into three main categories: firstly, rational tax planning, which involves complying with relevant regulations while avoiding taxes; secondly, enhanced financial structure, which primarily reflects an increase in debt repayment ability; and thirdly, improved financial operational ability, driven by the capital reallocation between the two companies involved in the M&A, which ensures that funds are invested in advantageous projects.

After the M&A, the company typically enjoys more internal efficiency conditions that lower capital costs and improve fund utilization efficiency. Firstly, if the acquired company is smaller in size, has fewer internal funds, and is at a higher risk of bankruptcy, its capital cost will be higher. Therefore, if the acquiring company has lower capital costs, there is a hugger chance of lowering capital costs through M&A. Secondly, the difference between internal funds and external funds enhances the superiority of internalized investment opportunities. If the manager possesses more information about the asset value of the company than external investors and takes actions that benefit current shareholders, internal financing will be preferable to external financing, and the capital cost of the acquiring company's investment in the industry where the acquired company is located will be lower. Thirdly, the difference in dividend tax treatment and higher transaction costs constitute conditions for improving the efficiency of capital allocation. Through diversification M&A, the company can shift from low-margin production activities to higher-margin ones.

#### 1. Financial Structure Optimization Theory

The financial structure optimization theory posits that companies can optimize their financial structure after an M&A, thereby improving their borrowing ability. When the cash flows of the two companies involved in the M&A are not entirely positively correlated, the possibility of financial risks occurring after the M&A will decrease, and the net cash flow will remain relatively stable. This effect directly enhances the company's borrowing ability.

In addition, M&A can help the company reduce financing costs. There are economies of scale in securities issuance and trading costs. After an M&A, the company's

scale expands, and its ability to issue stocks and bonds is strengthened, which reduces the issuance and trading costs per unit of security. Furthermore, an M&A further can enhance a company's overall creditworthiness and subsequently its borrowing ability, effectively lowering its capital cost.

## 2. Internal Capital Market Theory

The concept of the internal capital market (ICM) emerged in the mid-20th century during the M&A boom among American enterprises. It refers to the phenomenon of various departments within the company competing for funds, and its initial cause was the failure of traditional capital markets, where information asymmetry in external capital markets (ECM) led to inefficient allocation of resources. The theory of the internal capital market posits that information asymmetry can lead to higher risks for companies when investing in external capital markets. However, some large corporations can use the internal capital market to invest and save information search costs while evading the risk of failed investments.

After the 1990s, research on the internal capital market gradually became standardized, and some economists proposed many useful insights for studying corporate investment behaviors. Gertner et al. (1994) believed that the internal and the external capital market have essential differences, which lead to completely different results in terms of corporate supervision, incentives, and asset redistribution. The internal capital market increases the supervision and incentives of the company's headquarters (investors), reduces the incentives for department managers without residual control rights, and is conducive to better redistributing corporate assets. Stein (1997) believed that investors with

control rights can use the internal capital market to redistribute the company's scarce funds on a larger scale, thereby increasing the company's value.

#### (IV) Pure Diversification Theory

The theory of pure diversification posits that diversification can serve as a tool to meet the risk dispersion needs of corporate managers and employees, while also providing significant financial and tax benefits to the company.

Firstly, shareholders can diversify their investments across different companies in the capital market to disperse risk, while employees have limited opportunities to diversify their income sources. Therefore, companies should invest in exclusive knowledge training for their employees, which can only be obtained through working for the company and is of no value to other companies. Due to the highly specialized nature of such knowledge, employees of the company have higher productivity in their current job than they would have in other companies, which makes them value the current stability and high salary of their job. Diversification provides managers and employees with job security and promotion opportunities, while also reducing labor costs and improving company efficiency.

Secondly, to a certain degree, employee information is often proprietary to the company and cannot be transferred to external companies or markets. By utilizing this information, companies can effectively match employees with positions, thereby forming manager-employee groupings within the company. When the company is liquidated, the value of these groupings also disappears. Nonetheless, diversification can transfer these teams from unprofitable business activities to profitable business activities, ensuring a smooth and effective transition of the company's business activities.

Thirdly, reputation capital establishes connections between the company and various parties such as customers, suppliers, and employees, and diversification helps to protect this reputation capital.

Lastly, after the M&A, investment opportunities can be internalized, but there may be a lack of industry-specific organizational capital from the acquired company, resulting in substantial risk when entering new fields. However, if the acquired company retains its organizational capital and reputation capital, it can reduce the risk associated with the lack of industry-specific organizational capital.

In summary, diversification can be accomplished through M&A activities, but in specific situations, the M&A method may be preferable to internal development. Through M&A, companies can rapidly achieve diversified operations.

Although the pure diversification theory explains the advantages that companies can gain through diversification-driven M&A, it remains an incomplete theory for its failure to specify how companies can avoid risks and determine the proper timing for doing so.

#### (V) The Long-Term Strategic Planning Theory

The theory of long-term strategic planning is based on the idea that diversification can be achieved through M&As, and that companies often use M&A activities as a means to make strategic adjustments in response to changing environments. This is because the speed of this adjustment is significantly faster than that through internal development. Furthermore, M&As can reduce the risk of diversification for companies, and when there are synergies between the two companies involved in the M&A, the M&A strategy can be successful.

## II. Agency Issues and Managerialism Theory

### (I) Agency Costs

The separation of ownership and management is a defining feature of modern corporate economics. Consequently, the relationship between shareholders and managers in a company is essentially one of principals and agents. In such an agency model, managers, as agents of the shareholders (principals), may not always act in the best interests of the principals, leading to agency costs. Such costs typically consist of four components: (1) the total expenses of all the explicit or implicit contracts made, managed, and implemented between principals and agents when formulating a series of contracts.; (2) supervisory costs, referring to the cost of supervising and regulating the agent's behavior by the principal to motivate the agent to work in the principal's interests; (3) bonding costs, which pertains to the cost incurred by the agent to ensure that the principal's interests are not harmed; and (4) residual loss, which denotes the loss suffered by the principal due to the deviation between the agent's decision and the maximization of the principal's benefits.

### (II) Agency Issues

When managers own only a small portion of the company's equity, agency problems may arise. Limited ownership can lead to a lack of motivation, reduced work output, or excessive consumption, such as lavish office decorations or purchasing high-end cars, all of which will be borne by the shareholders who own the majority of equity. Therefore, in companies where ownership is relatively dispersed, individual owners often must expend additional resources on supervising and managing the managers' behavior, given the information asymmetry that obscures whether managers are working to maximize shareholder returns.

The fundamental cause of agency problems is that the contract between managers and owners cannot be executed without any cost. Of course, agency problems can be effectively mitigated, and M&As constitute one possible solution to such problems. If a company's management is deficient due to agency problems, the company may be acquired, providing an external control mechanism for addressing agency problems. External managers can replace the existing management and board of directors and gain decision-making control over the target company. Hence, existing managers always face the risk of being replaced, prompting them to work harder and enhance efficiency in order to secure their current positions. From this perspective, M&As can diminish the agency problems stemming from equity dispersion. The agency theory posits that when the manager talent market proves inadequate to address agency problems, the company's M&A market can play a constructive role in resolving them.

### (III) Managerialism

Managerialism is a viewpoint that opposes mergers and acquisitions, claiming that agency problems cannot be solved by such actions or the existence of the company's M&A market. Instead, M&As are viewed as manifestations of managers' inefficient external investment. Managers do not genuinely maximize shareholder value by expanding the company's scale, but rather pursue their own interests. In some cases, they may even harm shareholder interests to maximize their own benefits. Meller (1969) posits that managers have a motivation to expand the company's scale by frequently acquiring outside companies at relatively low rates of return. Lewellen and Huntanman (1970) found, through research, that managers' compensation is closely related to the company's profits, rather than directly linked to sales performance. Fuss (1980) discovered that the average

income of managers in acquiring companies increased by 33% within two years of the acquisition, while the income of managers in non-acquiring companies increased by only 20%. This data perfectly supports the managerialism theory.

#### (IV) Free Cash Flow Hypothesis

The Free Cash Flow (FCF) hypothesis, which stems from the agency cost problem, refers to the portion of cash flow that remains after all necessary funding for investment projects with positive net present value have been met. Jensen (1986) formally proposed the FCF hypothesis in the book "The Agency Costs of Free Cash Flow: Corporate Finance and Takeovers", mainly to elucidate the conflict between management and shareholders arising when a company possesses a large amount of cash flow. According to Jensen, to maximize shareholder value, FCF should be paid to shareholders. However, the company's management, motivated by personal gain, often desires as much FCF as possible, even if it invests in low-yield projects, and does not wish to return it to shareholders. Hence, the problem of FCF is essentially a dispute over the control of company resources.

Jensen believed that to address these agency cost problems, external capital markets such as debt and acquisitions are necessary when the internal control system of the company cannot operate effectively. The role of debt is its "control hypothesis" effect, which refers to the benefits of debt in monitoring and enhancing the efficiency of management within the organization. By issuing debt to replace regular equity, the management's commitment to pay future cash flows will be subject to stricter constraints. Debt holders have the power to force a company into bankruptcy if management fails to meet its obligation to pay interest and repay principal. Hence, issuing debt can minimize agency costs associated with Free Cash Flow (FCF) by constraining the amount of cash

flow that managers can freely expend. Regarding acquisitions, Jensen posited that some enterprises exhibit exceptional performance prior to being acquired. On the one hand, companies with significant FCF and untapped borrowing capacity tend to engage in low-efficiency or value-destroying acquisition activities, such as diversifying acquisitions. Such enterprises face agency cost problems associated with FCF. On the other hand, companies with substantial FCF become attractive targets, and the agency cost problem of high FCF undermines the company's value. The target company's relatively low valuation and ample cash flow make it an appealing acquisition target. If the acquisition succeeds, the misuse of FCF can be curtailed. If the acquisition fails, the enterprise must divest its resources, and shareholders receive equivalent compensation. Thus, Jensen concludes that "acquisitions are both evidence of conflict of interest between shareholders and management and a solution to this conflict."

## CHAPTER 3

### M&A MOTIVES AND PATTERNS OF CHINESE LISTED COMPANIES

To study corporate M&As, it is necessary to first understand the motives and patterns of such activities. This chapter explores the main motives and patterns of the M&As by of Chinese listed companies.

#### 3.1 Motives of Chinese Corporate M&As

Corporate M&As are a significant aspect of modern Western economic history. Extensive research on the motives for the emergence and growth of corporate M&As in the West has identified several motives, including (1) gaining profit, (2) economies of scale, (3) benefitting from "scope economy", (4) creating market power, (5) reducing transaction costs, (6) undervaluation theory, (7) reasonable tax avoidance, and (8) management interests.

The background of Chinese corporate M&As differs from that of the West. In addition to the motives common in the West, Chinese corporate M&As are also driven by their own unique motives.

Before studying the motivations for mergers and acquisitions among Chinese companies, it is first necessary to clarify how to determine the motivations for a merger or acquisition event, or what factors can relatively accurately reflect the true motivations. We classify all merger and acquisition motivations into two categories: one is based on the assumption of the economic man hypothesis, where all mergers and acquisitions are based on the goal of maximizing the economic benefits of the enterprise; the other is based on non-profit maximization, due to external factors. The first category is relatively easy to

distinguish, whether it is vertical merger or horizontal merger, its purpose is to focus on the strategic goals of the enterprise. This type of merger motivation is often reflected by changes in its financial indicators, while analyzing the business relevance of the merging parties and the future industrial layout of the acquirer. Such information can mostly be obtained through public information of listed companies. The other category is relatively more complicated, because the true motivations are often hidden behind public information. However, through logical analysis of the business relevance, current operating status, and future development layout of both parties, combined with consideration of specific historical and political factors, it can also be obtained.

For example, in the economic system at the beginning of China's founding, almost all enterprises were state-owned enterprises, and China implemented a planned economy. Therefore, at this stage, no independent enterprise would carry out merger and acquisition activities from the perspective of maximizing its own business interests. Since the beginning of reform and opening up in 1978, China has gradually shifted from a planned economy to a market economy, during which there have been many special motivations for mergers and acquisitions. For example, in order to invigorate state-owned enterprises, the state has carried out a series of reforms, during which there have been a large number of mergers and acquisitions to eliminate loss-making enterprises and reduce the burden on the state. With the success of reform and opening up, China's economic activity has become increasingly active. By the late 1980s, land had become a scarce resource for enterprise development. Therefore, at this stage, there were many merger and acquisition activities with the real purpose of obtaining the target party's land. This type of merger almost did not consider economic benefits or strategic goals. As long as there was land, it would

become a high-quality merger target. It even happened that even if the free land already met the needs of enterprise development, it would still continue to expand its own land resources. In addition, at the beginning of China's equity exchanges establishment, the trading system and public offering system at stock exchanges had many imperfections. With China's rapid economic development, these backward trading systems could not meet the needs of Chinese companies for listing, investment and financing. Therefore, in listed companies, there appeared some non-normal merger motivations such as backdoor listing and asset stripping to retain shell resources. These asset reorganizations and asset stripping were not based on long-term corporate interests but were purely chasing "shell" value.

In addition, there are many politically influenced mergers and acquisitions in special state monopoly industries such as resources, transportation, education and healthcare. State-owned enterprises are a very important component in China's economy and have made significant contributions to China's economic development. However, state-owned enterprises under central government control and local government control are more susceptible to political influence in their merger and restructuring motivations than those based solely on economic interests maximization principles.

The main logic involved in determining merger motivations in this study is summarized in the following table and based on listed company announcements and related reports to determine the authenticity of their motivations.

Table 3-1 Features of different motivations

| Motivation           | Characteristic  | Motivation                    | Characteristic                        |
|----------------------|---|-------------------------------|---------------------------------------|
| financial investment | small equity ratio (more in the financial and real estate industries) | policy-oriented               | subsidies/tax relief                  |
| vertical merger      | upstream and downstream of the industrial chain                       | land resources                | no other high-quality assets          |
| horizontal merger    | same industry, scale advantage  | “shell”resources              | backdoor listing/business replacement |
| technology merger    | core technology/core product  | state-owned enterprise reform | specific historical background        |

### 3.1.1 To Eliminate Loss-Making Enterprises

For a considerable period, China implemented a planned economy, where the state centrally allocated the production, supply, and sales of enterprises, and naturally bore their losses. Under such a system, enterprises had no competitive pressure, and therefore, there was no motivation for M&As. After the reform and opening up in 1978, although the state implemented several policies to expand enterprise autonomy, local governments still tightly controlled the operational activities of enterprises, making it challenging for enterprises to exercise their prétendue autonomy. As a result, enterprises found it difficult to revive, and the losses became increasingly serious (see Table 3-2).

Table 3-2 Loss Status of Independent Accounting Industrial Enterprises in China from 1984 to 1993

| Year                              | 1984  | 1985  | 1986  | 1987  | 1989   | 1990   | 1993   |
|-----------------------------------|-------|-------|-------|-------|--------|--------|--------|
| Number of Loss-Making Enterprises | 41293 | 40383 | 55537 | 60085 | 68563  | 130658 | 207846 |
| % of Losses                       | 10.72 | 10.85 | 13.16 | 14.38 | 15.90  | 30.30  | 48.20  |
| Loss Amount (RMB billion)         | 3.424 | 4.052 | 7.242 | 8.468 | 18.019 | 34.876 | 45.264 |

Source: Zhou Xiaozhi, "Mergers and Acquisitions and Enterprise Expansion" (China Labor Press, June 1999)

As shown in the above table, in 1984, 41,293 loss-making enterprises existed across China, with a loss rate of 10.72% and a loss amount of 3.424 billion yuan, while in 1993, the number of loss-making enterprises rose to 207,846, with a loss rate of 48.20% and a loss amount of 45.264 billion yuan. As the number of loss-making enterprises continued to climb, the state's subsidies to them also increased year by year. Simultaneously, in a bid to reduce the economic burden of loss-making enterprises, the state implemented tax relief policies for them, and the amount of tax relief also increased year by year. For instance, in 1978, the state granted a tax exemption of 600 million yuan to loss-making enterprises. Seven years later, in 1985, the tax exemption had reached 7.434 billion yuan, 12.4 times that of 1978.

The above analysis demonstrates that in the early stage of reform and opening up, the government bore a considerable burden of subsidizing loss-making enterprises. To reduce the number of loss-making enterprises and revitalize state-owned enterprises, the government initiated the corporate M&A activities under its direct involvement and planning. Initially, M&As were mainly profitable enterprises acquiring loss-making enterprises, and the main motive was to eliminate loss-making enterprises.

### ***3.1.2 To Acquire the Target Company's Land***

Acquiring a specific asset of the target company is often the main motive for corporate M&As. The specific asset may be a specialized asset that is particularly critical for the enterprise's development. For instance, land is vital resource for enterprise development. If some poorly managed enterprises occupy a significant amount of land

resources and a superior geographical location, while other promising and powerful enterprises are hindered in their development due to limited land areas, the advantageous enterprises may acquire the superior land resources of the inferior enterprises through M&As.

According to statistics, during the peak of corporate M&As from 1987 to 1989, acquiring the target company's land resources was the motive for 80% of the corporate M&As. If the corporate M&As are cross-industry, then the motive behind is unquestionably to acquire the target company's land resources.

The primary reasons for acquiring the target company's land resources are as follows: Firstly, the free use of state-owned land. For a long time, Chinese enterprise land had been allocated by the state, allowing enterprises to use it for free or at a low cost. By the late 1980s, if an enterprise wanted to invest in building factories and acquire land use rights through land acquisition, it would have to pay high land expropriation fees, which would be a significant expense for the enterprise. However, if an enterprise acquired an existing state-owned enterprise, it would solve its problem of insufficient land resources while avoiding such expenses. Secondly, land acquisition by enterprises is not only expensive but also involves complex approval procedures. It is time-consuming, and has high transaction costs. However, the acquisition of target company's land resources through corporate M&As is not only simple but also feasible. Thirdly, the superior geographical location of the target company's land resources is conducive to the acquiring enterprise's business operations and development.

### ***3.1.3 To Acquire "Shell Resources"***

In the financial industry, the term “shell resources” refers to the listing qualifications of a company. A listed company possessing shell resources is known as a shell company. If a listed company is operating at a loss and intends to exit the market, other companies that are unable to obtain approval for listing due to their own failure to meet the listing criteria can become the majority shareholders of the listed company through equity acquisitions, thereby acquiring the so-called "shell resources". Companies that intend to be listed but cannot obtain approval for listing can thus achieve "listing through a shell", or more commonly known as backdoor listing.

According to regulations, the conditions for a company's stock to be listed are as follows:

1. The total value of the company's shares is not less than RMB 50 million;
2. The company's stock has been approved by the State Council's securities regulatory authority and has been publicly issued;
3. The company has been in operation for more than three years and has consecutively achieved profits in the past three years;
4. The company has not committed any major violations of laws and regulations in the past three years and has no false accounting records;
5. The number of shareholders holding stocks with a face value of RMB 1,000 or more is not less than 1,000. When the total share capital is below RMB 400 million or exceeds RMB 400 million, the proportion of shares publicly issued to the total shares is 25% or 15%, respectively;
6. Other conditions.

Due to the above conditions, some companies with good performance cannot obtain listing qualifications, which restricts their development to a certain extent. However, if these non-listed companies acquire the equity of listed companies, they obtain the "shell" resources, meaning that they obtain the qualification for listing. Therefore, the cost of non-listed companies purchasing "shells" for listing is not only lower but also takes less time. This provides a shortcut for non-listed companies to become listed companies quickly and has become a motivation for many enterprises to merge and acquire target companies.

#### ***3.1.4 To Benefit from Preferential Policies***

China has a massive number of state-owned enterprises, which makes the M&A market unique. Some state-owned enterprises have poor operating performance, and in order to survive and maintain their development, the state often encourages them to engage in M&A activities. At the same time, the state also formulates a series of preferential policies for the M&A activities by these enterprises, such as tax reduction or exemption, interest rate reduction or exemption, and so on. Some companies are motivated to engage in M&As in order to enjoy the aforementioned preferential policies. Therefore, in this case, the main targets of M&As are mostly those companies that enjoy national preferential policies.

#### ***3.1.5 To Obtain Stock Subscription Rights and Avoid Delisting***

In December 1993, the China Securities Regulatory Commission designated corresponding stock subscription policies and set certain restrictions for stock subscription companies: the average net asset return rate must be above 10% for three consecutive years, and cannot be lower than 6% in any of the years. In addition, Article 157 of the Company Law stipulates that if a listed company has been in continuous losses for the past three

years, the securities regulatory authority of the State Council may decide to suspend its stock listing.

Due to the above policies and regulations, some listed companies choose to engage in corporate M&As in order to obtain stock subscription rights or avoid delisting. Through M&As, listed companies can achieve the objective of obtaining stock subscription rights or being exempted from delisting.

### ***3.1.6 Comparative Analysis with Other Countries***

The motivations of M & A which mentioned earlier that are unique to China can also be found in some developing countries and Asian countries, but they are not as prominent as in the Chinese market. This may be attributed to the political and economic systems in China.

In a study of merger and acquisition activities in African developing countries (Mohammed Ibrahim, Jalal Eddine Liassini, 2021), it was found that political factors had a significant impact on mergers and acquisitions, even surpassing the impact of economic development factors. This is similar to early economic activities in China. However, China's system has its own unique characteristics. The impact of leadership changes on China's political system is relatively weak. In China, leadership changes mainly reflect the inheritance of policies from the previous government, rather than a drastic overthrow. At the same time, China's political system allows its policies to be implemented more comprehensively and efficiently. In a study of the insurance industry merger in Nigeria (S.A.Aduloju & A.L.Awoponle, 2008), it criticized the capital restructuring order for calling for another round of capital adequacy in the insurance industry before the operators were established as being incorrect. In the Chinese market, government decisions are

implemented more efficiently. In addition to calling for certain types of economic activities, the government also employs stronger policy measures and even leads them directly through state-owned enterprises.

The focus of research on mergers and acquisitions in Asian developing countries is slightly different from this article. For example, research on mergers and acquisitions in India mainly focuses on the impact of national policies on foreign direct investment or cross-border investment in international merger and acquisition transactions (Sougata Ray & Sathyajit R.Gubbi, 2001). It has been mentioned that CBA (Cross-boarder Acquisition) in India has created value for its shareholders, but not for China. This shows that there are significant differences in culture, institutional environment, development speed, and company power among emerging economies, and sometimes within the same emerging economy.

Meanwhile, some studies have shown that political connections can provide companies with preferential resources, while others have shown that political connections can damage firm value. Faccio (2010) found that compared to no political connections, having political connections results in worse firm performance. In China, government officials' promotions are related to regional GDP, deficits, unemployment rates during their term (Li and Zhou, 2005). Therefore, government officials have strong incentives and powers to intervene in business activities. Managers with political connections may sacrifice firm value to achieve social and political goals of the government. Unfortunately, this is difficult to verify accurately from data due to the lack of validation and scientific and genuine indicators of data quality.

### **3.2 Main Modes of Chinese Corporate M&As**

The main modes of Chinese corporate M&As can be divided into the following types: expansion, contraction, adjustment, and control transfer.

#### ***3.2.1 Expansion Mode***

Expansion mode refers to capital restructuring behavior that focuses on expanding production and capital scale. It usually refers to the restructuring behavior implemented to achieve the increase of the company's product variety, the expansion of business scope, and the expansion of asset scale. This includes asset purchases, company acquisitions, stock acquisitions, joint ventures or consortiums to establish subsidiaries, and corporate mergers.

##### **1. Asset Purchase**

Asset purchase refers to the merger company's purchase of tangible or intangible assets, such as debt, real estate, equipment, business departments, production lines, and trademarks, without having to assume debt or obligations associated with that part of the assets.

Example: Guangdong Mingzhu (stock code: 600382) and its subsidiary Guangdong Mingzhu Group Guangzhou Valve Co., Ltd. signed an asset transfer agreement with Guangzhou Mechanical and Electrical Group (Holdings) Co., Ltd. in January 2002 to acquire the operational assets of Guangzhou Valve Factory owned by Guangzhou Mechanical and Electrical Group for RMB 40.15 million.

##### **2. Company Acquisition**

Company acquisition refers to the acquisition of all equity of the target company to make it a wholly-owned subsidiary, or the acquisition of the majority of shares of the target

company to put the acquiring company in an absolutely or relatively controlling position. After the acquisition, the acquiring company can not only obtain the property rights and corresponding legal person property of the acquired company but also acquire certain proprietary rights of the target company, which is beneficial to enhance the core competitiveness of the acquiring company and facilitate faster growth.

Example: In September 2001, China Resources (Holdings) Co., Ltd. spent RMB 150 million to acquire 48.98 million shares of Sichuan Jinhua State-Owned Stock held by Suining Xingye Asset Management Company, becoming the largest shareholder of Sichuan Jinhua. After the acquisition, Sichuan Jinhua became the first foothold of China Resources Textiles in western China, as the latter is aimed to become the largest textile enterprise in China step by step.

### 3. Stock Acquisition

Stock acquisition refers to the acquisition of target company shares for investment income or to strengthen the cooperative relationship with upstream and downstream companies without obtaining control. This type of acquisition only puts the acquiring company in a shareholding position and is usually exploratory diversification or strategic investment.

Example: In June 1998, due to a long-term increase in electricity prices and a shortage of electricity supply, Henan Jiaozuo Wanfang Aluminum Co., Ltd. acquired 30% of the equity of Jiaozuo Wanfang Power Company held by its parent company Wanfang Group. This acquisition not only enabled Jiaozuo Wanfang Aluminum to enjoy a 30% discount on electricity prices, greatly reducing production costs but also ensured sufficient

power supply, and more importantly, shared 30% of the profits of the power company in proportion.

#### 4. Joint Venture or Consortium to Establish Subsidiaries

If a company lacks certain specific capabilities or resources, joint ventures or consortiums are the most rudimentary means of cooperation strategy. Joint ventures or consortiums to establish subsidiaries can link the company with other complementary skills and resource partners to gain a competitive advantage.

In February 2001, Beijing Xidan Department Store, Beijing CSF Market Co., Ltd., and Shanghai Hualian Supermarket Co., Ltd., three of the top 50 retailers in China, entered into a joint investment agreement to establish Beijing Xidan Hualian Supermarket Co., Ltd. The primary objective was to penetrate the North China market, with a focus on Beijing. These three companies possessed unique strengths that complemented each other. Beijing Xidan Department Store held the dominant market position in specific areas of Beijing while Beijing CSF Market boasted a vast network of stores. On the other hand, Shanghai Hualian Supermarket had a strong presence in Shanghai, with stores not only within the city but also branching out to neighboring provinces such as Jiangsu, Zhejiang, and Liaoning. The joint venture allowed for the integration of their respective resources and skills, equipping them to compete with international retailers at the time.

#### 5. Company Merge

A company merger is a strategic choice made by most companies to seek business expansion, rational management, market control, avoid unproductive competition between each other, or remedy the operational crisis that has occurred, allowing most companies to abandon individual independent operating entities and merge into a single corporate entity.

The purpose of enterprise merger is to integrate the resources of each company, optimize allocation, and expand market competitiveness. For enterprises, mergers are certainly more beneficial than harmful, which is why they have become an important way for enterprise organizational restructuring.

From the perspective of the merger mode, mergers include controlling mergers, absorption mergers, and new establishment mergers.

A controlling merger refers to the acquiring company obtaining controlling rights over the target company through the merger, making the latter a wholly-owned subsidiary. This type of merger is often used by large companies to enter a new market or industry quickly and gain control over the target company's resources and capabilities.

Absorption merger refers to the acquisition of all net assets of the acquired company by the acquiring company during the process of corporate merger, and the inclusion of relevant assets and liabilities into the acquiring company's own books and reports for accounting purposes. After the merger, the acquiring company continues to exist, while the acquired company is dissolved and its assets are transferred to the acquiring company. The advantages of absorption merger are reflected in several aspects. Firstly, it can save the cost of corporate mergers. In the process of mergers and acquisitions, the acquiring company does not need to dissolve itself, only the acquired company needs to be dissolved, which greatly saves the cost of preparing financial statements, evaluating assets, and converting stocks or shares. Secondly, the procedures are simple. Legally, absorption merger can be regarded as an extension of the original company's business, rather than the establishment of a new company, which greatly simplifies the merger process. Thirdly, it ensures the continuity of corporate operations. Throughout the entire process of corporate

merger, the surviving company (the acquiring company) always remains in operation, while the dissolved company (the acquired company) can maintain its operation without interruption when it is merged into the surviving company. Of course, absorption merger also has its drawbacks, such as the difficulty in dealing with the relationship between employees of the surviving company and the accepted company, which can easily lead to friction.

Example: Tsinghua Tongfang's acquisition of Shandong Luying Electronics Co., Ltd. is an absorption merger, with Tsinghua Tongfang issuing 15,172,328 RMB ordinary shares through a directed increase in capital, and exchanging every 1.8 shares of Luying Electronics for 1 share of Tsinghua Tongfang. In this way, all the shares held by the shareholders of Luying Electronics are exchanged. At the same time, all assets of Luying Electronics are also incorporated into Tsinghua Tongfang, and Luying Electronics' legal person status is cancelled.

Luying Electronics Co., Ltd. was formerly Shandong Jinan Electronic Component Factory, a second-level state-owned enterprise. It was restructured into a joint-stock company in 1994 and is the largest manufacturer of high-voltage ceramic capacitors in China. It is a stable supplier for enterprises such as "Changhong", "Panda" and "Konka", and its comprehensive index has been among the top of similar production enterprises in China for six years. Tsinghua Tongfang's main business is in the electronic information industry and artificial environmental industry. Luying Electronics' products can not only be directly used in many of Tsinghua Tongfang's engineering projects, but also as an important electronic component production base with high-quality staff, advanced

technology and good asset quality, which is exactly what Tsinghua Tongfang needs for its long-term development.

A new establishment merger refers to a restructuring activity in which the legal person status of the participating companies in the merger is cancelled, and a new company is registered and established to hold the assets and liabilities of the participating companies, and to operate on a new basis. The new establishment merger is exactly the opposite of the absorption merger. Its advantages lie in the fact that the merger of companies is implemented after the companies are dissolved, and the merger process of the company is that of establishing a new company, which makes it easier and more fair to coordinate the relationship between employees and senior staff of the companies. The disadvantage of the new establishment merger is that since all the companies must be dissolved first before the establishment of new company, it can easily cause confusion and interruption in business activities, and may damage the continuity and efficiency of company operations.

### ***3.2.2 Contraction Restructuring Model***

The contraction restructuring model refers to a restructuring activity in which a part of a company's assets, subsidiaries, branches, or other branch institutions are transferred outside the company to reduce the company's size. This model emerged in the 1990s as a result of reflection on the group and diversified operations of Chinese enterprises and quickly became a new way of capital operation. The contraction restructuring model mainly includes spin-offs, buybacks, and asset divestitures.

#### **1. Spin-offs:**

Enterprise spin-off refers to the independent listing of a part of a company's business or a subsidiary, or splitting the said company into several independent units.

Enterprise spin-off is one of the important means for enterprises to implement contraction strategies. Through spin-off activities, the parent company can cash in some of the projects that have market development potential but have not yet reached the reap stage in the capital market. The parent company can continue to maintain control of the subsidiary in the form of equity holdings, and the investment risk of the subsidiary will be shared by social investors.

Example: The asset operation of Shenzhen SEG Group is a typical case of enterprise spin-off and listing activity.

Shenzhen SEG Group, a large state-owned enterprise established in 1986, has evolved into a major player in mainly in high-tech electronic, as well as in asset management and capital markets. In 1992, the group experienced severe financial distress with an debt-to-asset ratio of 113%, a loss of RMB 110 million (equivalent of USD 16.5 million), and half of its 168 enterprises operating in the red. Employee morale was low, and the company's survival was in question. However, four years later, the group's net assets grew from less than RMB 100 million (equivalent of USD 14.9 million) to RMB 2.16 billion (equivalent of USD 321.5 million), with a post-tax profit of RMB 350 million (equivalent of USD 52.1 million). It also controlled four listed companies in Shanghai and Shenzhen, establishing the remarkable "SEG system".

Through spin-offs, SEG Group underwent significant changes: first, the number of controlled enterprises was reduced from 168 to 84, but the efficiency of the enterprises made great progress; second, the multi-level legal persons and multi-level equity system of Xingcheng Road in the group, although the number of enterprises and assets directly owned by the group decreased, the number of indirectly owned and controlled enterprises

and assets increased, forming a more diverse SEG Group consisting of holding companies, production-oriented companies, and operation-oriented companies.

## 2. Buybacks

Buybacks refer to the repurchase of issued shares by listed companies through certain channels. When a company cannot achieve an above average rate of return on investment, it can either increase dividend distribution or repurchase stocks. Share repurchase has been a common practice in the stock markets around the world, but it is still fairly new in China . However, as a mature capital market practice, share repurchase provides a brand-new idea for the restructuring of assets of Chinese listed companies. As a means of adjusting the capital structure and financial structure of enterprises, listed companies can use liabilities to repurchase shares, increase liabilities and reduce equity to achieve the effect of increasing financial leverage and enhancing the intrinsic value of stocks. In addition, share repurchase can adjust the Return on Equity of the company based on industry prospects and market conditions. When the company's industry enters a recession period and the average profit reaches a low point, the company may reduce the number of shares and shareholders' equity via buybacks, greatly reducing the its profit pressure.

Example: The merger of Xiao Yu Yuan into Da Yu Yuan in 1992 can be regarded as the first successful case of share repurchase for the purpose of M&A in China's stock market. As the major shareholder of Xiao Yu Yuan, Da Yu Yuan adopted agreement repurchase to repurchase and cancel all the stocks of Xiao Yu Yuan, including state-owned shares, legal person shares and personal shares. After the merger, the new company

reissued new shares and granted Xiao Yu Yuan shareholders the priority right to subscribe new shares.

### 3. Asset Stripping

Asset stripping refers to the stripping and transfer of non-performing assets of a listed company by shareholders so as to concentrate its assets on the primary business. In the last century, most Chinese listed companies were former state-owned enterprises that had been successfully restructured. In order to raise more funds, these listed companies did not strip non-operating assets from operating assets properly, but adopted the overall listing method, resulting in low efficiency of asset operation and poor asset performance. Therefore, in order to achieve healthy and long-term development, non-performing assets are usually stripped from listed companies. In addition, in order to achieve diversification, the business scope of some listed companies have undergone excessive expansions, which makes it easy for the main businesses with good development prospects to be affected by other poorly developed secondary businesses. Therefore, it is also necessary to strip bad assets from secondary businesses to obtain funds and focus on developing the main business.

Example: Yi An Technology (formerly Shenzhen Jinxing Industrial) underwent a transformation of its main business through asset stripping. In June 1999, the company initiated a series of asset stripping and restructuring measures. The company sold its entire holding of Shenzhen Building Materials to Shenzhen Commercial Trading Investment Holding Co. for the net asset value of RMB 91.19 million (equivalent of USD 13.5 million). Additionally, the company transferred several ongoing construction investment projects to

to Jiangmen Pengjiang Construction Co. Ltd at a book value of RMB 28.778 million (equivalent to USD 4.45 million).

After the asset stripping, the company utilized the proceeds from the sale of Shenzhen Building Materials to acquire 22.24% of the shares of Guangdong Wanyan Technology Development Co. Ltd. through Guangdong Yi An Technology Development Co. Ltd., and invested RMB 10.24 million (equivalent of USD 1.5 million) to acquire 51% of the shares of Jiangmen Wanyan Multimedia Communication Technology Co. Ltd. from Guangdong Yi An Technology Development Holding Co. Ltd. Through the restructuring, Shenzhen Jinxing Industrial withdrew from its non-core real estate business and, with the help of Guangdong Yi An Technology Development Holding Co. Ltd., ventured into the sector of the high-tech electronics.

### ***3.2.3 Restructuring Models***

#### **1. Asset Replacement**

Asset replacement is a restructuring model unique to Chinese listed companies, which involves the controlling shareholder replacing unproductive or non-core business assets with high-quality assets or cash. This can take the form of both overall and partial asset replacement. As a result of asset replacement, the company's industrial structure adjusts accordingly, and its asset condition improves.

Example: In October 1997, Shanghai Land Group and Shanghai Textile Holding Group signed a share transfer agreement. Shanghai Textile Holding Group transferred all of its national shares of Shanghai Jiafeng Limited Company, totaling 64.781992 million shares, or 74.69% of the total share capital, to Shanghai Land Group at a price of RMB 2.6288 per share. In June 1998, Shanghai Jiafeng Limited Company signed an agreement

with its controlling shareholder, Shanghai Land Group, to replace its original textile assets with high-quality assets owned by Shanghai Land Group, as well as all assets owned by Jiafeng Limited Company at their respective net asset values. After the replacement, Jiafeng Limited Company shifted its core business from the textile industry to the new building materials and urban infrastructure industries. The management team of Shanghai Land Group took over Jiafeng Limited Company, ensuring the smooth implementation of Shanghai Land Group's business development strategy, and successfully achieved a backdoor listing.

## 2. Equity Replacement

Equity replacement is a restructuring model where two or more companies reduce their state-owned shareholding percentages or improve their capital structure by exchanging equity, promoting diversified investment. The main purpose of equity replacement is to introduce strategic investors or partners, while generally maintaining the controlling rights, and establish a cross-shareholding relationship between the controlling shareholders and strategic partners. There are usually three ways to carry out equity replacement: equity-for-equity replacement, equity plus asset replacement, and equity plus cash replacement. Among them, equity plus asset replacement involves the original shareholders of a company giving up part of their equity in exchange for the high-quality assets of another company or shareholder, or by issuing new shares to obtain the other party's high-quality assets. The advantage of this method is that it expands the enterprise scale without cash payments, thereby reducing financial risk.

Example: The restructuring of Taishan Tourism by Qilu Software provides an exemplary case.

Qilu Software, a holding subsidiary of the Lenovo Group and one of China's first four national software industry parks, owns more than 30 independent copyright application software products for industries such as communications, finance, and administrative management. Taishan Tourism, on the other hand, is the first listed company recommended by the National Tourism Administration and the first tourism company listed in Shandong Province. It is a pillar enterprise in Shandong's tourism industry and a rare high-quality shell resource. The restructuring of Taishan Tourism by Qilu Software mainly consisted of two steps. The first step was the transfer of equity by Qilu Software to become Taishan Tourism's largest shareholder, followed by the transfer of Qilu Software's high-quality assets, such as its communications business unit and systems integration unit, to Taishan Tourism. After the completion of the entire acquisition, Taishan Tourism (600756) was renamed "Qilu Software" and successfully achieved a backdoor listing on the Shanghai Stock Exchange.

### 3. Equity-asset Replacement

Equity-asset replacement refers to a restructuring model where a company obtains high-quality assets from another company or shareholder by partially giving up its equity. The biggest advantage of equity-asset replacement is that it expands the company's scale without requiring cash payments, thereby reducing financial risk. Another way to carry out equity-asset replacement is for the company to issue new shares to obtain the high-quality assets of another company or shareholder.

Example: In May 2002, Longchang Petrochemical (600772), an A-share listed company under PetroChina, announced that its largest shareholder, CNPC, would transfer its 64.6963 million Longchang Petrochemical shares to Xi'an Science and Technology

Industry Trade Group Co., Ltd. at a price of RMB 3.27 per share. CNPC would also transfer its remaining 21.3225 million shares to Wuhan Oasis Enterprise Co., Ltd. In order to achieve the integration of assets, PetroChina decided to repurchase the pipeline assets owned by Longchang Petrochemical under the name of the company while transferring control of the listed company. This meant that PetroChina would return approximately RMB 460 million (equivalent of USD 70 million) to the listed company. This was a major temptation and rare opportunity for Xi'an Science and Technology Industry Trade Group, which ended up paying RMB 260 million (equivalent of USD 40 million) in cash to acquire the shares, but gained a listed company platform with RMB 500 million in cash as its shell without incurring any cost.

#### ***3.2.4 Control Change Patterns***

##### **1. Equity Transfer without Compensation**

Equity transfer without compensation refers to the transfer of state-owned shares without payment. The recipient of the state-owned shares must be a state-owned sole proprietorship company. This process involves transferring control of the company and restructuring the management team to adjust and streamline the state-owned capital operation system, and utilize the acquiring company's superior management experience to revitalize the listed company in distress.

Currently, the change of controlling shareholder of listed companies is mainly achieved through the free transfer of state-owned shares and the paid transfer of state-owned and legal person shares. Equity transfer without compensation is an administrative act by the government as the owner of the listed company, to transfer the property rights of the listed "shell" company to the acquiring company. Equity transfer without

compensation can only apply to state-owned equity, and the change of equity ownership does not cause any loss to the holders of the listed company. The purpose of equity transfer without compensation is to strengthen control over the management of the listed "shell" company by changing the equity holders and improve the efficiency of asset operation.

Equity transfer without compensation is a government act where the ownership of state-owned shares is transferred to the acquiring company without payment through administrative means. It is a pure government act and a more specialized form of M&A in the process of property rights restructuring. Its purpose is to transfer underperforming companies through M&As, improve their business and survival conditions, or establish large state-owned holding companies. This model involves heavy government participation and is highly administrative. Its advantage is low transaction costs. Since the government is directly involved in the entire process, it is easy to implement with almost no obstacles, and the acquisition cost is almost zero, which is conducive to the financing function of the listed company and regional industrial adjustment.

Example: In June 2018, having obtained the approval from the State-owned Assets Supervision and Administration Commission of the State Council, CNPC (601857) proposed to transfer 970 million A-shares held by the company to Beijing Chengtong Holdings Group Ltd. and 970 million A-shares to China Reform Holdings Corporation Ltd. The data shows that as of the close of June 7th, the stock price of CNPC was RMB 7.93 per share. The total number of shares transferred by CNPC without compensation this time was approximately 1.94 billion shares, with a market value of up to RMB 15.4 billion (equivalent to USD 2.4 billion).

## 2. Agreement Transfer of Equity

Agreement transfer of equity is usually referred to as over-the-counter trading. It refers to a trading method in which the equity transferor and transferee do not use the exchange's system for centralized trading but conduct transactions outside of the trading venue through face-to-face negotiations. Over-the-counter agreement transfers of equity emerged due to the existence of a large number of non-tradable shares that are in a controlling position in the securities market. The motive for the agreement transfer of equity can be examined from the perspectives of the parties involved. Through the paid transfer of equity, the transferor can monetize certain non-tradable shares, improve the company's financial wellbeing, optimize resource allocation, and improve the efficiency of asset utilization, while the transferee can achieve the goal of backdoor listing by obtaining the equity of a listed company.

Example: Wuhan Cable Co., Ltd. (now known as Huojian Stock Co., Ltd.) achieved a transformation from a traditional industry to a high-tech industry via the agreement transfer of equity.

When first listed on the Shanghai Stock Exchange in 1995, Wuhan Cable Co., Ltd. was a traditional product-oriented company that primarily supplied wires and cables. After several years of development, especially after several equity transfers and asset restructuring, the company evolved into an industrial enterprise of high-tech products.

The first round of asset restructuring occurred in 1997, which was the third year after its listing. The first transfer of equity occurred when Wuhan Cable Co., Ltd. transferred 22.29 million national shares (29% of the total share capital) to Hainan Huayin International Trust and Investment Co., Ltd. for consideration. Due to the unsatisfactory

results of the restructuring, Hainan Huayin transferred all its equity to Hubei Wanlv Yuan Real Estate Co., Ltd. less than a year later. Soon after, the equity was transferred again. In June 1999, Hubei Wanlv Yuan transferred 25.8564 million legal person shares of Wuhan Cable Group by agreement to China Academy of Launch Vehicle Technology.

After becoming the largest shareholder of Wuhan Cable, China Academy of Launch Vehicle Technology made significant adjustments to its product structure and shifted the main business of Wuhan Cable to the development of civil space and launch vehicle technology equipment, computer technology, software and hardware development, electronic measurement and automatic control equipment, satellite application technology and equipment, as well as wire and cable production and sales. In January 2001, the legal name of Wuhan Cable Co., Ltd. was renamed as Aerospace Long March Launch Vehicle Technology Co., Ltd., and the stock abbreviation was changed to “Huojian Stock”.

After two rounds of restructuring, Wuhan Cable Co., Ltd. achieved a significant transformation in its performance. After changing its main business direction in the second half of 1999, the company's economic benefits improved significantly, and it achieved a profit of over RMB 30 million (equivalent to approximately USD 4.6 million) the following year.

### 3. Company Equity Trust and Corporate Trust

Company equity trust and corporate trust refer to the contractual delegation of voting rights of shares held by a company's shareholders to other legal entities or individuals, under certain conditions and within a specific timeframe. Such delegation is made in the form of a contract, allowing the trustee to act on behalf of the company. If the principal is the controlling shareholder of the company, the company equity trust evolves

into a control trust, which enables the trustee to access the management and operation of the entire company.

In the West, there are three common types of equity trusts: government trusts, bank trusts, and corporate trusts. In China, the government does not have a designated trust institution, and enterprises are at liberty to choose their trustee.

Equity trusts offer a series of benefits. For governments, equity trusts can realize the standardized management of non-listed shareholding companies, which prevents the loss of state-owned assets. In addition, they also facilitate the integration of industrial and financial capital, thereby promoting innovation in property rights trading and systems. For companies, equity trusts aid in the standardized operation of their businesses, improving their operational efficiency, saving financial costs, and expanding investment and financing channels. Moreover, equity trusts attract social capital and expand corporate visibility, creating conditions for the public issuance and listing of their stocks. For shareholders, equity trusts can effectively eliminate irregular behaviors, such as private transactions, and standardize equity changes, thereby preventing frauds. Additionally, equity trusts increase the liquidity of shareholders' equity and broaden their financing channels.

Example: In May 1996, Anshan First Engineering Machinery Co., Ltd. (hereinafter referred to as Anshan First, stock code 600813) signed an agreement with Liaoning Engineering Machinery (Group) Co., Ltd. (hereinafter referred to as Liaoning Group) to entrust the Chinese equity of three joint ventures between Liaoning Group and foreign partners to Anshan First for management. This equity trust case set a precedent for listed companies in China to entrust the shares of medium-sized joint ventures. The fact proves

that this trust case played an important role in realizing resource optimization and improving enterprise efficiency for Anshan First.

Through the trust arrangement, Anshan First was able to significantly increase its corporate earnings and improve its financial situation without adding large-scale investments. As the trustee and the main proponent of the trust, Anshan First undoubtedly benefited the most from this trust arrangement. For Liaoning Group, entrusting three profitable joint ventures to an average-performing enterprise like Anshan First was aimed at leveraging its status as a listed company to expand the company's assets and overall strength.

#### 4. Voting Trust and Proxy Solicitation

Voting trust is a type of trust in which the shareholders of a joint-stock company entrust their voting rights at the shareholders' meeting to a certain individual or organization to exercise on their behalf. When the trust is established, the principal and the trustee sign a voting trust agreement and transfer the shares to the trustee, who becomes a shareholder recorded in the company's shareholder register, but with the annotation "voting trust." The principal can prove their actual ownership of the shares with the trust certificate. The trustee exercises the voting rights and receives the company's dividends, deducting the trust handling fee, and delivering the dividends to the principal. The principal generally cannot revoke the voting trust during the validity period of the agreement, but the trust certificate is transferable. When the trust terminates, the trustee returns the shares to the holder of the trust certificate. Proxy solicitation, on the other hand, refers to the special way of acquiring the actual control of a listed company's operating rights through the acquisition of a large number of proxy solicitation letters from shareholders and exercising these voting

rights by proxy at the shareholders' meeting. The aim is to change the company's management strategy or elect a new board of directors. The core of proxy solicitation is that the acquirer can use third-party forces to obtain the actual control of the target company at a low cost within the authorized scope. Its essence is a proxy relationship where the acquirer (equity solicitor) represents the shareholders to exercise their voting rights.

The advantage of proxy solicitation lies in its lower acquisition cost and simpler procedure, making it an important way to acquire control of a company, on par with equity acquisition, internationally. Proxy solicitation may be used alone or in conjunction with equity acquisition.

Example: In January 2000, Guangzhou Tongbaihui Co., Ltd. won the bidding to become the largest shareholder of Shengli Co., Ltd. (stock code: 000407). This event triggered a dispute for controlling stake with Shandong Shengbang Enterprise Co., Ltd., one of the initial shareholders of Shengli. Subsequently, Guangzhou Tongbaihui collected proxy solicitation letters from the minority shareholders of Shengli, making it the first case of proxy solicitation in the Chinese securities market.

Shandong Shengbang and Guangzhou Tongbaihui, the top two largest shareholders of Shengli, held legal person shares in approximately equal quantities. The former held 37.7797 million legal person shares, equivalent to 17.35%, while the latter held 36.3 million legal person shares, equivalent to 16.67%. Since both parties held similar numbers of legal person shares, the attitudes of institutional investors were relatively clear. Thus, whoever could control the voting rights of the minority shareholders would become the decisive factor. As Shengli's circulating shares accounted for up to 50%, the opinions of its sizable retail investor base could also tilt the balance in its favor.

While soliciting shareholder proxy letters was a popular practice in the West and Taiwan, it was viewed as a financial innovation in Mainland China at the time. However, with the successive introduction of policies and regulations such as the Company Law, especially the guidance on the Articles of Association of Listed Companies, the legal basis and protection for proxy solicitation were established. In this regard, Guangzhou Tongbaihui acted promptly and took the lead over Shandong Shengbang. In the stake dispute of Shengli Co., Ltd., Guangzhou Tongbaihui publicly announced the submission of its proposal at the Shengli Co., Ltd. shareholders' meeting and officially solicited the voting rights of Shengli Co., Ltd. shareholders. By using legal means and obtaining the equity of Shengli Co., Ltd. at a low price, and seeking the recognition of the majority of minority shareholders, Guangzhou Tongbaihui quickly gained reputation and ultimately emerged victorious in the controlling stake dispute of Shengli Co., Ltd.

#### 5. Cross-shareholding

Cross-shareholding refers to the mutual holding of absolute or relative controlling rights between a parent company and its subsidiaries, which can control each other's operation. The reason for cross-shareholding is that when the parent company increases its capital and expands its shares, the subsidiary acquires the newly issued shares of the parent company. The advantage of cross-shareholding is that it is conducive to the company's management personnel replacing the owners as the masters of the company, thereby realizing internal control.

Example: In August 2003, Little Swan (stock code: 000418) announced that the Wuxi State-owned Assets Management Commission had signed the Share Transfer Agreement and Share Trust Agreement with Nanjing SVT Group, Xi'an Tongyou

Technology Investment Co., Ltd., Nanjing Port Import and Export Co., Ltd., and Guangdong SVT Technology Co., Ltd., transferring all its state-owned shares of Little Swan Group to the latter. Xi'an Tongyou became the largest shareholder of Little Swan with a 13.48% stake, as it was a holding company of SVT, and Guangdong SVT was also an affiliated enterprise of the SVT Group. Consequently, the SVT Group effectively controlled 19.87% of Little Swan's equity, making it the biggest beneficiary of the Little Swan share transfer.

## **CHAPTER 4**

### **FINANCIAL CHARACTERISTICS OF M&A TARGET COMPANIES**

Empirical studies of numerous domestic and international M&A activities have shown that M&A activities can bring significant value to target companies. Bruner (2001) found that in mature capital markets, the return to target company shareholders is much higher than that of the acquiring company's shareholders, after an extensive analysis of over 100 classic literature pieces between 1971 and 2001. Zhang Xin (2003) concluded, after the analysis of 1216 M&A events of Chinese listed companies between 1993 and 2002, that M&A activities create value for target companies, with a stock premium of 29.05%. For the acquiring company, identifying the characteristics of the target company can help them choose the appropriate M&A target and maximize M&A profits. At the same time, target company shareholders and management who do not wish to be acquired must understand the characteristics of the M&A target company and develop targeted M&A defense measures. The characteristics of target and non-target companies in M&A activities have essential differences, and these differences can be used to build models to identify target companies. Therefore, the study of the characteristics of M&A target companies is of great significance to investors and acquiring companies, as well as target companies.

Currently, when selecting target companies, acquiring companies primarily rely on publicly available financial statements and other information in the market. Studying the financial characteristics of target companies can provide reliable evidence for acquiring companies and promote the successful completion of M&A activities. In this chapter,

statistical analysis methods are used to analyze the financial characteristics of target and non-target companies in detail, identify significant features of both parties, conduct regression analysis, and determine the financial characteristics of target companies, providing strong evidence for both parties in M&A activities.

#### **4.1 Theoretical Hypotheses and Variable Selection**

Based on Western M&A motive theories, Chinese M&A theories, the M&A background of Chinese listed companies in the post-shareholding reform era, and relevant literature, this chapter proposes hypotheses on the characteristics of M&A target companies in the Chinese capital market. On that basis, relevant indicator variables are set within the financial theory framework.

##### ***4.1.1 Undervaluation Hypothesis***

In M&A activities, if the acquiring company targets a company whose stock price is undervalued, it can not only reduce its acquisition costs and obtain controlling rights over the latter at a lower cost, but also create huge economic benefits due to the significant appreciation potential of undervalued company stocks. Therefore, undervalued companies have always been favored by acquiring companies. If the stock price of the target company is higher than its actual value in the secondary market, there is a significant M&A risk for the acquiring company, making such companies unsuitable M&A targets. The undervaluation hypothesis proposes that undervalued companies, which use price-to-earnings ratio and price-to-book ratio indicators to reflect the overvaluation or undervaluation of their market value, are more likely to become acquisition targets.

#### ***4.1.2 Equity Dispersion Hypothesis***

If the target company has relatively dispersed equity ownership, the acquiring company can not only obtain control of the company with less equity ownership but also reduce the likelihood of the target company discovering the acquisition, avoiding adding to the difficulty of the acquisition. Based on that, the equity dispersion hypothesis proposes that companies with relatively dispersed equity ownership are more likely to become acquisition targets.

#### ***4.1.3 Company Size Hypothesis***

For target companies, a smaller equity capital size can reduce the capital required for acquiring companies to obtain the same percentage of equity ownership. This reduces the economic pressure on acquiring companies and ensures the smooth operation of their day-to-day activities. Conversely, a larger equity capital size of the target company requires more capital for acquiring companies to obtain the same percentage of equity ownership, which not only adds to the financial pressure on acquiring companies but also reduces the likelihood of successful M&A actions. Based on that, the company size hypothesis proposes that companies with smaller equity capital sizes are more likely to become acquisition targets.

#### ***4.1.4 Inefficient Management Hypothesis***

If the acquiring company chooses a target company with inefficient management, it can fully utilize its own management team's advantages to enhance the latter's management without damaging the former's own management activities, thereby increasing the economic benefits of both parties and even the entire society. Based on that,

the inefficient management hypothesis proposes that companies with low management efficiency are more likely to become acquisition targets.

#### ***4.1.5 Free Cash Flow Hypothesis***

An acquiring company, after completing the acquisition of the target company, becomes the owner of the latter's assets. Therefore, acquiring companies can use cash to invest and operate at minimal cost when the target company has sufficient cash flow, generating profits for themselves. Based on that, the free cash flow hypothesis proposes that companies with relatively sufficient cash flow are more likely to be acquisition targets.

## **4.2 Sample Selection and Research Methods**

### ***4.2.1 Sample Selection and Data Processing***

This study is based on a full-sample research approach, selecting companies listed on the A-share market in China between 2016 and 2018 from the CSMAR database. The target companies selected are those that experienced equity transactions between 2016 and 2018, and meet the following conditions: (1) no financial, insurance, or real estate companies are included; (2) M&A activities with an equity transaction ratio lower than 10% are excluded; and (3) listed companies with severely missing data in the three years before the M&A activity are excluded.

The selected M&A target companies form the experimental group, and an equal number of non-M&A target companies are selected from the listed companies based on their industries as the control group. Finally, 79 enterprises are obtained in each group, and the industry distribution of the target companies is shown in Table 4-1.

Table 4-1 Industry Distribution of M&A Target Companies

| Industry                          | Quantity | Percentage |
|-----------------------------------|----------|------------|
| Electronic Components             | 2        | 2.532      |
| Publishing                        | 1        | 1.266      |
| Department Stores                 | 2        | 2.532      |
| Textile                           | 4        | 5.063      |
| Liquor                            | 2        | 2.532      |
| Fashion and Accessories           | 3        | 3.400      |
| Precious Metals                   | 1        | 1.266      |
| Freight and Logistics             | 1        | 1.266      |
| Steel                             | 2        | 2.532      |
| Agricultural Chemicals            | 2        | 2.532      |
| Industrial Machinery              | 7        | 8.861      |
| Pharmaceutical Retail             | 1        | 1.266      |
| Advertising                       | 1        | 1.266      |
| Chemical Fibers                   | 2        | 2.532      |
| Automobile Parts and Equipment    | 2        | 2.532      |
| Ports and Services                | 1        | 1.266      |
| Roads and Railways                | 2        | 2.532      |
| Home Electronics                  | 5        | 6.329      |
| General Chemicals                 | 2        | 2.532      |
| Building Materials                | 2        | 2.532      |
| Technology Product Distribution   | 1        | 1.266      |
| Oil and Gas Refining and Sales    | 1        | 1.266      |
| Aluminum                          | 1        | 1.266      |
| Resorts, Luxury Cruise and Hotels | 1        | 1.266      |
| Home Entertainment Software       | 1        | 1.266      |
| Building Products                 | 1        | 1.266      |
| Biotech                           | 1        | 1.266      |
| Construction and Engineering      | 2        | 2.532      |
| Automobile Manufacturing          | 2        | 2.532      |
| Metal and Non-metal               | 1        | 1.266      |
| Paper Products                    | 1        | 1.266      |
| Gas                               | 1        | 1.266      |
| Business Printing                 | 1        | 1.266      |
| Education Services                | 2        | 2.532      |
| Food Processing and Meat          | 1        | 1.266      |
| Telecommunication Equipment       | 2        | 2.532      |
| Western Medicine                  | 1        | 1.266      |
| Traditional Chinese Medicine      | 1        | 1.266      |
| IT and Other Services             | 1        | 1.266      |
| Application Software              | 2        | 2.532      |

Table 4-1 Industry Distribution of M&A Target Companies, Continued

| Industry                 | Quantity | Percentage |
|--------------------------|----------|------------|
| Consumer Electronics     | 1        | 1.266      |
| Specialty Chemicals      | 3        | 3.400      |
| Limited and Satellite TV | 1        | 1.266      |
| Agricultural Products    | 2        | 2.532      |
| Comprehensive Industries | 2        | 2.532      |
| Total                    | 79       | 100        |

#### 4.2.2 Research Methods

The research methods employed in this study comprise paired-sample T-tests and logistic regression analysis.

Paired-sample T-tests are used to examine whether there are significant differences in the mean of a certain dependent variable among multiple samples influenced by a single factor. Then, logistic regression models are established using the significant variables obtained from the results.

Compared with discriminant analysis, logistic regression has fewer limitations and does not require strict assumptions. Even when assumptions are not met, research outcomes remain relatively stable. Furthermore, the logistic regression model does not necessitate specific variable requirements, rendering it the preferred method for this study.

The logistic regression equation is as follows:

$$P_{(i)} = \frac{1}{1 + e^{-bx(i)}}$$

where  $x(i)$  belongs to a vector describing company  $i$ , and  $b$  is the estimated parameter.

### 4.3 Analysis of Target Company Characteristics

The preceding section described the industry distribution and indicator selection of the M&A target companies. This section identifies the variables with significant differences in mean using paired-sample T-tests and makes judgments on the target company characteristics.

#### 4.3.1 Variable Design

Based on the hypothesis proposed earlier, 20 indicators are selected and explained.

The specific indicators are presented in Table 4-2.

Table 4-2 Variable Definition Table

| Variable  | Variable Formula   |
|---|--|
| Price-to-Book Ratio                                   | Market price per share/net assets per share  |
| Tobin's q   | Market value of the company / replacement cost of the company                                  |
| Maximum Shareholder Ownership Ratio                   | Number of shares held by the largest shareholder / number of outstanding shares of the company |
| Top Five Shareholder Ownership Ratio                  | Sum of shares held by the top five shareholders / number of outstanding shares of the company  |
| Natural Logarithm of Share Capital                    | Ln share capital   |
| Natural Logarithm of Net Assets                       | Ln net assets  |
| Natural Logarithm of Monetary Funds                   | Ln monetary funds  |
| Natural Logarithm of Ending Cash and Cash Equivalents | Ln (ending cash + ending cash equivalents)   |
| Free Cash Flow  | Depreciation + EBIT - capital expenditures - income tax - increase in net working capital      |
| Net Cash Flow from Operating Activities               | Total cash inflow from operating activities - total cash outflow from operating activities     |
| Net Profit  | Company net profit   |
| Return on Assets                                      | EBIT / average total assets  |
| Return on Equity                                      | After-tax profit / owner's equity  |
| Total Asset Turnover Ratio                            | Net sales / average total assets   |

Table 4-2 Variable Definition Table, Continued

| Variable                | Variable Formula  |
|-------------------------|---|
| Net Profit Growth Rate  | $\text{Current net profit} / \text{net profit of the same period last year} * 100\% - 1$  |
| Total Asset Growth Rate | $\text{End-of-period total assets} / \text{beginning-of-period total assets} * 100\% - 1$ |
| Earnings per Share      | $\text{Total amount of undistributed profits for the year} / \text{total share capital}$  |
| Debt-to-asset Ratio     | $\text{Total liabilities} / \text{total assets}$  |
| Current Ratio           | $\text{Total current assets} / \text{total current liabilities} * 100\%$                  |

Explanation of selected indicators:

The price-to-book ratio is the ratio of the stock price to the net asset value per share. It represents whether the company's value is undervalued in the market. Tobin's Q can help companies assess whether the value of an asset is undervalued and can also measure whether the company's market value is undervalued. The percentage of shares held by the largest shareholder and the percentage of shares held by the top five shareholders in the company are two indicators representing the degree of equity dispersion and can to a certain extent represent the degree of equity dispersion in the company. The natural logarithm of the share capital can reflect the size of the company's share capital, the natural logarithm of the net assets can reflect the size of the company, and the natural logarithm of the monetary funds can reflect the size of the company's cash flow. Free cash flow can represent the amount of cash available for the company to dispose of. The natural logarithm of cash and cash equivalents at the end of the year reflects the size of the company's cash flow at the end of each year. Net profit represents the company's financial performance for the year, representing the difference between all profits obtained by the company's activities and income tax. It represents the company's operating results for one year. Return on assets can represent the level of economic benefits created by the company's use of

assets and can evaluate the operational efficiency of the company's assets. Return on equity represents the level at which the company uses net assets to obtain economic benefits. Total asset turnover represents the level of the company's asset operation efficiency. Net profit growth rate represents the company's profitability and is an important indicator for measuring the company's management efficiency and management level. Total asset growth rate represents the speed of the company's asset expansion and the level of the company's management efficiency, reflecting the company's development capabilities. Earnings per share of undistributed profits is the basis for supporting the company to expand its production scale or distribute dividends, representing the company's profitability and reflecting the company's future development direction. The debt-to-asset ratio represents the ability of managers to obtain funds through borrowing and reflects the safety of creditors' funds. The current ratio reflects the company's ability to realize its liquid assets to repay debts.

#### ***4.3.2 Paired Sample T-Test***

The paired sample T-test is a statistical tool that is commonly employed to investigate and analyze observation variables at different levels, aiming to determine whether the control variables have a significant impact on them.

The null hypothesis  $H_0$  posits that the mean values of the indicator variables between the target and non-target companies are equal, while  $H_1$  suggests that there exists a significant difference between the target and non-target companies in the indicator variables.

In this study, 20 variables served as observation variables, and the occurrence of a merger and acquisition was used as the dependent variable, defined as 0 if no merger and

acquisition occurred, and 1 if it did occur. The paired sample T-test was conducted on the sample variables using SPSS 20.0, with a significance level of  $\alpha=0.05$ . If  $p \leq 0.05$  when comparing the variable samples, the null hypothesis is rejected, and H1 is accepted, indicating that there is a significant difference between the target and non-target companies in the variable. Conversely, if  $p > 0.05$ , the null hypothesis is accepted, indicating that there is no significant difference between the target and non-target companies in the variable.

Table 4-3 Paired Sample T-test Results

| Indicator   | Target Company |                    | Control Company |                    | Paired Sample T-test |       |
|---|----------------|--------------------|-----------------|--------------------|----------------------|-------|
|   | Mean           | Standard Deviation | Mean            | Standard Deviation | t                    | sig   |
| Price-to-Book Ratio                                   | 37.011         | 254.687            | 5.702           | 3.194              | 1.158                | 0.301 |
| Tobin's q   | 2.896          | 1.802              | 3.812           | 2.213              | -3.587               | 0.001 |
| Maximum Shareholder Ownership Ratio                   | 18.029         | 17.076             | 7.968           | 16.012             | 4.501                | 0.000 |
| Top Five Shareholder Ownership Ratio                  | 26.302         | 20.538             | 11.278          | 20.503             | 5.202                | 0.000 |
| Natural Logarithm of Share Capital                    | 20.113         | 0.815              | 20.001          | 0.831              | 1.649                | 0.100 |
| Natural Logarithm of Net Assets                       | 21.103         | 1.232              | 21.418          | 0.848              | -2.601               | 0.011 |
| Natural Logarithm of Monetary Funds                   | 19.583         | 1.329              | 20.012          | 1.102              | -2.428               | 0.017 |
| Free Cash Flow  | 102354728      | 8.601              | 52165789        | 7.402              | 0.369                | 0.710 |
| Natural Logarithm of Ending Cash and Cash Equivalents | 19.511         | 1.321              | 19.789          | 1.048              | -2.152               | 0.033 |
| Net Cash Flow from Operating Activities               | 1.502          | 3.849              | 22.0123         | 2.058              | -0.548               | 0.591 |
| Net Profit  | 1.612          | 2.446              | 1.912           | 2.584              | -2.325               | 0.021 |
| Return on Assets                                      | 2.271          | 4.602              | 5.699           | 5.758              | -3.518               | 0.001 |
| Return on Equity                                      | -3.158         | 26.403             | 5.152           | 14.197             | -2.412               | 0.018 |
| Total Asset Turnover Ratio                            | 8.712          | 23.742             | 19.386          | 43.016             | -2.401               | 0.019 |
| Net Profit Growth Rate                                | 728.368        | 6018.347           | 271.864         | 2230.241           | 0.607                | 0.539 |
| Earnings per Share Growth Rate                        | 35.598         | 561.975            | 42.013          | 358.132            | 0.069                | 0.939 |
| Earnings per Share                                    | 0.679          | 1.421              | 1.140           | 1.113              | -2.218               | 0.034 |
| Debt-to-asset Ratio                                   | 32.041         | 28.879             | 28.891          | 25.698             | 1.301                | 0.018 |
| Current Ratio   | 1.428          | 1.497              | 1.689           | 2.041              | -1.029               | 0.314 |

As can be seen from the table above, the mean values of the target and non-target companies (control companies) exhibit significant differences in the above indicator variables, and the differences in most of these variables are remarkable. Hence, it can be inferred that the target and non-target companies possess distinct characteristics. Specifically:

(1) Regarding one of the variables signifying market price, the price-to-book ratio, the mean values of the target company's price-to-book ratio are greater than those of the non-target company (control group), albeit the difference is not particularly significant. However, from the other indicator of the market price variable, Tobin's Q, it becomes evident that the mean value of the target company's Tobin's Q is lower than that of the control company, and the difference is particularly significant. This phenomenon indicates that the target company's stock price was undervalued in the year before the M&A.

(2) With respect to the two indicators representing equity dispersion, i.e., the percentage of shares held by the largest shareholder and the percentage of shares held by the top five shareholders, the mean values of these two indicators in the target company are higher than those in the control company, and the differences are quite significant, indicating substantial differences in equity dispersion between the target and non-target companies in the year before the M&A.

(3). From the natural logarithm of the share capital, which is one of the indicators representing the size of the company, it can be observed that the mean value of the target company's natural logarithm of share capital is greater than the control company's mean value, and the difference is significant. From another indicator representing the size of the company, the natural logarithm of net assets, it is apparent that the mean value of the target

company's natural logarithm of net assets is lower than that of the control company, and the difference is significant. This indicates that there exist significant differences between the target and control companies in terms of the size of the company.

(4) From the indicators representing the company's cash flow, including free cash flow, the natural logarithm of cash and cash equivalents at the end of the year, the natural logarithm of monetary funds, net cash flow from operating activities, and net profit, it can be observed that the mean value of the target company's free cash flow is generally higher than that of the control company, but the difference is not significant. Regarding the mean value of net cash flow from operating activities, the target company's value is generally lower than that of the control company, and the difference is not significant. However, concerning the mean values of the natural logarithm of monetary funds, the natural logarithm of cash and cash equivalents at the end of the year, and net profit, the mean values of these indicators in the target company are significantly lower than those in the control company. This indicates that there exist significant differences between the target and control companies in terms of cash flow and monetary funds, which is consistent with the findings of Ling Chunhua (2005).

(5) From the indicators representing the company's management efficiency, including return on assets, net profit growth rate, earnings per share growth rate, earnings per share, return on equity, total asset turnover, total asset growth rate, debt-to-asset ratio, and current ratio, it can be observed that the mean values of the target company's net profit growth rate and debt-to-asset ratio are generally higher than those of the control company, but the difference is not significant. The mean value of the target company's current ratio is lower than that of the control company, but the difference is not significant. However,

concerning the mean values of the target company's return on equity, return on assets, total asset turnover, total asset growth rate, and earnings per share of undistributed profits, the mean values of these indicators in the target company are significantly lower than those in the control company. This indicates that there exist significant differences between the target and control companies in terms of management efficiency.

#### ***4.3.3 Logistic Regression***

Logistic regression, also known as logistic regression analysis, requires the selection of two different sets of data, the target companies (experimental group) and the non-target companies (control group), to ensure the accuracy of the study. The data selected from both groups of companies should correspond one-to-one to the company's industry. By using this model for analysis, the weights of each independent variable can be obtained to understand the important financial indicators that make companies M&A targets. The purpose is to predict the financial characteristics of M&A target companies.

##### **1. Diagnosis of Multicollinearity**

Multicollinearity is a phenomenon in which the accuracy of the predicted results of a regression model is reduced or distorted. The reason is that the independent variables entered into the model do not exist independently, and there are different degrees of correlation between the independent variables. Generally, the model does not exhibit complete collinearity between independent variables. If there is collinearity between the independent variables in the model, then the variance of the regression coefficient in the regression equation is proportional to the strength of the collinearity between the independent variables. That is, the stronger the collinearity, the larger the variance of the regression coefficient. In this case, there may be a highly correlated regression equation,

but the regression coefficient cannot be tested or the positive or negative signs of the equation's regression coefficient cannot be reasonably explained from an economic perspective. Therefore, before running the equation, it is necessary to diagnose multicollinearity between the independent variables selected for the equation using the following methods:

(1) Tolerance Test

Tolerance tests involves performing a regression for each independent variable in the original equation. The steps are as follows: (1) the independent variable in the original equation is taken as the dependent variable for regression; (2) the other independent variables in the original equation are used as the new dependent variable for regression; (3) the residual ratio is obtained by regression analysis. The residual ratio is usually between 0 and 1. The smaller the residual ratio, the more the information overlap between the independent variable and the dependent variable, and the weaker the marginal explanatory power of the independent variable on the dependent variable. This means that there is multicollinearity between the independent variable and other independent variables in the original equation. Conversely, the larger the residual ratio, the less likely there is multicollinearity between the independent variable and other independent variables in the original equation. If the residual ratio is less than 0.1, it means that there is a strong degree of multicollinearity between the independent variable and other independent variables in the equation, and this independent variable must be removed.

(2) Variance Inflation Factor (VIF) Test

The VIF and tolerance are reciprocal. When using this test, the residual ratio is calculated first using the tolerance test method, and then the reciprocal is taken. The larger

the value of the VIF test, the greater the likelihood of multicollinearity between the variables. The size of the VIF is usually compared with 10. If the value is greater than 10, it indicates that there is multicollinearity. Therefore, when selecting variables, independent variables with VIF values greater than 10 should be removed.

### (3) Variance Proportions Test

When using this method to determine the multicollinearity relationship between independent variables, attention must be paid to the variance proportions of the feature values corresponding to the same sequence number. The larger the variance proportions, the higher the possibility of multicollinearity between the independent variables.

### (4) Condition Index Test

Generally, the value of the condition index is proportional to the possibility of multicollinearity. In the study, the condition index is generally compared with 15 and 30. A test value less than 15 indicates that there is no multicollinearity relationship between the variables. If the value is between 15 and 30, it indicates that there is multicollinearity between the independent variables. If the value is greater than 30, it indicates that there is serious multicollinearity between the independent variables.

### (5) Eigenvalue Test

Independent variables with small values close to zero in this test have a high degree of multicollinearity between them. This means that small changes in independent variables can cause significant changes in the equation coefficients.

SPSS20.0 was used to analyze the multicollinearity relationship of the variables selected for different hypotheses. The results are shown in Table 4-4.

Table 4-4 Diagnosis of Multicollinearity

| Hypothesis             | Variable  | Tolerance | VIF   |
|------------------------|---|-----------|-------|
| Undervaluation         | Price-to-Book Ratio                                   | 0.818     | 0.223 |
|                        | Tobin's q   | 0.563     | 1.798 |
|                        | Debt-to-asset Ratio                                   | 0.699     | 1.431 |
|                        | Current Ratio   | 0.862     | 1.159 |
|                        | Return on Assets                                      | 0.741     | 1.359 |
| Equity Dispersion      | Maximum Shareholder Ownership Ratio                   | 1.108     | 9.123 |
|                        | Top Five Shareholder Ownership Ratio                  | 0.112     | 9.371 |
|                        | Debt-to-asset Ratio                                   | 0.808     | 1.229 |
|                        | Current Ratio   | 0.861     | 1.159 |
|                        | Return on Assets                                      | 0.809     | 1.240 |
| Company Size           | Natural Logarithm of Share Capital                    | 0.534     | 1.869 |
|                        | Natural Logarithm of Net Assets                       | 0.521     | 1.928 |
|                        | Debt-to-asset Ratio                                   | 0.883     | 1.141 |
|                        | Current Ratio   | 0.871     | 1.138 |
|                        | Return on Assets                                      | 0.760     | 1.298 |
| Free Cash Flow         | Natural Logarithm of Monetary Funds                   | 0.459     | 2.168 |
|                        | Net Cash Flow from Operating Activities               | 0.561     | 1.801 |
|                        | Natural Logarithm of Ending Cash and Cash Equivalents | 0.312     | 3.201 |
|                        | Net Profit  | 0.578     | 1.731 |
|                        | Free Cash Flow  | 0.780     | 1.231 |
| Inefficient Management | Debt-to-asset Ratio                                   | 0.960     | 1.051 |
|                        | Current Ratio   | 0.982     | 1.018 |
|                        | Return on Equity                                      | 0.598     | 1.661 |
|                        | Return on Assets                                      | 0.451     | 2.011 |
|                        | Total Asset Turnover Ratio                            | 0.941     | 1.072 |
|                        | Net Profit Growth Rate                                | 0.589     | 1.691 |
|                        | Total Asset Growth Rate                               | 0.601     | 1.692 |
|                        | Earnings per Share                                    | 0.708     | 1.412 |
|                        | Debt-to-asset Ratio                                   | 0.797     | 1.251 |
|                        | Current Ratio   | 0.858     | 1.163 |

To address the issue of multicollinearity, variables with variance inflation factor (VIF) values greater than 10 were removed. Based on the results shown in the table above, there is no multicollinearity among the remaining variables.

## 2. Linear Regression

The purpose of regression analysis is to identify which independent variables are responsible for changes in the dependent variable and to determine the extent of their impact.

In this study, binary logistic regression analysis was adopted to identify the 21 financial indicators that predict the probability of a company becoming an M&A target. The dependent variable was defined as 0 for target companies and 1 for non-target companies. The data from 86 sample companies were used to perform regression analysis on the five hypotheses described in Table 4-4, with several variables selected from each hypothesis for inclusion in the model.

### (1) Regression Analysis for the Undervaluation Hypothesis

Seven independent variables with no multicollinearity were included in the binary logistic regression model. The variables that were not significant were removed, leaving two significant variables - Tobin's Q and return on assets - at the 10% level. The variable results are shown in Tables 4-5 and 4-6.

Table 4-5 Variables in the Model

|                  | B      | S.E   | Wals  | df | Sig.  | Exp(B) |
|------------------|--------|-------|-------|----|-------|--------|
| Tobin's Q        | 0.178  | 0.101 | 3.612 | 1  | 0.061 | 1.201  |
| Return on Assets | 0.102  | 0.041 | 6.198 | 1  | 0.015 | 1.099  |
| Constant         | -0.941 | 0.360 | 6.849 | 1  | 0.010 | 0.389  |

Table 4-6 Model Summary and Test

| Step | -2 Log-Likelihood | Cox & Snell R-Square | Nagelkerke R-Square | df | sig   |
|------|-------------------|----------------------|---------------------|----|-------|
| 1    | 185.367           | 0.093                | 0.124               | 2  | 0.001 |

Tables 4-5 and 4-6 show that the logistic model has a high overall fit and a high -2 log-likelihood value and Nagelkerke R-squared value, indicating a good fit. In addition, the Sig value of the regression model is lower than 0.05, indicating a good fit.

Based on this, the following predictive model was derived:

$$\ln \frac{p}{1-p} = -0.941 + 0.178 * Tobin'sQ + 0.102 * return\ on\ assets$$

From the perspective of the target company's influence in the market, a larger Tobin's Q indicates that the company's reset cost is lower than its market value, indicating better development prospects. A lower Tobin's Q indicates that the target company may have a debt-to-asset ratio, which could lead to economic pressure on the acquiring company and affect its development. With regard to the target company's return on assets, industrial companies with high asset value, large size, and strong monopolies have a larger proportion of production equipment in their assets, which requires a lot of human and material resources to obtain or transport. If a company with debt-to-asset ratio in such an industry is acquired, it may have a significant impact on the acquiring company. In this model, the Tobin's Q value representing the company has a positive coefficient, indicating that companies whose value is not underestimated are more likely to become M&A target companies. The coefficient of return on assets is positive, indicating that companies with higher return on assets are more likely to become M&A target companies. The higher the return on assets, the higher the profitability level and the better the asset operation of the company. Therefore, acquiring companies with higher return on assets can improve the economic efficiency and operating conditions of the acquiring companies.

(2) Regression Analysis for the Equity Dispersion Hypothesis

In this regression analysis, five independent variables with no multicollinearity were included in the binary logistic regression model. The non-significant variables were removed, leaving three significant variables - the proportion of shares held by the top five shareholders, return on assets, and debt-to-asset ratio - at the 5% level. The variable results are shown in Tables 4-7 and 4-8.

Table 4-7 Variables in the Equation

|                                      | B      | S.E   | Wals  | df | Sig.  | Exp(B) |
|--------------------------------------|--------|-------|-------|----|-------|--------|
| Maximum Shareholder Ownership Ratio  | 0.048  | 0.041 | 1.398 | 1  | 0.236 | 1.047  |
| Top Five Shareholder Ownership Ratio | -0.074 | 0.029 | 5.788 | 1  | 0.018 | 0.931  |
| Debt-to-asset Ratio                  | -0.027 | 0.008 | 8.461 | 1  | 0.004 | 0.981  |
| Return on Assets                     | 0.106  | 0.051 | 4.489 | 1  | 0.035 | 1.109  |
| Constant                             | 1.191  | 0.428 | 7.579 | 1  | 0.006 | 3.278  |

Table 4-8 Model Summary and Test

| Step | -2 Log-Likelihood | Cox & Snell R-Square | Nagelkerke R-Square | df | sig   |
|------|-------------------|----------------------|---------------------|----|-------|
| 1    | 169.054           | 0.203                | 0.269               | 4  | 0.000 |

Tables 4-7 and 4-8 show that the Sig value of the maximum shareholder ratio is 0.236 > 0.05, which is not significant and therefore not included in the model. The -2 log-likelihood value of the model is 169.054, and the Nagelkerke R-squared value is 0.269, indicating a good fit. In addition, the Sig value of the regression model is less than 0.05, indicating a good fit.

Based on this, the following predictive model was derived:

$$\ln \frac{p}{1-p} = 1.191 - 0.074 * \text{top 5 shareholder ownership ratio} - 0.027$$

$$* \text{debt to asset ratio} + 0.106 * \text{return on assets}$$

In this model, the variables are significant at the 5% level. The coefficient of the proportion of shares held by the top five shareholders is negative, indicating that companies with less dispersed equity are more likely to become M&A targets. In other words, companies with dispersed equity are more likely to be acquired, which is consistent with the hypothesis. For acquiring companies, they need to hold a certain amount of shares of the target company, and in the case of equity dispersion, the acquiring company needs to purchase a relatively small amount of shares, thereby reducing the M&A costs and evading the possibility of increased acquisition costs due to anti-acquisition measures implemented by the target company, thereby reducing the possibility of a failed acquisition. For companies with high debt-to-asset ratios, since a larger proportion of their assets are obtained through borrowing, it indicates that the company has more debts. For acquiring companies, after the acquisition, a large amount of capital is needed to repay the debt of the target company, which can add to the financial risk of the acquiring company. The coefficient of debt-to-asset ratio in the model is negative, indicating that companies with lower debt-to-asset ratios are more likely to become M&A targets and favored by acquiring companies. The asset return ratio indicator in the model is positive, indicating that acquiring companies prefer to engage in M&A activities with companies with higher asset utilization rates.

### (3) Regression analysis for the hypothesis of company share capital size

This regression requires the inclusion of 5 independent variables that do not suffer from multicollinearity in a binary logistic regression model, and the removal of variables that are not significant in the model to obtain 3 significant variables at the 5% level, namely

natural logarithm of share capital, natural logarithm of net assets and return on asset. The variable results are shown in Tables 4-9 and 4-10.

Table 4-9 Variables in the Model

|                                    | B      | S.E   | Wals  | df | Sig.  | Exp(B) |
|------------------------------------|--------|-------|-------|----|-------|--------|
| Natural Logarithm of Net Assets    | 0.788  | 0.299 | 6.798 | 1  | 0.009 | 2.207  |
| Return on Assets                   | 0.089  | 0.039 | 5.254 | 1  | 0.023 | 1.101  |
| Natural Logarithm of Share Capital | -0.923 | 0.349 | 6.850 | 1  | 0.009 | 0.401  |
| Constant                           | 1.227  | 4.659 | 0.071 | 1  | 0.789 | 3.405  |

Table 4-10 Model Summary and Test

| Step | -2 Log-Likelihood | Cox & Snell R-Square | Nagelkerke R-Square | df | sig   |
|------|-------------------|----------------------|---------------------|----|-------|
| 1    | 182.508           | 0.127                | 0.169               | 3  | 0.000 |

From Tables 4-9 and 4-10, it can be seen that the overall fit of the logistic model is high, with high values for the -2 log-likelihood and Nagelkerke R-squared, indicating a good fit of the model. The Sig value of the regression model is less than 0.05, indicating a good fit of the regression model.

Therefore, the following predictive model is derived:

$$\ln \frac{p}{1-p} = 1.227 - 0.923 * \text{share capital} + 0.788 * \text{net assets} + 0.089$$

*\* return on assets*

In this model, all variables are significant at the 5% level. The coefficient of natural logarithm of share capital is negative, indicating that companies with smaller share capital are more likely to become M&A targets, which is consistent with the hypothesis. For companies with smaller share capital, compared with companies with larger share capital in the same industry, the cost of buying the same proportion of shares as payment is

relatively lower due to their smaller base. This undoubtedly reduces the M&A cost. Meanwhile, the M&As of companies with smaller share capital also require less time and money. The coefficient of natural logarithm of net assets is positive, indicating that acquiring companies prefer to select companies with lower debt as M&A targets, which greatly reduces the amount of money invested by acquiring companies to repay the debt of target companies, which is consistent with other hypotheses.

(4) Regression analysis for the hypothesis of companies with sufficient free cash flow being easy targets

Six variables suffering from multicollinearity were included in the binary logistic regression model, and the variable results are shown in Table 4-11.

Table 4-11 Variables in the Model

|                                     | B      | S.E   | Wals  | df | Sig.  | Exp(B) |
|-------------------------------------|--------|-------|-------|----|-------|--------|
| Ln Monetary Funds                   | 0.361  | 0.228 | 2.435 | 1  | 0.121 | 1.429  |
| Ending Cash and Cash Equivalents    | 0.000  | 0.000 | 2.038 | 1  | 0.149 | 1.000  |
| Cash Flow from Operating Activities | 0.000  | 0.000 | 0.302 | 1  | 0.578 | 1.000  |
| Net Profit                          | 0.000  | 0.000 | 2.828 | 1  | 0.088 | 1.000  |
| Free Cash Flow                      | 0.000  | 0.000 | 0.304 | 1  | 0.579 | 1.000  |
| Debt-to-asset Ratio                 | -0.008 | 0.007 | 1.442 | 1  | 0.229 | 0.988  |
| Current Ratio                       | 0.061  | 0.099 | 0.305 | 1  | 0.579 | 1.061  |
| Constant                            | -6.948 | 4.399 | 2.478 | 1  | 0.116 | 0.001  |

From Table 4-11, it can be seen that the Sig value of each variable is greater than 0.05, indicating that the results are not significant. The net profit representing the company's cash flow passed the paired sample T-test and multicollinearity test, but this indicator is still not significant in the model. The situation may be related to the motives of Chinese companies for M&A. Firstly, some companies based on the "free cash flow hypothesis" acquire targets in order to obtain huge cash flows. In China's capital market,

some companies are acquired primarily because their business operations are poor and they lack funds. Under the combined effect of these two phenomena, the indicator representing the company's cash flow did not pass the test of the model. Secondly, one of the M&A motives for Chinese companies is to achieve backdoor listing through acquisition. The China Securities Regulatory Commission is very strict in reviewing the qualifications of listed companies, and generally, very few companies are listed through regular procedures. Therefore, some companies that wish to be listed quickly often acquire "shell companies" to accomplish their listing goals. In this case, the cash flow indicator of the target company is often not the main factor considered by the acquiring company when implementing M&A, which has a certain impact on the insignificant indicators in the model.

#### ***4.3.4 Conclusion Analysis***

Based on the above analysis results, the main characteristics of Chinese target companies are as follows: (1) small share capital size, manifested in smaller share capital and more net assets of the target company; (2) dispersed equity ownership. The results of this study demonstrate that M&A target companies are characterized by high management efficiency and overvaluation, which may be related to the distribution of the target company's industry. Therefore, for acquiring companies, they should confirm the company's development intentions before selecting target companies to achieve maximum synergies, and conduct detailed analysis of the target company's growth potential profitability, operational capabilities, and asset size, and try their best to select better matching companies to increase the success rate of M&A and improve the company's profitability.

**CHAPTER 5**

**FACTORS INFLUENCING EXECUTIVE COMPENSATION IN CORPORATE  
M&AS**

In corporate M&As, information asymmetry between shareholders and executives gives rise to a situation where executives hold the power to make M&A decisions. This often results in executives prioritizing their personal gains over maximizing shareholder interests, revealing a potential conflict of interest between shareholders and management that stems from the separation of ownership and management rights.

Executives who receive a higher proportion of equity-based compensation in their total income tend to exhibit particular characteristics in their approach to M&As, such as targeting companies with higher growth potential and offering lower merger premiums. Grinstein & Hribar (2004) found that executives generally increase their dividends and compensation through M&As in their study of executive compensation in public company M&As. Yim (2013) found that executives may initiate M&As for personal gains, disregarding the maximization of shareholder value, and that agency-driven M&As increase executive compensation. Amedeo and Neslihan (2016) studied the impact of M&As on executive compensation and revenue in European family businesses, and found that executive compensation in family businesses did not increase after M&As, while M&As in non-family businesses were significantly positively correlated with executive compensation. Based on the impact of corporate M&As on executive compensation, Chen Zhen and Gan Nian (2014) empirically found that “M&A — increase in scale and sensitivity coefficient of compensation not decreasing — increase in compensation” is also

one of the paths through which M&As affect compensation. Liu Shulian (2016) used A-share listed state-owned companies in the Shanghai and Shenzhen stock markets from 2006 to 2015 as research samples and examined the impact of M&As on executive promotion and compensation, finding that state-owned enterprise M&As can significantly increase the probability of executive promotion and compensation increases.

Based on a comprehensive review of domestic and foreign research on the correlation between M&As and executive compensation, this chapter examines the relationship between M&As and executive compensation in Chinese listed companies through theoretical analysis and empirical research. It investigates whether company executives leverage M&As to increase their compensation, control benefits, and on-the-job consumption, and studies the factors that affect changes in executive compensation in listed companies, providing a relevant basis for executive compensation contract design.

## **5.1 Concepts and Types of Executive Compensation**

### ***5.1.1 Basic Concepts of Executive Compensation***

The concept of "executive compensation" comprises two sub-concepts: "executive" and "compensation."

Firstly, "executive" refers to senior management personnel. When studying the stickiness of executive compensation in companies, "the top three directors with the highest compensation" are often used. Of course, the impact of different executives on a company's M&A activities varies. Generally speaking, only members of the board of directors participate in corporate M&A decisions, while independent directors usually only express independent opinions, and general managers usually only have decision-making power for

small-scale M&As. Executives below the vice president usually do not possess the final decision-making authority and cannot get involved in corporate M&A decisions.

Secondly, "compensation" generally refers to the remuneration that employees receive from the organization for providing various types of services. Narrowly defined compensation refers to monetary and monetizable rewards, including annual salaries, bonuses, stock, and various long-term incentive scheme benefits. Broadly defined compensation includes non-monetary forms of satisfaction that employees obtain throughout their career, such as on-the-job consumption, related party transactions, and the use of company business opportunities.

### ***5.1.2 Basic Types of Executive Compensation***

To eliminate the conflict of interest between executives and shareholders, shareholders often adopt some incentive measures to ensure that executives pursue their own interests while maximizing shareholder value. When studying executive compensation, scholars generally divide it into fixed compensation, short-term incentive compensation, and long-term incentive compensation.

#### **(1) Fixed Compensation**

Fixed compensation is typically referred to as salary. Salary is generally closely related to the workload of executives rather than their performance. Generally speaking, fixed compensation is more suitable for jobs where the work process and performance are easy to monitor, but it often lacks a motivating effect on jobs where the work process is difficult to supervise and the observability of performance is low.

## (2) Short-term Incentive Compensation

Short-term incentive compensation is usually referred to as bonuses. This type of compensation is more closely related to the company's current-year performance. Therefore, short-term incentive compensation can motivate executives to improve company performance. However, this type of incentive may lead executives to sacrifice long-term company benefits in order to improve short-term performance, which can also lead to agency problems that are difficult to handle.

## (3) Long-term Incentive Compensation

Long-term incentive compensation generally includes executive shareholding, restricted stock, and stock options. This type of compensation can tightly link the executive's income with the long-term value of the company, which encourages the executive to work for the long-term value of the company and can to some extent prevent the executive from behaviors driven by short-term benefits.

### ***5.1.3 Reclassification of Executive Compensation for M&A Research***

The executive compensation classification system proposed above is suitable for non-listed companies. However, it is not appropriate for listed companies due to the impact of various factors on executive compensation. Many researchers abroad have analyzed executive compensation from diverse perspectives, mostly focusing on the correlation between compensation and performance. Nevertheless, the relationship between executive compensation and company performance remains inconclusive. The primary reason for this is that the size of the company is the most influential factor on executive compensation. Compared to company size, the impact of company performance on executive compensation is considerably smaller. Large monopolistic enterprises often result in

disproportionately high executive compensation. Some scholars have explored the determinants of executive compensation from the perspectives of corporate governance, corporate strategy, and labor market. Nonetheless, research on the relationship between size and compensation has garnered more attention. The expansion of a company's size and the reshaping of its value are the most apparent changes for the acquired company after a listed company undergoes M&A activities. Thus, reclassifying executive compensation based on these two factors, namely company size and value, can correspond more accurately to M&A research for listed companies. This study reclassifies executive compensation into size-sensitive compensation and value-sensitive compensation.

#### (1) Size-sensitive Compensation

Size-sensitive compensation includes salary (including annual salary and bonus) income and control rights income. Salary income mainly depends on the company's performance and operating difficulty coefficient. The operating difficulty coefficient is directly related to the company's size and unrelated to the stock price of the listed company. Control rights income depends on the amount of economic resources controlled by executives, which is closely related to the company's size. It is worth noting that control rights income cannot be obtained through information disclosure. Many documents usually use substitute variables. Therefore, in empirical research, there is a difference in magnitude between salary income and control rights income, although both fall under the category of size-sensitive compensation, but they need to be separately measured in empirical research.

#### (2) Value-sensitive Compensation

Value-sensitive compensation generally includes income formed by stocks, stock options, and various incentive plans directly related to stocks, which is high executive

income directly related to the appreciation of the company's value. This type of compensation is more affected by the pricing of capital markets and has little to do with the company's size. Therefore, its impact on listed companies is quite different from that of size-sensitive compensation.

#### ***5.1.4 Executive Compensation Structure***

The regular executive compensation structure refers to the proportion of fixed compensation, short-term and long-term incentive compensation, and size-sensitive and value-sensitive compensation in the total executive compensation. In more mature market economies, long-term incentive compensation accounts for the highest proportion of executive compensation, but in some emerging market countries, fixed compensation and short-term incentive compensation account for a relatively high proportion.

This study reclassified executive compensation, and the executive compensation structure is no longer a general concept, but refers to the proportion of size-sensitive compensation and value-sensitive compensation in the total compensation of executives. As analyzed earlier, there is a difference in magnitude between control rights income and salary and executive shareholding income. Therefore, to avoid data distortion, control rights income is often excluded when measuring executive compensation structure.

Compared with the absolute amount of executive compensation, the executive compensation structure is more important in terms of research significance. Firstly, the executive compensation structure can reflect the behavior patterns of executives well. A bias towards size-sensitive compensation structure may encourage executives to prioritize the expansion of company size, while a bias towards value-sensitive compensation structure may make executives more concerned about the increase in company value in

corporate M&A decision-making. Secondly, the executive compensation structure can reflect their risk preferences to some extent. The size-sensitive compensation structure usually has strong institutional rigidity and can be regarded as a relatively safe income, while the value-sensitive compensation structure is usually considered as a risk income due to its close relationship with the capital market. Therefore, in the executive compensation structure, the ratio of safe income to risk income often becomes a substitute variable for measuring executive risk preferences.

## **5.2 Mechanism Analysis of the Relationship between Listed Company M&A and Executive Compensation**

### ***5.2.1 Mechanism Analysis of the Impact Factors of Listed Company M&A Performance***

Zhang Ming and Guo Siyong (2007) found that the impact of changes in executive compensation on M&A performance is nonlinear through research on the impact of executive compensation on corporate M&A activities. The change in their compensation can play a role in compensation incentives and gain investors' recognition for a certain period at the beginning. However, when executive compensation increases to a certain extent, its increase is much greater than the performance achieved after the company's M&A activities. Xie Linghong (2012) found through research that the company's size and M&A performance are significantly negative, that is, the smaller the main company's size, the higher the performance generated by M&A. Given that small-sized companies may have an easier time restructuring after M&As, and the positive effects of the M&As are more easily reflected, this study expects a negative correlation between company size and M&A performance. The study estimates that the impact of past operating performance on

the company's M&A performance is negative and uses stock returns to reflect the company's past operating performance.

### ***5.2.2 Mechanism Analysis of Listed Company Executives Driving M&A to Increase Their Own Income***

Increasing the operating difficulty coefficient is a common method for executives of state-owned listed companies to improve their comprehensive performance assessment scores in the short term. However, only by increasing the total assets of the company can the operating difficulty coefficient be improved in a relatively short period of time. Therefore, M&As are undoubtedly the best way to increase the company's capital in the short term. In the capital market, M&A can enable companies to obtain new technologies, new businesses and products, as well as more sales channels, rapidly enhancing the company's competitiveness. If the company's operating performance is relatively poor, executives often have a greater motivation to engage in M&A activities by expanding into new businesses to improve their operating performance.

## **5.3 Empirical Research Process and Results**

### ***5.3.1 Sample Data***

This study selected listed companies in the A-share market that had undergone M&A events from 2008 to 2019 in China as the research objects. M&A was defined as the acquisition of assets or equity by listed companies, excluding M&A activities such as asset stripping and replacements or debt restructurings. In addition, the sample was further screened:

- (1) The acquirer is a listed company;
- (2) The transaction amount of the M&A accounts for more than 10% of the net assets of the acquiring company;
- (3) M&A samples of financial listed companies excluded;
- (4) Sample companies with missing key data excluded.

The total number of samples in the study was 509, of which there were 22 samples from 2008, 40 from 2009, 45 from 2010, 82 from 2011, 71 from 2012, 28 from 2013, 21 from 2014, 27 from 2015, 32 from 2016, 41 from 2017, 56 from 2018, and 44 from 2019.

### 5.3.2 Main Variables and Definitions

Please refer to Table 5-1 for the main variables in this study and their definitions.

Table 5-1 Main Variables and Definitions

| Variable Name                        | Symbol             | Definition   |
|--------------------------------------|--------------------|--|
| M&A performance                      | <i>return</i>      | Tobin Q change rate one year before and after M&A  |
| Change in executive compensation     | $\Delta salary$    | Change rate of executive compensation one year before and after M&A  |
| Executive compensation               | <i>salary</i>      | Logarithm of executive compensation one year before the M&A event  |
| Past performance                     | <i>pastperform</i> | Company's past performance based on stock return rate  |
| Change in company size               | $\Delta size$      |  |
| Company size                         | <i>size</i>        |  |
| Locked share release                 | <i>edr</i>         | Virtual variable, defined as 1 when the proportion of locked share release is greater than 25% at the time of M&A, otherwise 0 |
| Nature of controlling shareholder    | <i>type</i>        | Virtual variable, defined as 1 when the controlling shareholder is state-owned, otherwise 0                                    |
| Shareholding concentration           | <i>pcr</i>         | Top ten shareholder's holding percentage   |
| Whether there is transfer of control | <i>rpt</i>         | Virtual variable, defined as 1 when there is a transfer of control, otherwise 0  |
| Marketization index                  | <i>marketrank</i>  | Market change index of economic development differences in each region in the year of M&A                                      |

### 5.3.3 Model Design

By analyzing the factors that affect the impact of executive compensation on M&A performance of listed companies in China, the following hypotheses were proposed:

(1) There is a negative correlation between executive compensation and M&A performance before the company's M&A;

(2) There is a positive correlation between changes in executive compensation and changes in enterprise scale before and after M&A in state-owned enterprises, which is not related to enterprise performance;

(3) There is no correlation between changes in executive compensation and changes in enterprise scale before and after M&A in private enterprises, but it is positively correlated with enterprise performance;

(4) For companies that have not yet implemented locked share release, there is a negative correlation between executive compensation before and after M&A and enterprise performance;

(5) For companies that have already implemented locked share release, there is a positive correlation between executive compensation before and after M&A and enterprise performance.

For hypothesis (1), model 1 was constructed:

$$\text{return} = a + a_1 (\text{salary}) + a_2 (\text{size}) + a_3 (\text{pastperform}) + a_4 (\text{type}) + a_5 (\text{rpt}) + e \quad (5.1)$$

For hypotheses (2) and (3), model 2 was constructed:

$$\Delta \text{salary} = b + b_1 (\text{return}) + b_2 (\Delta \text{size}) + b_3 (\text{marketrank}) + b_4 (\text{pastperform})$$

$$+ b_5 (\text{pcr}) + b_6 (\text{type}) + b_7 (\text{type} \times \text{return}) + b_8 (\text{type} \times \text{size})$$

$$+ b_9 (\text{type} \times \text{marketrank}) + b_{10} (\text{type} \times \text{pastperform})$$

$$+ b_{11} (type \times pcr) + e \quad (5.2)$$

For hypotheses (3) and (4), model 3 was constructed:

$$\begin{aligned} \Delta \text{salary} = & c + c_1(\text{return}) + c_2 (\Delta \text{size}) + c_3 (\text{marketrank}) + c_4 (\text{pastperform}) \\ & + c_5 (\text{pcr}) + c_6 (\text{edr}) + c_7 (\text{edr} \times \text{return}) + c_8 (\text{edr} \times \text{size}) \\ & + c_9 (\text{edr} \times \text{marketrank}) + c_{10} (\text{edr} \times \text{pastperform}) \\ & + c_{11} (\text{edr} \times \text{pcr}) + e \end{aligned} \quad (5.3)$$

### 5.3.4 Correlation Analysis

The correlation analysis of the variables in the three models is shown below:

Table 5-2 Spearman Correlation Coefficient of Each Variable

| Variable           | <i>return</i> | <i>salary</i> | <i>Size</i> | <i>pastperform</i> | <i>r-control</i> |
|--------------------|---------------|---------------|-------------|--------------------|------------------|
| <i>salary</i>      | 0.2357*       |               |             |                    |                  |
| <i>size</i>        | 0.2988*       | 0.6699**      |             |                    |                  |
| <i>pastperform</i> | 0.2398*       | 0.1823*       | 0.1492*     |                    |                  |
| <i>type</i>        | -0.258*       | 0.0731        | 0.2091*     | -0.119             |                  |
| <i>r-control</i>   | -0.1311*      | 0.2491*       | 0.2199*     | 0.1065**           | -0.0469          |

Note: \* and \*\* indicate significant levels of P at 5% and 1%, respectively.

Table 5-2 demonstrates that there is a significant negative correlation between executive compensation, company size, past performance, and M&A performance before and after the M&A of listed companies. This is consistent with the theoretical analysis results of the factors affecting the M&A performance of companies. That is, the higher the executive's monetary compensation, the less attention is paid to the performance generated by the M&A, and instead they hope to upgrade their on-the-job consumption through M&A performance.

When the nature of the controlling shareholder is state-owned, the correlation analysis results of each variable are shown in Table 5-3:

Table 5-3 Spearman Correlation Coefficient of Each Variable (Model 2)

| Variable           | $\Delta salary$ | $\Delta return$ | $\Delta size$ | <i>marketank</i> | <i>pastperform</i> |
|--------------------|-----------------|-----------------|---------------|------------------|--------------------|
| $\Delta return$    | 0.00009         |                 |               |                  |                    |
| $\Delta size$      | 0.2448*         | -0.2631*        |               |                  |                    |
| <i>marketank</i>   | -0.0071         | 0.1359*         | 0.0042        |                  |                    |
| <i>pastperform</i> | -0.0736         | -0.2569         | 0.1315        | 0.1369*          |                    |
| <i>pcr</i>         | 0.0898          | -0.0286         | 0.1871*       | 0.1109           | -0.0791            |

Note: \* and \*\* indicate significant levels of P at 5% and 1%, respectively.

Table 5-3 shows that when the nature of the controlling shareholder is state-owned, there is a positive correlation between changes in executive compensation and M&A performance, as well as the top ten shareholder's holding percentage, but the correlation is not significant. This is mainly because state-owned enterprises bear more social responsibilities and the factors affecting executive compensation are more complex. In addition, it can be seen from Table 5-3 that there is a significant positive correlation between executive compensation and company size, which verifies the correctness of hypothesis 2. There is also a significant negative correlation between changes in executive compensation and past performance, which indicates that executives may use M&A activities to cover up their poor past performance in order to increase their compensation.

When the nature of the controlling shareholder is private, the correlation analysis results of each variable are as follows.

Table 5-4 Spearman Correlation Coefficient of Each Variable (Model 2)

| Variable           | $\Delta salary$ | $\Delta return$ | $\Delta size$ | <i>marketank</i> | <i>pastperform</i> |
|--------------------|-----------------|-----------------|---------------|------------------|--------------------|
| $\Delta return$    | 0.0149          |                 |               |                  |                    |
| $\Delta size$      | 0.2648          | -0.3231*        |               |                  |                    |
| <i>marketank</i>   | 0.0621          | -0.0431         | 0.0711        |                  |                    |
| <i>pastperform</i> | -0.0241         | -0.2157*        | 0.1701*       | -0.0029          |                    |
| <i>pcr</i>         | -0.0391*        | -0.0741         | 0.2771*       | -0.0223          | -0.0432            |

Note: \* and \*\* indicate significant levels of P at 5% and 1%, respectively.

Table 5-4 shows that there is no significant correlation between changes in executive compensation and M&A performance in private enterprises.

The correlation analysis results of variables before the implementation of shareholding reform when M&A occurred are shown in Table 5-5:

Table 5-5 Spearman Correlation Coefficient of Each Variable (Model 3)

| Variable           | $\Delta salary$ | $\Delta return$ | $\Delta size$ | <i>marketank</i> | <i>pastperform</i> |
|--------------------|-----------------|-----------------|---------------|------------------|--------------------|
| $\Delta return$    | 0.1141          |                 |               |                  |                    |
| $\Delta size$      | 0.3579          | -0.3641*        |               |                  |                    |
| <i>marketank</i>   | -0.0091         | -0.0386         | 0.0679        |                  |                    |
| <i>pastperform</i> | 0.1189          | -0.3451**       | 0.2849        | -0.0580          |                    |
| <i>pcr</i>         | 0.1401*         | -0.0461         | 0.3289*       | -0.0401          | -0.0231            |

Note: \* and \*\* indicate significant levels of P at 5% and 1%, respectively.

Table 5-5 indicates that if the M&A event occurs before the implementation of shareholding reform in the company, there is a negative correlation between changes in executive compensation and M&A performance, but it is not significant. There is a significant positive correlation at the 5% significance level between changes in executive compensation and the top ten shareholder's holding percentage, which is consistent with the results analyzed earlier.

The following table shows the results of the correlation analysis of various variables after the implementation of shareholding reform in relation to M&A activities.

Table 5-6 Spearman Correlation Coefficient of Each Variable (Model 3)

| Variable           | $\Delta salary$ | $\Delta return$ | $\Delta size$ | <i>marketank</i> | <i>pastperform</i> |
|--------------------|-----------------|-----------------|---------------|------------------|--------------------|
| $\Delta return$    | 0.0609          |                 |               |                  |                    |
| $\Delta size$      | 0.0889          | -0.2648**       |               |                  |                    |
| <i>marketank</i>   | 0.0468          | 0.1114          | -0.0093       |                  |                    |
| <i>pastperform</i> | -0.0510*        | -0.0788**       | 0.0151        | -0.0619          |                    |
| <i>pcr</i>         | -0.1079         | -0.0461         | 0.1279        | 0.0139*          | 0.0468             |

Note: \* and \*\* indicate significant levels of P at 5% and 1%, respectively.

Table 5-6 shows that if the M&A event occurs after the implementation of shareholding reform in the company, there is a positive correlation between changes in executive compensation and M&A performance, but the correlation is not significant. There is a positive correlation between executive compensation and company size. Changes in executive compensation increase as the company grows, but this change is not significant. Changes in executive compensation are significantly negatively correlated with past operating performance at a level of 5%, while there is no significant correlation with shareholding concentration.

### 5.3.5 Multiple Regression Analysis

The previous analysis provided a preliminary understanding of the relationships between various variables. To further clarify the relationships between executive compensation, M&A performance, and various variables, multiple regression analysis was conducted, and the results are presented below.

Table 5-7 Regression Analysis Results of M&A Performance and Various Variables (Model 1)

| Dependent Variable return | Coefficient | T-value | P-value |
|---------------------------|-------------|---------|---------|
| $\Delta return$           | 38.6021     | 8.11    | 0.0000  |
| <i>salary</i>             | -4.8198     | -1.71   | 0.0491  |
| <i>size</i>               | -7.9532     | -4.01   | 0.0000  |
| <i>pastperform</i>        | -0.1170     | -1.52   | 0.1022  |
| <i>type</i>               | 4.4098      | 0.40    | 0.7059  |
| <i>rpt</i>                | -7.8041     | -1.39   | 0.1568  |
| <i>Adj.R<sup>2</sup></i>  | 0.0889      |         |         |

From Table 5-7, it can be seen that there is a significant negative correlation between executive compensation before M&A, company size, and past performance with M&A performance. Firstly, executives tend to have lower compensation before M&A, but M&A can change the performance metrics for executive compensation, and the year-end

bonuses and spending of executives can also be directly affected by M&A performance. Therefore, executives often attach great importance to the benefits that M&A can bring to the company, and the premium for M&A tends to be lower. In addition, the smaller the company, the greater the positive impact of M&A. After completing M&A activities, the company's performance will experience a significant increase. Finally, for poorly performing companies, reasonable M&A can drive the development of the company's existing business and improve its performance.

The regression analysis results classified by the nature of the controlling shareholder at the time of the company's M&A are shown as follows:

Table 5-8 Regression Analysis Results Classified by the Nature of the Controlling Shareholder (Model 2)

| Dependent Variable $\Delta salary$ | State-owned |                |                | Private     |                |                |
|------------------------------------|-------------|----------------|----------------|-------------|----------------|----------------|
|                                    | Coefficient | <i>T-value</i> | <i>P-value</i> | Coefficient | <i>T-value</i> | <i>P-value</i> |
| <i>intercept</i>                   | 1.27012     | 0.36           | 0.7018         | 0.771489    | 1.33           | 0.1768         |
| $\Delta return$                    | -0.008001   | -1.49          | 0.1328         | 0.000138    | -0.16          | 0.8579         |
| $\Delta size$                      | -0.011032   | -0.14          | 0.8798         | 0.000344    | 0.47           | 0.6527         |
| <i>marketrank</i>                  | 0.091718    | -0.30          | 0.7688         | 0.014012    | 0.30           | 0.7729         |
| <i>pastperform</i>                 | -0.005511   | -0.56          | 0.5887         | -0.000231   | 0.54           | 0.2918         |
| <i>pcr</i>                         | 4.102769    | 1              | 0.7018         | -0.452851   | -1.72          | 0.0459         |
| <i>Adj.R<sup>2</sup></i>           |             | 0.0065         |                |             | 0.0211         |                |

Table 5-8 indicates that the variables of company size and M&A performance are not significant for state-owned enterprises, which does not fully align with hypothesis 2. The reason may be that executives of state-owned enterprises usually have political status, and the assessment factors for executive compensation in state-owned enterprises are more complex under the domestic system, which were not fully considered in the model. Additionally, past performance of the company is not significant, which does not match the view in the previous research that executives may engage in M&A activities due to

poor past performance. Table 5-8 also shows that the proportion of shares held by the top three shareholders is significantly positive, which is consistent with the conclusion drawn by Core et al. (1999) that the higher the agency costs of poorly governed companies, the more likely CEOs are to receive higher compensation, based on the characteristics of the board of directors and ownership.

Please refer to Table 5-9 for the classified regression results based on whether the controlling company implements locked share release during the M&A

Table 5-9 Regression Analysis Results Classified by Whether Shareholding Reform was Implemented (Model 3)

| Dependent Variable       | M&A before implementing locked share release |                |                | M&A after implementing locked share release |                |                |
|--------------------------|--|----------------|----------------|---|----------------|----------------|
|                          | <i>Coefficient</i>                           | <i>T-value</i> | <i>P-value</i> | <i>Coefficient</i>                          | <i>T-value</i> | <i>P-value</i> |
| $\Delta salary$          |  |                |                |   |                |                |
| <i>intercept</i>         | 2.949987                                     | 0.79           | 0.4248         | -0.020054                                   | -1.93          | 0.0568         |
| $\Delta return$          | -0.009896                                    | -1.93          | 0.0559         | 0.000988                                    | 1.59           | 0.0989         |
| $\Delta size$            | -0.000811                                    | -0.17          | 0.881          | 0.386652                                    | 7.99           | 0.0000         |
| <i>marketrank</i>        | -0.210801                                    | -0.69          | 0.479          | 0.021241                                    | 0.58           | 0.5318         |
| <i>pastperform</i>       | 0.006342                                     | -0.71          | 0.489          | -0.000388                                   | -0.43          | 0.6498         |
| <i>pcr</i>               | 4.099121                                     | 1.01           | 0.341          | 0.239298                                    | -0.54          | 0.5838         |
| <i>Adj.R<sup>2</sup></i> |  | 0.0219         |                |   | 0.2418         |                |

Table 5-9 shows that before unlocking restricted shares, executive compensation is significantly negatively correlated with M&A performance, but not significantly correlated with company size, which is consistent with hypothesis 4. After unlocking restricted shares, executive compensation is positively correlated with M&A performance, which is consistent with hypothesis 5. The reason for this result may be that the increasing number of unlocked shares and the unrestricted sale of shares may have a significant impact on stock prices. Since everyone's interests are affected, executives intend to increase their compensation through M&A. It was also found that executive compensation is

significantly positively correlated with company size, which is consistent with the previous analysis that executive compensation is positively correlated with enterprise scale.

#### **5.4 Chapter Summary**

In this chapter, empirical analysis was conducted on the M&A samples based on whether the acquiring and target companies are state-owned listed companies, and whether the restricted shares are unlocked during the M&A. Firstly, a model of the influencing factors on executive compensation was constructed, and then the relationship between M&A and executive compensation of listed companies was studied, providing relevant suggestions for improving the design of executive compensation contracts in China's listed companies. Through the analysis, it was found that in the overall sample description, the mean value of M&A performance and the mean increase in executive compensation after M&A were positive, and the latter increase was much higher than the former, with a significant increase in company size. This finding indicates that executives of companies often initiate M&A activities disregarding the interests of shareholders in order to improve their compensation and modify their performance metrics. Moreover, by comparing the M&A events before and after unlocking restricted shares, it was found that the change in executive compensation is significantly negatively correlated with M&A performance before unlocking restricted shares, and significantly positively correlated after unlocking restricted shares.

**CHAPTER 6**  
**STUDY ON TARGET COMPANY SELECTION TO ENHANCE M&A**  
**PERFORMANCE**

Not all M&A activities culminate in success, and some failures are primarily due to the selection of wrong targets. Typically, the success of an M&A operation relies on a clear M&A objective, an optimal target, a scientific approach, a reasonable price, and adequate resources for the target company to thrive post-M&A. The target company plays a pivotal role in corporate M&A, and a comprehensive analysis to determine the M&A direction and assist the company in selecting the ideal target is key to a successful M&A. Therefore, predicting the crucial characteristics of the target company has become a vital reference for companies to select an ideal target. Since M&A activities often bring substantial stock value appreciation to the acquiring company's shareholders, such research is highly practical and significant in academic research.

**6.1 Research Approach and Sample**

While the value of a target company typically increases after being merged or acquired, a small portion of companies experience the opposite. This chapter concentrates on listed companies whose value declined post-M&A and identifies the internal relationship between M&A failures and target company selection, predicting the likelihood of a successful corporate M&A and preventing M&A failures.

This predictive study in this chapter is implemented in three steps. First, by scrutinizing the M&A experience in a specific period in the capital market, each factor representing the target company's characteristics is examined to establish a feature model

estimate. Second, assuming that the standard for selecting target companies in the capital market remains unaltered, the model's significant features are simulated in a random sample to select the "possible target company" with a given probability. Third, based on actual circumstances and observation by the M&A party, the "possible target company" determined in the previous step becomes the actual target of the M&A.

This study employs 268 domestic listed companies as the original target company samples, utilizing the calculation: company value = average net profit of the company in the past three years  $\times$  P/E ratio to determine the company's value change before and after the M&A. Subsequently, the principal component analysis and factor analysis are applied to the eleven main indicators of 48 companies with increased value after being acquired and 48 companies with decreased value after being acquired from the 268 listed companies. Finally, the logistic regression analysis and BP neural network analysis are utilized to construct a model, culminating in a new predictive system that guides target company selection for M&A and can be optimally utilized.

## **6.2 Selection of Financial Analysis Sample and Indicators**

This chapter selects 268 listed companies that were targeted for M&A in 2018 and 2019 as the original analysis sample, with data sourced from the "China Securities Journal." An indicator system was established using 11 financial indicators of the target company in 1-3 years before the M&A, as presented in Table 6-1:

Table 6-1 11 Financial Indicators

| Financial Indicators                                     | Index |
|--|-------|
| Operating profit/total assets                            | X1    |
| Management expenses/total assets                         | X2    |
| Current ratio  | X3    |
| Interest coverage ratio                                  | X4    |
| Debt-to-asset ratio                                      | X5    |
| Degree of financial leverage                             | X6    |
| Inventory turnover ratio                                 | X7    |
| Current liabilities to total liabilities ratio           | X8    |
| Accounts receivable turnover ratio                       | X9    |
| Monetary funds to total assets ratio                     | X10   |
| Average annual increase in operating profit/total assets | X11   |

The primary basis for the eleven financial indicators in Table 6-1 is as follows:

(1) Profitability

Profitability is increasingly important for investors, creditors, and managers alike as it represents the company's ability to earn profits. Profitability can evaluate a company's level of profit-making, provide production and operational effects and profits for the company, and deliver capital gains for investors. Furthermore, profitability is also the basis for evaluating a company's financial condition and reflection of its overall quality. The stronger a company's profitability, the greater the possibility of retaining earnings, and the more financing channels it is able to have. The indicator that reflects a company's profitability in this study is "operating profit/total assets."

(2) Asset management

Asset management is the ability of corporate managers to manage and utilize capital. It reflects the efficiency of capital utilization through indicators related to the turnover rate of a company's production and operation funds. Asset management efficiency is an indicator of a company's efficiency in managing assets. The faster the turnover rate of

production and operation funds, the higher the efficiency of capital utilization, and the stronger the management ability of managers. The primary indicators reflecting asset management ability in this study are accounts receivable turnover ratio, inventory turnover ratio, and management expenses to total assets ratio.

### (3) Solvency

Solvency denotes a company's ability to repay its debts on time and in full. Analyzing debt-paying ability can help judge whether the amount of debt is appropriate. According to the different debt repayment periods, debt-paying ability can be divided into long-term and short-term solvency. Long-term solvency refers to a company's ability to repay the principal of its debts along with the interest, while short-term solvency refers to a company's payment ability, credit rating, and risk response capability. Generally speaking, the stronger a company's solvency, the less likely it is to fall into financial crisis. Therefore, solvency indicators possess certain explanatory power for predicting a company's financial condition. The indicators commonly used for solvency analysis include the monetary funds to total assets ratio, the current ratio, and the interest coverage ratio.

### (4) Capital structure

Capital structure refers to the composition and proportion of a company's capital, which is an important indicator reflecting the financial strength of a company. It is also an important basis for testing the financial risks of a company, which can affect its overall risk. Only by maintaining a good financial image can a company continue to attract investors and lenders, so the capital structure has a comprehensive impact on a company's financial condition. The main indicators that reflect the capital structure in this study

include the current liabilities to total liabilities ratio, the debt-to-asset ratio, and the financial leverage coefficient.

#### (5) Company growth

The growth of a company is inextricably linked to its financial condition. If a company operates in a sunrise industry, its growth prospects are highly promising, and its capacity for expansion is correspondingly enhanced, rendering it increasingly growth-oriented. This study reflects company growth through the indicator of the average annual increase in operating profit to total assets ratio.

### **6.3 Financial Analysis Model**

Corporate M&As typically involve two aspects: the acquisition of operational assets and the acquisition of financial statements. The acquisition of operational assets tends to reshape a company's industrial structure, while the acquisition of financial statements focuses on improving a company's capital structure. This study defines these two aspects as financial and value M&As, respectively. By using these two aspects of M&As, a scientific financial analysis model for M&A performance can be derived, which is crucial for determining the success of a M&A and predicting its impact on enhancing value.

#### ***6.3.1 Overview of Financial and Value-Based M&As***

Financial mergers and acquisitions (M&A) are a form of passive M&A activity that companies undertake in order to temporarily avoid delisting from stock exchanges during times of crisis. These M&A activities have short-term objectives and processes. In contrast, value-based M&A is a proactive M&A activity characterized by clear strategic objectives and long-term processes.

Asset M&As can be divided into two stages based on the time sequence. The first stage primarily involves financial M&As, whereas the second stage shifts towards value-based M&As. However, the division between these two stages is not immutable. This is because a complete M&A activity often involves the combination of financial M&A with industrial restructuring. The key point of differentiation in this study is the focus on different types of M&A activities (financial or value-based) during different stages.

#### (1) Intrinsic Connection

Although financial M&A and value-based M&A differ significantly in terms of M&A methods, content, and effects, there is still a close intrinsic connection between the two types of M&A activities. This connection is mainly manifested in the following two aspects:

Firstly, financial M&As are usually the precursor to value-based M&As. In general, a complete M&A activity is unlikely to be solely financial or value-based. Purely financial M&As are only applicable to specific groups of listed companies, such as those with an unreasonable capital structure due to high debt ratios or excessive idle assets, but whose business and industry prospects remain optimistic after asset restructuring. In contrast, for listed companies that have serious problems as well as a bleak outlook for their business and industry, a simple asset restructuring is insufficient, and a transformation of their main business and industry is crucial. In such cases, listed companies usually divide asset M&A into two stages: firstly, adjusting the company's asset structure, and then implementing industrial M&A. The ultimate goal of this continuous M&A approach is still industrial M&A. The implementation of financial M&A in advance is based on the urgency of time and the need to ensure that the M&A can be carried out under a more relaxed financial

environment. Therefore, staged M&As will become the mainstream of corporate asset M&A development.

Secondly, financial M&As and value-based M&As usually interpenetrate each other. Generally, listed companies in crisis face both financial and industrial problems, so the M&A plan include both asset and industrial structure adjustments. The way in which financial M&As sand value-based M&As interpenetrate each other is mainly to coordinate the company's short- and long-term goals. Asset M&As can not only reduce the listed company's debt-to-asset ratio but also generate one-time huge income through related transactions, which can quickly improve the company's financial statements in the short term. However, modifying financial statements is not the initial intention of asset M&A. Building a new industry through value-based M&A takes a long process from implementation to profit. Therefore, during this transition period, it is reasonable to use the income from asset trading to appropriately supplement the financial statements. This can give the secondary market ample time to evaluate the value brought by the M&A, maintain stock prices at a certain level, avoid drastic fluctuations, and thus create conditions for financing the new industries.

## (2) Market Performance

Different types of asset M&As have discernible implications for the future performance of listed companies, mainly manifested in two ways:

Firstly, the nature of performance changes varies.

Generally, the operational performance gains derived from pure financial M&As stem primarily from revenue generated by asset sales, debt mergers, and other sources of income that are typically obtained via related transactions. Controlling shareholders often

sacrifice some benefits to preserve the "shell resources." Conversely, value-based M&As generate income primarily from the profit-making potential of the new asset structure, a performance change that is supported by tangible profit assets.

Secondly, the effectiveness of performance changes varies.

Given the emphasis on "preserving shell resources" among all M&A objectives, pure financial M&As tend to prioritize the improvement of financial statements. Although the book profits of an M&A in the current year might be considerable, there is no guarantee of future earnings, and its income is often one-time. In contrast, value-based M&As prioritize the adjustment of the industrial structure and the cultivation of profitable assets. Once an M&A succeeds, a listed company can expect to enjoy sustained and reliable future performance. Naturally, if value-based M&As inject ready-made, high-quality assets through related transactions, the listed company may achieve substantial book profits in the year of the M&A.

Based on the contrasting performance between financial and value-based M&As, the stocks of listed companies involved in M&As respond differently in the secondary market. In financial M&As, the one-time income generated by the transaction is relatively more quantifiable, and the impact on financial reports in the year of the M&A is also relatively easy to comprehend. However, due to the one-time nature of its income, investors are primarily focused on obtaining short-term speculative profits, leading to significant short-term fluctuations in the stock price. The stock price trend typically reflects the disclosure of M&A information in a "pulse" manner. On the other hand, in value-based M&As, as the listed company cultivates new industries or infuses high-quality assets, it becomes challenging to evaluate the profit potential of new physical assets. Consequently,

the stock price experiences significant fluctuations both before and after the disclosure of M&A information. However, over the long term, the new physical assets of the listed company is expected to demonstrate profitability characterized by sustainability and high growth, leading to a more stable and sustained upward trend in the secondary market stock price.

### (3) Value-Based M&As Hold Profound Significance

The most prominent characteristic of value-based M&As is their emphasis on cultivating new sources of value, which aligns with the goal of modernizing traditional industries through economic transformation. Achieving industrial upgrading requires substantial funds. However, financing industrial upgrading through the stock market can raise significant capital at a low cost within a relatively short period. Therefore, value-based M&As are often the optimal approach to achieving industrial upgrading. As value-based M&As align with local government objectives, they are likely to evolve from being solely market-driven to being driven by both the market and local governments, and to be utilized to serve the implementation of local industrial policies. Moreover, through large-scale value-based M&As, the industrial structure of listed companies can better align with the adjustment of the national economy, preventing the securities market from losing its function as a "barometer of the national economy." Consequently, the large-scale implementation of value-based M&As are also a requirement for the interests of the securities market.

#### ***6.3.2 Financial Analysis Model for M&A Performance - Earnings-Based Method***

The earnings-based method is a valuation technique that determines the value of a target company based on its earnings and price-to-earnings ratio. The price-to-earnings

ratio may implicitly convey a company's future stock and its expected return on investment. The steps involved in assessing the target company's value using the earnings-based method are as follows:

(1) Adjusting the target company's profit performance

The accounting policies employed by the target company are scrutinized to determine whether it engages in two types of activities: manipulating profits through the abuse of accounting policies or arbitrarily altering accounting policies, leading to a lack of comparability in net profit. Subsequently, some of the target company's published profits are adjusted based on the actual situation, excluding the impact of non-recurring items or special business on net profit, and adjusting the profit increase or decrease caused by unreasonable related-party transactions.

(2) Calculating the target company's stock price earnings indicators

Since the target company's after-tax profit for the previous year is the closest to its current performance, the target company's stock price earnings calculation can generally use its after-tax profit for the previous year, which is relatively straightforward. However, business operations are often volatile, particularly for target companies whose operations have explicit cyclicity. Therefore, the target company's stock price earnings indicator is typically calculated using the average after-tax profit for the previous three years. In reality, the target company's post-M&A stock price must also be examined to provide more guidance for the M&A decisions.

(3) Selecting the standard price-to-earnings ratio

The standard price-to-earnings ratio usually falls into one of the following three categories: ① the target company's price-to-earnings ratio at the time of the M&A; ② the

price-to-earnings ratio of firms comparable to the target company; and ③ the average price-to-earnings ratio of the industry in which the target company operates. This study selects the price-to-earnings ratio at the end of the year of the M&A and the end of the previous year as the standard price-to-earnings ratio to calculate the value changes before and after the merger.

(4) Calculating the target company's value

Based on the selected estimated earnings indicators and standard price-to-earnings ratio, the target company's value can be calculated using the following formula:

$$\text{Target Company Value} = \text{Stock Price Earnings Ratio} \times \text{Standard Price-to-Earnings Ratio}$$

(5) Using the above formula, the value of the target company after the M&A is calculated using the net profit and price-to-earnings ratio at the end of the year of the M&A. The value of the target company prior to the M&A is calculated using the average net profit for the previous three years and the price-to-earnings ratio at the end of the year before the M&A.

(6) The results demonstrate that out of the 268 sample companies, only 48 companies experienced a decrease in value, while the value of the other 230 companies increased to varying degrees. Among these 230 companies, 48 companies were selected as samples for further analysis.

## 6.4 Principal Component Analysis and Factor Analysis of Financial Analysis

### Indicators

#### 6.4.1 Mathematical Models of Principal Component Analysis and Factor Analysis

Table 6-2 shows the mathematical models of principal component analysis and factor analysis.

Table 6-2 Comparison of mathematical models of principal component analysis and factor analysis

| Principal component analysis  | Factor analysis  |
|---|--|
| $F_i = \alpha_{1i}X_1 + \alpha_{2i}X_2 + \dots + \alpha_{pi}X_p = \alpha_{1i}X_1$<br>$i = 1, 2, \dots, m, X_j$ is the variable  | $X_j = b_{j1}XZ_1 + b_{j2}XZ_2 + \dots + b_{jm}XZ_m + \varepsilon_j$<br>$j = 1, 2, \dots, p, Z_j$ is the factor, and $\varepsilon_j$ is special factor   |
| $A = (\alpha_{ij})_{p \times m} = (\alpha_1, \alpha_2, \dots, \alpha_m), R \alpha_i = \lambda_i \alpha_i$<br>$R$ is the correlation coefficient matrix; $\lambda_i$ and $\alpha_i$ are the corresponding eigenvalue and unit eigenvector, $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_m \geq 0$ | Factor load matrix $B = (b_{ij})_{p \times m} = \hat{B} C$ ,<br>$\hat{B} = (\sqrt{\lambda_1}\alpha_1, \sqrt{\lambda_2}\alpha_2, \dots, \sqrt{\lambda_m}\alpha_m)$ is the elementary factor<br>Load matrix ( $\lambda_i$ and $\alpha_i$ are the same as the left), $\text{cov}(Z_i, X_j) = 0$ |
| No rotation   | Orthogonal rotation matrix with the largest C-guard variance in the upper item   |
| $A' A = I$ ( $A$ is an orthogonal matrix)   | $B' B \neq I$ ( $B$ is a non-orthogonal matrix)  |
| Naming with the corresponding variable $F_i$ in column $i$ of $A$ with a large absolute value   | The corresponding variable in column $j$ of $B$ with a large absolute value is classified as $Z_j$ , which is named  |
| If $\lambda_1, \lambda_2, \dots$ , and $\lambda_m$ are different from each other, $\alpha_{1i}$ is unique   | The correlation coefficient $r_{izj}$ is not unique  |
| Covariance $\text{cov}(F_i, F_j) = \lambda_i \delta_{ij}, \delta_{ij} = \begin{cases} 0 & i \neq j \\ 1 & i = j \end{cases}$  | Covariance $\text{cov}(Z_i, Z_j) = \delta_{ij}, \delta_{ij} = \begin{cases} 0 & i \neq j \\ 1 & i = j \end{cases}$   |
| $F_i$ variance with $\lambda_i$ (eigenvalue) as the principal component   | $v_i = \sum_{k=1}^p b_{ki}^2 (\neq \lambda_i)$ is the contribution of factor $Z_i$ to $X$  |
| The principal component is $F_i$ determined by $X$  | The factor $Z_i$ is unmeasurable   |
| Principal component function $(F_1, F_2, \dots, F_m)$<br>$' = A' X$   | Factor score function $(Z_1, Z_2, \dots, Z_m) ' = B' R^{-1} X$   |
| No regression process   | In the above item $B' R^{-1} \neq A'$ , the factor score function is obtained through regression, with a loss of information at this time  |

Table 6-2 Comparison of mathematical models of principal component analysis and factor analysis, continued

| Principal component analysis  | Factor analysis   |
|---|---|
| The quadratic sum of coefficient X of the principal component $F_i$ is $\sum_{k=1}^p a_{ki}^2 = 1$ , without special factor | $\sum_{i=1}^m b_{ji}^2 + \sigma_j^2 = h_j^2 + \sigma_j^2 = 1,$ $\text{cov}(\varepsilon_i, \varepsilon_j) = \delta_{ij} \sigma_j^2$ $h_j^2 \text{ is the communality; and } \sigma_j^2 \text{ is the specific variance}$ |

#### 6.4.2 Principal Component Analysis and Factor Analysis of the Year Before M&A

##### (1) 5 Principal Components' Eigenvalues, Loadings, and Coefficient Matrix

First, the 11 financial indicators X1-X11 of the sample companies (shown in Table 6-1) are standardized, and ZX1, ZX2, ... ZX11 are used to represent each standardized indicator in Table 6-1. Then, principal component analysis is performed on the standardized data of the year before M&A to obtain the eigenvalues and variance contribution rates of the correlation coefficient matrix.

Table 6-3 Variables

| Component | Initial Eigenvalues |                        |                          | Extracted Loadings |                        |                          | Transposed Loadings |                        |                          |
|-----------|---------------------|------------------------|--------------------------|--------------------|------------------------|--------------------------|---------------------|------------------------|--------------------------|
|           | Eigenvalue          | Margin al Contribution | Cumul ative Contribution | Eigenvalue         | Margin al Contribution | Cumul ative Contribution | Eigenvalue          | Margin al Contribution | Cumul ative Contribution |
| 1         | 3.125               | 28.339                 | 28.339                   | 3.125              | 28.339                 | 28.339                   | 2.369               | 21.571                 | 21.571                   |
| 2         | 2.001               | 17.868                 | 46.220                   | 2.001              | 17.868                 | 46.220                   | 2.281               | 20.708                 | 42.281                   |
| 3         | 1.263               | 11.447                 | 57.671                   | 1.263              | 11.447                 | 57.671                   | 1.328               | 12.102                 | 54.371                   |
| 4         | 1.191               | 10.799                 | 68.472                   | 1.191              | 10.799                 | 68.472                   | 1.308               | 11.916                 | 66.301                   |
| 5         | .931                | 8.451                  | 76.923                   | .931               | 8.451                  | 76.923                   | 1.172               | 10.631                 | 76.921                   |
| 6         | .853                | 7.758                  | 84.677                   |                    |                        |                          |                     |                        |                          |
| 7         | .702                | 6.298                  | 90.979                   |                    |                        |                          |                     |                        |                          |
| 8         | .467                | 4.372                  | 95.351                   |                    |                        |                          |                     |                        |                          |
| 9         | .314                | 2.859                  | 98.196                   |                    |                        |                          |                     |                        |                          |
| 10        | .160                | 1.417                  | 99.628                   |                    |                        |                          |                     |                        |                          |
| 11        | .039                | .371                   | 100.000                  |                    |                        |                          |                     |                        |                          |

Extraction method: principal component analysis

Through the analysis of 5 principal components' eigenvalues and loadings, it was found that they can together explain 76.92% of the problem. Moreover, the individual contribution rate of the first four principal components exceeds 10%, indicating a strong explanatory power.

Based on this, the principal component coefficient matrix is obtained as shown in

Table 6-4:

Table 6-4 Principal Component Coefficient Matrix

|   | Principal Component |       |       |       |       |
|---|---------------------|-------|-------|-------|-------|
|   | 1                   | 2     | 3     | 4     | 5     |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.849               | .112  |       |       |       |
| Zscore: Current Ratio ZX3   | .771                | .147  | -.109 | -.268 | .241  |
| Zscore: Operating Profit/Total Assets ZX1                             | .688                | .541  |       |       | -.112 |
| Zscore: Management expenses/total assets ZX2                          | .522                | -.419 | .138  | .139  | .171  |
| Zscore: Degree of Financial Leverage ZX6                              | .541                | .798  |       |       |       |
| Zscore: Inventory Turnover Ratio ZX7                                  | .509                | .788  |       | .168  |       |
| Zscore: Interest Coverage Ratio ZX4                                   | .301                | .132  | -.688 | -.191 | -.328 |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        | .268                | .188  | .569  | -.118 | .191  |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | .212                | .131  | -.431 | .719  | .129  |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 | .168                | .281  | .479  | .491  | .591  |
| Zscore: Monetary Funds/Total Assets ZX10                              | .518                | .219  |       | .448  | .261  |

Extraction method: principal component analysis

Note: Principal Component 1, 2, 3, 4, and 5 respectively represent the five principal components obtained.

(2) Factor Score Matrix of Each Factor

Based on the principal component analysis in Table 6-3, the factor score matrix is obtained as shown in Table 6-5:

Table 6-5 Factor Score Matrix of Principal Components

|   | Component |       |       |       |       |
|---|-----------|-------|-------|-------|-------|
|   | 1         | 2     | 3     | 4     | 5     |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.189     | .211  | -.018 | -.049 | -.077 |
| Zscore: Current Ratio ZX3   | .239      | -.009 | -.169 | .151  | -.288 |
| Zscore: Operating Profit/Total Assets ZX1                             | .279      | .078  | -.047 | .088  | .208  |
| Zscore: Management Expenses/Total Assets ZX2                          | -.331     | -.091 | -.004 | .102  | -.061 |
| Zscore: Degree of Financial Leverage ZX6                              | .068      | .452  | .000  | .061  | -.027 |
| Zscore: Inventory Turnover Ratio ZX7                                  | .083      | .451  | -.082 | .001  | -.039 |
| Zscore: Interest Coverage Ratio ZX4                                   | .428      | .005  | .379  | -.344 | -.113 |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        | -.059     | .062  | -.519 | .128  | .029  |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | -.072     | .036  | .581  | .398  | .093  |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 | .005      | -.050 | .029  | -.128 | .851  |
| Zscore: Monetary Funds/Total Assets ZX10                              | -.069     | .016  | .027  | .719  | -.108 |

Extraction method: principal component analysis

From the absolute values of the factor scores in Table 6-5, the individual factor score function can be obtained as Z1, Z2, ..., Z5, respectively.

$$Z1=0.279ZX1-0.331ZX2+0.239ZX3+0.428ZX4-0.189ZX5$$

$$Z2=0.452ZX6+0.451ZX7$$

$$Z3=0.581ZX8-0.519ZX9$$

$$Z4=0.719ZX10$$

$$Z5=0.851ZX11$$

Principal Component Analysis:

(1) Analysis of Z1:

Careful observation of Table 6-5 reveals that ZX1, ZX3, and ZX4 are positively correlated with Z1, while ZX2 and ZX5 are negatively correlated with Z1.

ZX1 represents a company's total assets and profitability, while ZX3 and ZX4 represent the company's short-term solvency through the current ratio and interest coverage ratio. Within a certain range, the higher the values of ZX1, ZX3, and ZX4, the greater the potential for value creation. ZX2 represents high expenses, which can also represent agency costs to some extent, and ZX5 represents capital structure. Within a certain range, the higher the values of ZX2 and ZX5, the smaller the potential for value creation. Therefore, Z1 reflects the difference between high expenses and agency costs and a company's profitability, and is a comprehensive representation of the five indicators.

(2) Analysis of Z2:

Z2 is positively correlated with ZX6, which represents capital structure, and ZX7, which represents asset management capabilities. This indicates that Z2 represents a comprehensive factor of asset management and capital structure.

(3) Analysis of Z3:

Z3 reflects a comprehensive description of the ratio of current liabilities to total liabilities and accounts receivable turnover. Z3 is positively correlated with the ratio of current liabilities to total liabilities and negatively correlated with accounts receivable turnover. When a company has a high ratio of current liabilities to total liabilities and a low accounts receivable turnover, it indicates that the company is not doing well financially.

(4) Analysis of Z4:

In general, the proportion of monetary funds to total assets is the best indicator of a company's short-term solvency. When this proportion is high, it indicates that the company has sufficient funds to invest in higher return projects, which also means that the company has greater potential for value creation.

(5) Analysis of Z5:

Z5 reflects a company's growth potential. If a company's operating profit continues to increase year by year, even if it is acquired, its value is unlikely to wane.

### 6.4.3 Principal Component and Factor Analysis of Two Years Before M&A

(1) Eigenvalues, Loadings, and Coefficient Matrix of Principal Components

Principal component analysis was performed on the standardized data for the two years before the merger, and the eigenvalues and variance contribution rates of the coefficient matrix were obtained. Table 6-6 shows the results:

Table 6-6 Variables

| Component | Initial Eigenvalues |                       |                         | Extracted Loadings |                       |                         | Transposed Loadings |                       |                         |
|-----------|---------------------|-----------------------|-------------------------|--------------------|-----------------------|-------------------------|---------------------|-----------------------|-------------------------|
|           | Eigenvalue          | Marginal Contribution | Cumulative Contribution | Eigenvalue         | Marginal Contribution | Cumulative Contribution | Eigenvalue          | Marginal Contribution | Cumulative Contribution |
| 1         | 2.098               | 19.098                | 19.098                  | 2.098              | 19.098                | 19.098                  | 1.961               | 17.798                | 17.798                  |
| 2         | 1.937               | 17.669                | 36.779                  | 1.937              | 17.669                | 36.779                  | 1.788               | 16.291                | 34.091                  |
| 3         | 1.669               | 15.214                | 52.001                  | 1.669              | 15.214                | 52.001                  | 1.521               | 13.862                | 47.952                  |
| 4         | 1.118               | 10.221                | 62.217                  | 1.118              | 10.221                | 62.217                  | 1.292               | 11.758                | 57.708                  |
| 5         | .978                | 8.909                 | 71.131                  | .978               | 8.909                 | 71.131                  | 1.253               | 11.421                | 71.131                  |
| 6         | .912                | 8.312                 | 79.432                  |                    |                       |                         |                     |                       |                         |
| 7         | .758                | 6.912                 | 86.351                  |                    |                       |                         |                     |                       |                         |
| 8         | .649                | 5.918                 | 92.268                  |                    |                       |                         |                     |                       |                         |
| 9         | .427                | 3.931                 | 96.199                  |                    |                       |                         |                     |                       |                         |
| 10        | .301                | 2.719                 | 98.918                  |                    |                       |                         |                     |                       |                         |
| 11        | .121                | 1.081                 | 100.000                 |                    |                       |                         |                     |                       |                         |

Extraction method: principal component analysis

Analysis of Table 6-6 reveals that the five principal components can explain the problem together at a rate of 71.13%, which is lower than the 76.92% of the previous year before the merger. However, the individual contribution rates of the first four principal components are all above 10%, indicating that they are still quite convincing. Based on this, the principal component coefficient matrix was obtained, as shown in Table 6-7:

Table 6-7 Principal Component Coefficient Matrix

|   | Principal Component |       |       |       |       |
|---|---------------------|-------|-------|-------|-------|
|   | 1                   | 2     | 3     | 4     | 5     |
| Zscore: Current Ratio ZX3   | .881                | .128  | -.127 | .161  | -.168 |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.729               | .189  | .326  | .211  | .188  |
| Zscore: Operating Profit/Total Assets ZX1                             | .542                | -.109 | .479  |       | .348  |
| Zscore: Inventory Turnover Ratio ZX7                                  | -.299               | .762  |       | .119  | -.209 |
| Zscore: Monetary Funds/Total Assets ZX10                              | -.069               | .661  | -.292 | .468  |       |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | .161                | -.599 | -.208 | .229  | .354  |
| Zscore: Interest Coverage Ratio ZX4                                   | -.181               | -.338 | .671  | .129  | -.378 |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 |                     | .288  | .459  | .431  | .451  |
| Zscore: Management Expenses/Total Assets ZX2                          | -.418               | -.107 | .581  | .261  | .201  |
| Zscore: Degree of Financial Leverage ZX6                              | .208                | .262  | .452  | -.219 | -.191 |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        |                     | .467  |       | -.671 | .449  |

Extraction method: principal component analysis

(2) Factor Score Matrix

Based on the principal component analysis in Table 6-7, the factor score matrix was obtained, as shown in Table 6-8:

Table 6-8 Factor Score Matrix

|   | Component |       |       |       |       |
|---|-----------|-------|-------|-------|-------|
|   | 1         | 2     | 3     | 4     | 5     |
| Zscore: Monetary Funds/Total Assets ZX10                              | .371      | .331  | -.208 | .232  | -.068 |
| Zscore: Current Ratio ZX3   | .462      | .022  | .101  | .003  | -.117 |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.339     | .142  | -.123 | .289  | -.041 |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | .049      | -.369 | -.334 | .197  | .007  |
| Zscore: Operating Profit/Total Assets ZX1                             | .052      | -.288 | .158  | .391  | .132  |
| Zscore: Interest Coverage Ratio ZX4                                   | -.169     | .014  | .303  | -.016 | .491  |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        | -.149     | -.079 | .151  | .018  | .761  |
| Zscore: Inventory Turnover Ratio ZX7                                  | .008      | .481  | .019  | -.004 | -.039 |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 | -.048     | -.009 | -.062 | .698  | .003  |
| Zscore: Degree of Financial Leverage ZX6                              | -.008     | .093  | .405  | -.028 | .008  |
| Zscore: Management Expenses/Total Assets ZX2                          | -.052     | .009  | -.451 | .060  | .007  |

Extraction method: principal component analysis

The absolute values of each factor score in Table 6-8 were used to calculate individual factor score functions, which were represented by Z1, Z2, ..., Z5:

$$Z1=0.462ZX3-0.339 ZX5+0.371 ZX10$$

$$Z2=0.481 ZX7-0.369 ZX8$$

$$Z3=0.405 ZX6-0.451 ZX2$$

$$Z4=0.698 ZX11+0.391 ZX1$$

$$Z5=0.761 ZX9+0.491 ZX4$$

Principal Component Analysis:

Careful observation of Table 6-8 reveals that the variables ZX3 and ZX10 are positively correlated with Z1, and they represent a company's short-term solvency. Within a certain range, the higher the values of ZX3 and ZX10, the easier it is for the company's value to increase. The variable ZX5 is negatively correlated with Z1, and it represents a company's capital structure. Within a certain range, the higher the value of ZX5, the lower the company's net value.

(2) Analysis of Z2:

The variable ZX7, representing asset management capabilities, is positively correlated with Z2, while the variable ZX8, reflecting the company's debt structure, is negatively correlated with Z2.

(3) Analysis of Z3:

Z3 represents a comprehensive description of the flexible utilization of the financial leverage and agency costs. Z3 is positively correlated with the degree of financial leverage, and negatively correlated with agency costs.

(4) Analysis of Z4:

Z4 represents a company's profitability and growth potential. The higher these two indicators are, the greater the potential for value creation.

(5) Analysis of Z5:

Z5 represents a comprehensive description of accounts receivable turnover and interest coverage ratio. When both variables are high, it indicates a greater potential for value creation in the company.

#### **6.4.4 Principal Component and Factor Analysis of Three Years Before M&A**

(1) Eigenvalues, Loadings, and Coefficient Matrix of Principal Component

Principal component analysis was performed on the standardized data for the three years before the M&A, and the eigenvalues and variance contribution rates of the coefficient matrix were obtained. Table 6-9 shows the results:

Table 6-9 Variables

| Component | Initial Eigenvalues |                        |                          | Extracted Loadings |                        |                          | Transposed Loadings |                        |                          |
|-----------|---------------------|------------------------|--------------------------|--------------------|------------------------|--------------------------|---------------------|------------------------|--------------------------|
|           | Eigenvalue          | Margin al Contribution | Cumul ative Contribution | Eigenvalue         | Margin al Contribution | Cumul ative Contribution | Eigenvalue          | Margin al Contribution | Cumul ative Contribution |
| 1         | 2.358               | 21.449                 | 21.449                   | 2.358              | 21.449                 | 21.449                   | 2.271               | 20.631                 | 20.631                   |
| 2         | 1.808               | 16.458                 | 37.913                   | 1.808              | 16.458                 | 37.913                   | 1.779               | 16.211                 | 36.829                   |
| 3         | 1.691               | 15.339                 | 53.254                   | 1.691              | 15.339                 | 53.254                   | 1.601               | 14.541                 | 51.368                   |
| 4         | 1.311               | 11.898                 | 65.161                   | 1.311              | 11.898                 | 65.161                   | 1.432               | 13.040                 | 64.412                   |
| 5         | 1.129               | 10.301                 | 75.453                   | 1.129              | 10.301                 | 75.453                   | 1.213               | 11.051                 | 75.453                   |
| 6         | .798                | 7.281                  | 82.737                   |                    |                        |                          |                     |                        |                          |
| 7         | .743                | 6.780                  | 89.508                   |                    |                        |                          |                     |                        |                          |
| 8         | .521                | 4.759                  | 94.268                   |                    |                        |                          |                     |                        |                          |
| 9         | .310                | 2.779                  | 97.049                   |                    |                        |                          |                     |                        |                          |
| 10        | .179                | 1.659                  | 98.715                   |                    |                        |                          |                     |                        |                          |
| 11        | .138                | 1.285                  | 100.000                  |                    |                        |                          |                     |                        |                          |

Extraction method: principal component analysis

In the five principal components taken from Table 6-9, the degree to which the problem can be explained together is 75.45%. Moreover, the individual contribution rates all exceed 10%, indicating strong persuasiveness. Based on this, the principal component coefficient matrix was obtained, as shown in Table 6-10:

Table 6-10 Principal Component Coefficient Matrix

|   | Principal Component |           |           |       |           |
|---|---------------------|-----------|-----------|-------|-----------|
|   | 1                   | 2         | 3         | 4     | 5         |
| Zscore: Monetary Funds/Total Assets ZX10                              | .699                | -.111     | .329      | -.142 | 4.459E-02 |
| Zscore: Current Ratio ZX3   | .798                | -.312     | -.128     | -.012 | 1.758E-02 |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.751               | 3.569E-02 | 6.731E-02 | -.421 | -.161     |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | .158                | .362      | .358      | -.391 | .657      |
| Zscore: Operating Profit/Total Assets ZX1                             | .147                | -.437     | -.439     | .409  | .518      |
| Zscore: Interest Coverage Ratio ZX4                                   | -.488               | -.569     | -.569     | .343  | .258      |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        | -.361               | .471      | .465      | .289  | 5.058E-02 |
| Zscore: Inventory Turnover Ratio ZX7                                  | 6.319E-02           | .443      | .447      | .487  | .211      |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 | -.212               | -.291     | -.291     | -.538 | .479      |
| Zscore: Degree of Financial Leverage ZX6                              | -.339               | -.561     | -.557     | -.001 | -.212     |
| Zscore: Management Expenses/Total Assets ZX2                          | -.261               | .327      | .327      | .261  | .128      |

Extraction method: principal component analysis

## (2) Factor Score Matrix

Based on the principal component analysis in Table 6-9, the factor score matrix was obtained, as shown in Table 6-11:

Table 6-11 Factor Score Matrix

|   | Component |       |       |       |       |
|---|-----------|-------|-------|-------|-------|
|   | 1         | 2     | 3     | 4     | 5     |
| Zscore: Monetary Funds/Total Assets ZX10                              | .311      | -.049 | -.004 | -.179 | .109  |
| Zscore: Current Ratio ZX3   | .351      | .028  | -.165 | .038  | -.009 |
| Zscore: Debt-to-Asset Ratio ZX5                                       | -.372     | -.031 | -.154 | -.229 | .097  |
| Zscore: Current Liabilities/Total Liabilities ZX8                     | .103      | -.081 | .161  | -.007 | .667  |
| Zscore: Operating Profit/Total Assets ZX1                             | .171      | -.058 | .062  | .589  | .118  |
| Zscore: Interest Coverage Ratio ZX4                                   | -.159     | .021  | .009  | .511  | -.011 |
| Zscore: Accounts Receivable Turnover Ratio ZX9                        | .022      | -.519 | .032  | .071  | -.119 |
| Zscore: Inventory Turnover Ratio ZX7                                  | .091      | -.061 | .551  | .082  | -.021 |
| Zscore: Average Annual Increase in Operating Profit/Total Assets ZX11 | -.121     | .077  | -.179 | .119  | -.558 |
| Zscore: Degree of Financial Leverage ZX6                              | -.013     | .518  | .009  | .016  | -.129 |
| Zscore: Management Expenses/Total Assets ZX2                          | -.109     | .059  | .481  | -.011 | .041  |

Extraction method: principal component analysis

From the absolute values of each factor score in Table 6-11, individual factor score functions were calculated and represented by Z1, Z2, ..., Z5:

$$Z1=0.351ZX3-0.372 ZX5+0.311 ZX10$$

$$Z2=0.518 ZX6-0.519 ZX9$$

$$Z3=0.551 ZX7-0.481 ZX2$$

$$Z4=0.589 ZX1+0.511 ZX4$$

$$Z5=0.667 ZX8-0.558 ZX11$$

Principal Component Analysis:

(1) Analysis of Z1:

Two variables, ZX3 and ZX10, are positively correlated with Z1, representing a company's short-term solvency. Within a certain range, the higher the values of ZX3 and ZX10, the greater the company's potential for value creation. The variable ZX5 is

negatively correlated with Z1, representing a company's capital structure. Within a certain range, the higher the value of ZX5, the lower the company's potential for value creation.

(2) Analysis of Z2:

Z2 is positively correlated with ZX6, which represents the utilization of financial leverage. If the coefficient of ZX6 is high, it indicates a higher requirement for accounts receivable turnover.

(3) Analysis of Z3:

Z3 represents a comprehensive description of inventory turnover and agency costs, and is positively correlated with both variables. If a company has a high inventory turnover, it indicates good business performance, but also suggests higher agency costs.

(4) Analysis of Z4:

Z4 is positively correlated with ZX1 and ZX4, which represent a company's profitability and short-term solvency. When these two variables are high, it indicates a greater potential for value creation.

(5) Analysis of Z5:

Z5 represents a comprehensive description of a company's debt structure and growth potential, represented by variables ZX8 and ZX11 respectively. Z5 is positively correlated with ZX8 and negatively correlated with ZX11. If a company has a high proportion of current liabilities and a low level of operating profit growth, it suggests that the company's in a less stable state financially.

## **CHAPTER 7**

### **CASE STUDY ON THE M&A AND INTEGRATION OF AIM VACCINE**

AIM Vaccine was founded in 2011 and currently owns three research institutions and four production companies, making it a leading private vaccine provider in China. In just 10 years, AIM Vaccine has transformed from a start-up to an industry leader with surprisingly high speed and quality of development. M&A and integration have played a crucial role throughout the company's growth path.

This chapter delves into the M&A and integration of AIM Vaccine for two compelling reasons. First and foremost, this case is highly emblematic of the industry. AIM Vaccine's meteoric rise owes much to a series of successful M&A events, which have bestowed the company with invaluable expertise in resource integration. By examining this case, we can establish a strong nexus between M&A theory and real business practices, furnishing critical insights for commercial practices. Secondly, as one of the managers and co-founders of AIM Vaccine, my intimate knowledge of the company's development and the key components of M&A and integration adds a rich layer of depth and authenticity to this case study.

#### **7.1 Overview of AIM Vaccine**

AIM Vaccine (06660.HK) is an end-to-end private vaccine group in China, encompassing the entire industry value chain, sprawling from research and development to manufacturing and commercialization. The company owns five vaccine enterprises, all of which boast verified human vaccine platform technologies. Currently, AIM Vaccine offers eight commercial vaccines for six disease areas, with 22 inventive vaccines in the

research pipeline for 13 disease areas. The products under development and production include all of the top ten vaccine products in the world, according to worldwide vaccine sales in 2020. Notably, AIM Vaccines Co., Ltd. made its global debut on the Main Board at the Hong Kong Stock Exchange on October 6, 2022.

Currently, AIM Vaccine fully owns four licensed vaccine production companies, namely AIM Honesty, AIM Kanghuai, AIM Weixin, and Rong'an Bio. The company also exercises control over three research institutions. In 2021, AIM Vaccine acquired Zhuhai Livanda Biotechnology Co., Ltd., one of only three companies in China to have been granted clinical trial approval for mRNA COVID-19 vaccines, which is equipped with its own mRNA production and drug delivery technology platform.

## **7.2 Development of AIM Vaccine's M&A**

AIM Vaccine was founded in November 2011. The group established “producing conscientious vaccines and promoting health for all” as its mission, with inclusivity and collaborative innovation as its corporate culture.

In 2015, AIM Vaccine merged with AIM Honesty and acquired a new drug company that specialized in recombinant hepatitis B vaccines.

Between November 2016 and December 2017, AIM Vaccine acquired all the equity of AIM Kanghuai, making it a wholly-owned subsidiary of AIM Vaccine.

From September 2017 to January 2019, AIM Vaccine also acquired all the equity of AIM Weixin, making it a wholly-owned subsidiary of AIM Vaccine.

In October 2018, the company secured new drug approval for MPSV4, and in December of the same year, it obtained the GMP certificate necessary for MPSV4 production.

In 2020, AIM Vaccine completed a comprehensive restructuring and changed its name to AIM Vaccine Co., Ltd.

Table 7-1 displays the milestones in AIM Vaccine's M&A development.

|      |   |
|------|---|
| 2011 | Company registration and establishment  |
| 2012 | Established a corporate culture of “inclusivity and collaborative innovation” |
| 2013 | Established a nationwide marketing network                                    |
| 2014 | Outlined company mission and vision   |
| 2015 | Integrated AIM Honesty  |
| 2016 | Integrated AIM Kanghuai   |
| 2017 | Integrated AIM Weixin and Rong’an Bio   |
| 2018 | Obtained GMP certificate required for MPSV4 production                        |
| 2019 | Established and put into use the AIM Explorer                                 |
| 2020 | Completed restructuring and deepened integration efforts                      |

### **7.3 Analysis of M&A Performance by AIM Vaccine**

#### ***7.3.1 Financial Performance Analysis***

A thorough examination of AIM Vaccine's development journey reveals two noteworthy aspects:

Firstly, the role of corporate culture is utmost important. AIM Vaccines is a company that places a strong emphasis on cultivating a robust corporate culture. Since its early days, the company had been gradually refining its corporate culture, and by the time it embarked on large-scale M&A and integration, it had already established a relatively mature and independent cultural identity.

Secondly, AIM Vaccines has demonstrated an impressive ability to integrate quickly, as evidenced by its remarkable financial and product integration capabilities.

Within approximately four years, AIM Vaccines successfully and accurately completed the acquisition and integration of major production bases. By acquiring and

integrating four production bases across four different regions of China, AIM Vaccines essentially formed its own embryonic product center.

The most intuitive indicator for evaluating the success of mergers and acquisitions is economic indicators, and the most intuitive response to economic indicators is the company's financial indicators. Therefore, we chose the company's total assets - reflecting the company's size, net profit - reflecting the company's profitability, asset-liability ratio - reflecting the capital structure and solvency. There are many financial indicators that can reflect the company's economic indicators, but only the simplest and most direct key indicators are selected here. Because we can get sufficient research in this case, we can see more key indicators other than economic indicators later.

Therefore, we will focus on AIM Vaccine's financial performance after a series of initial integrations. Table 7.2 presents the basic financial data from 2018 to 2020.

Table 7-2 Basic Financial Data of AIM

| Indicator                 | 2018  | 2019  | 2020  |
|---------------------------|-------|-------|-------|
| Total asset (RMB million) | 3,020 | 2,950 | 4,690 |
| Operating revenue         | 1,111 | 951   | 1,638 |
| Net profit                | 101   | 120   | 400   |
| Debt-to-asset ratio       | 43%   | 45%   | 27%   |

Following the initial acquisitions, the financial data indicates that AIM Vaccine possessed a strong financial advantage, excellent asset conditions, and demonstrated formidable solvency. Additionally, the enterprise exhibited robust operating capabilities, with continuous growth in revenue. Profits from product sales steadily increased, and the market share of the products grew higher and higher.

### ***7.3.2 Analysis of Technical Accumulation***

AIM Vaccine's mission of "producing conscientious vaccines and promoting health for all" is underpinned by an open innovation philosophy centered on "inclusivity, innovative empowerment, and compliant collaboration." The "inclusivity" speaks to the company's M&A integration strengths, as AIM Vaccine swiftly pivoted from vaccine distribution to production and R&D through a series of acquisitions and integrations. "Innovative empowerment" seamlessly integrates management and sales advantages with production and operation, breathing new life into the previously struggling acquired companies and turning them into new profit centers that drive further R&D investment. "Compliant collaboration" involves the deep integration of independent production and R&D organizations to leverage their mutually complementary strengths, resulting in profound technological synergy and innovation.

From 2015 to 2017, AIM Vaccine acquired four companies, including Rong'an Bio, AIM Honesty, AIM Kanghuai, and AIM Weixin, gaining access to their advanced technical resources. This enabled the company to establish a pipeline of multiple vaccine products, including hepatitis B vaccines, hepatitis A vaccines, and human rabies vaccines. In selecting acquisition targets, AIM Vaccine not only placed significant emphasis on financial performance but also highly valued technical performance, which helped the group achieve breakthroughs in technology and build a robust technical platform through M&A integrations. Table 7.3 illustrates the AIM Vaccine technology platform.

Table 7-3 Technology Platform

| Year | Technology   | Product  |
|------|--|--|
| 2015 | Gene recombinant vaccine technology platform   | Hepatitis B vaccine  |
| 2016 | Whole-virus inactivated vaccine technology platform<br>Human diploid cell culture technology | Inactivated hepatitis A vaccine (human diploid cell)                                       |
| 2017 | Bacterial vaccine technology platform<br>Combination vaccine technology                      | Focus on bacterial polysaccharide vaccines and bacterial polysaccharide conjugate vaccines |
| 2017 | P3 laboratory  | Rabies vaccine, inactivated COVID-19 vaccine   |
| 2021 | mRNA vaccine technology platform   | mRNA COVID-19 vaccine  |

Upon analyzing AIM Vaccine's M&A journey (as shown in Table 7.1) and technology platforms (as illustrated in Table 7.3) in conjunction, it becomes apparent that the company had distinct criteria when selecting target enterprises for acquisition and resource consolidation at various stages of development.

At present, AIM Vaccine boasts a portfolio of five scale-validated technology platforms for human vaccines, including bacterial, viral, gene engineering, combination, and mRNA vaccine technology.

By strategically executing a series of vertical and horizontal M&A as well as technology acquisitions, AIM Vaccines has effectively amassed its own cutting-edge pool of technologies, thereby establishing a robust technical support system that will undoubtedly facilitate the company's future growth and prosperity.

### 7.3.3 Scale Effect Analysis

As of 2021, there are 33 vaccine companies in China with 45 production licenses. In 2021, only 21 vaccine companies had batch release records (as a condition for being allowed to market Chinese vaccines after passing inspection), but most of them only had 1-2 production licenses. Among Chinese vaccine companies, only 5 companies have more than 5 products, and Amylin Vaccine is one of them. Amylin Vaccine has 4 production licenses, far ahead of most companies in the same industry.

Table 7-4 Authorized Licenses Distribution

| Numbers of authorized product | Numbers of manufacturers |
|-------------------------------|--------------------------|
| 1                             | 13                       |
| 2                             | 6                        |
| 3                             | 1                        |
| 4                             | 2                        |
| 5 or above                    | 5                        |

### 7.4 Application of Executive Compensation Design in AIM Vaccine

With the acceleration of the integration process of AIM Vaccine Group, the scale effect of the group is gradually emerging. The company has designed an overall compensation plan for the entire group (including its manufacture factories). In particularly, significant adjustments have been made to the compensation structure of senior executives.

After several major mergers and acquisitions, AIM Vaccine Group has basically formed its relatively complete commercial layout in the human vaccine industry's entire industry chain. At the same time, the company's focus has begun to shift from mergers and acquisitions to resource integration. In the entire integration process, compensation systems play a key role in integrating resource allocation, management models, corporate culture, and other aspects.

Through interviews with AIM Vaccine's management and comparisons and reorganizations of its compensation system, the following characteristics can be seen:

Table 7-5 Comparison of integration before and after integration

|   | Before integration    | After integration           |
|---|-----------------------|-----------------------------|
| Compensation system                         | Indepent huge variaty | Group unified               |
| Compensation structure of senior executives | Fixed salary          | Fixed+floated               |
| Equity incentives                           | None                  | Structured equity incentive |

1. The four manufacturing enterprises and R&D institutes of Aim Vaccine Group are located at different areas in China, and their original salary systems are different and lack competitiveness. The headquarters of the group mainly plays a management and unified sales function, while the R&D institutes focus on vaccine research and development. Both geographical and functional differences have made it difficult for their uniform compensation system design.

When designing the salary system, the core goal is to maintain its industry competitiveness, comprehensively consider the differences in regional economic levels, structure the salary standard, design compensation levels from multiple dimensions, and form a scientific gradient. As to compensation levels, the most important principle is to pay the same salary for the same job, with differences in job settings primarily based on differences in job functions. On this basis, adjustments to employees' compensation levels are made based on their individual abilities and work performance. In addition to job differences, technical level advancement is promoted to encourage basic-level employees to obtain higher wages through technological advancement, thereby breaking the promotion block into management positions. That is to say, prior to the reform of the

compensation system, the only way for employees to significantly increase their salaries was through individual efforts to obtain promotions. However, in a normal company management structure, there are fewer management positions and more grassroots employees. It is inevitable that many excellent technical workers will have difficulty obtaining promotion opportunities, leading to the departure of many excellent technical workers. Furthermore, the operators in the biological products industry require good aseptic awareness and practical experience, which the original compensation system failed to meet. After the integration of the compensation system, salary increases have become accessible through non-promotional routes. In addition to job promotions, technical workers from different fields can also be promoted through technical routes. Even without management positions, as long as their technical skills are up to par, they can also receive salary increases. Even technical experts can receive salaries that exceed those of senior executives in their business lines. This has brought enormous potential for talent accumulation and technological inheritance in vaccine manufacturing enterprises.

2. The most important difference between senior management and grassroots employees lies in the fact that grassroots employees rely more on execution ability, while senior management needs to exercise more initiative. Grassroots employees are responsible for following the instructions of their superiors, but management needs to be responsible to the board of directors and the company's operating profits. However, under the original compensation system, the salary structure for managers and employees was the same, with only fixed salaries. This salary structure was not conducive to managers exercising their initiative. In the new compensation structure, the following adjustments were made to management compensation: first, a partial salary increase was given to executives, and the

single fixed salary was changed to a fixed salary + a floating salary. Between the two, the proportion of the fixed part was reduced, while the proportion of the floating part was increased. Through this approach, it is possible to better bind the short-term interests of management to the company's interests and better exercise their initiative.

3. After the initial completion of the overall merger and integration and before the group's overall listing, AIM Vaccine Group decided to implement equity incentives for its core management and core technical personnel to supplement and improve the new compensation system through an equity incentive plan. In designing the equity incentive plan, the company made a structured design and arranged for staged equity incentives to different groups of people. First, in terms of structural design, the company distinguished between the core management and technical personnel through equity rights and equity options. Group senior management personnel were allocated a certain amount of equity allowance, which allowed them to purchase the company's shares at a discounted price. Through this approach, before the company's listing, the long-term interests of management were bind together with the company's business development, which could also motivate management to attach greater importance to the important event of the company's listing. At the same time, for core technical personnel with limited self-funding but whose core technology was very important for the company's development, the company granted them equity incentives. With a certain performance target as the assessment criterion, they were allowed to purchase the company's shares at a discounted price at a future point in time after the company's listing based on the stock price at that time. This helped core technical personnel actively promote the research and development progress of new products in the pipeline, and tied the long-term interests of these personnel

to the long-term interests of the company. In addition to this structural design, an equity incentive plan was also implemented for a wider range of core team members and even grassroots employees through staged and phased implementation. This helped bind their medium and long-term interests to the company's interests, promote unity in goals throughout the company, stimulate employees' subjective initiative, strengthen the company's employee stickiness, better maintain personnel stability, promote sustainable optimization of human resource strategies, and facilitate in-depth integration of resources after mergers and acquisitions.

### **7.5 AIM Vaccine's Ongoing Integration and Future Integration Direction**

Over the span of a decade, AIM Vaccines has managed to complete its initial integration, from entering the biopharmaceutical industry to building a full-chain vaccine group. However, this accomplishment is not the final destination. For AIM Vaccines, it represents a new beginning. In 2022, AIM Vaccines (06660.HK) successfully completed the world's first global offering and was listed on the Hong Kong Stock Exchange. The company intends to leverage the power of the capital market to expand its resource integration efforts in the Chinese and global vaccine industries, with a broader scope and deeper penetration.

Over the next 5-10 years, AIM Vaccines aims to continue integrating resources and exploring ways to extract greater value from its existing assets.

For instance, in the human rabies vaccine segment, human diploid cell rabies vaccine is widely regarded as a key development direction. AIM Vaccines' wholly owned subsidiary, Rong'an Bio, is a leading player in this field, while its subsidiary, AIM Kanghuai, has accumulated a decade of technical experience in human diploid cell culture

technology. At the strategic level, the two relatively independent technological advantages within AIM Vaccines Group can be synergized for greater impact. Similarly, AIM Kanghuai's human diploid cell-based hand, foot, and mouth disease bivalent vaccine can be combined with Rong'an Bio's mature large-scale bioreaction technology to achieve a rapid capacity breakthrough, thereby facilitating the rapid expansion of production capacity and the realization of economies of scale.

AIM Vaccines has expanded the application of mRNA technology in the development of new products. While the company made significant progress in the development of a multi-technology approach to vaccines during the COVID-19 pandemic, its most noteworthy achievement during this period was its breakthroughs in mRNA technology. Although China was a latecomer in terms of the adoption of mRNA technology in the vaccine sector, it has gradually emerged as a unique technological advantage on a global scale. As such, integrating AIM Vaccines' acquired mRNA technology into the company's new product development initiatives is a critical technological strategy for the future.

Furthermore, AIM Vaccines' P3 Laboratory established in 2017 serves as a national strategic research platform for human vaccines. With a significant advantage in the development of new vaccines, the laboratory is well-positioned to address potential risks associated with viral mutations, particularly in light of the constantly evolving nature of COVID-19 vaccines. As a scarce resource within the country, the P3 Laboratory holds significant long-term strategic value. AIM Vaccines must leverage its technological monopoly advantage and pursue targeted M&A integration in a more purposeful manner.

## CHAPTER 8

### CONCLUSION AND RECOMMENDATIONS

#### 8.1 Conclusion

M&As and restructuring are ubiquitous investment strategies for businesses and an eternal hot topic in the capital markets. They serve as a key means to adjust industrial structures, optimize resource allocation in the capital markets, facilitate rapid expansion and integration of modern enterprises, and drive the development of capital markets. Key to the success of M&A is the selection of target companies. The characteristics of the target company can guide investors in their investment strategies. It is worth noting, however, that a significant portion of actual M&A activities may not achieve the expected results. A considerable number of such underperforming M&A activities are directly or indirectly due to the failure of integration after the completion of the M&A activities.

China's market economy has unique characteristics, and national policy guidance and the special status of state-owned equity can directly influence the domestic M&A market and behavior. This study focuses on the M&A behavior of Chinese listed companies and analyzes the motives, patterns, and performance of the Chinese M&A market through a combination of macro and micro analysis. The study uses empirical analysis and normative argumentation to analyze the main factors that affect the Chinese M&A market and behavior. The main conclusions are as follows:

I. Due to the special stage of China's economic development, the M&A behavior on the Chinese M&A market is periodically driven by unique motives, which include: 1. the government's unified regulation to eliminate loss-making companies; 2. acquisition of

land resources; 3. acquisition of “shells” for backdoor listing; 4. access to government policy subsidies; 5. avoiding delisting. These motives can be broadly divided into two categories: those caused by national policy guidance and those caused by unrefined secondary market rules.

II. Target companies being acquired in China's M&A market often have the following characteristics: 1. smaller share capital and higher net assets; 2. relatively dispersed ownership structures, which are conducive to the implementation of M&A activities.

III. Executive compensation is an often overlooked research factor, but it can influence M&A motives and post-M&A performance. In China, the compensation evaluation system for state-owned enterprise executives is significantly different from that of private enterprise executives. As a result, it has different effects on overall M&A activities. This also reflects the different results of the principal-agent problem under different corporate governance systems.

IV. The examination of M&A performance reveals that acquiring target companies with strong short-term solvency, good asset management capabilities, and high growth potential is more likely to yield positive M&A performance. Conversely, targeting companies with high agency costs, high expenses, and high short-term debt often results in integration failures.

V. The case study of AIM Vaccines reveals that each M&A case has its unique characteristics, making it unrealistic to approach different M&A activities with a uniform standard. In addition to screening the financial indicators of the target company, the strategic purpose of the M&A is even more important. For integration performance,

financial integration only constitutes a small part, and key factors influencing the success or failure of M&A integration include technological integration, talent integration, and cultural integration.

## **8.2 Recommendations and Insights**

### ***8.2.1 Insights***

Through a comprehensive examination of M&A theories and relevant literature, it becomes apparent that the process of M&A and integration is a complex and multidisciplinary activity, encompassing investment theory, financial theory, management theory, macroeconomic theory, as well as industrial economic theory. The M&A market often presents different developmental trajectories in varying market environments. Specifically, for individual M&A cases, while the overarching theory can inform M&A integration, each case boasts its own unique characteristics that are not universally applicable nor replicable.

With an empirical analysis of the Chinese M&A market and an overview of the characteristics of China's market economy development and the specific environment of its developmental stage, this study has discovered that China's M&A market development is closely intertwined with the gradual improvement of China's market economy and the gradual establishment of China's capital market. The process is significantly influenced and restricted by macro factors, a pivotal point underscored by this study, namely, that in M&A integration activities, in addition to motives, patterns, and M&A procedures, the timing of the M&A is particularly critical in the Chinese market. Many failed M&A cases in China have learned painful lessons from incorrect timing. Therefore, prior to implementing M&A, comprehensive analysis and evaluation of macro policies,

macroeconomics, industry development trends, due diligence of target companies and the company's strategic direction, as well as post-M&A management, financial, and cultural integration strategies are necessary to enhance the probability of successful M&A integration.

### ***8.2.2 Recommendations***

China's market economy has made significant strides, and the regulation and openness of the capital market have laid the foundation for the development of the M&A market. However, M&A integration activities in China still lack professionalism and scientific rigor. Upgrading industries requires M&A integration as an essential tool. Based on the analysis and research of the Chinese M&A market in this study, as well as years of practical experience in industrial M&A integration, the following theoretical and practical recommendations have been distilled:

I. M&A activities are major decisions for a company's external investment -- with potential life-or-death ramifications. Thus, it is imperative to meticulously scrutinize the organizational structure and establish a dedicated team before embarking on M&A activities. This team should consist of investment experts, financial experts, industry experts, and management experts to enable scientific and comprehensive due diligence of the target company and scientific and careful evaluation of the M&A target.

It is vital to reaffirm the company's own strategic objectives, ensuring that M&A motive is consistent with the company's strategic objectives. The M&A model is multifarious, and the specific mode of implementation depends on the company's strategic objectives and intentions. A comprehensive analysis of the respective values of the

acquiring company and the target company is necessary to be well-prepared for subsequent resource integration.

Management costs, agency costs, and corporate culture integration are three crucial but often overlooked factors in M&A activities. However, more often than not, these factors have a more direct impact on the success or failure of M&A integration than financial integration or business integration.

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