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Global Research of Cities

A Case of Chengdu

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Preface

Beginning in the late twentieth century, with the deepening of globalization and information, the deepening of the international division of labor and the rapid development of information technology stimulated frequent flows of capital, talent, and information, which began to gather in center cities, leading to the rise of world cities such as London, New York, and Paris. These world cities, which are at once centers for multinational headquarters, international finance centers, high-end production services centers, and centers of dissemination of scientific and cultural information, are undoubtedly more competitive in this era of continuous gathering of flows of information, flows of capital, flows of goods, and flows of people. In 1966, British geographer and planner Peter Hall made the following classic interpretation of world cities: World cities are international first-class cities that have had a global influence on the entire world or on the majority of countries. Later, "world cities" gradually evolved into large, versatile cities with direct influence on global affairs on economic, political, and cultural levels.

Concurrent with the expanding sizes and functions of world cities, more and more frequent exchanges and links with other cities have gradually formed a more interconnected city network system. Through the input and output of the various "flows," the city network system has been broken into functional cities such as global centers, regional centers, and nodal channels. As the "center" of the city network system, world cities have used this dynamic "network" to gradually strengthen their political, economic, and cultural "dominance," guiding the direction of the world development process. First, the ability of world cities to dominate economics is mainly seen in the business activities of multinational businesses. Friedmann and Wolff (1982) hold that the rapid shift of global city economies from manufacturing to production services and finance is a spatial expression of these processes of global change and that many local issues of cities around the world can be understood as the results of supranational influences, particularly the rapid and irregular flows of transnational capital. Thus, the economic dominance of global

cities has mainly come from the headquarters of multinational companies gathered therein. Global cities have become gathering places for multinational headquarters, and multinationals have implemented their global strategies through centralized management and unified decision-making and allocated resources according to the principle of profit maximization.

The global economic operating method thus changed. Production chains, consumption chains, and management chains underwent a separation in form, but in fact were also closely linked together, firmly in control of the global economy. Thus, the economic dominance of global cities is first manifested in the resource allocation function and management decision-making function. The economic dominance of global cities is also manifested in the research, development, and innovation function. Multinational companies will increase research and development efforts and improve capacity for innovation. To this end, multinational companies generally place research and development centers under the direct management of headquarters. From a practical point of view, the separation of the headquarters and R&D centers of multinationals is rare. R&D centers are generally located in cities where high-end talent gathers, information flows freely, and hardware and software facilities are well established. This to a certain extent also improves the city's R&D and innovation capacity.

For this reason, the world cities formed within the constant development and evolution are not only closely connected to the economic development of the countries in which they are located, but they are also intrinsically connected to the development of the world economy.

With the intensification of globalization, the concentration and linkage of factors of production have moved forward in breadth and depth, and the center of gravity of world economic development has begun to shift toward the Asia-Pacific region. In terms of the urbanization of emerging industrial economies in East Asia, this will usher in an unprecedented opportunity. As the United Nations conference held in Tokyo in the 1990s foresaw, the twenty-first century would be a "new urban century." In the early twentieth century, the world's 150 million urban dwellers made up approximately 10 % of the world population. By the end of the twentieth century, the number of urban residents had grown to more than 3 billion, increasing more than 20 times, and making up half of the world population. It is predicted that by 2025, the global urbanization rate will rise to 65 %, with the rate in developed countries rising slightly to 83 % and that in developing countries increasing substantially to 61 %! According to Northam's S-curve rule, the current global urbanization rate of 50 % is in a stage of rapid development. The rate in developed countries already exceeds 70 % and will slow when it reaches 80 % or so, with the urbanization rate exhibiting a steady rising trend. The urbanization rate of 45 % in developing countries is in an accelerated development stage and will be much faster than in developed countries. This will undoubtedly provide the opportunity of an era for some cities in newly industrialized countries with the potential to become world cities.

Through more than three decades of reform and opening and rapid development, China's economy has grown rapidly and urbanization has risen continuously. China has become the world's region of fastest economic growth, most economic potential, and most dynamic economic development, and its goal of building world cities is achievable. China already has a number of cities with the potential to become world cities. The agglomeration and linkage effects of these cities are becoming increasingly prominent. They are becoming core growth poles of the national economy, driving overall economic growth, and leading the elevation of Chinese cities in the spatial structure of the global city network system. Overall, Beijing and Shanghai have begun to take the shape of world cities, while Chengdu is one of the western interior cities meeting the conditions for becoming a world city.

The state council has designated Chengdu as the western center for China's logistics, commerce, finance, and science and technology industries, and as the "engine" of the development of western China. Globally, the World Bank has identified Chengdu as a "standard city" for international investment. Currently, Chengdu is approaching an envious situation: Half of the world's Fortune 500 companies have established subsidiaries in Chengdu. In other words, in the contemporary global economic context, Chengdu is a highly successful city within China's rise.

Chengdu's economic success can be illustrated with population and gross national product (GNP) growth statistics from the 30 years between 1981 and 2010: population growth of 38 % and GNP growth of 11,226 % (an astounding figure), from 4.9 million yuan to 55.5 billion yuan. In the Eleventh Five-Year Period in particular, GNP grew 14.4 % annually, and per capita disposable income of urban residents increased 12.9 % annually! This significant growth comes from introducing new and high technology and modern business practices to existing industries (agriculture, manufacturing, and commerce), while at the same time attracting growth in leading-edge fields. Eighteen institutions of higher education constantly providing high-tech talent have supported this growth. We can see the global significance in the growing number of countries opening consulates in Chengdu. From building a western economic core and even the goal of a world-class growth pole, the Five Big Strategies of "Transportation First," "Industry Doubling," "Establish an Excellent City," "Three Circles One Entity," and "Development of All Sectors" have undoubtedly pushed Chengdu onto the world stage.

Today, Chengdu is in a key period of development in the Twelfth Five-Year Plan, and those following its development are thinking about how the city can conform to the historical development process, inherit the fruits of victory since reform and opening, and establish a world-class, modern garden city that possesses both the general character of the world and a large dose of its own charm.

Therefore, this project prescribes Chengdu as the first sample city in the Global and World City (GaWC) Network's "Global Urban Research." This study, based on Chengdu's historical development, explores its achievements over the past two decades and, combined with the Five Big Strategies currently being implemented; conducts a comprehensive examination of transportation, infrastructure, the industrial level, institutional environment, and other factors; and thereby comes to a general model for rapid urban development.

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Contents

1 Background: Chengdu in a Global Context 1
1.1 Background 1
1.1.1 Deep Globalization Provides New Opportunities for the Leapfrog Development and Internationalization of Cities 1
1.1.2 The "China Miracle" Created the Conditions for the Internationalization of Cities 3
1.1.3 "China's Rise" Is an Intrinsic Fundamental Reason for the Internationalization of the City 5
1.1.4 Summary 7
1.2 An Introduction to Chengdu 8
1.2.1 The History of Chengdu 8
1.2.2 The History and Stage Characteristics of Chengdu's Diversified Development 10
1.2.3 Unique City Flavor Is Attractive on a Global Scale 12
1.2.4 Summary 15
1.3 Literature Review 16
1.3.1 Relevant Urban Development Theory 16
1.3.2 Relevant Theoretical Frameworks 19
1.3.3 Summary 25
1.4 Research Goals and Methods 25
1.4.1 Research Goals 25
1.4.2 Design of Research Methods 25
1.5 Introduction to the Structure of This Report 26
References 27

2 Comprehensive Analysis of Existing Data: Chengdu in the World City Network 29
2.1 Analysis of Chengdu's External Linkage Effect 30
2.1.1 Measuring Chengdu's Infrastructure-Linked Network 30
2.1.2 Measuring Chengdu's Business Network 33

2.2 Analysis of Chengdu's Agglomeration Effect 43
2.2.1 Model Building 44
2.2.2 Selection of Representative Cities 45
2.2.3 Historical Agglomeration in Representative Cities 45
2.2.4 Analyzing Current Agglomeration in Representative Cities 56
2.2.5 Comprehensive Analysis: A Horizontal Comparison of Chengdu's Agglomeration 57

3 Social Research Finding One: Quantitative Analysis of Successful Enterprises 59
3.1 The Importance of the Local Work of Firms in Chengdu 59
3.2 The "Chengdu Success Story" Survey 61
3.3 Constructing Variables 62
3.3.1 Dependent Variable 62
3.3.2 Independent Variable 63
3.4 Basic Analytic Framework 67
3.5 Results I: Relations Between the Five Key Variables 68
3.5.1 Analysis 1. GROWTH Versus NEW 68
3.5.2 Analysis 2. GROWTH Versus SECTOR 69
3.5.3 Analysis 3. NEW Versus SECTOR 71
3.5.4 Analysis 4. GROWTH Versus LOCAL 72
3.5.5 Analysis 5. NEW Versus LOCAL 73
3.5.6 Analysis 6. GROWTH Versus OWNER 73
3.5.7 Analysis 7. NEW Versus OWNER 75
3.5.8 Analysis 8. OWNER Versus LOCAL 76
3.5.9 Analysis 9. OWNER Versus SUPPORT 77
3.6 Results II: Further Exploration of the Relation Between Growth and New Work 78
3.6.1 Analysis 10. NEW Versus MK-OPP Versus GROWTH 79
3.6.2 Analysis 11. NEW Versus PATENT Versus GROWTH . . . 80
3.6.3 Analysis 12. NEW Versus EXPLORE Versus GROWTH 81
3.6.4 Analysis 13. NEW Versus FOREIGN Versus GROWTH 82
3.6.5 Analysis 14. NEW Versus FINANCE Versus GROWTH 84
3.7 Results III: Bringing in Labour and Competition 85
3.7.1 Analysis 15. GROWTH Versus GRADUATE Versus NEW 86
3.7.2 Analysis 16. GROWTH Versus COMP Versus NEW 87
3.8 Main Points 89

4 Social Research Finding TWO: Business Success Stories and Inspiration 91
4.1 Case Selection and Analytical Framework 91
4.1.1 Case Selection 91
4.1.2 Analytical Framework and Data Collection 92
4.2 Company Development Stories and Related Analysis. 96
4.2.1 Shiling Poultry Cooperative 96
4.2.2 Sichuan First Automotive Work (FAW) Toyota 101
4.2.3 Chengdu Investment Holding Group Co., Ltd. 106
4.2.4 Agilent Chengdu Branch 110
4.2.5 Huawei Symantec Chengdu Branch. 114
4.2.6 Maipu Communication Technology Co., Ltd 118
4.2.7 Sichuan Kelun Pharmaceutical Co., Ltd. 121
4.2.8 Chengdu Hongqi Chain Co., Ltd 124
4.2.9 Chengdu Culture and Tourism Development Group Co., Ltd. 127
4.2.10 QuanU Furniture Co., Ltd 131
4.2.11 Sichuan Shuijingfang Co., Ltd 136
4.2.12 Chengdu SME Credit Guarantee Co., Ltd 140
4.2.13 Sichuan Comfort International Travel Service Co., Ltd 145
4.2.14 Intel Products (Chengdu) Co., Ltd 149
4.2.15 DTZ Real Estate Consulting (Chengdu) Co., Ltd 154
4.3 A Comprehensive Analysis of Multiple Cases. 156
4.3.1 Diversity and Creativity of New Works. 156
4.3.2 Market Development Drives Expansion of New Works 157
4.3.3 Local Market and Local Influence. 157
4.3.4 The Effects of Policy Factors Within the Nation's Rise on Different Industries 158
4.3.5 Companies of Different Ownership Structures Have Different Development Advantages 158
4.3.6 The Importance of an Appropriate Workforce. 159
4.3.7 Changes to the Competition and Company Total Asset Growth Are Related 160
4.4 Discussing Chengdu's Development Characteristics According to the Stories of Companies 163
4.4.1 The Effects of Chengdu's Unique Characteristics on the Development of Companies 163
4.4.2 Modern Communications and Transport Networks Bring Inland Cities New Opportunities for International Connections 164
4.4.3 Decision Making Power in International Economic Activities Shifting to Multinational Companies and Government Management and Strategy 165

4.4.4 The Rise of a Nation Drives Urban Development 166
4.4.5 Policy Role: Policy Implications of Diversified Urban Development 168
4.4.6 Dynamic Comparative Advantages in Rapid Urban Development 169
References 170

5 Moving onto the World Stage 171
5.1 Findings 171
5.1.1 Connectivity 171
5.1.2 Agglomeration 174
5.1.3 Diversification 175
5.1.4 Local Nature 176
5.2 The Reasons for Chengdu's Successful Development in the Global Network 176
5.2.1 Excellent and Beautiful Urban Environment Has Attracted Multinational Companies and High-End Industry 177
5.2.2 Long-Term Accumulation of Ancient City History Attracts the Attention of the World 177
5.2.3 Developed Modern Transport and Communications Networks Magnify Location Advantages 178
5.2.4 Excellent Science Education Foundation Makes Chengdu's Leading High-End Possible 179
5.2.5 The Global Industrial Division of Labor and Industrial Transfer Has Spurred Development in Newly Industrialized Countries Including China 179
5.3 Inspiration for World Cities from the Development of Emerging Economies 180
5.3.1 Urban Agglomeration Forces Will Change the Pattern of the World City Network 180
5.3.2 China's Rise and Sustained Growth Drives the Rise and Development of Cities 181
5.3.3 Modern Communications Networks Give Inland Cities New Opportunities to Connect Globally 182
5.3.4 Multinationals and Changes to Their Strategies Determine the Pattern of Global Cities 183
5.3.5 Policy Implications of Diversified Urban Development 183
5.3.6 Knowledge and Innovation Factors Become Key Factors for Global Cities 184
5.4 Suggestions for Further Research 185
5.4.1 Thinking Obtained from Field Research 185
5.4.2 City Connectivity and Development: A Two-Dimensional Space-Time Analysis 186

5.4.3 Looking at World Cities from a New Perspective: Quality Effect 187
References 188

Appendix: Survey of Chengdu Success Stories 189

Introduction

This study, on the foundation of research into international leading world cities and the theory of the degree of urban linkage, combines the practical experience of cases of successful enterprises in Chengdu to make an in-depth analysis of Chengdu's development. The study is broken into three parts.

The first part is an exploration into the degree of agglomeration and connectivity in Chengdu. The analysis shows that Chengdu possesses the strength to become the western center of the Chinese economy, but as an international city, the degree of agglomeration needs to be improved. The connection to the external network is ascertained through Chengdu's aviation traffic and commercial services connections. The study found that (1) overall, Chengdu does not have the mature connections to the external network that an emerging global city should have; (2) Chengdu's underlying connections show signs that Chengdu can expect to achieve emerging global city status; and (3) the connectivity of Chengdu's business services does not match the status of an emerging global city.

The second part is understanding through social research of Chengdu's enterprises the process by which enterprise growth spurs a city's development. The focus of this inquiry is the total asset growth rate and the formation of new kinds of work. The study finds that (1) enterprises striving to create new types of jobs do not have the experience for rapid growth; (2) an enterprise's economic classification and whether it is focused on the local market and the nature of its property rights have an effect on a company's method of total asset growth, and these methods are closely related to the new work of different classifications; and (3) companies able to create new types of jobs are adept in discovering new opportunities (including the use of patents). These companies can develop new markets; they are often foreign-invested or have received public investment support for R&D; (4) a company's rapid growth in total assets is closely related to companies not having developed new work, seeking market opportunities, using patents or developing new markets, not having received public or government economic support for start-up or R&D; and (5) the competitive environment of a company is crucial: Monopoly companies often exhibit higher asset growth rates, but the new work they create is too simple. These findings reflect the unique model of economic

development, which requires understanding through further investigation into specific actions.

In the third part, we select fifteen sample companies for in-depth case studies. The findings of the case studies provide profound and specific operational recommendations for understanding urban development through the behavior of companies. The agglomeration effects, linkage effects, and the resulting multifaceted development that enterprises bring to cities in the process of their operations are supported by specific data and detailed explanations in the case study process and one by one explain the uniqueness and international development characteristics of Chengdu. The effects of the new division of labor, information, and communications orientation of globalized industry on urban development, Chengdu's excellent geographical features and cultural characteristics, the driving effect of China as a rising power, regional policies, the dynamic comparative advantage in urban development, and other characteristics stand out in such an in-depth study of sample businesses. These findings confirm Chengdu's significance in the research into internationalized cities.

Chapter 1
Background: Chengdu in a Global Context

Peter Taylor, Pengfei Ni, Kai Liu and Ben Durudder

1.1 Background

1.1.1 Deep Globalization Provides New Opportunities for the Leapfrog Development and Internationalization of Cities

The deepening of globalization and the rapid development of information technology have led to a series of changes including the emergence of a new international division of labor, the rise of multinational corporations, and the rise of emerging markets. These changes have provided precious opportunities for the internationalization of developing country cities and the building of world cities.

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1.1.1.1 The Emergence of a New International Division of Labor

The traditional international division of labor is based on David Ricardo's theory of comparative advantage in which differences in factor endowments between countries lead to differences in product prices, thereby leading to trade exchange. At this point the exchange of products is inter-industry or intra-industry trade between nations. With the development and expansion of globalization, a new international division of labor model has gradually been replacing the traditional form since the mid-1980s. It is characterized by product specialization guided by a global production network of multinational companies and the internationalization of domestic markets and international markets through multinational corporations. The new international division of labor is characterized by the transfer of labor-intensive industry from industrialized countries to developing countries, the transfer of manufacturing, which originally occupied an important position, to fringe areas, the emergence of more and more sectors linked with the world economy in developing countries, and major changes to the relationships among the different regions of the world. This has provided precious opportunities for developing countries to more actively participate in the global division of labor and adjust their industrial structures and has created a new framework for the trade division of labor.

1.1.1.2 The Global Distribution of Multinationals

Multinationals have arisen with the emergence of the new international division of labor. In this process, multinationals break through the constraints of national borders through the international division of labor. Their production networks wrap production dispersed among companies around the world into unified products and expand into all countries including developed countries to become an important force in the world economy. It is because of the collection of corporate headquarters, regional headquarters, and international organizations that some cities first develop into world cities. In the context of this highly unified world economy, world cities use international capital exchange factors and transmit information between other cities and economic nodes. Through multinationals, especially multinational giants in finance, law, accounting, advertising, management consulting, and other high-end production services, resource distribution on a global scale and related production and operating activities constitute the core content of the world city network. These companies play a major role in spurring the fostering of a city's companies and optimizing its industrial structure. To a large extent they also decide the position and development level of a city's world city network. Therefore, the "headquarters economy" formed by multinationals can provide world cities with better positioning from which to seize the commanding heights of information, capital, talent, and other core factors.

1.1.1.3 The Rise of Emerging Markets

The strong push of globalization by global trade is the primary factor in the rise of emerging market economies. World export trade has grown by more than 15 % annually on average. China's products are exported to the US, and Brazil's iron ore can be exported to China. Globalization gives full play to each country's comparative advantage. Secondly, outsourcing enables dramatically higher profits for multinationals. In industrialized countries, with falling trade costs and more cost advantages in emerging market countries, multinationals face rising production costs in their own countries and pressure from investors for profits. The best option is to transfer factories to countries with low costs to reduce the cost of production and enhance corporate profits. Emerging markets have been favored for the following reasons: rapid economic development, many young people, and the ability to obtain considerable profits, even for multinationals that are not well known. Multinationals have reason to invest mainly abroad and not domestically, which is an irreversible trend worldwide. Wal-Mart's procurement volume in China is above 10 billion yuan, basically 70 to 80 % of products. Electronics and consumer goods may all be "Made in China." In China, because outsourcing has enhanced the local economy, improved incomes, and improved purchasing power, the entire economy has benefited, further promoting the enthusiasm of the country and companies for participating in the international division of labor.

1.1.2 The "China Miracle" Created the Conditions for the Internationalization of Cities

Through reform and opening, China has maintained more than three decades of rapid economic growth and created the acclaimed "China Miracle." This has provided favorable conditions for creating its own world cities, mainly in three aspects.

1.1.2.1 Rapidly Growing Economies of Scale

China has a population of 1.3 billion, accounting for 20 % of the world total. In 35 years of reform and opening, China's economic strength has grown rapidly, forming considerable economies of scale and having an increasing impact on the world economy. In 2012, China's GDP reached 51.9 trillion yuan, growing 7.8 % from the previous year to become the world's second-largest economy after the US. China's total import and export volume reached US $3.9 trillion, an increase of 6.2 % from the year before. Exports reached US $2 trillion, an increase of 7.9 % from the year before, while imports reached US $1.8 trillion, growing 4.3 % from the year before. The trade balance (exports minus imports) was US $231.1 billion, an increase of US $76.2 from the year before. China's ranking by total trade rose

from 29th place in 1978 to overtake the US in 2012, making China the world's number one trader. China's foreign exchange reserves reached US $3.3 trillion, growing US $130 billion from the previous year, ranking the country first in the world. In 2012, direct foreign investment in China reached US $110 billion.[1]

1.1.2.2 A More Far-Reaching Economic Impact

China's influence on the world economy is displayed in the flow of goods, capital, people, information, and other aspects. The influence of the flow of goods is most significant and mainly manifested in China's foreign trade. Reform and opening established a broad platform for the development of import and export trade. In 2012, China's total trade import and export value was US $3.9 trillion, an increase of 6.2 % from the previous year and an increase of 104 times from US $20.6 in 1978. China's share of global trade has grown from 1.8 % in 1978 to 11.1 % in 2012. Of this, exports were US $2.05 trillion, up 7.9 %, imports were US $1.82 trillion, up 4.3 %, and the trade surplus was US $231.1 billion, expanding 48.1 %. China's exports of manufactured goods have a great impact on international commodity prices, and China's imports, particularly of energy and raw materials, have a significant impact on the international market.

Second is the impact of capital flows. China attracts large quantities of foreign investment, and China purchases a significant amount of US Treasury bonds for its foreign exchange reserves, giving Americans huge interest rate subsidies. Thus, China's capital flows are having a greater and greater impact on the world's financial markets. The yuan exchange rate issue is becoming a central issue in international finance. In addition, neighboring countries, such as Mongolia, Vietnam, and Southeast Asian nations, are increasingly accepting the yuan as a trade currency. Massive flows of Chinese goods will gradually lead to the internationalization of the yuan. Third is the effect of the flow of people. The impact of the flow of people is felt in a number of aspects, such as China's labor exports, as well as demand in recent years for executive talent from abroad, such as the increasing number of students who study abroad and return to China and the development of the international tourism industry. Last is the effect of information flows. For example, China's macroeconomic data has an increasingly important effect on world financial securities and futures operations.

1.1.2.3 State Power Boosts the Rise of Cities

World cities link regional economies with the world economy. Their position in the world city network reflects the economic power of the countries in which they are

[1]Source: 2012 National Economic and Social Development Statistics Bulletin.

located: New York reflects the economic power of the US; London reflects the UK's economic position; and Tokyo is linked to the entire Japanese economy. The elevation or decline of a country's economic position will influence changes to the position of its world city in the world city network. Friedman uses a standard to identify world cities: in the national economy, GDP of US $200 billion in 1989 prices (Friedmann 1990). In recent years, China's GDP has far exceeded US $200 billion, and from a perspective of national economic power, it possesses the foundation for forming world cities. In addition, World Bank research shows that GDP of US $1 trillion is a landmark step signifying that wealth accumulation will enter a new course. US GDP reached US $1 trillion in 1970 and reached US $2.7 trillion a decade later in 1980. Japan's GDP reached US $1 trillion in 1978 and reached US $2.4 trillion a decade later. China's GDP reached US $1 trillion in 2000 and was US $8.3 trillion in 2012. The rapid rate of growth is evident. From this we can see that China's rate of wealth accumulation has exceeded that of the US and Japan during the same stage of development. In the next few decades, producing world cities will be an inevitable result of China's economic development. This has been recognized in all circles.

1.1.3 "China's Rise" Is an Intrinsic Fundamental Reason for the Internationalization of the City

First, China's rise is linked with the economic growth of western China. In the map of the Chinese economy, although the eastern region is well capitalized with convenient transportation and many other advantages, it is currently focusing on transforming its model of economic development. Under the guidance of policies for optimizing the economic structure, the western region is revealing the ecological environment and inclusive culture lacking in the east, as well as other late-mover advantages. Economic globalization and the universal application of information technology have also reduced the transportation advantage of coastal cities over inland cities. Both industries and businesses can deploy on a global scale as long as they are consistent with their competitive advantages. Manufacturing sites, decision-making sites, and research and development sites can be completely separated, no longer subject to geographical or location restrictions. China's western region is vast with a large population and rich resources. It has huge development potential and its strategic position is increasingly prominent. As western development enters the implementation stage, modern industrial agglomeration, urban and rural reform and development, ecological civilization construction and other late-mover advantages will become fully apparent, providing a realistic possibility for catch-up, leapfrog development for inland cities like Chengdu.

Second, western economic development relies on Chengdu's comprehensive development. Chengdu is one of China's largest cities in its central and western regions, covering a total area of 12,390 km^2 (China's eighth largest municipality or

sub-provincial city), and with population of 14.05 million. Chengdu features a gathering of talents, a beautiful environment, a strong science and education base, and has a regional center city position formed over the long-term. In central and western China, it is overall one of the most competitive cities.

During the period of the 11th Five-year Plan (2005–2011), Chengdu had a series of fruitful results in economic and social areas, as well as in opening to the outside world. In 2010, the city's GDP reached 555.13 billion yuan, up 95.9 % from 2005, with average annual growth of 14.4 %, which was 4 % points higher than the national average. The momentum for the development of modern agriculture is good, the pace of industrial development is accelerating, the service industry is developing steadily, the primary, secondary, and tertiary industry structure continues to improve, and industrial strength is increasing. The transformation of the development model is accelerating, progress has been made in energy conservation and emissions reduction, and innovative capabilities are increasing. Comprehensive urban and rural development strategy is being further promoted, and the city is building a national pilot area for comprehensive urban and rural reform. The fundamental approach of the "three concentrations"—industry being concentrated in industrial areas, farmers being concentrated in towns and cities, and land being concentrated for large-scale operation—is being further improved. The science system of the "six integrations"—integration of urban and rural planning, integration of urban and rural industrial development, integration of urban and rural market systems, integration of urban and rural infrastructure, integration of urban and rural public services, and integration of urban and rural management systems—has undergone preliminary construction. Construction of the "four big fundamental projects" for rural work—rural grassroots management, rural property rights system reform, comprehensive rural land management, and reform of village-level public services and social management—has achieved results. Reform of key areas such as the investment system, health system, and administrative system is proceeding steadily.

Urban and rural incomes have risen significantly. In 2010, urban residents had per capita disposable income of 20,835 yuan, an increase of 83.4 % over 2005 and average annual growth of 12.9 %. Rural residents had per capita net income of 8205 yuan, growth of 82.9 % over 2005 and average annual growth of 12.8 %. The urban and rural employment system has been further improved, social security coverage has been extended and improved, educational development is more balanced, health protection capabilities have improved steadily, the population management system has been further improved, cultural undertakings and the cultural industry have developed rapidly, the building of democracy and the rule of law has accelerated, and the achievements of building a spiritual civilization are striking.

Imports and exports have grown rapidly, with total imports and exports reaching US $24.67 billion yuan in 2010, growth of 5.48 times over 2005, or average annual growth of 40.5 %, and the import and export product structure has continued to improve. Utilization of foreign investment has grown significantly. In 2010, actual use of foreign capital exceeded US $6.41 billion, 11 times that of 2005. There has been remarkable success in attracting businesses and investment, with 189 of the

world's Fortune 500 companies having offices in Chengdu. Foreign exchanges and cooperation have expanded, with the number of international friendship cities reaching 13. Regional cooperation focused around the Chengdu economic zone has been comprehensively promoted, and implementation of the "going out" strategy has accelerated.[2]

After entering the 12th Five-year Plan, Chengdu spared no effort to create a "western economic core growth pole with global comparative advantage, national speed advantage, and western high-end advantage." The city fully implemented a "traffic first" strategy to building a well-developed transport system, an "industry doubling" strategy to consolidate its industrial base, an "establish an excellent city" strategy to lay equal stress on planning urban and rural "excellence and establishment," a "three integrated rings" strategy to form integrated urban-rural development, and an "entire-area opening" strategy" to deepen the concept of inclusiveness and openness. These "five strategies to promote the city" are undoubtedly of great significance and far-reaching impact for the future of urbanization, industrialization, internationalization, and modernization of the entire western region.

Chengdu in the Twelfth Five-year Plan has fully implemented the "Chengdu Comprehensive Urban and Rural Reform Pilot Program," made an in-depth implementation of the western development strategy, accelerated participation in the adjustment of the global industrial division of labor arrangement, increased the rate of advance in the development of new industries, and sought a new development model to a greater extent. Chengdu today faces enormous economic and social change, accelerated development of urbanization, continuous development of the consumption structure, accelerated adjustment of the industrial structure, marked enhancement of the influence of the city and its comprehensive competitiveness, increasing participation in the global division of labor, more frequent contact with the outside world, and entrance to the world city development path.

1.1.4 Summary

In the context of global economic development and China's economic rise, how does Chengdu build upon the foundation of its own development? Analyzing and researching the course of Chengdu's development and understanding the gap between Chengdu and successful international cities is of profound significance to an objective understanding of Chengdu and the study of the city's future trends. Therefore, this study focuses on Chengdu, researching the course of Chengdu's development in the context of the global economy and the national economy.

[2]Source: "Twelfth Five-year Plan Framework for Chengdu's Civil Economy and Social Development."

1.2 An Introduction to Chengdu

1.2.1 The History of Chengdu

Chengdu is known as the "Land of Abundance." Although landlocked, since ancient times the area has maintained its own unique history, culture, and sustainable development. Chengdu's history can be traced back more than 4000 years to the early stages of the Xia Dynasty. The highly developed Sanxingdui civilization had already formed on the Chengdu plain. This was a pinnacle in the development of the ancient Shu culture, but also an important source of Chinese culture. In the Western Zhou period, some nomadic tribes began to migrate from the hills surrounding Chengdu down to the plain and low-lying, waterlogged land. At the end of the Zhou Dynasty, the ninth Kaiming King of the Shu migrated from Pi County to Chengdu. The name Chengdu comes from a saying, "In the first year, it became a place to gather (*chengju*), in the second it became a city (*chengyi*), and in the third it became the capital (*Chengdu*)."

In 316 BC, King Qin Huiwen sent Zhang Yi and Sima to mistakenly destroy the Ba and Shu states, changing the kingdom of Shu into the prefecture of Shu. Chengdu County was established and Chengdu City was built prior to 311 BC. After Qin unified the six nations, he divided the country into thirty-six prefectures, with Chengdu in Shu Prefecture, which had jurisdiction over twelve counties. Under the Han Cheng Qin system, Chengdu remained the seat of government for Shu Prefecture. By the late Western Han Dynasty, Chengdu's population had risen to 76,000, making it China's second-largest city after Chang'an. During the confrontation among the Three Kingdoms, Liu Bei unified the states of Shu and Ba, established a capital in Chengdu, and commenced city building on a large scale.

Chengdu continued to develop in the Jin and Sui Dynasties. In the period of the Tang and Song Dynasties, Chengdu was rich in resources and saw little war or harassment due to its unique geographic position, and the economy and society developed continuously. During the Tang Dynasty there was a saying that Yangzhou was the greatest city under heaven and Chengdu the second greatest. From the poet Li Bai, it obtained the reputation, "Nine days out of Chengdu, the dense population turns to a painting. Grass, trees, clouds, and mountains as beautiful as brocade. Qinchuan cannot compare" (see: Li Bai's "The Song of the Retired Emperor Making a Tour to the Southern Capital").

In this period, Chengdu's paper and printing industries led the nation, and commerce developed continuously. In the Song Dynasty, Chengdu formed a free market, and literature and art reached a pinnacle. Li Bai, Du Fu, Lu You and Gaoshe, Cen Can, Bai Juyi, yuan Zhen, Xue Tao, Liu Yu Xi, Zhang Xiang, Du Mu, Li Shangyin, Wei Zhuang, and others wrote a large volume of literary masterpieces while in Chengdu. Music, dance, drama, and painting also flourished, leading to the saying, "Sichuan opera is the crown of the world."

In the early Yuan Dynasty, a new administrative level was established, the Sichuan executive secretariat, referred to simply as Sichuan Province. The seat of government was first in Chongqing, but moved to Chengdu not long after, and Chengdu remained the political and cultural center of the time. The Ming-Qing war impacted the development of Chengdu and created a great setback for the city. In the third year of the Qing (1646), Chengdu was destroyed in the fires of war. From the Kangxi Dynasty onwards, a large number of immigrants entered Sichuan, and the economy began to recover. Chengdu was gradually restored to its former glory.

After reconstruction and expansion in the years of Kangxi and Qianlong, a magnificent new city of Chengdu once again stood at on the location of the old city encircled by two rivers. But after the Opium War, with the open door in Chongqing and the opening of shipping on the Yangtze River, Chengdu gradually lost its position in the southwest to Chongqing and faded.

In the early years of the Republican period, Chengdu remained the seat of Sichuan Province. Chengdu Prefecture was officially built in 1928 when the Chengdu Municipal Government was established. The urban areas of the counties of Chengdu and Huayang were combined to form Chengdu Prefecture. Chengdu and Huayang counties only had jurisdiction over rural areas. This big change transformed the setup of two counties governing one city that had lasted for more than 1000 years. It was the start of Chengdu's modernization.

After the founding of New China, in 1950, Chengdu was the provincial administrative office of western Sichuan, and in 1952 it became the capital of Sichuan province and was listed as a key construction city. In May 1983, the State Council decided that the Wenjiang area (besides the counties of Guanghan and Shenfang) would be merged into Chengdu Prefecture and that the municipal government would have jurisdiction over the counties. After 1990, districts were adjusted and counties were removed to build the prefecture and districts. Chengdu Prefecture has an area of 12,390.6 km^2 and in 2003, the prefecture had a total registered population of 10.44 million people. The prefecture currently administers nine districts (Jinjiang, Qingyang, Jinjiu, Wuhou, Chenghua, Longquanyi, Qingbaijiang, Xindu, and Wenjiang), four cities (Dujiangyan, Pengzhou, Qionglai, and Chongzhou), and six counties (Jintang, Shuangliu, Pixian, Dayi, Pujiang, and Xinjin).

Today, Chengdu's urban development is the same as other modern regional center cities internationally. In the past, present, and a period in the future, it has experienced, is experiencing, and will experience a progressive evolution. As an important economic pillar on the central and western part of the map in China's rise to a world power, establishing a world city with a global vision in Chengdu is not only a change in the form of city space, it is a strategic transformation of raising the urban concept to a higher level, improving urban function, and improving urban quality that has or will have an enormous and far-reaching impact on the urban form, urban function, industry positioning, spatial arrangement, population size, and people's lives in the original city center and newly expanded area.

1.2.2 The History and Stage Characteristics of Chengdu's Diversified Development

Historically, Chengdu has had a diversified industrial division of labor. In the long period of feudal society dominated by agriculture, Chengdu, with excellent climate and geographical advantages, established a highly developed agricultural civilization, and the agricultural sector is the most important production sector in Chengdu. However, with the construction of the Dujiangyan irrigation works and the construction of city walls and moats over successive generations, construction and building techniques also developed in Chengdu. In the Tang Dynasty, Chengdu had a relatively developed commercial sector, and a flourishing culture also pushed the rise of the handicraft sector such as the paper and printing industry. In these fields, Chengdu held a leading position nationwide in technique at the time. Flourishing culture and the gathering of literati also led to the high development of creative cultural industries such as poetry, painting, music, dance, and drama, as well as the ascent of tearooms and other entertainment industry. One can see that historically, Chengdu has had a very rich and diverse division of labor, but workers and businessmen engaged in industrial production and service, after all, only made up a small portion of workers. The vast majority was engaged in agriculture.

Chengdu has had endogenous diversified urban development. Chengdu's recent, modern industrial division of labor and diversified development began with the founding of New China in 1949. In the early days of the new country, Chengdu was a typical consumer-oriented city, and the modern industrial sector was almost non-existent. Chengdu relied on state support to establish a rudimentary modern industrial base. The state made key capital investment to establish a foundation for Chengdu's industrial development. In the early days of the new country, the party and government placed the focus of investment and construction on large cities. As a key western city, a number of important industries connected to international livelihood were set up in Chengdu. During the First Five-year Plan, nine of 156 national key projects were located in Chengdu. The state helped Chengdu build the Chengdu Seamless Steel Tube Plant, Chengdu Engine Company, Chengdu Steel Plant, and a number of backbone enterprises. These state-level, large-scale industrial projects also established a foundation for correlated sectors in Chengdu. In 1965, the state launched the "Three-Line Construction" under the guiding ideology of combat readiness, that is, large-scale industry, national defense, science and technology, and infrastructure were deployed in central and western regions. This industrial migration movement was objectively beneficial to the formation and development of the industrial base in the Chengdu region. By 1978, the proportion of industrial added value reached 47 %, forming a rudimentary layout of mechanical and electrical, chemical, pharmaceutical, machinery, and food-focused industry. During this period, enterprises were state-owned and state-controlled. Private companies were restricted, and there were no foreign-invested enterprises.

Reform and opening accelerated the improvement of Chengdu's diversified division of labor. From 1978, reform spurred on a booming domestic market

economy, and opening enhanced China's connections with the world. With its good industrial base, Chengdu drove forward its industrial development, forming an industrial system led by electronic information, machinery (including automobiles), pharmaceuticals, and food (including tobacco). Chengdu's local enterprises gradually moved out of the local market and improved their market share and influence nationwide. These included Chengdu's leading pharmaceutical company, Sichuan Pharmaceutical (whose production of penicillin occupies one-ninth of the national market), its leading machinery company, Sichuan Aircraft (which manufactures the nose for McDonnell Douglas aircraft), as well as food companies represented by Wang Want Foods Group and electronic communications equipment companies represented by Tuopu Company (Tao and Wang 1999). The development of manufacturing enterprises and the advance of urbanization created a new service sector, which exceeds manufacturing as a proportion of Chengdu's economy. Southwest Chengdu's position as an economic, cultural, and commerce center was further consolidated. During this period, the enterprise structure began to diversify in its development with the reform of the state-owned nature of enterprises. Private, foreign, and joint-venture companies, as well as township enterprises, developed rapidly.

The force of globalization has pushed forward Chengdu's diversified development. After acceding to the WTO, the breadth and depth of China's contact with globalization improved rapidly. In 2000, China began implementing its western development strategy of gradient industrial transfer, placing the western region onto the forefront of reform and opening and ushering in a historic opportunity for internationalization and development. Chengdu began implementing a new-style urbanization strategy of comprehensive urban-rural development in 2003. After a decade of development, Chengdu's economy and society have achieved quantitative change to qualitative change. In 2012, Chengdu's urbanization rate reached 60.2 %. In the global wave of urbanization, particularly in the context of nationwide new-style urbanization and development, Chengdu's "Establish an Excellent City" policy depicts the future urban layout. The comprehensive Chengdu development thinking of "common rise of two cores, joint spurring of three industries, comprehensive urban-rural planning, and integrated circles" has greatly enhanced the city's room for development and further elevated the amount of energy volume in the city's economy.

Chengdu has become one of western China's and even the country's most promising large metropolitan areas, leading and radiating development to neighboring areas, promoting the economic integration of Chengdu and neighboring cities. It is also an integration point for highly efficient exchange in regional and international trade. The "whole-area opening" strategy puts Chengdu further on the road toward being a fully internationalized metropolis. Chengdu is seizing the opportunity of global industry transferring to emerging economies and toward China's western region, is adhering to the policy of "recruiting large companies and attracting the strong," is adhering to the goal of building an internationalized industrial system, and is employing "bringing" and "transplant" methods to quickly develop economic scale. Chengdu is vigorously developing an externally oriented

economy of "bringing in companies, selling products." Chengdu has become an ideal city for the development of modern manufacturing and high technology industry. More than 70 % of Apple iPads are manufactured in Chengdu and sold around the globe. More than 50 % of computer chips are manufactured in Chengdu, and a software and service outsourcing industry cluster is beginning to take shape. Chengdu is known as "China's largest information security products production base and third-largest games products research and development and operations center." According to the universal laws of all countries, in the middle and late period of urbanization, a city's proportion of industry will gradually fall. In the last decade, Chengdu's proportion of secondary industry added value has exhibited an upward trend. Domestic and foreign investment in Chengdu is increasing, and the city is favored by domestic and foreign giants, forming a multi-level enterprise network and industrial cluster driven by large companies.

1.2.3 Unique City Flavor Is Attractive on a Global Scale

First, Chengdu's excellent and beautiful urban environment is accelerating the attraction of multinationals and high-end industry. Chengdu is located in a humid, subtropical region with complex topography, and a diverse natural ecology of mountains, plains, and hills. Xilingxue Mountain and Qingcheng Mountain are national-level scenic areas, Jiuzhaigou and Tiantai Mountain are rarely seen paradises in the human world, and Dujiangyan and the panda research base are world-class cultural and natural heritages. Chengdu is known as the "Land of Abundance," and a city that you "won't want to leave." Today, with global warming, a worsening ecological environment, and all sorts of "urban disease," investors, tourists, and migrants all view the pros and cons of a city's environment as important conditions for selecting an area. Chengdu's good urban environment will no doubt become a trump card to attract the world. Chengdu's unique natural scenery is the basis for Chengdu to be built as an "international garden city." Chengdu combines idyllic natural scenery with modern functionality, and historical culture with modern culture. Through a rational planning strategy, Chengdu retains its natural beauty while possessing the functions of a modern commercial city, creating a harmony between man and nature where the city and nature are intertwined. The countryside has become a calling card by which Chengdu attracts multinational companies and high-end services, and an important factor in attracting and retaining top talent.

Second, the long-term accumulation of a society's cultural, ideological, and educational achievements attracts world attention. Chengdu is rich in cultural resources as it is a city with 4500 years of culture and 2310 years of history as a city. Chengdu originated when Qin Guoxing built it in 311 B.C. during the Warring States period. The Dujiangyan reservoir construction allowed for the rapid development of agriculture in Chengdu, and Chengdu is known as the "Land of Abundance."

Chengdu has been the capital of seven feudal separatist dynasties and has been through periods of prosperity in the Former and Later Han Dynasties and the Three Kingdoms, the Tang and Song Dynasties, and the Ming and Qing Dynasties. In the latter days of the Western Han Dynasty, Chengdu's population exceeded 76,000, making it the second-largest city in China after Chang'an. During the confrontation of the Three Kingdoms, Liu Bei unified Ba and Shu, established a capital in Chengdu, and carried out large-scale urban construction. In the Tang and Song period, because of its unique geographical position, Chengdu was rich in resources and suffered little war and harassment.

Economic and social development continued. In the Tang Dynasty, the saying went that Yizhou (in which Chengdu was located at the time) was second in prosperity only Yangzhou. During this period, Chengdu's pulp and paper and printing industries led the nation, and commerce developed continuously. In the Song Dynasty, Chengdu produced a free county market. The pinnacle of literature and art, since ancient times poets have lived in Shu and Chengdu, such as Li Bai, Du Fu, Lu You, as well as Gao Shi, Cen Can, Bai Juyi, Yuan Zhen, Xue Tao, Liu Yuxi, Zhang Xiang, Du Mu, Li Shangyin, Wei Zhuang, and others who left a large volume of famous masterpieces for posterity. Music, dance, drama, and painting thrived, giving rise to the saying "Shu drama is the crown of the world."

Chengdu's colorful scenery and long history and culture have attracted tourists from China and abroad, and China is a household name as city for tourism. Internationalization has pushed forward the integration of human culture and the internationalization of society. The sharing of the gains of human culture has accelerated, cultural exchanges are more and more frequent, and a unique ethnic culture is closely linked to a city's competitive advantage. More and more frequent international exchanges will make unique ancient city styles and features, a rich cultural heritage, and a rich historical heritage more attractive. The elevation of the international image of Chengdu and the development of the economy and society will be of great benefit. Under a specific natural and human environment, the long-term accumulation of cultural, ideological, and educational achievements has succeeded in creating a special character for the city of Chengdu.

In addition, an open and inclusive urban culture has led to the development of the city. Since ancient times, Chengdu has been inclusive and open, has never rested on its laurels or been stagnant, and has always focused on innovation and exchange. Whether traditional, modern, scholastic, or secular, all viewpoints and ideologies have been able to coexist in Chengdu. Communications and integration are the intrinsic motive power behind Chengdu's continuous flourishing and unwavering prosperity. Chengdu is a city of immigrants. According to historical records, Chengdu has had nine waves of immigration. Each wave of immigration brought the cultures and customs of various locations to the plains of Sichuan, creating diverse culture in Chengdu and turning Chengdu into an inclusive city. For example, Chengdu's Shahe Dongshan area has a Hakka culture and a guild hall culture is spread between the city and countryside. Ancient Chengdu was also an open city. Before Zhang Qian went as an envoy to the Western Regions during the Western Han, Southwestern people of old had had created a "Southern Silk Road"

from Sichuan to India, another trace of Chengdu's openness to the outside. Marco Polo wrote of Chengdu in The Travels of Marco Polo, which was the earliest introduction of Chengdu to the West.

Chengdu has a long history as a node for the exchange of Western and Chinese culture and commerce. Long before the opening of the "Silk Road" in the north, those from Chengdu had gone to Yunnan, through Burma, to India, to Central Asia, and to Europe, forming the so-called "Southern Silk Road," making for a history of openness. Today's Chengdu is continuing this heritage inclusion and energetically presenting it to the world.

Further, developed modern transportation and communications networks highlight Chengdu's regional advantages. Breakthroughs continue to be made in transportation and communications technology. Innovation in information technology is an important driving force for globalization, but has also weakened the adverse impact of location factors on development.

In the past, western China has been in an inferior position to coastal areas, mainly due to lack of access to information and barriers to transportation. As the saying goes, "The road to Sichuan is difficult." However, continuous breakthroughs in information and communications technology, especially the arrival of the Internet era, have been able to break through these obstacles. Through its "transportation first" strategy, Chengdu has built a transmission system that benefits the core operations of the entire economy. Through integrated planning of urban transport, transport in the area of the city, and transportation outside the city, Chengdu has fully expanded highway transportation, railway transportation, and air transportation and accelerated the construction of a transportation network connected to the outside and linking the interior.

Chengdu has strong and advanced network and communications infrastructure and has actively constructed a broad band, ubiquitous, integrated, and secure "information superhighway." By 2015, the Internet penetration rate is expected to exceed 80 %, wireless broadband will cover major urban areas, and bandwidth of an international direct data dedicated channel will increase 20 times, forming petaflop per second cloud computing capabilities and reducing the distance between the rest of the nation and the rest of the world. At present, Chengdu is in the initial stages of constructing China's fourth-largest international aviation hub, fifth-largest railway hub, and a western expressway hub and has opened western China's first international outgoing direct data channel.

With economic globalization and the advance of regional economic integration, with international trade friction and increasing instability in economic development, competition is increasing between countries for factors of development and market space. China's traditional eastern coastal thoroughfare faces many pressures, making southwestern China's position in the strategic layout of national development increasingly prominent. As the linkage point between eastern and western China and the junction between China and the European continent, Chengdu will inevitably become a new important growth pole of the Chinese economy and there is hope that it will become a strategic hub for economic exchange and communication between Europe, China, ASEAN, and South Asia.

Chengdu's excellent science base also cannot be ignored. According to "2011 China Urban Competitiveness Blue Book: China Urban Competitiveness Report," Chengdu ranks sixth in science and technology competitiveness among 294 cities at the prefectural level and above. It ranks first in western China. Chengdu has a solid science and technology foundation, gathering more than 2700 research institutions and more than 80 national-level research centers, making it one of China's most innovative cities. It has the country's leading science parks and technology companies, and its advantage in high-tech fields such as electronic information and bioengineering is clear. Meanwhile, Chengdu has more than ten national and provincial universities, including Sichuan University, University of Electronic Science and Technology, Southwest University of Finance, Southwest Jiaotong University, as well as dozens of professional and vocational schools and other abundant educational resources.

Chengdu has a significant concentration of talent. According to statistics from the Chengdu government, China has some 2 million professionals, giving it an absolute advantage in number. Compared to open coastal cities, Chengdu has the characteristics of low cost, low fluctuation, and high stability. Strong science and technology are important conditions for Chengdu's accelerated integration with globalization. Science and technology and talent are core factors in enterprise competitiveness, as well as necessary conditions for attracting high-end manufacturing and services. Outstanding talent and technological strength not only attract high-end manufacturing, but can also attract services for the manufacturing industry with high added value. Therefore, they are not only conducive to Chengdu participating in the vertical international division of labor, but they can provide opportunities for Chengdu to participate in the horizontal international division of labor. And the agglomeration of the high-end service industry is also an important symbol of a global city.

1.2.4 Summary

From the perspective of the evolution of Chengdu's historical development, Chengdu, with more than 2000 years of history as a city, is different from China's other famous cities and ancient capitals, which have had ups and downs and alternating cycles of rises and falls, in that it has maintained stable and continuous development, sustaining a thousand years of urban prosperity. On the other hand, from the perspective of its geographic location, Chengdu, located in an inland basin, has never been complacent and conservative, has always advocated for communication and inclusion and has actively absorbed and integrated with external civilization, thus forming the open, innovative urban spirit of Chengdu today. Thus, in making Chengdu, a city with both commonality with other Chinese cities as well as its own characteristics, a sample city for a future internationalized metropolis, exploring its evolution and development characteristics is of important practical significance.

1.3 Literature Review

For a clearer understanding of the specific direction of research, in this chapter we review the relevant theories and research frameworks for urban development.

1.3.1 Relevant Urban Development Theory

1.3.1.1 Research on Urban Development Theory

Research into urban development theory in the West began earlier than in China, and scholars have expounded on the different factors affecting urban development, including economics, environment, society, people and environment, the urban organism, and urban functions. The garden city theory, proposed in the book Garden Cities of Tomorrow published in 1898, is the most famous and the most influential. Many consider the book to have opened a new chapter in urban planning, beginning modern urban planning studies. Subsequently, various urban development theories emerged. Garnier (1917) put forward the "industrial city," reasoning that the city was an organic whole centralizing multiple functions, forming the idea of zoning by city function. Le Corbusier (1925) "city of tomorrow" concept held that future cities would be collections of various essential factors. He laid stress on the concentration doctrine thinking of urban development, reasoning that cities should be walkable with highly efficient public transportation and a compact form conducive to interaction. In contrast, Wright's (1932) Broadacre City held that a city's development process should be the same as its expansion process, and production resources should be more open and decentralized. In 1933, Congrès International d'Architecture Moderne convened a city conference in Athens called "The Functional City." The Athens Charter released after the conference is a framework for modern urban planning. It stressed the human conquest of nature, holding that the crowdedness of cities and the resulting problems were the result of a lack of zoning. By properly handling the functional relationship between living, working, relaxation, and transportation and using existing transportation and building techniques, the charter held, the problems facing cities could be solved to achieve the orderly development of cities. The Athens Charter's doctrine of admissibility emphasized the human conquest of nature, while the Charter of Machu Picchu of 1977 was a reflection of environmental pollution and resource depletion and showed a respect for the natural environment. It stressed looking at human needs objectively and effectively protecting and rationally utilizing natural resources. The 1981 Warsaw Declaration built on the Charter of Machu Picchu, recognizing the close correlation between mankind, architecture, and the environment. It and the Congrès International d'Architecture Moderne declaration had continuity in terms of urban planning theory, as well as characteristics of the times. In The Death and Life of Great

Table 1.1 Relevant Urban development theory

Representative	Main theory	Main thinking
Ebenezer Howard (1898)	Garden cities of tomorrow	Integration of the city and countryside
Tony Garnier (1917)	Industrial city	Dividing districts by urban function
Walter Gropius (1915)	New building movement	Three economic principles of urban development
Le Corbusier (1925)	City of tomorrow	Urban centralization doctrine and the radiant city
Frank Lloyd Wright (1932)	Broadacre city	Urban decentralization doctrine
Walter Christaller (1933)	Central place theory	City location
Congrès International d'Architecture Moderne (1933)	Athens Charter	Four urban functions and scientific formulation of overall urban development
Clarence Perry (1939)	Neighborhood unit theory	Neighborhood environment
Eero Saarinen (1942)	Organic dispersion theory	City: its development, decline, and future
Kevin Lynch (1959)	Image of the city	Perceptual schemata used in urban studies
Lewis Mumford (1961)	The city in history	Human scale
Congrès International d'Architecture Moderne (1977)	Charter of Machu Picchu	Public participation and cultural heritage protection
Jane Jacobs (1984)	Diverse city	Multifaceted and inclusive city
International Union of Architects (1981)	Warsaw declaration	Buildings—people—the environment as a whole and considering human development
Ni Pengfei (2010)	Global city competitiveness	A city's economic competitiveness decides its development

American Cities, Jane Jacobs discussed urban renaissance and the future of the city, saying that a large metropolis is complex, interrelated and should contain multi-faceted cultural life (Table 1.1).

1.3.1.2 Research on World Cities

After Western urban and regional planning pioneer Patrick Geddes put forward the "world city" concept in Cities in Evolution in 1915, Western academics began to follow world cities with interest. In 1966, urbanist Peter Hall's *The World Cities* opened the prelude to modern world city studies. In the book, Hall describes in

detail the five basic characteristics of world cities, making a comprehensive description of the world's major cities with international influence.

In the several decades thereafter, a number of influential world city theories emerged. In his article "The New International Division of Labor," Robin Cohen put forward The Global City, reasoning that global cities are the coordination and control centers for the new international division of labor (Cohen 1981). Jane Jacobs' dynamic city model held that the city is the place where the economy and life expand the generation of new works is a salient feature of a dynamic city. Thus, cities are economic systems with dynamic economic processes (Jacobs 1984).

The original theory of John Friedmann's *The World City Hypothesis* further posed the rank structure and distribution of 18 core and 12 semi-periphery world cities (Friedmann 1986). Saskia Sassen explained the world city through a series of analyses of leading global producer services companies, emphasizing the definition of a global city from the perspective of the internationalization, concentration, and strength of services (Sassen 1991, 1994, 1995). Her research is known as the Global Trilogy. Manuel Castells' Global Spaces of Flows describes the world city from the spatial perspective of global flows as the point and center with the "most direct influence" on a global scale (Castells 1996). Peter J. Taylor studied world cities from the perspective of the dimension of the entire world system, finding that world cities are the center of their designated world economic network (Taylor 2001). Ni (2003–2010) found that world cities must possess competitive advantages in the global economy from the perspective of the world city system.

1.3.1.3 Research on the Degree of Urban Linkage

As people make deeper studies of world cities, researchers are gradually coming to realize that cities cannot be studied in isolation, but that they must be interpreted from a global perspective. This is especially true for world cities, which can impact the world economic system. Studies of world cities should understand them as a massive urban network system joining together flows of information, capital, and talent.

Smith and Timberlake (1995), use a broad assessment of urban infrastructure to evaluate the potential of a city's economy and the degree of development of connections to the external network. With the aviation network as the statistical basis, they study changes to network characteristics in the entire global city system using statistics for international aviation flows at six time periods between 1977 and 1997 in 100 large cities around the world. Derudder and Witlox (2005), using global distribution system (GDS) booking information and an electronic ticket booking platform managed by travel agents, make up for the data deficiencies of Smith et al. They transform the initial data to produce a 306 × 306 matrix to more comprehensively and vividly reflect the true picture of "flows" among cities.

Compared to using infrastructure to measure connections among cities, using the network structure of companies and organizations to reflect the scale of a city's

connections is the more accepted method in academia. The Beaverstock et al. (1999) "roster of world cities" produced a direct list of world cities based on the level of high-end producer services industry. The study divides 55 world cities into a roster of three levels (alpha, beta, gamma). Taylor (2004) likewise uses the information of cities' advanced producer services companies, but refines these multinationals by industry, which results in more accurate data, not only reflecting the strength of a city's external connections, but better displaying the position of the functional node of each city in the overall world city network "service flows." Therefore, this sort of method of inter-city connection matrices based on service value rankings and the world city network that they depict is widely recognized by the academic establishment.

1.3.2 Relevant Theoretical Frameworks

1.3.2.1 Industrial System,[3] Factor Environment and Spatial Value

Examining industrial development at home and abroad, we will discover that from a global perspective, high-tech industries and high-tech achievements are often produced by developed countries such as the US, Japan, and Germany, while developing countries produce relatively few. At the same time, looking at different industries, we will discover that the per capita GDP and land prices of developed countries are generally higher than in developing countries. These phenomena reveal that there is a certain corresponding relationship between a region's industry and that region's spatial value. Referencing the development history and ups and downs of numerous cities at home and abroad, we find that there is an interactive relationship between a region's value and its industry. Different industries will select regions of different value, and the value of a region will cause changes to the distribution of industry, which further influences the choice and distribution of other industries.

The industrial system of a region is a high-level expression of the many companies engaged in different industries and the companies engaged in different segments of the industry. Companies select a location based on their ability to maximize profits. They must consider a combination of factors in selecting a region, such as infrastructure, human resources, land prices, and institutional environment.

[3]In general, a city's industrial system is representative of that city's functions. A city's leading industries are representative of that city's main functions. Meanwhile, from the perspective of theory and practice regarding urban functional studies, the analysis and assessment developed from city industrial data based on industrial division of labor, structure, and category, is more objective and scientific. Therefore, this report mainly studies city functions from the perspective of the industrial system. Here and below, the analysis of urban industry can be viewed as analysis of urban function. The two are interchangeable.

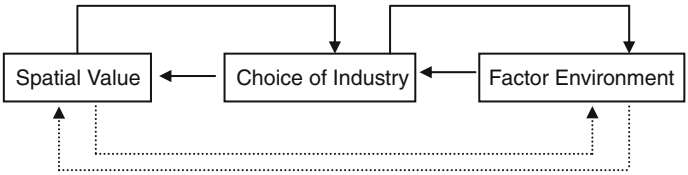

Fig. 1.1 Relationship among factor environment, choice of industry, and spatial value (The *solid-line arrow* indicates the main direction of the effect between the three, that is, the factor environment of an area often determines the area's selection of industry because the selection of different industries leads to changes to an area's spatial value. The *dotted line* reflects the reacting force spatial value places on the selection of industry, as well as its effect on an area's factor environment. Industry choice will affect the agglomeration or dispersion of factors, thereby affecting changes to the area's factor environment. Thus, there is an interactive relationship among a region's spatial value, industry selection, and environmental factors)

Two aspects mainly affect the spatial value of a region. First are a region's innate natural conditions and natural resources. Second is its human activity, which is the main aspect affecting the spatial value of a region. In human activities, economic activities have the main effect on this value, and the process of this change is often triggered by the various factors brought on by economic activities, including the concentration or diffusion of labor, capital, and technology. This concentration or diffusion is mainly achieved in the selection and development of industry.

For a region as a whole, the relationship among its factor environment, choice of industry, and spatial value is reflected in Fig. 1.1.

1.3.2.2 Analysis Framework for the Agglomeration Effect and Linkage Effect

We believe that in essence, a city is a gathering center for living and working, which is why cities are able to attract migrants hoping to improve their lives. World cities are better at creating jobs than other places of residence because companies in these cities enjoy more favorable market behavior and more beneficial external effects. This advantage is reflected in two forms. Viewed from within the city, there is a vast reservoir of information. On a higher level, the city is a crossroads of knowledge. From the point of view of factor flows, this is called a city's agglomeration effect and linkage effect.

A successful city is built on a high agglomeration effect. In the process of organizing social, economic, and cultural activities, cities obtain much visible and invisible knowledge, including how their own economic sectors develop and change (such as new opportunities) and how corresponding sectors develop (which may effect companies there), as well as how larger economic bodies develop or concentrate in a specific city. In addition, cities can provide a greater variety of goods as well as resources that cannot be obtained in many other places, such as

professional and technical talent. A dynamic environment with such rich information is a furnace for economic innovation, usually the business of subsidiary companies created by existing companies. Cities provide a mature market for the initial sales of new products. Although the majority information advantage is an intangible advantage, we can see this advantage in real estate prices—the most expensive land prices are usually in cities with the largest development.

A successful city is also built on broad linkage effects. There has never been a city that could obtain success individually. Success is based on joint efforts and cooperation with other cities. In a city, commercial operations can provide businesses with practical operational information and invisible information from the same industry or correlated industries in other cities on how to develop (providing new ideas), how to participate in cooperation or competition in other cities (for example, discovering new partners), as well as how to dynamically adjust business operating strategy in accordance with other cities. Cities have always been places of information exchange. Information from other places relating to products, labor, and the market is essential to emulating the successful experiences of these cities and adopting new initiatives locally. Throughout history, the emulation role formed through the dissemination of ideas and innovations has been extremely important to city-led economic development.

All cities are small in the initial stages of their development and surrounded by agriculture. Through exchange within the region, the countryside and the city achieve consumption of agricultural products and non-agricultural products and services. The area is a closed system. With industrial development and increasing population, it becomes uneconomical for non-agricultural activities to concentrate in a region's cities. Some families and businesses, after waiting the costs and benefits, begin to choose to reside or produce outside of the city, and other cities arise, forming a city system. With the development of transportation and communications technology, as well as the development of industry and the increasing population, the city systems of different regions connect to form a larger system. When trade in products, services, and factors of production crosses national borders, a global city system begins to form and expand, and continues to evolve.

Due to natural geographical, cultural, and historical reasons, different locations around the world (including cities) have different corporate operations factor systems. Globally, a large, rugged and rough, radiant, and colorful picture of a system emerges from the regional differences factor subsystem. This determines the differences in the business portfolios of companies among cities, that is, the regional division of labor determines that the global industrial system presents a colorful, hierarchical, linked division of labor, large, industrial system picture formed by a diversified sub-industry system of various locations (such as Fig. 1.2).

In regions or cities where advanced and high-quality business operation factors concentrate, innovation and higher complexity activities are supported, and the high-end service industry and high-tech manufacturing, as well as the research, development, and design, branding, and marketing segments, are able to develop. Conversely, in regions or cities where inferior and low-quality company

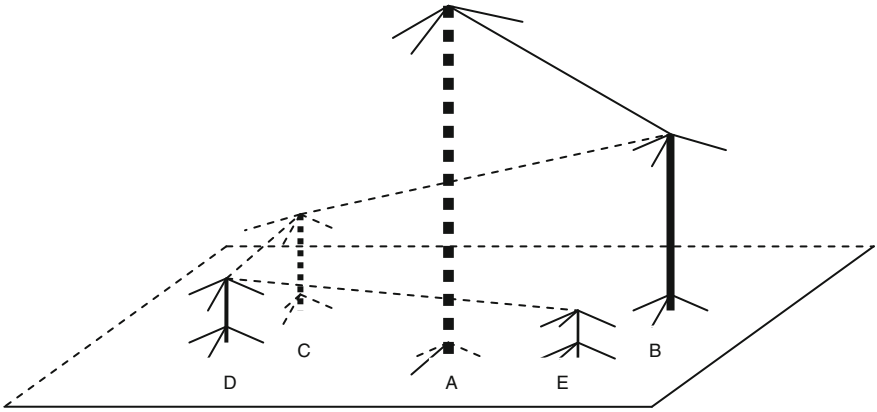

Fig. 1.2 The Urban space distribution of global industry

operating factors gather, simple labor activities are supported, and low-tech manufacturing industry and the processing sector develops. In regions or cities lacking basic company operating factors, even the most basic industry has a difficult time developing. Figure 1.2 makes a simplified illustration of a global industrial system formed by cities A, B, C, and D. City A has an agglomeration of service industry and manufacturing industry companies on the highest end. On the one hand, industry within the region of City A has a ranked distribution, and City A is connected with the external city industrial system for the division of labor. City B has an agglomeration of sub-high-end service industry and manufacturing industry companies. City C has an agglomeration of mid-level service and manufacturing industry companies. City D has an agglomeration of low-level service industry and manufacturing industry companies. Cities A, B, and C have a ranked distribution with industry in cities and regions similar to City A and are connected to the external city industrial system for the division of labor. In this way, the entire world forms a hierarchical global industrial system of cities as subsystems with a division of labor and cooperation. For example, in the semiconductor industry value chain, the design aspect is the technology-intensive sector, which lays stress on high-level science and technology, as well as technology and engineering talent. It is mainly concentrated in places like the US and Japan. The chip production segment is a capital-intensive sector, which lays stress on scale and requires a clean environment and a supply of clean water. It is often concentrated in the US, Japan, and Taiwan. The assembly and packaging segment is a labor-intensive sector, which only requires ordinary labor. It is mainly concentrated in Southeast Asia, where labor is cheap and abundant.

On this basis, the pinnacle of new works produced by the agglomeration effect and linkage effect is the increasingly complex social division of labor formed in the city economic system. This is a sign of success for a city. However, there is a difference between new works for the output of manufactured goods from the city and new works to serve the local consumer market. Both activities enhance the

economic level of a city, but the increase to the economic level led by product output is far slower than local growth that can produce a lasting economic resilience and sustainable local growth.

1.3.2.3 Analysis of Urban Diversity and Localized Characteristics

The so-called diversified economy refers to the cost savings produced by the potential or actual complementariness in the production processes of different products. The production of some products may require the input of the same factors or intermediate products or the products are associated with the same core technologies, even if there are no economies of scale to be had in the production of these different products themselves. However, because they share the benefit of the same intermediate product or factor, distributing these products in the same city or region or even in the same company for production is still profitable. The diversification advantage of this combined production shows that a diversified economy is conditional: either they share an important intermediate product or input factor or a similar knowledge spillover environment or core technology, or they share combined low transportation costs or the same market or distribution facilities, a certain kind of superior underlying hardware, or a public service.

One important reason that successful world cities are able to become lasting comprehensive metropolitan areas is that they have excellent public facilities, financial infrastructure, commercial networks, knowledge bases, political resources, educational environments, as well as a diversity of intermediate inputs. The sharing of these is a prerequisite for the sustained development of these integrated cities. Because land in metropolitan areas is limited, only those industries and companies capable of using urban resources to obtain economies of scale will be able to survive long in the metropolitan area, while those industries without a high correlation to shared resources may be pushed out of the metropolitan area.

A continually increasing localization level of companies is an inevitable result of the continuous development of urban diversity. There are two reasons. First, a city's residents will have diverse demands and preferences. As consumers, the more types of consumer goods they demand, the higher the level of subjective utility. Therefore, diverse urban functions must first satisfy the local market, and the degree of localization increases. On the other hand, the direct production activities of manufacturers require a large number of producer service companies (financial services, legal services, information management, advertising, insurance, etc.), as well as a vast talent market for support. Attracting local employees is conducive to the sharing of the labor market and to forming a labor market shared by professional and technical workers. The shared market is beneficial to laborers and manufacturers. Manufacturers can always hire competent professional workers, and workers reduce the risk of unemployment through the shared labor market.

Thus, a world city must have diversity in urban function and in products and services due to factor sharing, economies of scale, and other factors. This diversity will also lead to knowledge, resources, facilities, systems, environments, and other

localized demand that can be shared by different companies, forming an important source of competitive advantage for the city.

1.3.2.4 The Theory of Successful Cities: The Comprehensive Development of Cities and the Role of Companies

In the next part of the analysis of this study, we use another theoretical framework. This theoretical framework is derived from Jane Jacobs' academic study. In other words, this part of the study rigorously follows the following theoretical premise.

Economic growth is reflected in two forms: pure economic expansion and comprehensive economic development. In the former case, the economy expands by increasing the existing amount of work—doing more of the same type of work. That is to say, most of the division of labor does not change. On the other hand, comprehensive economic development implies that economic growth is accomplished by an increase of new types of jobs (thereby making a more complex division of labor). These two processes are likely to coexist, but the fundamental cause of rapid economic growth is the comprehensive development of the economy.

Cities are the basic carriers for generating rapid economic growth. A vibrant metropolitan center is a convergence of old and new work, within which new work are now and in the future constantly pushing forward the increasing complexity of the division of labor. While we cannot say that the economic success of a city is due to any indispensible reason, cities do provide platforms for economic development. These platforms are realized by providing seemingly sustainable and self-repairing agglomeration advantages for economic success.

Cities rely on various companies to accumulate and realize significant advantages. These companies are the moist hands stimulating the urban economy. The basic decision-making body, which determines new and old job types (thereby forming a complex division of labor that is a city's identity marker), is the company. The dynamic state of an urban economy depends on the companies operating in the city, so understanding of economic development cannot be separated from the study of its creator—the company. In this study, we conducted a survey of successful companies in cities, the goal of which was to understand the details of the process of rapid economic development.

A key interactive role between companies and urban economies relates to how new work make qualitative changes to a city's external inputs. This key economic development principle required this study pay close attention to whether the production of goods and services was consumed within the city or exported to other markets. The construction of an urban economy (making its division of labor more complex) includes creating a larger local market. In this way, compared with sending products and services out of the city, there will be more and more local consumption. This is the essence of the economic advantage of large cities and an important process in achieving rapid economic growth.

These theories provide the premise for understanding the Chengdu success story from the inside and conducting local research. This will require studying Chengdu's

successful enterprises, especially the derivation of new work and the development of the local urban market.

1.3.3 Summary

From the above literature review and study of the relevant theories, we can see that Chengdu is close to its development goal of becoming an "inland" world city. The process is affected by many factors including economic, societal, and cultural ones. Thus, based on the world city and city linkage framework, we link the growth experiences of successful companies in Chengdu, make in-depth analysis of the actual situation of Chengdu's development, synthesize the opinions and suggestions of the community and domestic and foreign experts, and provide a reference for those waiting for Chengdu to be built into a world city with an international perspective.

1.4 Research Goals and Methods

1.4.1 Research Goals

The purpose of this report is to analyze from the perspective of the global city network Chengdu's macro coordinates in the global city system, and from the perspective of the diversity of businesses and localization, induce and explore the micro foundation for Chengdu's rapid rise. We will analyze the path within the two-dimensional coordinates of time and space by which Chengdu can attain rapid development, as well as the development characteristics and influencing factors. We will explore the characteristics and influencing factors of urban development in emerging industrial countries, in the hope of summarizing a general rule for the rapid rise of Chinese cities in the global context, and providing experience for the rapid development of other Chinese cities.

1.4.2 Design of Research Methods

In order to have a comprehensive and in-depth understanding of Chengdu's development, the purpose of this study must be set, we must integrate the main points of the various theoretical frameworks, and we must have a complete understanding of the internal and external sides of Chengdu's development. In terms of the external side, we must analyze Chengdu's agglomeration and linkage so as to discover the differences in overall development and with other world cities.

Internally, the behavior of companies within the city is the root motive for urban development. To understand the contribution of businesses to urban development, we must lay stress on how businesses grow and understand how companies drive the agglomeration, linkage, and diversity of cities in the growth process. This requires: first, studying and analyzing Chengdu's agglomeration and linkage; second, analyzing the economic development of businesses and the relationship of the corresponding factors; third, understanding the specific store of corporate development so as to have an in-depth understanding of the particularities of Chengdu's development on the basis of the aforementioned research. Thus, we can make a comprehensive analysis the key elements and unique characteristics in Chengdu's march toward becoming a global city.

In order to meet these research needs, first, we will compare Chengdu's agglomeration and linkage with that of other world cities. This requires us to collect and analyze existing data. The adopted data and the corresponding analysis are discussed in detail in Chap. 2.

Second, the growth of business drives the growth of cities. Then what factors influence the growth of business? This requires that we study a certain number of companies. The specific implementation steps of social research are answered in Chap. 3.

Finally, what is the specific development situation of companies in Chengdu? Are they developing comprehensively? How are the various key factors associated with company growth expressed in specific company behavior? This is the key to understanding the features of Chengdu's development. Answering this question also allows us to compare the commonalities and unique features of enterprises.

In this way we have a clear outline for the research strategy employed in this study:

- Phase I: Analysis of statistical data
- Phase II: Social research
- Phase III: Case studies based on statistical research.

1.5 Introduction to the Structure of This Report

This report is divided into five chapters.

The first chapter consists of research background and overview. The background section briefly introduces the situation in Chengdu and thus summarizes the direction of the study. On this basis, we review the relevant theories of urban development, establish research objectives and research questions, build out the overall theoretical framework, and design the core research methods based on these questions.

The second chapter explores the linkage effect and agglomeration effect in Chengdu. This includes two parts. First, we analyze global cities so as to confirm Chengdu's current position in the world city network. We compare Chengdu's linkage in the two networks with other cities: the global aviation network, which is

the infrastructure that provides for face-to-face communication, and the network of offices of 172 companies that make the globalization of other companies a possibility, the advanced producer services network. Second, from the two dimensions of time and space, we select and analyze the degree of agglomeration in 16 world cities. As a result, we discover that Chengdu is China's western economic center. Although Chengdu is performing well in agglomeration and has done so historically, it still needs to make improvement in the agglomeration of technology and R&D capital.

In Chap. 3, we analyze the results of the local survey to explore the information and ideas relevant to the ultimate success of those companies thriving in Chengdu. This portion is mainly comprised of quantitative analysis in an attempt to untangle the complex processes that exist behind these companies' economic growth variables.

Chapter 4 consists of case studies of 15 sample enterprises, including particular analysis of their effects on the diversity, localization, and internationalizing in the development process. The findings further demonstrate the relationship between independent variables such as companies' asset growth and new work.

Chapter 5, on the basis of the results in the previous sections, summarizes and discusses characteristics and laws of Chengdu, the first "global city study" sample city. We dialectically analyze the characteristics of Chengdu's overall development and internationalization process, and obtain the new phenomena and new laws of urban development emerging countries.

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Chapter 2
Comprehensive Analysis of Existing Data: Chengdu in the World City Network

Peter Taylor, Pengfei Ni, Kai Liu and Jie Yang

In the fast-growing Chinese economy, Chengdu is currently developing into an important western center, playing a very similar role to Chicago in the 1800s. Both China and the US first developed their economies in eastern, coastal regions and then expanded inland, so Chicago and Chengdu both became transport and logistics centers of western development. But Chengdu today cannot hope only to become the "Chicago of China." Chicago is only a strong regional center, from which one must go through eastern coastal cities to connect internationally. But Chengdu today exists in the context of globalization. This means that having only regional advantages is insufficient. Current urban development is economically connected through the global space. As an emerging international city, a successful regional foundation is necessary for Chengdu, but not sufficient. Thus, we use global city analysis to make an empirical analysis of Chengdu.

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2.1 Analysis of Chengdu's External Linkage Effect

Conducting a world cities analysis is aimed at outlining the extension of the network from which Chengdu businesses can benefit. This extension is expressed in two linkage effects: the network connected by infrastructure and the network connected by business. The former makes practical business connections possible. The two are both vital to the successful growth of a city's economy. In this global cities analysis, the linkage of facilities is reflected in the flow of air passengers, and business linkage originates from the office network guiding advanced business services.

2.1.1 Measuring Chengdu's Infrastructure-Linked Network

2.1.1.1 Data Source

Flight coverage and traffic is an intuitive and accurate indicator reflecting of a region's exchange with the outside world. Through a partnership with Sabre Airline Solutions, a consultancy, we gathered relevant air passenger information for 2008 for flights with Chengdu as the origin or destination. These data are the true booking information of different airlines obtained from the airport marketing information data transmission system database. The flights from this database have three advantages. First, they cover global passenger traffic (domestic and international traffic), not just international passenger traffic. Second, they include real booking information, representing real passengers that can be compared with flight schedule data. Most, it provides the departure and destination of travel, which can rule out errors caused by transfers.

2.1.1.2 Research Result 1: Analysis of Air Passenger Linkage

Table 2.1 shows the top 50 air connections with Chengdu. The top four cities are to be expected, reflecting the economic status of Mainland China in the global economy. The highest-ranking cities are almost all in China, with foreign cities appearing after the 25th spot. To understand the significance of these rankings through further analysis, we will compare Chengdu's passenger connections with Beijing, Shanghai, and Guangzhou. The basic principle of this comparison is that for Chengdu to become an emerging global city, it must be an important interior (western) center forming a whole with the three eastern centers—Beijing (northern China), Shanghai (eastern China), and Guangzhou (southern China)—to integrate with the global economy together.

Table 2.1 Top 50 passenger connections with Chengdu for 2008

Rank	Connecting city	Rank	Connecting city
1	Beijing	26	Dalian
2	Shanghai	27	Fuzhou
3	Shenzhen	28	Singapore
4	Guangzhou	29	Tokyo
5	Kunming	30	Seoul
6	Hangzhou	31	Chongqing
7	Xi'an	32	Taipei
8	Nanjing	33	Bangkok
9	Wuhan	34	Yantai
10	Urumqi	35	Osaka
11	Jinan	36	Kuala Lumpur
12	Guiyang	37	Zhuhai
13	Changsha	38	Los Angeles
14	Xiamen	39	Shantou
15	Hong Kong	40	Frankfurt
16	Tianjin	41	Amsterdam
17	Wuxi	42	Paris
18	Qingdao	43	Nagoya
19	Wenzhou	44	Chicago
20	Zhengzhou	45	Sydney
21	Shenyang	46	Gaoxiong
22	Taiyuan	47	Munich
23	Lanzhou	48	Macau
24	Hefei	49	Manila
25	Ningbo	50	San Francisco

Table 2.2 lists the top 10 passenger connections of Chengdu, Beijing, and Shanghai, and Guangzhou, and comes to the following conclusions. First, Hong Kong ranks high in the lists of Beijing and Shanghai, but is squeezed out of the top 10 for Guangzhou and Chengdu (in Table 2.1 Hong Kong is only number 15). Second, Shanghai and Beijing both have foreign cities in their top ten (Tokyo and Seoul), but Guangzhou and Chengdu's top 10 are entirely domestic. Third, Chengdu and Guangzhou are each ranked fourth in the other city's list. But Beijing is ranked first in Chengdu's list, while Chengdu is only ranked fourth on Beijing's list. In Shanghai, the gap is even greater. These results indicate that in the air connections rankings, Chengdu and Guangzhou are equivalent, but are far behind Shanghai and Beijing.

Table 2.3 further compares foreign passenger connections. The table lists the international cities among the top 50 passenger connections from Chengdu, Beijing, Shanghai, and Guangzhou and comes to the following conclusions. Chengdu has the fewest foreign city connections. Four Asia-Pacific cities are ranked very high, but their ranking is further back on Chengdu's list. Leading global cities (London,

Table 2.2 Top 10 flight volumes (2008): Chengdu versus Shanghai versus Beijing versus Guangzhou

Rank	Arrival airport: Chengdu	Arrival airport: Shanghai	Arrival airport: Beijing	Arrival airport: Guangzhou
1	Beijing	Beijing	Shanghai	Beijing
2	Shanghai	Shenzhen	Shenzhen	Shanghai
3	Shenzhen	Hong Kong	Guangzhou	Hangzhou
4	Guangzhou	Tokyo	Chengdu	Chengdu
5	Kunming	Guangzhou	Xi'an	Nanjing
6	Hangzhou	Seoul	Hong Kong	Chongqing
7	Xi'an	Taipei	Seoul	Zhengzhou
8	Nanjing	Qingdao	Chongqing	Kunming
9	Wuhan	Chengdu	Tokyo	Xi'an
10	Urumqi	Xiamen	Kunming	Wuhan

Table 2.3 Comparison of international passenger connections: Chengdu versus Shanghai versus Beijing versus Guangzhou

	Chengdu		Shanghai		Beijing		Guangzhou
Rank	City connection	Rank	City connection	Rank	City connection	Rank	City connection
28	Singapore	4	Tokyo	7	Seoul	16	Tokyo
29	Tokyo	6	Seoul	9	Tokyo	25	Seoul
30	Seoul	14	Singapore	28	Singapore	28	Bangkok
33	Bangkok	25	Bangkok	33	Bangkok	29	Singapore
36	Kuala Lumpur	26	Nagoya	34	Moscow	32	Nagoya
38	Los Angeles	33	Paris	36	London	33	Nagoya
40	Frankfurt	34	London	37	Paris	34	Ho Chi Minh
41	Amsterdam	36	Busan	38	New York	37	Dubai
42	Paris	38	Frankfurt	39	Busan	38	Los Angeles
43	Nagoya	39	Sydney	42	Toronto	40	Jakarta
44	Chicago	40	Los Angeles	43	Los Angeles	41	Hanoi
45	Sydney	41	Kuala Lumpur	44	Frankfurt	42	Lagos
47	Munich	43	San Francisco	45	Los Angeles	43	Manila
49	Manila	45	New York	46	Sydney	44	Amsterdam
50	San Francisco	47	Melbourne	47	Vancouver	45	New York
		49	Moscow	48	Kuala Lumpur	46	Sydney
		50	Milan	49	Nagoya	47	Phnom Penh
				50	Amsterdam	48	New Deli
						49	Penang
						50	San Francisco

Table 2.4 Comparison of the global distribution of the cities of foreign air passengers: Chengdu versus Shanghai versus Beijing versus Guangzhou

World region	Chengdu	Shanghai	Beijing	Guangzhou
Asia-Pacific	7	7	7	12
Other Asian regions	0	0	0	1
Middle East/Northern Africa	0	0	0	1
Sub-Saharan Africa	0	0	0	1
Europe	4	5	5	1
North America[a]	3	3	5	3
Latin America	0	0	0	0
Australasia	1	2	1	1

[a]Denotes Canada and the US

New York, Paris) all appear on Shanghai and Beijing's lists, but not on Chengdu's. Guangzhou has only New York. These results indicate that Chengdu has few foreign passenger connections compared to the other cities.

Table 2.4 divides the foreign cities in Table 2.3 by major world region in order to illustrate the global passenger scope of the four cities. We can see that in the Asia-Pacific region, Chengdu has a similar number of foreign connections to Beijing and Shanghai, but this number is only half of Guangzhou's (this is mainly because in Table 2.3, Guangzhou has the most international city connections). Chengdu's connections to European and North American cities are equivalent to Shanghai and Beijing but in stark contrast with Guangzhou. These results suggest that the "global coverage rate" of Chengdu's passenger connections is on a similar level of Shanghai and Beijing, but the importance of its city linkages is still relatively low.

In summary, in terms of the infrastructure linkage effect reflected by air passenger connections, although there is still a large gap with Beijing and Shanghai, similar to Guangzhou, Chengdu has the potential to become an emerging world city.

2.1.2 Measuring Chengdu's Business Network

2.1.2.1 Model Construction

Currently, the authoritative way of measuring the degree of a city's commercial ties is analysis using the interlocking network model. The model is divided into three levels. The first level, the net level, is a blueprint of the "flows" of factors of production like capital, information, and human resources. The second level, the nodal level, is comprised of functional cities within the world city network. It is an intermediate perspective of the entire city network. The last micro level, the sub-nodal level, is the reflection of multiple advanced production services companies, which is an important

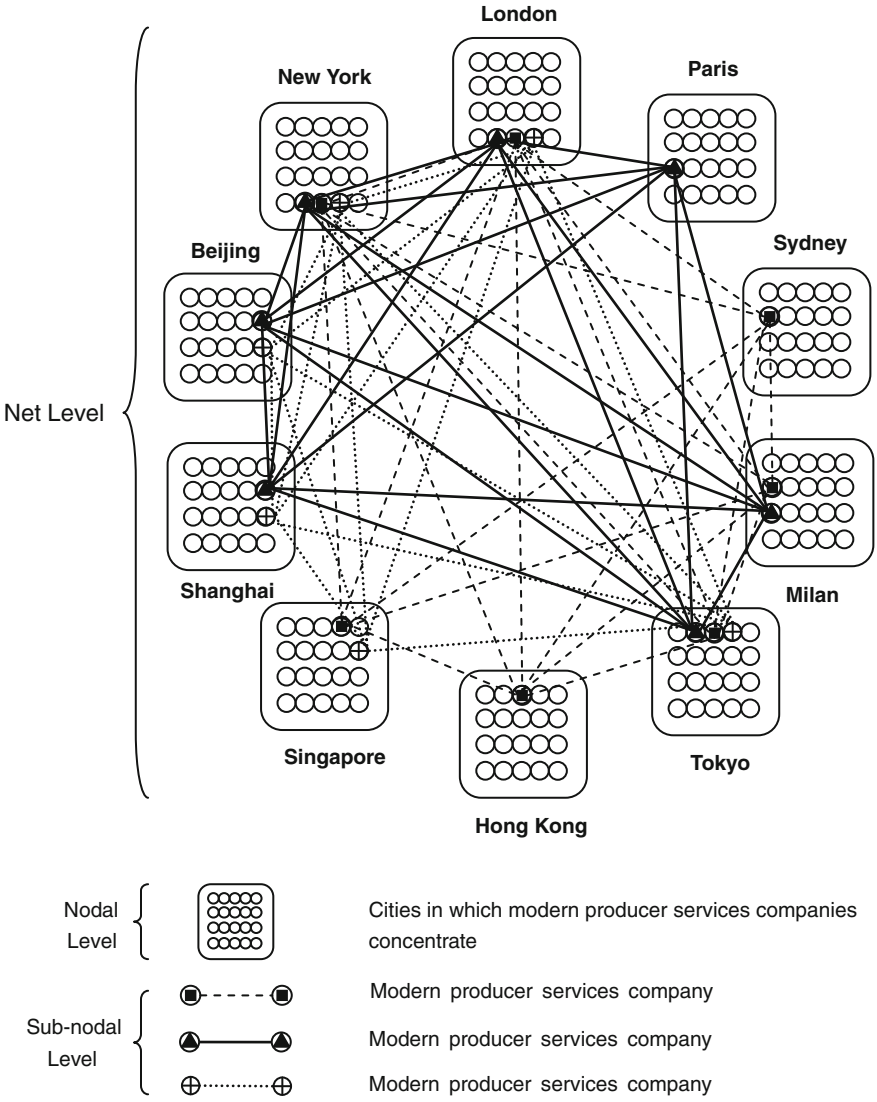

Fig. 2.1 The world city connection network formed by ten cities and three advanced producer services companies

source promoting the constant mutual exchange of production factors. Figure 2.1 shows the prior connections of ten cities through three different advanced production services companies and the partial interlocking network created. In the figure, the offices of companies in their respective cities form the most basic segment of the overall network connection, the sub-node. The external connections of the multiple sub-nodes within each city form the factor flows between cities, with each city

becoming a factor node in the network. All factors will ultimately form a global city network through the linking of these nodes.

In the model, assuming within n cities there are m advanced producer services companies, the value of a company is measured by the importance of the company's office in its city in the global office system, expressed by the variable V_{ij}. The entire city network is the service value matrix V obtained by the permutation $n \times m$, wherein the constituent element of the matrix V_{ij} = 0–5. The criteria for judging their values are listed in Table 2.5. By grading the importance of company offices in the city and adding up the distribution of multinationals in the city, we obtain the service value of the city's industry, as shown in Table 2.6.

From service value matrix V we can obtain the basic points of connection between two cities through a company:

$$r_{abj} = v_{aj} v_{bj}$$

r_{abj} is a point of connection between city a and city b through company j, known as elemental interlock. Through the combination of the elemental interlocks of all companies, city a and city b obtain city interlock:

$$r_{ab} = \sum_{j} r_{abj}$$

Table 2.5 Judgment criteria for service value of sample multinationals

Distribution of sample multinationals in the city	Service value judgment criteria
No established agencies or network points	0
Established general agencies or network points, but on a small scale	1
Established general agencies or network points	2
Established general agencies or network points, but on a larger scale	3
Established regional headquarters	4
Established corporate headquarters	5

Table 2.6 Basic pattern of company service value determination

	Company 1	Company 2	……	Company j	$C_i = \sum_j V_{ij}$
City 1	1	1	……	V_{1j}	C1
City 2	2	3	……	V_{2j}	C2
City 3	1	5	……	V_{3j}	C3
……	……	……	……	……	
City i	V_{i1}	V_{i2}	……	V_{ij}	Ci
$F_j = \sum_i V_{ij}$	F1	F2		Fj	$S = \sum_i \sum_j V_{ij}$

Each city forms $n - 1$ connections with $n - 1$ other cities, so the sum of the city interlock of each city in the network is:

$$N_a = \sum_i r_{ai} \quad a \neq i$$

Here N_a is the number of links city a has with other cities in the world city network. The number of links of all cities in the network is:

$$T = \sum_i N_i$$

The number of links of a city in the world city network divide the total number of links is this city's degree of network connection.

$$L_a = (N_a/T)$$

Since the total number of links is enormous, the value of L_a tends to be small. To facilitate better comparison and measuring, we use the relative degree of connection approach, that is, measuring by the proportion of the number of links city a has to the city with the highest number of links. Here, the city with the highest number of links is New York, expressed by N_h, an New York's degree of connection is set at 1.00.

$$P_a = (N_a/N_h)$$

2.1.2.2 Sample Selection and Data Sources

According to the definition of producer services, we identified seven key service sectors—banking/finance, accounting, media, law, management consulting, business hotels, and exhibitions. From among the first five we selected 225 producer services multinationals as samples from among the Forbes 2000 (2010) according to the scale and global distribution of the multinationals in each industry (a multinational need only have offices in more than 15 cities, with at least one each in North America, Western Europe, and Asia for it to be identified as a global services company), and calculated their distribution in 621 global cities. Because the service value of business hotels and the exhibition industry is too broad to measure, considering the availability of this data, this study does not include those industries in the target scope, as shown in Table 2.7.

Table 2.8 lists the 20 Chinese cities with the best global network connectivity for 2010. In addition, it lists the world rankings of these 20 cities among the aforementioned 526 cities. The conclusions are as follows. The rankings are divided into two cut-off points (50 and 25 %), and China has three cities above 50 % and three above 25 %. Chengdu is 13.1 %, far behind the cut-off point. Chengdu is on the

Table 2.7 Data sources for the value of each urban service function

Indicator	Sample company	Remarks
Banking/finance, accounting, media, law, management consulting	Top 25 multinationals for each industry in the Forbes 2000 (2010)	Banking/finance is made up of the sum of the top 25 companies in finance, insurance, and banking (75 companies). If global distribution data for a company in the top 25 could not be found, we replaced it with a company ranked 25–30

Findings 2: Degree of connection for commercial services

Table 2.8 20 Chinese cities with best global network connectivity

Rank in China	World rank	City	Degree of connectivity in the city network[a]
1	3	Hong Kong	73.0
2	7	Shanghai	62.7
3	12	Beijing	58.4
4	43	Taipei	41.7
5	67	Guangzhou	34.1
6	106	Shenzhen	25.8
7	188	Tianjin	16.8
8	223	Kaohsiung	14.3
9	245	Nanjing	13.5
10	**252**	**Chengdu**	**13.1**
11	262	Hangzhou	12.5
12	267	Qingdao	12.3
13	275	Dalian	12.0
14	291	Macau	10.9
15	319	Chongqing	8.9
16	323	Xi'an	8.7
17	325	Suzhou	8.6
18	337	Wuhan	8.0
19	346	Xiamen	7.5
20	348	Ningbo	7.5

lower end of the global network connectivity scale, ranking only tenth in China and 252nd globally. These preliminary results suggest that in terms of commercial service linkages, Chengdu has a long way to go before becoming an emerging world city.

Table 2.9 comes from an early analysis in 2008. It shows the relative degree that "endocentric connection" occupies in business connections. This method is used to evaluate the relative depth of a city's relationships with other Chinese cities. Due to multifaceted relationships with cities abroad, we can predict that the degree of "endocentric connection" will be low for leading global cities. The conclusions are

Table 2.9 Endocentric connectivity of Chinese cities in 2008 (relative degree of relationship among Chinese cities domestically)

Rank	City	Endocentric connectivity	Rank	City	Endocentric connectivity
1	Xi'an	10.98	12	Qingdao	4.38
2	Chongqing	9.93	13	Dalian	3.81
3	Wuhan	9.46	14	Shenzhen	2.35
4	Fuzhou	8.73	15	Guangzhou	2.15
5	Shenyang	8.26	16	Macau	1.38
6	Xiamen	7.86	17	Beijing	1.10
7	Hangzhou	6.93	18	Kaohsiung	1.09
8	Nanjing	5.72	19	Shanghai	0.47
9	Suzhou	5.22	20	Hong Kong	0.20
10	Chengdu	5.18	21	Taipei	−0.14
11	Tianjin	4.86			

as follows. In terms of internal linkages, China's leading cities are ranked lowest, with the exception of particular cases like cities in Taiwan and municipalities directly under the central government. We can see from the table that Chengdu is ranked in the middle. The relative breadth of its network of business connections is more than two times that of many other cities in China, such as Guangzhou.

Table 2.10 is also derived from earlier analysis from 2008, showing the relative depth of business service relationships between Chinese cities and the leading world cities of New York and London. The conclusions are as follows. Like Table 2.5, the ranked cities are divided into two groups. China has three cities reaching 0.75 and above and three between 0.5 and 0.59. The last three cities are quite interesting because they are different from the three cities above the second cut-off point in Table 2.5, that is, Guangzhou and Shenzhen are not present. But this allows Chongqing to rise to fourth place, not Chengdu. Although its rank improved slightly (to ninth), Chengdu is still in a middle position. This is further evidence that Chengdu's business services connectivity is nothing special. Moreover, this is also related to the fact that London and New York were not present in Table 2.3 illustrating Chengdu's air passenger connections. In addition, this shows that nearby Chongqing is developing these important connections, while Chengdu is not.

In Table 2.11, we turn to analyze the relationship between two cities, showing the business services relationship between Chengdu and other cities. We analyze this in two ways: absolute, or the total number of cities connected to Chengdu; and relative, which adds a city's total relationships to the consideration. The table has two lists of cities, each going from one to fifty. The conclusions are as follows. In the absolute relationship column, London and New York are ranked first and second, respectively (in view of their importance in the world city network, this is to be expected), while Beijing, Shanghai, and Hong Kong follow close behind.

Table 2.10 Worldwide centralization of Chinese cities for 2008 (relative degree of connection with New York and London)

Rank	City	Connectivity with New York and London	Rank	City	Connectivity with New York and London
1	Hong Kong	0.87	12	Tianjin	0.01
2	Beijing	0.82	13	Xiamen	−0.06
3	Shanghai	0.76	14	Hangzhou	−0.07
4	Chongqing	0.59	15	Shenzhen	−0.12
5	Shenyang	0.52	16	Xi'an	−0.19
6	Taipei	0.50	17	Kaohsiung	−0.26
7	Wuhan	0.36	18	Suzhou	−0.26
8	Fuzhou	0.25	19	Dalian	−0.40
9	Chengdu	0.15	20	Qingdao	−0.51
10	Nanjing	0.11	21	Macau	−0.62
11	Guangzhou	0.10			

However, these three Chinese cities are in the reverse order of Table 2.5 in terms of global network connectivity. In the relative connectivity column Chinese cities occupy the top nine spots, and the "localization trend" is quite apparent. New York and London's business services relationship with Chengdu are in middle positions. This table shows that Chengdu is in the early stages of being an emerging world city.

In Table 2.12, we return to a direct comparison of Chengdu, Shanghai, Beijing, and Guangzhou. Table 2.12 references only the leading cities of the second list of Table 2.8 (see the note for Table 2.12). We selected 20 cities to list in the Chengdu column. Listed on the right is the equivalent relevant relationship ranking for the other three cities. The conclusions are as follows. The global rankings of Chengdu's partnership cities are generally lower than the other three cities, especially Shanghai. London, New York, and Paris are important business services partners of Beijing and Shanghai, but only New York appears in the Chengdu column (none of these three cities appear in Guangzhou's column). This once again shows the relatively small service relationship between Chengdu and other cities.

Table 2.13 shows the worldwide regional distribution of the cities from the previous tables. This is similar to the airline passenger destination distribution of Table 2.4. The conclusions are as follows. Unlike Table 2.4, in this table, Chengdu and Guangzhou have similar distributions the cities with which they have the most business services relationships rather than Shanghai and Beijing. Half of Chengdu's partnership cities are from the Asia-Pacific region, while only four are from Europe and North America. Shanghai and Beijing have 12 and 10, respectively (Guangzhou has only 3). This table also confirms that there is a difference between the distribution of air passenger flows and business services connections.

To summarize the business services connectivity findings, made an assessment of the "global relevance" of Chengdu's business services connections through its

Table 2.11 Top 50 cities with cooperative relationships with Chengdu

Rank	Absolute connection	Relative connection	Rank	Absolute connection	Relative connection
1	London	Shenzhen	26	Toronto	Singapore
2	New York	Qingdao	27	Frankfurt	London
3	Beijing	Nanjing	28	New Delhi	New Delhi
4	Shanghai	Tianjin	29	Johannesburg	Bangalore
5	Hong Kong	Dalian	30	Dublin	Paris
6	Tokyo	Hangzhou	31	Barcelona	Perth
7	Singapore	Guangzhou	32	Bangkok	Buenos Aires
8	Paris	Beijing	33	Taipei	Hanoi
9	Dubai	Shanghai	34	Melbourne	Barcelona
10	Sydney	Tokyo	35	Dusseldorf	Bangkok
11	Seoul	Osaka	36	San Francisco	Ho Chi Minh
12	Shenzhen	Seoul	37	Bangalore	Los Angeles
13	Guangzhou	Hong Kong	38	Washington DC	Taipei
14	Kuala Lumpur	Kuala Lumpur	39	Tianjin	Dusseldorf
15	Chicago	Johannesburg	40	Brussels	Dublin
16	Los Angeles	Nicosia	41	Istanbul	Cairo
17	Milan	Karachi	42	Karachi	Montevideo
18	Jakarta	Lahore	43	San Diego	Amsterdam
19	Buenos Aires	Birmingham (UK)	44	Cairo	Beirut
20	San Paolo	New York	45	Dallas	Caracas
21	Moscow	Sydney	46	Lisbon	Monterrey
22	Amsterdam	Manchester	47	Vienna	Moscow
23	Madrid	Dubai	48	Ho Chi Minh	Port Louis
24	Mexico City	Rio de Janeiro	49	Manchester	Baghdad
25	Mumbai	Jakarta	50	Milan	Milan

relationship with more important cities rather than a relatively few randomly selected partner cities. From Table 2.12 we derived two measurements that are presented in Table 2.14.

The average ranking of world city connectivity of these four cities confirms an earlier conclusion: Chengdu's average ranking is far lower than the other three cities, especially compared with Beijing and Shanghai. By comparing the rankings of their partner cities and the rankings of their urban connectivity, we find that Chengdu and Guangzhou's global relevance is low, but Beijing and Shanghai are positively correlated. This especially true for Shanghai. This section clearly shows that Chengdu (and Guangzhou) has not achieved the global connectivity of Beijing and Shanghai and is still at the edge of the world city network.

Table 2.12 Comparing the top 20 cooperation cities: Chengdu versus Shanghai versus Beijing versus Guangzhou

Partner city rank	Chengdu	Connectivity rank	Shanghai	Connectivity rank	Beijing	Connectivity rank	Guangzhou	Connectivity rank
1	Shenzhen	106	Hong Kong	3	Shanghai	7	Shenzhen	106
2	Guangzhou	67	Beijing	12	Hong Kong	3	Beijing	12
3	Beijing	12	New York	2	Singapore	5	New Delhi	33
4	Shanghai	7	London	1	Frankfurt	19	Shanghai	7
5	Tokyo	6	Singapore	5	Guangzhou	67	Ho Chi Minh	70
6	Osaka	111	Tokyo	6	Tokyo	6	Bangkok	42
7	Seoul	24	Paris	4	London	1	Bangalore	59
8	Hong Kong	3	Frankfurt	19	New York	2	Seoul	24
9	Kuala Lumpur	23	Guangzhou	67	Bangkok	42	Hong Kong	3
10	Johannesburg	47	Bangkok	42	Paris	4	Manila	54
11	Nicosia	84	Los Angeles	17	Los Angeles	17	Singapore	5
12	Karachi	77	San Paolo	14	Seoul	24	Montreal	51
13	Lahore	120	Madrid	15	Washington DC	28	Tokyo	6
14	Birmingham	85	Milan	11	Moscow	18	Kuala Lumpur	23
15	New York	2	Chicago	8	Ho Chi Minh	70	Sofia	98

(continued)

Table 2.12 (continued)

Partner city rank	Chengdu	Connectivity rank	Shanghai	Connectivity rank	Beijing	Connectivity rank	Guangzhou	Connectivity rank
16	Sydney	10	Sydney	10	Brussels	25	Toronto	13
17	Manchester	76	Munich	34	Chicago	8	Taipei	43
18	Dubai	9	Moscow	18	Sydney	10	Sydney	10
19	Rio de Janeiro	86	Brussels	25	Dubai	9	Osaka	111
20	Jakarta	26	San Francisco	27	San Francisco	27	Jakarta	26

Note The Chengdu column is based on the second list of Table 2.11 but does not include the small cities

Table 2.13 Comparison of the global distribution of the Top 20 partner cities: Chengdu versus Shanghai versus Beijing versus Guangzhou

Region	Chengdu	Shanghai	Beijing	Guangzhou
Asia-Pacific	10	6	8	14
Other Asian regions	2	0	0	2
Middle East/North Africa	1	0	1	0
Sub-Saharan Africa	1	0	0	0
Europe	3	8	5	2
North America[a]	1	4	5	1
Latin America	1	1	0	0
Australasia	1	1	1	1

[a]Canada and the United States

Table 2.14 Global relevance of cities' external relationships: Chengdu versus Shanghai versus Beijing versus Guangzhou

City	Global relevance[a]	
	Average connectivity ranking	Relevance of connectivity ranking
Chengdu	82.20	−0.01
Shanghai	17.00	0.35
Beijing	19.60	0.16
Guangzhou	39.80	−0.01

[a]Based on the top 20 cities with the most partner cities

2.2 Analysis of Chengdu's Agglomeration Effect

Chengdu is a product of agglomeration. The rapid development of a city must inevitably be manifested in the continuous gathering of various factors and outputs. The differences in the degree of agglomeration of factors and outputs among each city decide the differences in the position and role of each city in the economic system. For Chengdu to become the western center of the Chinese economy and be listed alongside Beijing, Shanghai, and Guangzhou in the Chinese economic system, for it to move toward becoming a world city, it must constantly increase its own agglomeration of factors and outputs. Meanwhile, in the context of economic globalization, no national center city can be closed in its development or limited to the development of the economy of its own country. Rather, it must be open and develop facing the world economy. Thus, the position and role of a city in the economic system of its own country cannot be limited to analysis and comparison within the economy of its own country. Rather, it must be further analyzed and understood in the context of the global city system. Therefore, in this chapter, we will select several globally representative cities in order to understand the rules of the agglomeration of factors and outputs in the urban development process by way an analysis and comparison of the history and current situation of agglomeration in

these cities, thereby better understanding the current situation and trends of the agglomeration of factors and outputs in Chengdu and other Chinese cities. The following describe the research methods.

2.2.1 Model Building

Two basic aspects of urban economic development are the constant growth of factors and outputs. From the perspective of agglomeration, this means the continuously increasing level of agglomeration of factors and outputs in the city. According to basic macroeconomic theory, factors and outputs in economic growth can be expressed with this basic equation:

$$Y = Af(K, L)$$

where Y represents outputs, A represents technology, K represents capital, and L represents Labor. From this we can conclude that the degree of a city's factor and output agglomeration can be measured from these four aspects. That is, we must analyze and compare the degree of output agglomeration, technology agglomeration, capital agglomeration, and labor agglomeration in each city.

In terms of output agglomeration, as a city's output is generally measured by the city's GDP, and GDP itself is based on a certain area, we use GDP per unit of land to measure output agglomeration. We can measure technology agglomeration using a city's level of scientific and technological innovation. In this case, we use a city's international patents to measure the degree of technology agglomeration. We can use population concentration and population density to measure the degree of labor agglomeration. For capital agglomeration, because capital overall is mainly used for research and development or production, and the agglomeration of R&D capital is closely tied to the agglomeration of technology, while the agglomeration of production capital is closely tied to the agglomeration of labor, we can use the agglomeration of technology and labor to measure the agglomeration of capital. Thus, we select sixteen representative cities from around the world and study the history and current situation of urban agglomeration from the three aspects of GDP, international patents, and population density and from the two dimensions of history and current reality. This allows us to have an understanding of the development of Chengdu and other Chinese cities from a global agglomeration perspective.

GDP per unit of land and population density data are obtained through the official websites and databases of city governments, research organizations, and official statistical organization. International patent data comes from the website database of the World Intellectual Property Organization (WIPO).

2.2.2 Selection of Representative Cities

Among global cities, from the two dimensions of time and space, we select sixteen representative cities for analysis. From the time perspective, modern economic prosperity first appeared in the main cities in Europe and America. After the industrial revolution of the mid-19th century, with the gradual spreading of the impact of the industrial revolution, London, Stockholm, Zurich, New York, and Chicago each experienced rapid economic growth, and output and factors rapidly concentrated in these cities. After World War II, Japan was the first to achieve economic prosperity in Asia, and the economies of Japan's major cities such as Tokyo began to grow first among major Asian cities. Hong Kong and Singapore followed closely thereafter, also achieving economic takeoff. By the 1990s, China and India were showing signs of economic booms, and today, Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Xi'an, Mumbai, and Bangalore are all in the rapid development stage. From a spatial perspective, a city's geographic location has a huge impact on its development. Here, we mainly consider three cases: first, coastal; second, inland; and third, on an inland sea or river. Based on these criteria, we select the following cities:

Start of economic prosperity	Coastal	Inland	Inland sea or river
Mid-19th century	London, New York, Tokyo	Zurich, Chicago	Stockholm
1980s	Hong Kong, Singapore		
1990s	Shanghai, Guangzhou, Mumbai	Beijing, Chengdu, Xi'an, Bangalore	Chongqing

2.2.3 Historical Agglomeration in Representative Cities

2.2.3.1 History of Agglomeration in Representative European and American Cities

The first world cities in the modern sense first appeared in Europe and America in the mid-19th century with the completion of the industrial revolution. Through the second World War, the first rapid agglomeration in modern urban history occurred in London, Zurich, and Stockholm in Europe and New York and Chicago in America. We can see this in the population concentrations of each country, as Fig. 2.2 shows. In England, the source of the industrial revolution, London's population grew rapidly beginning in 1840, with growth slowing around 1900 and the population reaching a peak around 1940. Zurich and Stockholm's populations began growing rapidly around 1900, peaking around 1960.

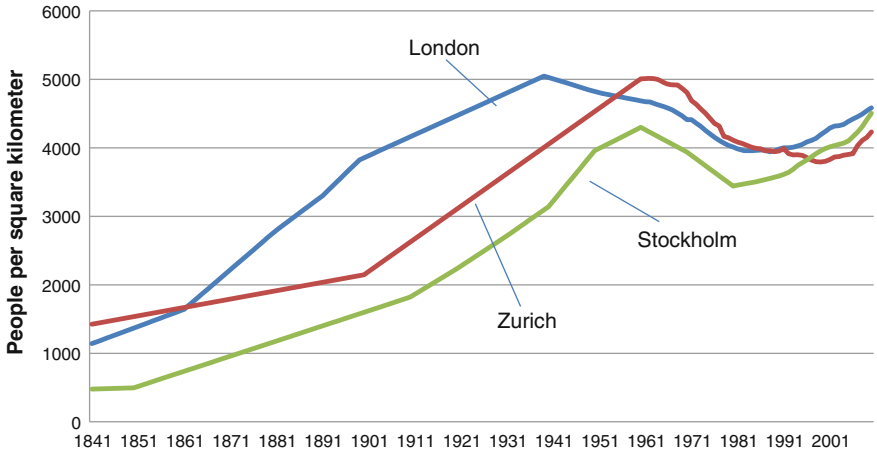

Fig. 2.2 Urban population density (Europe)

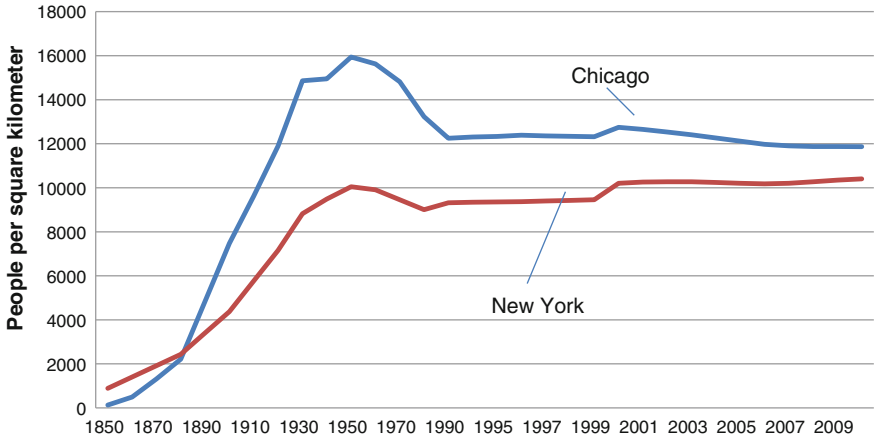

Fig. 2.3 Urban population density (America)

From Fig. 2.3 we can see that the population concentrations of New York and Chicago began accelerating in 1850, peaking around 1950.

Other cities rose along with post-war global economic prosperity. After peaking, the population densities of these representative cities fell gradually until stabilizing around 1980, after which London, Zurich, and Stockholm began to rise again, and New York and Chicago remained stable. With this falling population concentration in the context of global economic prosperity, the output agglomeration of these cities remained stable or grew slowly. As Figs. 2.4 and 2.5 shows, London, Zurich, and Stockholm's GDP per unit of land rose slowly from 1960 to 1984, but have

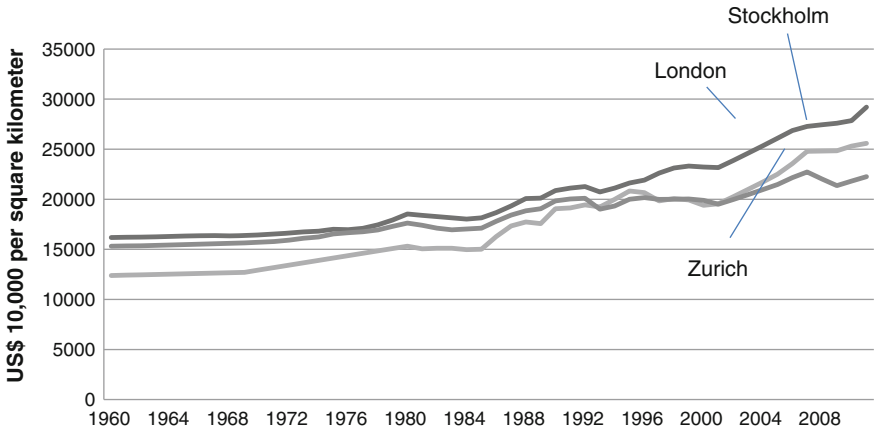

Fig. 2.4 Growth of urban GDP per unit of land (Europe)

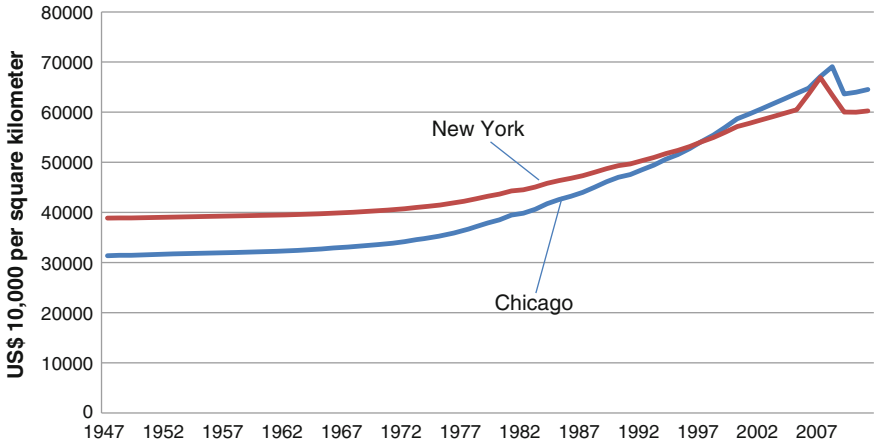

Fig. 2.5 Growth of urban GDP per unit of land (America)

risen quicker from 1984 to date. GDP per unit of land in New York and Chicago grew slowly from around 1950 to 1977, after which it began growing more rapidly.

Clearly, population concentration is not the main reason these cities began a phase of rapid economic growth around 1980. Rather, it is another agglomeration, investment agglomeration. Figures 2.6 and 2.7 shows that beginning in 1980, the number of international patents in these cities began to grow rapidly. The increasing concentration of technology pushed forward the rapid growth in GDP per unit of land, i.e. output agglomeration, in these cities.

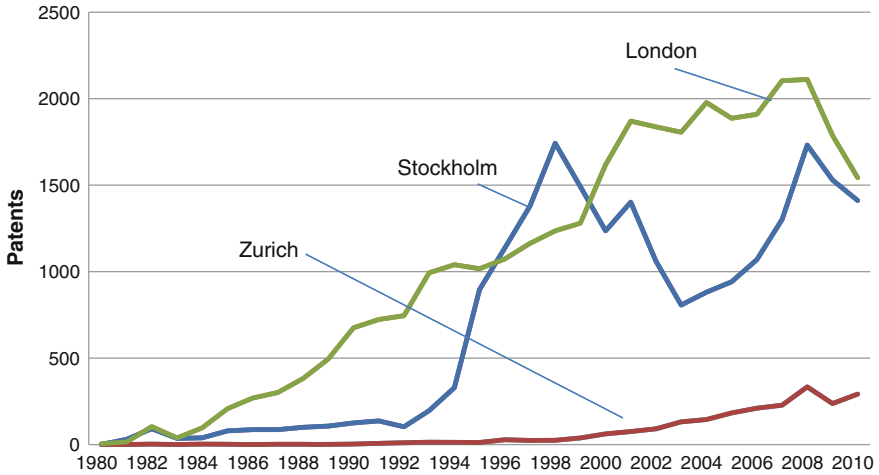

Fig. 2.6 International patents by city (Europe)

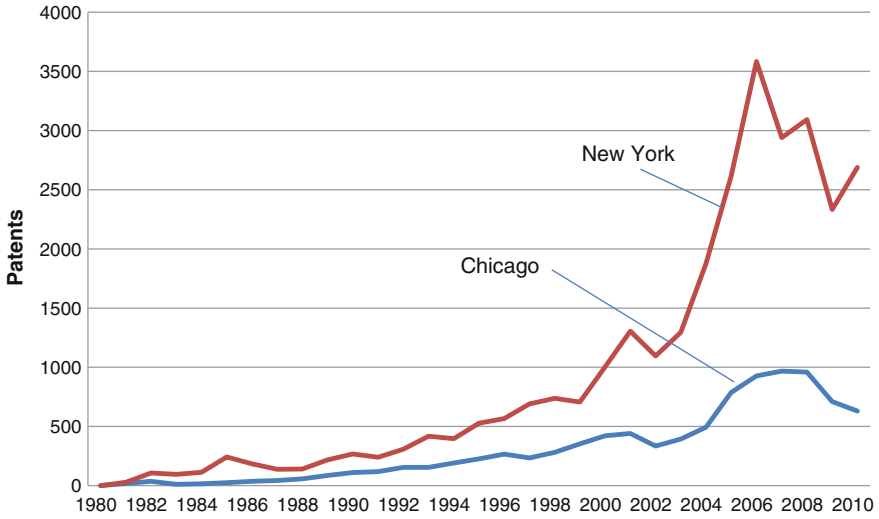

Fig. 2.7 International patents by city (America)

2.2.3.2 History of Agglomeration in Representative Asian Cities

The rapid economic growth of representative cities in Asia began after World War II. As Fig. 2.8 shows, Tokyo began its rapid economic growth around 1960, a state that lasted until around 1990, after which the economy stagnated. As Fig. 2.9 shows, Tokyo's population concentration fell to a low after World War II, grew rapidly thereafter, and stabilized around 1980. As shown in Fig. 2.10, Tokyo's

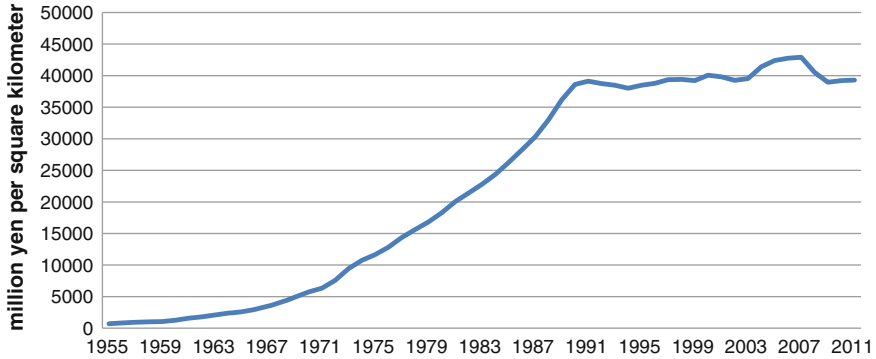

Fig. 2.8 Growth in GDP per square kilometer (Tokyo)

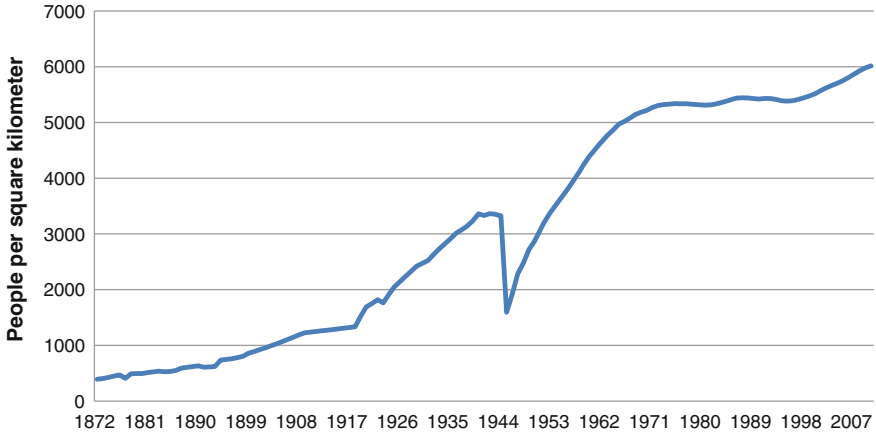

Fig. 2.9 Urban population density (Tokyo)

international patents began growing rapidly after 1980. Considering the aging Japanese population, the ability of Tokyo to maintain its output agglomeration between 1980 and 1990 owes mainly to the rapid increase in the degree of technology agglomeration.

Hong Kong and Singapore achieved rapid economic growth immediately after Tokyo. As shown in Figs. 2.11 and 2.12, Hong Kong and Singapore's GDP per kilometer began growing rapidly in 1980. With the exception of the Asian financial crisis in 1998, from 1998 to 2004, growth stagnated or declined slightly. Overall, Hong Kong and Singapore's degree of output agglomeration has maintained rapid growth.

Correspondingly, population density in Hong Kong and Singapore began to rise in 1980. As Figs. 2.13 and 2.14 shows, population density in both cities has been growing constantly.

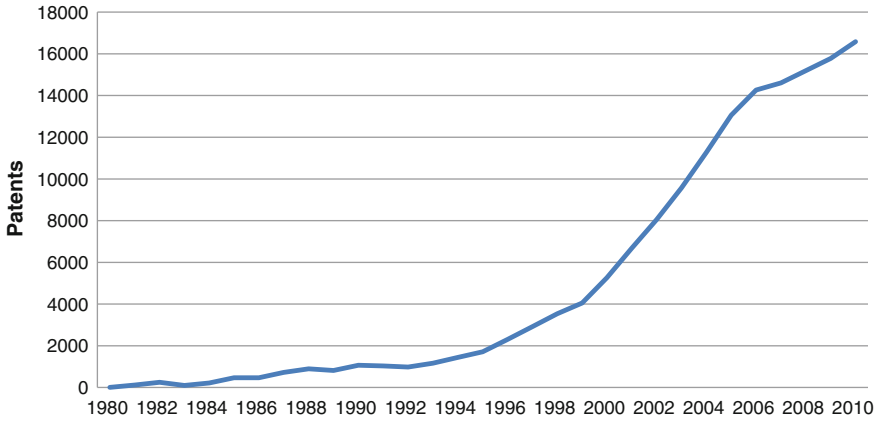

Fig. 2.10 International patents (Tokyo)

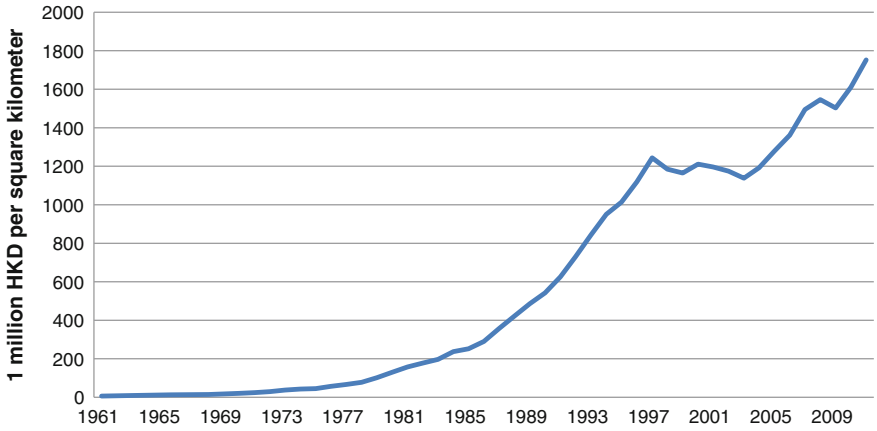

Fig. 2.11 Growth in GDP per square kilometer (Hong Kong)

Meanwhile, as Figs. 2.15 and 2.16 shows, from around 1995 onwards, Hong Kong and Singapore's international patents began to grow rapidly. The joint increasing of technology agglomeration and labor agglomeration supported the increasing degree of GDP per kilometer, that is, output agglomeration.

Mumbai and Bangalore's rapid economic growth began around 1993, as shown in Fig. 2.17. Mumbai's growth has been significantly faster. One can see from Fig. 2.18 that Mumbai's population concentration is much higher than Bangalore's, as is the speed of increase. In terms of technology agglomeration, Fig. 2.19 shows that Bangalore's patents began increasing rapidly after 1998, while Mumbai's patent growth proceeded slowly. One can see that compared to Bangalore,

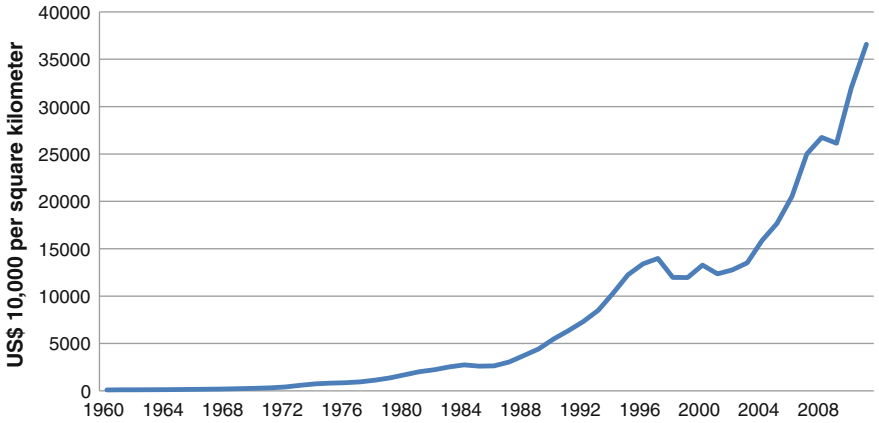

Fig. 2.12 Growth in GDP per square kilometer (Singapore)

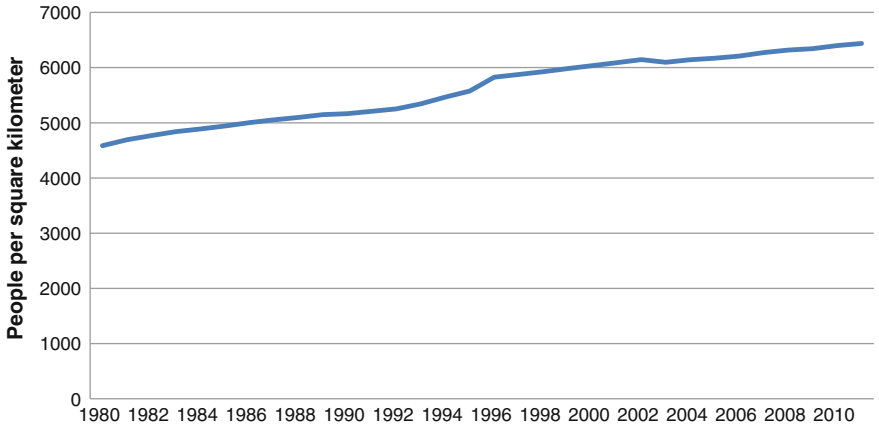

Fig. 2.13 Population density (Hong Kong)

Mumbai's economic agglomeration is basically an agglomeration of labor and production capital rather than agglomeration of technology and R&D capital.

2.2.3.3 History of Agglomeration in Representative Chinese Cities

As Fig. 2.20 shows, rapid economic growth in China began around 1992 and continues to this day. Figure 2.21 shows that population concentration during the same period has also increased rapidly, but different cities have seen different degrees of technology clustering. As Fig. 2.22 shows, international patents have grown rapidly in Beijing and Shanghai since 1992, with growth also significant in

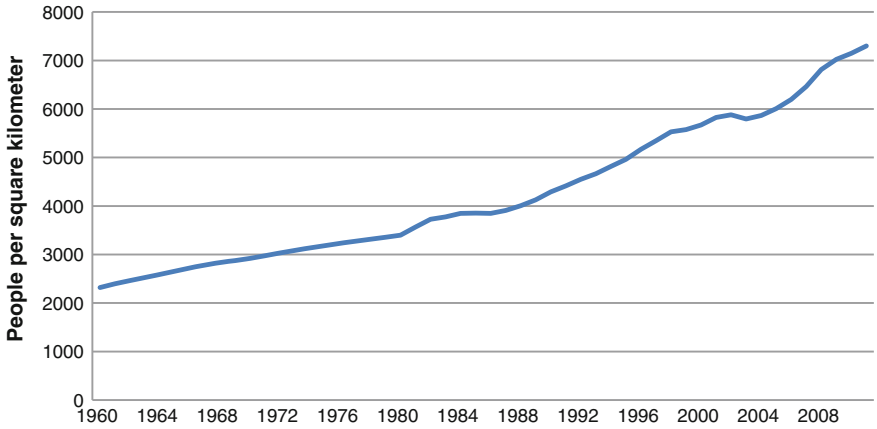

Fig. 2.14 Population density (Singapore)

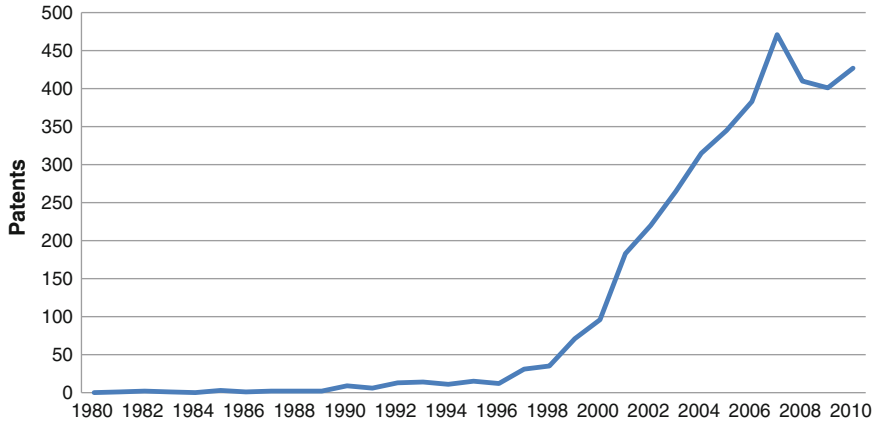

Fig. 2.15 International patents (Hong Kong)

Guangzhou. But patent growth has proceeded slowly in Chengdu, Xi'an, and Chongqing.

2.2.3.4 Historical Laws of Urban Agglomeration

We can see from the history of agglomeration in the world's most advanced cities, that the process of urban development is historically reflected as the continuous agglomeration of factors and outputs. In addition, according to the different factors promoting further agglomeration of output, this process can be divided into two phases. The first phase is mainly the agglomeration of labor and production capital,

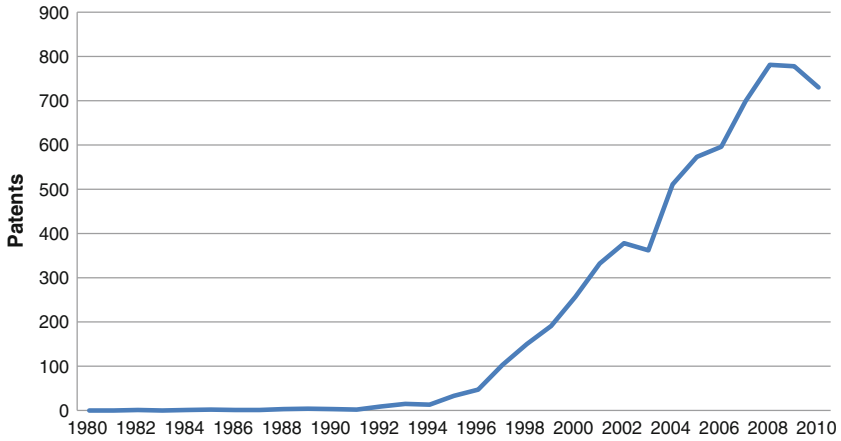

Fig. 2.16 International patents (Singapore)

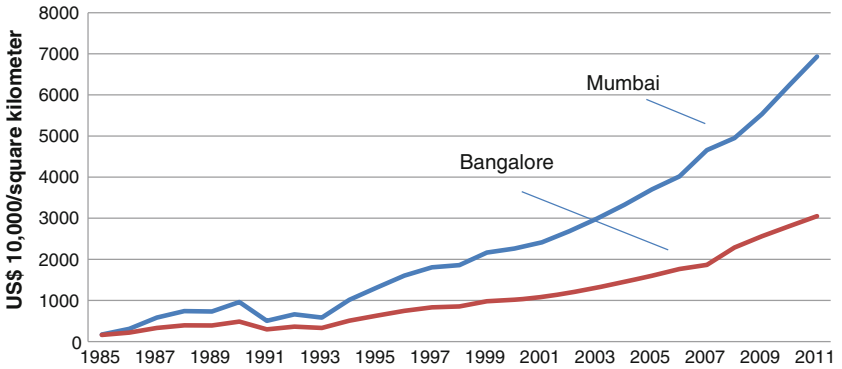

Fig. 2.17 Growth in GDP per square kilometer (India)

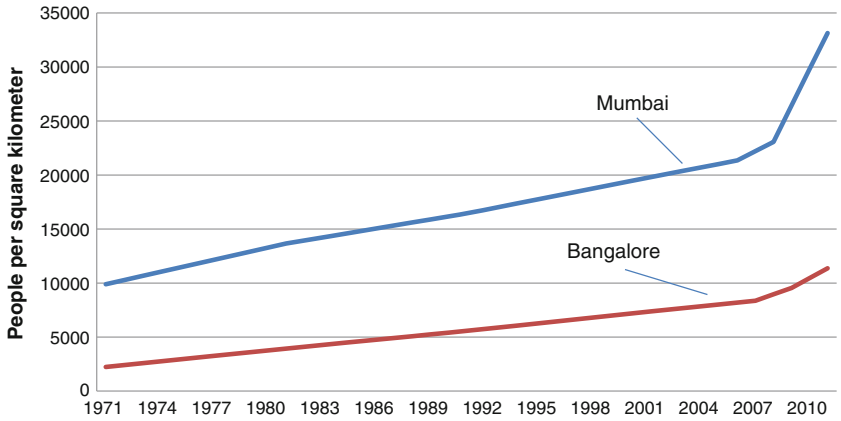

Fig. 2.18 Urban population density (India)

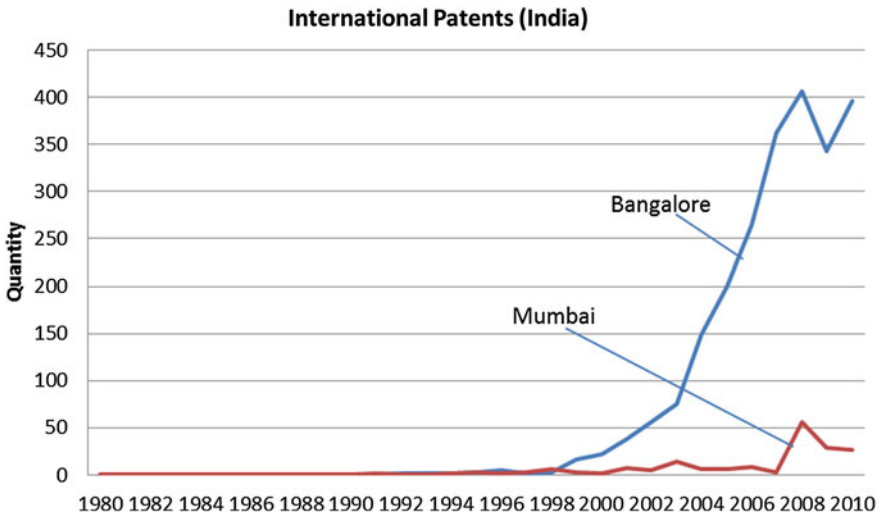

Fig. 2.19 International patents (India)

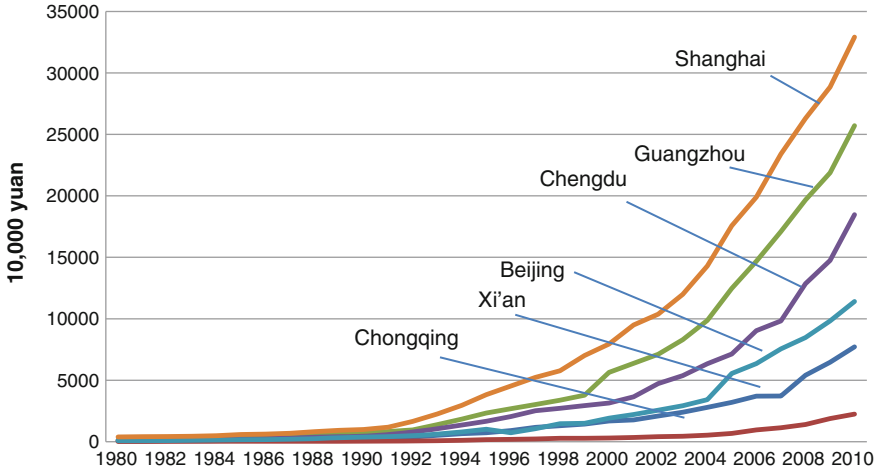

Fig. 2.20 Growth in GDP per kilometer (China)

while the second is the agglomeration of technology and R&D capital. From the historical agglomeration of European and American cities and Tokyo, we can see the successive appearance of these two stages. But when we consider Hong Kong, Singapore, and cities in India, and China, we discover that urban development has not shown significant characteristics of stages. For example, in Hong Kong and Singapore, labor and production capital as well as technology and R&D capital basically jointly pushed forward the agglomeration of output, reflected in rapid

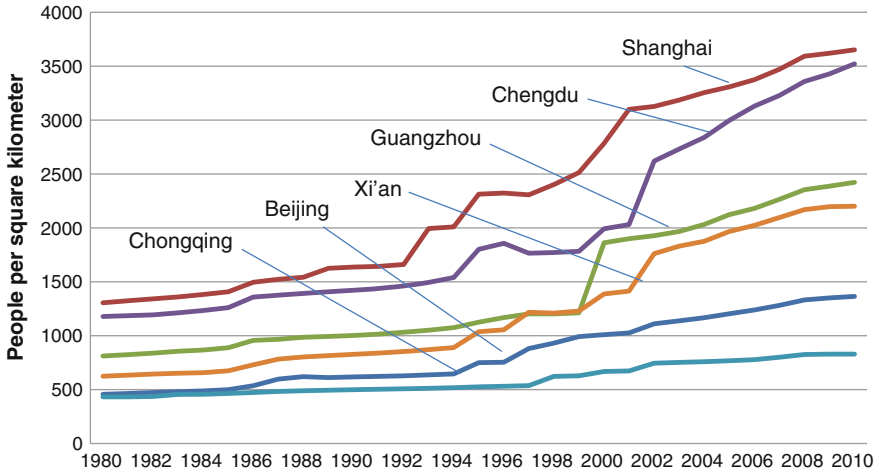

Fig. 2.21 Urban population density (China)

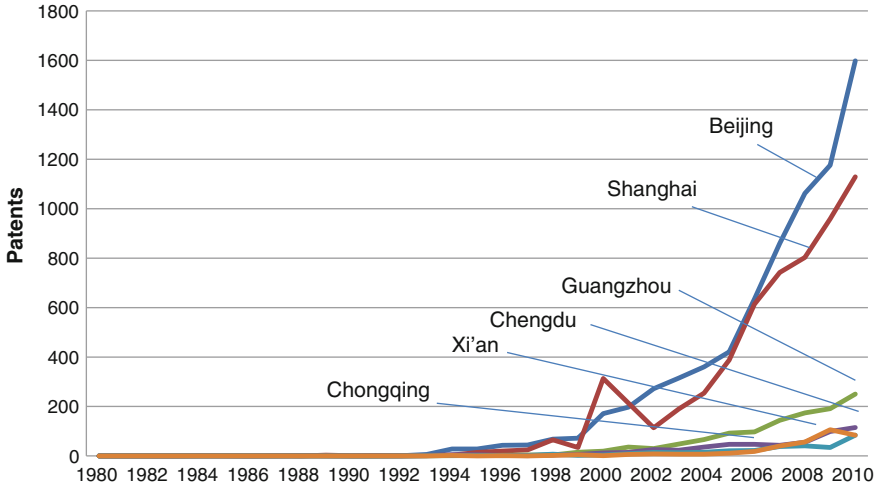

Fig. 2.22 International patents (China)

increases to population density and international patents. Mumbai and Bangalore in India have had rapid increases in patent volume, but the agglomeration of output has been relatively slow. This at first seems to be an exception, but if we analyze the Indian reality, we see that the problem is that India's population agglomeration and capital agglomeration are disjointed. Although large numbers of people have gathered in cities, because there has been a lack of corresponding agglomeration of production capital, there has been no effective agglomeration of labor, and thus no agglomeration of output. Among the six Chinese cities in our survey, the situation

in Beijing and Shanghai is similar to that in Hong Kong and Singapore. But Beijing does relatively poorly in agglomeration of labor and production capital, and therefore produces less corresponding agglomeration of output than Shanghai. The other four cities including Chengdu are very much in the first historical stage of agglomeration, that is, mainly relying on the agglomeration of labor and production capital to promote the agglomeration of output.

Analyzing these data and comparing Hong Kong, Singapore, Beijing, and Shanghai, we can see that if Chengdu is to become world city, it can no longer follow the two-stage path of American and European cities. It must transform the two stages into two aspects, allowing the agglomeration of labor and production capital and technology and R&D capital to jointly promote the agglomeration of urban output in order to continuously enhance the city's competitiveness.

2.2.4 *Analyzing Current Agglomeration in Representative Cities*

The current agglomeration of each representative city is shown in Fig. 2.23. The output agglomeration of Indian and Chinese representative cities is still far lower than European and American representative cities and advanced Asian cities. In terms of labor concentration, as Fig. 2.24 shows, Mumbai and Bangalore's population densities are higher or equivalent to various advanced cities, but considering the special situation of lower concentrations of production capital in Indian cities,

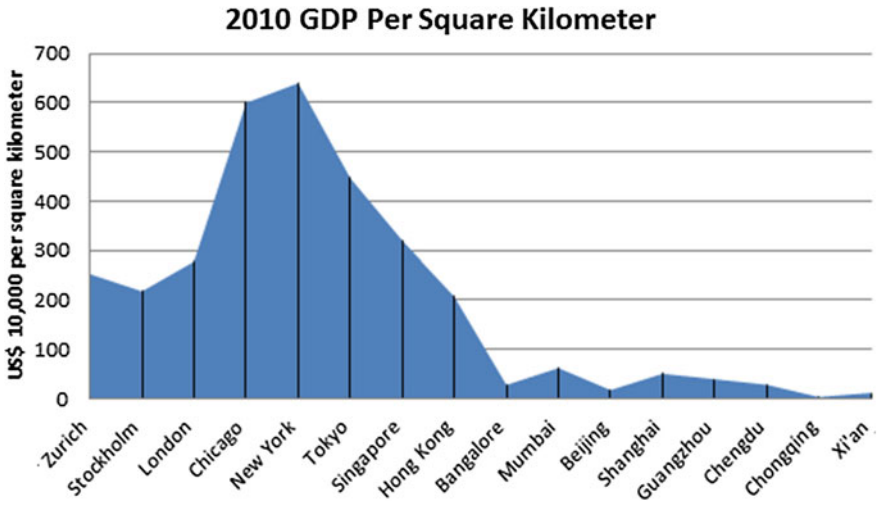

Fig. 2.23 2010 GDP per square kilometer in various cities [Zurich, Stockholm, London, Chicago, New York, Tokyo, Singapore, Hong Kong, Bangalore, Mumbai, Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Xi'an]

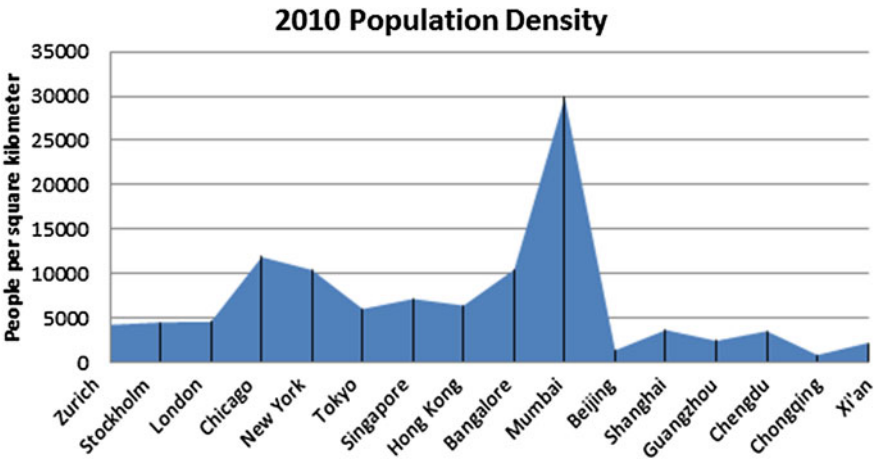

Fig. 2.24 2010 population density [Zurich, Stockholm, London, Chicago, New York, Tokyo, Singapore, Hong Kong, Bangalore, Mumbai, Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Xi'an]

Mumbai and Bangalore's effective labor concentrations are actually far lower than their population concentrations. The population density of Chinese cities is far lower. As Fig. 2.25 shows, with the exception of slightly higher international patent volumes in Beijing and Shanghai, Mumbai, Bangalore, Guangzhou, Chengdu, Chongqing, and Xi'an are significantly lower than other advanced cities. We can see that labor and technology agglomeration in representative cities of emerging still lags well behind those of advanced countries overall. Further improving all aspects of agglomeration is still the fundamental approach for these cities to develop further and move toward becoming world cities.

2.2.5 Comprehensive Analysis: A Horizontal Comparison of Chengdu's Agglomeration

In summary, through a study of the past and present agglomeration situations of sixteen representative cities around the world, we found that from a historical point of view, European and American cities and Tokyo have moved in two successive stages toward becoming world cities, with the first stage being driven by agglomeration of labor and capital and the second stage being driven mainly be technology and R&D agglomeration. However, Hong Kong, Singapore, Beijing, and Shanghai's agglomeration processes have mainly been jointly driven by these two types of forces. We can see that in the current context, a city can no longer take the old successive-stage road toward becoming a world city, but must carry out the two stages simultaneously, focusing on improving the concentration of labor,

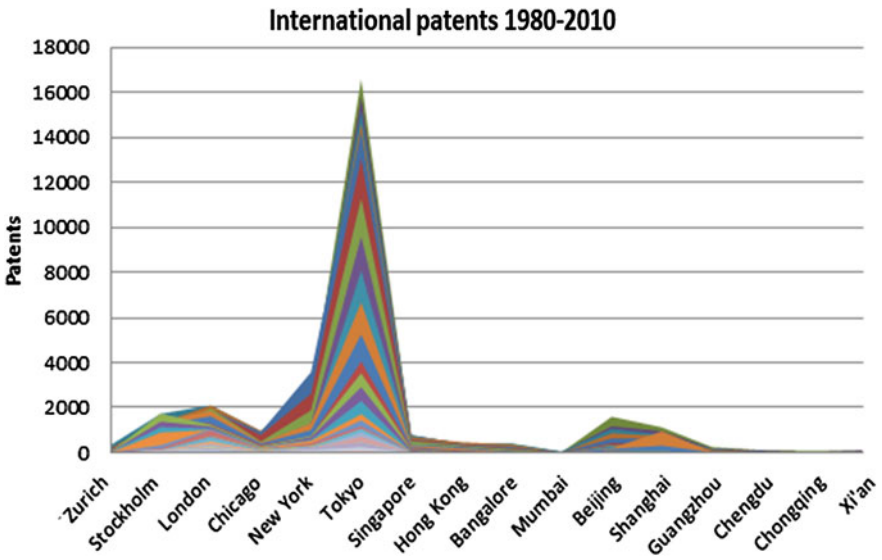

Fig. 2.25 International patent volumes 1980-2010 [Zurich, Stockholm, London, Chicago, New York, Tokyo, Singapore, Hong Kong, Bangalore, Mumbai, Beijing, Shanghai, Guangzhou, Chengdu, Chongqing, Xi'an]

production capital, technology, and R&D capital. Looking at the present situation, Chinese cities are far behind the world's advanced cities in terms of both output agglomeration and factor agglomeration and need to further enhance both.

Based on the above analysis, considering Chengdu from the perspective of agglomeration, we can find that from a historical perspective, among the six Chinese cities, Chengdu's rate of output agglomeration has been behind only Shanghai and Guangzhou. In terms of agglomeration of labor and production capital, it has been second only to Shanghai. In terms of agglomeration of technology and R&D capital, it has been slower than Beijing, Shanghai, and Guangzhou but quicker than Chongqing and Xi'an. Looking at the current situation, Chengdu's degree of output agglomeration is behind only Shanghai and Guangzhou. In terms of agglomeration of labor and production capital, it is second only to Shanghai. In terms of agglomeration of technology and R&D capital, it is behind Beijing, Shanghai, and Guangzhou, but ahead of Chongqing and Xi'an. Thus, combining both space and time, Chengdu has the power to become a center city for western China. Especially in terms of agglomeration of labor and production capital, the city exhibits a high degree of competitiveness. But to become a world city, Chengdu's achievements in time and space must both be higher. Although the city is doing well in existing output agglomeration and other aspects, there is still a large gap with Tier I cities in terms of the volume of increase in higher-level agglomeration of technology and R&D capital. Thus, Chengdu still has a long way to go on the road to becoming a world city.

Chapter 3
Social Research Finding One: Quantitative Analysis of Successful Enterprises

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3.1 The Importance of the Local Work of Firms in Chengdu

The network externalities portrayed as connectivities in Part A can only be taken advantage of through the local practices of firms in Chengdu. The framework we use to guide this part of the research derives from the seminal work of Jane Jacobs. This entails adhering to the following premises:

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(a) Economic growth comes in two forms—simple economic expansion and complex economic development. In the former an economy grows by addition to existing work—more of the same so the composition of the division of labour does not change. Development, on the other hand, implies an economy growing by adding new work thereby making the division of labour more complex. Both processes will likely exist together but it is development that creates rapid economic growth. This is what we focus on in this research.
(b) Cities are the basic economic units through which rapid economic growth can occur. Large dynamic cities are concentrations of old work and new work that have grown and continue to grow an increasing complex division of labour. There is nothing inevitable about the economic successes of large cities but they do provide an enabling context for economic development through agglomeration advantages to produce economic success that is likely to be sustainable and resilient. Thus this research focuses upon understanding economic growth through internal city externalities.
(c) The enabling advantages of large cities are garnered by individual firms; these are the economic players that activate a city-economy. Firms are the basic decision-making agents that determine the old work and new work so as to create the complex division of labour that defines a city. The dynamism of a city-economy depends upon the firms operating within it and therefore to understand economic development requires studying the firms that generate it. In this research we investigate successful firms within a city in order to understand the detailed process of rapid economic growth. Thus the research charts the interplay between the economic successes of firms and the overall economic performance of the city-economy.
(d) A critical interplay between firms and their city-economy consists of how new work enables a shifting of imports into the city. This key mechanism of economic development requires the research to keep a close watch on whether the production of goods and services are consumed within the city or exported to outside markets. The building of a city-economy—making its division of labour more complex—involves creating a larger local market so that there is

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more and more local consumption of production relative to exports. This is the essence of large cities' economic advantages and is a crucial process in generating rapid economic growth.

These premises provide the basis for our local survey to understand the success story of Chengdu from the inside. This will entail study of successful firms operating within Chengdu with particular reference to their generation of new work and development of the local city market.

3.2 The "Chengdu Success Story" Survey

The "Chengdu Success Story" survey was carried out in 2011. The basic idea was to obtain individual 'biographies' of a large number of successful Chengdu firms.

The remit for selecting the firms was as follows:

(a) At this time we are NOT interested in large-scale foreign inward direct investment but the focus in on small and medium-sized enterprises (SMEs)—firms now, or in the past, with less than 250 workers
(b) Therefore the first task is to select between 100 and 200 such firms that are to act as business representatives of Chengdu's economic success story
(c) The selection should cover all the leading economic sectors of Chengdu's city economy
(d) The selection should cover both firms that produce for the local economy and firms that produce for export beyond the local economy
(e) The selection should include older firms, perhaps founded more than twenty years ago, through to the newer firms formed in the last five years
(f) The selection should include a range of sizes of firm from very small firms with 10 or less workers through to previous SMEs that are so successful they NOW employ more than 250 workers
(g) The selection should include firms that originated in Chengdu and other Chinese firms that have moved to Chengdu

Overall the purpose is to produce a reasonably authentic representation of firms that have contributed to Chengdu's economic success story.

The survey was designed to cover three key stages of a firm's biography as follows:

(a) ORIGINS OF THE COMPANY with this suggested content: How was the company formed? (If the present company is the result of a merger, please go back to start with the earlier firms). Where did the idea come from? How was the capital raised? (From who?) What help was given by outsiders (public or party officials). What were the firm's original products or services? Was this company the first company carrying out this production in Chengdu? Where did the first labour and raw materials come from? Was the original market local, for other parts of China (where?) or for outside China (where?). If there

was early competition from other firm(s)—who were they and what has happened to them? How large was the company after the first year (labour force, turnover).

(b) DEVELOPMENT OF THE COMPANY with this suggested content: What have been the changes in size of company to the present (labour force and turnover). Has there been any product/service development into new spheres of work? When? Why? How? Were you the first to do this new work in Chengdu? What was the development that 'sealed' the success of the company? Was there more than one? How have labour, raw materials and markets changed? Where has new capital come from? Where have new ideas come from? Where was the competition? Who and what happened to them? What collaboration with other firms have been entered into? Have public and/or party officials been especially helpful in the development of the firm's success? How?

(c) THE COMPANY TODAY with this suggested content: Describe current business—production, labour, raw materials, markets, competition, collaborations, access to capital and ideas. What are the current relations with public and party officials.

This framework was converted into a questionnaire consisting of 82 questions that were administered to 150 firms. This constitutes the basic data source for analyses below. The data consisted of two types of information: some specific textual material and frequency counts for given categories. In the analyses I use just the latter, which are amenable to statistical analysis: the surveyed firms constitute a sample from the population of successful Chengdu firms in 2011. For more details of the survey see the Appendix.

3.3 Constructing Variables

Converting the data in operational variables for analysis was necessary for two reasons. First, there were numerous instances of missing data. This is not necessarily a bad thing—it is better for a respondent to leave a question blank than give a guessed or arbitrary incorrect answer. Second, there were instances of relatively low frequencies. In the analyses, the sample of firms is distributed amongst different categories that sometimes have too low counts to be statistically informative. Thus the data has been carefully scrutinized to produce a set of viable variables for statistical analysis.

3.3.1 Dependent Variable

The dependent variable—that which has to be explained—is the levels of growth experienced by the firms. In the data there are two questions on growth:

A: Compared to the first fiscal year, how much did your firm growth on total assets

B: Compared to the first fiscal year, how much did your firm growth on equity

Both are measured by ordinal categories:

Question	20 % or less	20–50 %	51–100 %	101–200 %	200 % or more	Not record
A	8	14	15	13	78	22
B	10	17	11	13	76	23

To remove low frequencies these categories are combined

Question	0–50 %	51–200 %	Above 200 %
A	22	28	78
B	27	24	76

There is comparable data for 127 firms, which produces a high correlation: $r = 0.9164$.

This means we can use either measure, I choose to use the assets measure because this is likely to be less volatile.

There is a second issue regarding measurement of growth—the number of years a firm has been in business. Obviously the older the firm the more time there has been for it to grow. Correlating % asset growth with age of firm produces a positive coefficient but a very low one: $r = 0.2227$. This indicates that under 5 % of the variation in asset growth is accounted for by time ($r_2 = 0.0496$). This very weak relationship is good news because it means we can ignore age of firm in subsequent analyses thereby not reducing frequency levels when comparing the dependent variable to other variables.

In analyses that follow, the dependent variable will be identified as GROWTH for which $n = 127$ (there is information on 127 firms).

3.3.2 Independent Variable

3.3.2.1 Independent Variable One: New Work

There is a primary independent variable: new work conducted by firms, identified in the premises as accounting for variation in the dependent variable. This variable has been constructed from two questions in the data:

"How many has had any product/service development into new spheres of work at the beginning?" and

"How many has had any product/service development into new spheres of work now?"

Firms are deemed to have consistent high levels of introducing new work by answering '2 or more' for both questions. Thus a simple binary variable is created: 1 = high levels of new work, 0 = all other firms.

In analyses that follow, this independent variable will be identified as NEW for which n = 135.

3.3.2.2 Independent Variable Two: Local Market

The second important independent variable from the premises relates to whether production is consumed within the city or outside. This variable is derived from answers to the question:

What was the original market of the firm?

Specifically, the categories in answers to this question have been consolidated into 'Chengdu' and 'outside Chengdu' to create a binary variable contrasting local and non-local markets.

In analyses that follow, this independent variable will be identified as LOCAL for which n = 131.

3.3.2.3 Background Variable One: Industry Sector

In addition, there are important background variables that measure basic differences in types of firms that might influence GROWTH.

The first background variable is the different economic sectors that firms belong to. In the data each firm is allocated to a category under the heading 'Industries' but these are numerous generating frequencies too low to use for analyses. Therefore they are combined into just five economic sectors:

(a) Agriculture and Food
(b) Manufacturing (traditional production such as automobiles)
(c) Construction and Real Estate
(d) Services (problematic as usual ranging from 'retail' to 'finance' but frequencies do not allow further division, but see below)
(e) High Tech (electronic and biomedical taken fro Manufacturing plus media, IT and communication taken from Services)

This creates a nominal variable with five categories of firms.

In analyses that follow, this background variable will be identified as SECTOR for which n = 149.

3.3.2.4 Background Variable Two: Ownership

The second background variable is the ownership of firms, which is obviously especially important in relation to China's recent economic history. This information is given directly in the data under the heading 'Ownership'; five categories are given and, although there is wide variation in frequencies, these are kept:

1. State-owned
2. Private
3. Joint venture
4. Joint-Stock
5. FDI

This creates a nominal variable with five categories of firms.

In analyses that follow, this background variable will be identified as OWNER for which n = 142.

3.3.2.5 Background Variable Three: Support

There is also a further background variable that is a supplement to OWNER relating to the support provided to a firm through either public or party channels. To measure this a composite variable is derived from two answers to the question:

How have public and/or party officials been especially helpful in the development of the firm's success?

in terms of

"Use of land or premises of production concessions" and/or

"Policy support"

Specifically, the categories in answers to this question have been consolidated into 'Support' and 'No support' to create a binary variable.

In analyses that follow, this background variable will be identified as SUPPORT for which n = 150.

3.3.2.6 Five Supplementary Variables for "New"

There are a series of variables that elaborate upon the key basic independent variable NEW, the consistent introduction of new work to Chengdu.

There are five strategies of firms relating to new business that can be measured. The first three are derived from answers to the question:

"Why the firm has entered into the new business?"

(a) MK-OPP is a binary variable from the answer "Market opportunities" (n = 150)
(b) PATENT is a binary variable from the answer "Using patent" (n = 150)

(c) MK-EXPLORE is a binary variable from the answer "Explore new market" (n = 150)
(d) FOREIGN is a binary variable from the question "How to conduct the new works?" using the answer "Foreign companies set up branches or subsidiaries" (n = 149)
(e) FINANCE is a binary variable from the question "How have public and/or party officials been especially helpful in the development of the firm's success?" using the answer "Financial support for start-up capital or R&D" (n = 150).

3.3.2.7 Additional Variables: Quality of Labour and Monopoly Development

GRADUATE is derived from the question:

The proportion of employees who graduated from college
The answers form a binary variable above and below 50 % (n = 143)
This variable measures the degree to which quality of labour has been part of a firm's strategy.

COMP is derived from two questions:

"If there was early competition from other firm(s)—who were they(please list 3)?" and
"What has happened to them?"

The answer "Still competitors" is used to identify a binary variable contrasting 'rivals still competitive' with 'rivals eliminated' (n = 107).

This variable measures the degree to which a firm has been able to successfully promote monopoly advantages.

The end-result of this construction of variables from the data is a suite of 13 measures of successful firms operating in Chengdu available for analysis.

3.3.2.8 Summary: Thirteen Variables Used for the Quantitative Analysis

Thus, the end result of the construction of variables is to form 13 criteria for the assessment of Chengdu's successful businesses in the analysis. In order to look more clearly, these 13 variables are summarized in Table 3.1.

Table 3.1 Assessment system for study analysis

	Variable name	Variable type	Explanation
1	Total asset growth	Independent variable	Growth level of total company assets
2	New works	Dependent variable	To what extent the company has new work
3	Local market	Dependent variable	The company mainly serves the local Chengdu market
4	Industry category	Background variable	The economic sector the company falls under
5	Ownership	Background variable	Form of corporate ownership
6	Support	Background variable	The public or government assistance the company has received
7	Market opportunity	Supplementary variable	The company entered a new sector due to market opportunity
8	Patents	Supplementary variable	The company used patents to enter a new sector
9	Developing new markets	Supplementary variable	The company entered a new sector a develop a new market
10	Foreign capital	Supplementary variable	The company entered a new market because The company entered a new sector because a branch was established
11	Financing	Supplementary variable	The company entered a new sector because it received start-up or R&D capital support
12	Graduates	Additional variable	The proportion of university graduates in the workforce
13	Competition	Additional variable	The company's competitors at founding are still competitors

3.4 Basic Analytic Framework

The overriding criterion for the analyses is to produced clearly evidenced findings that are both simple to understand and comparable in interpretation.

All 13 variables are in the form of frequencies and the analyses consist of comparing the distributions of frequencies. This requires variables being arrayed against each other in cross-tabulations called contingency tables. Arranging the variables in this way enables the use of CHI SQUARE statistical tests to evaluate whether there is a pattern to the frequencies or whether they are no different from random allocation. The key result is the probability (p) that the contingency table could have been created by chance. Standard statistical protocols will be used to aid this evaluation: $p = 0.05$ is the criterion for identifying statistically significant differences within a given contingency table. However it is recognised that this

threshold is an arbitrary boundary and therefore results where $p > 0.05$ by a relatively small amount may still be discussed.

There are two particular issues that are considered in application of this analytical framework.

(a) The analyses are all simple bi-variate exercises, that is to say pairs of variables are considered in isolation from the remainder. Ideally the cross-tabulations should include additional variables to identify specific multi-variate categories such as state-owned, high growth, manufacturing firms compared to consistently new work firms with a majority of graduates amongst their employees. Exploring such intersections between different variables requires far higher frequencies than is found in these data. However, this statistical limitation does not mean that intersecting variables cannot be inferred through judicious comparisons of different test results. In analyses below, any given result will be used to trigger a follow up test to try and unravel what is going on.

(b) The above approach relates to language used to report the results. The whole tenor of statistical analysis ('testing', dependent variable, independent variables, etc.) derives from experimental sciences that search out cause and effect processes. As has often been pointed out, in non-experimental situations, such causation cannot be proven and therefore what is being shown is mere association between variables, no more but also no less. This argument is obviously very relevant when trying to understand what is happening in something as complex as a city-economy using a limited number of variables from the myriads of processes simultaneous happening. In the interpretations of statistical findings below, the associations between variables that are uncovered will be viewed as tendencies, real patterns in the data but always compromised by the myriad on-going processes not included in a given analysis. Which comes back to the need to use related consecutive bi-variate analyses to unravel intersecting variable amongst the 13 being studied.

In the event, the data for Chengdu does appear to be highly structured (i.e. not very random) so that clear-cut statistical results can be reasonable interpreted as meaningful findings about successful firms in Chengdu.

3.5 Results I: Relations Between the Five Key Variables

3.5.1 Analysis 1. GROWTH Versus NEW

This is the starting point derived from the premises: it is expected that firms consistently developing new business will likely have more growth in assets.

The contingency table includes 119 firms:

New	Growth		
	0–50 %	50–200 %	Over 200 %
Consistently high levels of new work	9	11	24
Other firms	11	16	48

Significance test:

Probability of random allocation of frequencies is 0.0009

This means there is a pattern in the table indicating a relation between GROWTH and NEW. This can be best seen as a % table for NEW:

New	Growth		
	0–50 %	50–200 %	Over 200 %
% consistently high levels of new work	20.45	25.00	54.55
% other firms	14.67	21.33	64.00

Interpretation:

The NEW firms have relatively lower levels of GROWTH

This statistically significant result is NOT as unexpected result. Clearly there is no simple cause-effect link between these two key variables. The situation appears to be as follows: the literature says that new work is good for growth at the level of the city (diversification) but this does not necessarily extend to the level of firms generating the new work. Multiple moves into new spheres of work are obviously a risky strategy for individual firms and this will affect their individual growth prospects unevenly. It can still be argued that overall it is still the case that cities rely on such behaviour from their firms to generate rapid economic development. But there remains a need to explain why there is the reverse of expected outcome in this first bi-variate analysis. In other words it is necessary to search out possible intervening variables.

3.5.2 Analysis 2. GROWTH Versus SECTOR

The first place to look for intervening variables is with the background variables, starting with SECTOR. In this case there are five bi-variate analyses relating each economic sector to growth in assets in turn.

The contingency table includes 128 firms:

Sectors	Growth		
	0–50 %	50–200 %	Over 200 %
Agriculture and food	3	3	6
Manufacture	4	4	12
Construction and real estate	1	3	9
Services	8	4	23
High tech	6	13	29

Significance tests (each sector against the rest):

Probability of A + F being different is 0.000
Probability of MAN being different is 0.000
Probability of C + RE being different is 0.000
Probability of SER being different is 0.000
Probability of HT being different is 0.0056

This means that all sectors are significantly distinctive within the table. Where these differences occur can be best seen as a % table for sectors:

Sectors	Growth		
	0–50 %	50–200 %	Over 200 %
% A + F	**25.00**	25.00	*50.00*
% MAN	20.00	20.00	60.00
% C + RE	*7.69*	23.08	**69.23**
% SER	22.86	*11.43*	65.71
% HT	12.50	**27.08**	60.42
Overall %	17.19	21.09	61.72

Highest and lowest %s are indicated by bold and italicised numbers respectively.
Interpretation:
As far as growth is concerned, sectors can be ranked as follows:

(a) Construction and Real Estate have relatively most high growth firms and least low growth firms
(b) Services have relatively excess high growth firms but also excess low growth firms. This could reflect the diverse nature of this particular sector
(c) High Tech have relatively most medium growth firms and a clear deficit of low growth firms
(d) Manufacture are relative average across the growth categories but with a relative excess of low growth firms
(e) Agriculture and Food have relatively most low growth firms and least high growth firms

This finding that SECTOR is strongly associated with GROWTH means that it has the potential to be an important intervening variable in other bi-variate relations. Is this the case for GROWTH versus NEW?

3.5.3 Analysis 3. NEW Versus SECTOR

Given that SECTOR can be an important intervening variable, it is necessary to see how it relates to NEW. As in the last analyses, there are five bi-variate analyses relating each economic sector to the degree to which its firms have consistently high levels of new work in turn.

The contingency table includes 135 firms:

Sectors	New	
	Consistently high levels of new work	Other firms
Agriculture and food	4	8
Manufacture	7	14
Construction and real estate	3	11
Services	13	22
High tech	23	30

Significance tests (each sector against the rest):

Probability of Agriculture and Food being different is 0.000
Probability of Manufacture being different is 0.000
Probability of Construction and Real Estate being different is 0.000
Probability of Services being different is 0.000
Probability of High Tech being different is 0.0005

This means that all sectors are significantly distinctive within the table. Where these differences occur can be best seen as a % table for sectors:

Sectors	New	
	Consistently high levels of new work	Other firms
% agriculture and food	33.33	66.67
% manufacture	33.33	66.67
% construction and Real Estate	21.43	78.57
% services	37.14	62.86
% high tech	43.40	56.60

Highest and lowest %s are indicated by bold and italicised numbers respectively.
Interpretation:

As far as new work is concerned, sectors can be ranked as follows:

1. High Tech have relatively most consistent new work firms
2. Services have relatively more consistent new work firms
3. Equally, Agriculture and Food sector and Manufacture are have relatively few consistent new work firms
4. Construction and Real Estate have by far relatively fewest new work firms

These results are not in themselves very surprising but they are important for evaluating SECTOR as an intervening variable. Construction and Real Estate are the interesting sector because they rank first in GROWTH and last in NEW. In this way they disrupt the expected GROWTH/NEW relation previously analysed.

Construction and Real Estate are interesting for a second reason: they are likely to be the most LOCAL of the economic sectors, which has also been associated with rapid growth in the premises.

3.5.4 Analysis 4. GROWTH Versus LOCAL

According to the premises, GROWTH is should be associated with LOCAL: the greater the reliance on local markets (i.e., in Chengdu itself) the greater the expected growth in assets.

The contingency table includes 115 firms:

Local	Growth		
	0–50 %	50–200 %	Over 200 %
Chengdu market	8	6	45
Market outside Chengdu	11	19	26

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between GROWTH and LOCAL. This can be best seen as a % table for LOCAL:

Local	Growth		
	0–50 %	50–200 %	Over 200 %
Chengdu market	13.56	10.17	76.27
Market outside Chengdu	19.64	33.93	46.43

Interpretation:

The firms starting with the local (Chengdu) market have relatively higher levels of GROWTH—over three quarters in the high growth category compared to less than a half for firms supplying markets outside Chengdu.

This is the expected result. The literature says that in big cities growth derives largely from satisfying the large local market.

3.5.5 Analysis 5. NEW Versus LOCAL

According to the premises both NEW and LOCAL should be associated but this might be obscured by their different relations with SECTOR: are firms with consistent development of new work more likely to market in Chengdu rather than outside?

The contingency table includes 119 firms:

New	Local	
	Chengdu market	Market outside Chengdu
Consistently high levels of new work	17	26
Other firms	41	35

Significance test:

Probability of random allocation of frequencies is 0.0478

This means there is a pattern in the table indicating a relation between NEW and LOCAL but the association is relative weak. The pattern can be best seen as a % table for LOCAL:

New	Local	
	Chengdu market	Market outside Chengdu
% consistently high levels of new work	39.53	60.47
% other firms	53.95	46.05

Interpretation:

The weak association is based upon high levels of new related to marketing outside Chengdu, which is counter to the premises that link NEW and LOCAL together to GROWTH. SECTOR might be affecting this expected relation as noted above and so to might the second background variable OWNER.

3.5.6 Analysis 6. GROWTH Versus OWNER

The ownership of firms is the second background variable and can be introduced at this time: given the fact that recent Chinese economic has been based upon an 'opening up to market forces', it might be expected that private ownership and FDI would be particularly associated with growth in assets. There are five bi-variate analyses comparing each OWNER category with the rest of the sample.

The contingency table includes 121 firms:

Owner	Growth		
	0–50 %	50–200 %	Over 200 %
State	2	2	9
Private	12	15	35
Joint venture	0	1	9
Joint-stock	1	4	15
FDI	4	5	7

Significance tests (each ownership category against the rest):

Probability of State being different is 0.0000
Probability of Private being different is 0.0843
Probability of Joint Venture being different is 0.0000
Probability of Joint-Stock being different is 0.0000
Probability of FDI being different is 0.0000

This means that 4 of the 5 categories sectors are significantly distinctive within the table. However these findings must be tempered by the low frequencies in each case. The category with the largest frequency, Private firms, shows a tendency towards significance ($p \leq 0.10$) but does not reach the standard threshold ($p \geq 0.05$). This may reflect a greater diversity within this category.

Where these differences occur can be best seen as a % table for sectors:

Owner	Growth		
	0–50 %	50–200 %	Over 200 %
% state	15.38	15.38	69.23
% private	19.35	24.19	56.45
% joint venture	0.00	10.00	90.00
% joint-stock	5.00	20.00	75.00
% FDI	25.00	31.25	43.75
Overall %	15.70	22.31	61.98

Interpretation:

As far as growth is concerned ownership categories can be ranked as follows:

1. Joint Venture has relatively most high growth firms and least low growth firms. (Based upon lowest frequency, n = 10)
2. Joint-Stock has relatively excess high growth firms and deficit low growth firms. (Based upon low frequency, n = 20)

3. State-owned has relatively excess of high growth firms and deficits for other two growth categories. (Based upon low frequency, n = 13)
4. Private are relative average across the growth categories but with a tendency of relative excess of lower growth firms. As previously mentioned, this pattern might reflect diversity within this category
5. FDI have relatively most low growth firms and least high growth firms. (Based upon low frequency, n = 16)

It should be noted that % values are much more sensitive to low frequencies than probability values and therefore this ranking must be treated carefully: perhaps it is best to simplify the finding to Joint Venture, Joint-Stock and State-owned all high-growth categories, Private reasonable average, and FDI low-growth category. The latter might appear to be a surprise but it is consistent with the importance of local growth given that FDI is likely to be for extra-local markets, which is considered later.

3.5.7 *Analysis 7. NEW Versus OWNER*

Ownership as a background variable can also be arrayed against NEW: do firms under different ownership have different propensities for consistently developing new work? There are five bi-variate analyses comparing each OWNER category with the rest of the sample.

The contingency table includes 129 firms:

Owner	New	
	Consistently high levels of new work	Other firms
State	5	7
Private	26	37
Joint venture	4	9
Joint-stock	8	13
FDI	5	15

Significance tests (each ownership category against the rest):

Probability of State-owned being different is 0.0000
Probability of Private being different is 0.1748
Probability of Joint Venture being different is 0.0000
Probability of Joint-Stock being different is 0.0000
Probability of FDI being different is 0.0000

This means that 4 of the 5 categories sectors are significantly distinctive within the table. However these findings must be tempered by the low frequencies in each case. As once before, the category with the largest frequency, Private firms, but does not reach the standard threshold ($p \geq 0.05$) and on this occasion suggests only a possible weak tendency towards an association. This may reflect a greater diversity within this category.
Where these differences occur can be best seen as a % table for sectors:

Owner	New	
	Consistently high levels of new work	Consistently high levels of new work
% state	41.67	41.67
% private	41.27	41.27
% joint venture	30.77	30.77
% joint-stock	38.10	38.10
% FDI	25.00	25.00

Interpretation:

As far as high levels of new work are concerned ownership categories can be ranked as follows:

1. State-owned and Private firms have similar relative high levels of new work
2. Joint Venture firms has relatively excess new work firms
3. Joint-Stock firms have relatively low levels of new work firms
4. FDI records the lowest level of new work firms

Note again that % values are much more sensitive to low frequencies than probability values and therefore this ranking must be treated carefully. The fact that State-owned and Private firms head this ranking together, albeit only one based upon significant finding, strongly suggests cross-cutting processes influencing the analysis. Both of these ownership categories will likely focus on extra-local markets thereby confounding the expected NEW/LOCAL relation. The next analysis checks this out.

3.5.8 Analysis 8. OWNER Versus LOCAL

Although the OWNER background variable did not disrupt the expected GROWTH/LOCAL relation, it is of interest to consider OWNER versus LOCAL to evaluate the affect of the LOCAL/GROWTH association premise on the potential of FDI to contribute the growth in assets.

The contingency table includes 125 firms:

Localization	Owner				
	State-owned	Private	Joint-capital	Joint-stock	Foreign directly invested
Chengdu market	4	32	10	8	6
Outside Chengdu market	8	30	4	11	12

Significance test:

Probability of random allocation of frequencies is 0.0048

This means there is a pattern in the table indicating a relation between GROWTH and LOCAL. This can be best seen as a % table for OWNER:

Local	Owner					
	% state	% private	% Jt venture	% Jt-stock	% FDI	Overall %
% Chengdu	33.33	33.33	51.61	71.43	42.11	33.33
% outside	66.67	66.67	48.39	28.57	57.89	66.67

Interpretation:

In terms of starting with the local market the categories of ownership can be ranked as follows:

1. Joint Venture has by far relatively most local starts (Based upon low frequency, n = 14)
2. Private has a minor bias towards starting with local market
3. Joint-Stock has relatively few local starts (Based upon lowest frequency, n = 19)
4. State-owned and FDI are equally ranked with by far relatively more extra-local starts (Based upon low frequencies, n = 12 and n = 18 respectively)

The interesting findings are that Joint Ventures tend to involve exploiting the local market, whereas State-owned and FDI both tend to use Chengdu as a base for supplying extra-local markets. For FDI, this accounts for the result (low growth) in the previous growth versus ownership analysis. However, the state-owned firms contradict the growth/local association: it appears to be a special OWNER category in this respect by combining high growth with a focus on extra-local markets.

3.5.9 Analysis 9. OWNER Versus SUPPORT

The supplementary variable SUPPORT can be introduced here: the contradiction from analysis 6 might be accounted for by a privileged position held by state-owned

firms. This possibility can be evaluated by checking the associations between ownership of firms and the support they receive from public and party officials in terms of property concessions and policy support.

The contingency table includes 142 firms:

Support	Owner				
	State	Private	Jt Venture	Jt-Stock	FDI
Support	11	53	11	18	16
No support	2	18	4	4	5

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between OWNER and SUPPORT. This can be best seen as a % table for OWNER:

Support	Ownership					
	% state	% private	% Jt venture	% Jt-stock	% FDI	Overall %
Support	84.62	74.65	73.33	81.82	76.19	76.76
No support	15.38	25.35	26.67	18.18	23.81	23.24

Interpretation:

In terms of public/party support approximately three quarters of all firms report positively. However state-owned firms have relatively most support and Joint-Stock firms also tend to obtain relatively more support. The three other ownership categories are each slightly below average relative support.

The interesting, though not surprising, finding is the relatively high support for state-owned firms. This 'favouritism' may help explain the unusual relation between high growth and servicing extra-local markets reported in previously.

3.6 Results II: Further Exploration of the Relation Between Growth and New Work

How asset growth is correlated with new works is a basic point of this study. The previous section set out from this relationship, attempting to reveal connections besides the initial bivariate conclusion. This section will employ a different method: the analysis will include other variables directly involved in the creation of new works. The study is divided into two states. The first stage investigates whether the new variable is correlated with the continuous expansion of new works. The latter stage studies whether the new variable will translate into a relationship with asset growth. We will carry out five subsequent analyses.

3.6.1 Analysis 10. NEW Versus MK-OPP Versus GROWTH

The new variables are concerned with firm's strategies. As defined previously MK-OPP is about firms entering new business through taking market opportunities.

3.6.1.1 NEW Versus MK-OPP

The contingency table includes 135 firms:

MK-OPP	New	
	Consistently high levels of new work	Other firms
Mentioned	27	26
Not mentioned	23	59

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between NEW and MK-OPPS. This can be best seen as a % table for MK-OPPS:

MKT-OPP	New	
	Consistently high levels of new work	Other firms
% mentioned	50.94	49.06
% not mentioned	28.05	71.95

Interpretation:

This confirms that firms with a market opportunity strategy tend to have relatively more consistently high levels of new work.

3.6.1.2 GROWTH Versus MK-OPP

The contingency table includes 128 firms:

MK-OPP	Growth		
	0–50 %	50–200 %	200 % and above
Mentioned	10	11	29
Not mentioned	12	17	49

Significance test:

Probability of random allocation of frequencies is 0.0050

This means there is a pattern in the table indicating a relation between GROWTH and MK-OPPS. This can be best seen as a % table for MK-OPPS:

MKT-OPP	Growth		
	0–50 %	50–200 %	Over 200 %
% mentioned	20.00	22.00	58.00
% not mentioned	15.38	21.79	62.82

Interpretation:

Existing markets appear not to be a general source for growth: firms searching out market opportunities for new business have had relatively less growth. This is consistent with the new work that creates rapid growth being market making rather than relying on existing markets.

3.6.2 Analysis 11. NEW Versus PATENT Versus GROWTH

As defined previously PATENT is about firms entering new business through using patents.

3.6.2.1 NEW Versus PATENT

The contingency table includes 117 firms:

Patent	New	
	Consistently high levels of new work	Other firms
Used	15	14
Not used	35	53

Significance test:

Probability of random allocation of frequencies is 0.0129

This means there is a pattern in the table indicating a relation between NEW and PATENT. This can be best seen as a % table for PATENT.

Patent	New	
	Consistently high levels of new work	Other firms
Used	51.72	48.28
Not used	39.77	60.23

Interpretation:

This confirms that firms with a strategy of using patents tend to have relatively more consistently high levels of new work.

3.6.2.2 GROWTH Versus PATENT

The contingency table includes 128 firms:

Patent	Growth		
	0–50 %	51–200 %	Over 200 %
Used	5	9	14
Not used	17	19	64

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between GROWTH and PATENT. This can be best seen as a % table for PATENT:

Patent	Growth		
	0–50 %	51–200 %	Over 200 %
% used	17.86	32.14	50.00
% not used	17.00	19.00	64.00

Interpretation:

Although using a patent provides a monopoly in the market, this advantage has not translated into growth performance: firms using patents have had relatively less growth.

3.6.3 Analysis 12. NEW Versus EXPLORE Versus GROWTH

As defined previously EXPLORE is about firms entering new business through exploring new markets.

3.6.3.1 NEW Versus EXPLORE

The contingency table includes 135 firms:

Explore	New	
	Consistently high levels of new work	Other firms
Explore	29	32
Not explore	21	53

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between NEW and EXPLORE. This can be best seen as a % table for EXPLORE:

Explore	New	
	Consistently high levels of new work	Other firms
% explore	47.54	52.46
% not explore	28.38	71.62

Interpretation:

This confirms that firms with a strategy of exploring markets tend to have relatively more consistently high levels of new work.

3.6.3.2 GROWTH Versus EXPLORE

The contingency table includes 128 firms:

Explore	Growth		
	0–50 %	51–200 %	Over 200 %
Explore	5	9	14
Not explore	17	19	64

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between GROWTH and EXPLORE. This can be best seen as a % table for EXPLORE:

Explore	Growth		
	0–50 %	50–200 %	Over 200 %
% explore	17.86	32.14	50.00
% not explore	17.00	19.00	64.00

Interpretation:

Exploring is not the same as creating markets: firms exploring the market for new business have had relatively less growth.

3.6.4 Analysis 13. NEW Versus FOREIGN Versus GROWTH

As defined previously FOREIGN is about firms conducting new work through foreign companies setting up branches or subsidiaries.

3.6.4.1 NEW Versus FOREIGN

The contingency table includes 135 firms:

Foreign	New	
	Consistently high levels of new work	Other firms
Foreign	27	37
No foreign	22	49

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between NEW and FOREIGN. This can be best seen as a % table for FOREIGN:

Foreign	New	
	Consistently high levels of new work	Other firms
% foreign	42.19	57.81
% no foreign	30.99	69.01

Interpretation:

This confirms that firms that operate as foreign branches of subsidiaries tend to have relatively more consistently high levels of new work.

3.6.4.2 GROWTH Versus FOREIGN

The contingency table includes 128 firms:

Foreign	Growth		
	0–50 %	51–200 %	Over 200 %
Foreign	12	9	46
No foreign	10	19	32

Significance test:

Probability of random allocation of frequencies is 0.0028

This means there is a pattern in the table indicating a relation between GROWTH and FOREIGN. This can be best seen as a % table for FOREIGN:

Foreign	Growth		
	0–50 %	50–200 %	Over 200 %
% foreign	17.91	13.43	68.66
% no foreign	16.39	31.15	52.46

Interpretation:

There is a specificity to foreign involvement beyond FDI: foreign firms setting up branches or subsidiaries have had relatively more growth.

3.6.5 Analysis 14. NEW Versus FINANCE Versus GROWTH

As defined previously. FINANCE is about firms receiving public/party financial support for start-up capital of R&D.

3.6.5.1 NEW Versus FINANCE

The contingency table includes 135 firms:

Finance	New	
	Consistently high levels of new work	Other firms
Financing	12	14
No financing	38	71

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between NEW and FINANCE. This can be best seen as a % table for FINANCE:

Finance	New	
	Consistently high levels of new work	Other firms
% finance	46.15	53.85
% no finance	34.86	65.14

Interpretation:

This confirms that firms that operate receiving start-up and R&D financial support tend to have relatively more consistently high levels of new work.

3.6.5.2 GROWTH Versus FINANCE

The contingency table includes 118 firms:

Finance	Growth		
	0–50 %	51–200 %	Over 200 %
Financing	3	9	15
No financing	19	19	63

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between GROWTH and FINANCE. This can be best seen as a % table for FINANCE:

Finance	Growth		
	0–50 %	51–200 %	Over 200 %
% finance	11.11	33.33	55.56
% not finance	24.18	30.77	85.71

Interpretation:

This result indicates that financial support for start up or R&D is not translated into growth performance: firms receiving such support have had relatively less growth

In Summary

Relatively more growth has been associated with firms that had NOT entered into new business looking for market opportunities, employing patents or exploring new markets, had NOT received financial support from public or party officials for start up or R&D, EXCEPT where they are foreign firms setting up branches or subsidiaries.

These findings support the primary result showing no simple link between growth and firms that are consistently adding new products; they have added to the sense that this basic relationship is exceedingly complex.

3.7 Results III: Bringing in Labour and Competition

In a final attempt to explicate the new work-growth relation, two further variables are brought into the analyses that are generally seen to influence growth: quality of labour and competitive situation. As above, these are conducted as two-stage investigations but in reverse order, first to see whether the new variable is associated with growing assets (GROWTH) and second to see whether this translates into an association with consistent development of new work (NEW). There are two such analyses.

3.7.1 *Analysis 15. GROWTH Versus GRADUATE Versus NEW*

As previously described, quality of labour is measured by GRADUATE based upon the number of a firms' employees who have graduated from college.

3.7.1.1 GRADUATE Versus GROWTH

The contingency table includes 123 firms:

Graduate	Growth		
	0–50 %	50–200 %	Over 200 %
Majority	9	17	36
Minority	13	9	39

Significance test:

Probability of random allocation of frequencies is 0.0138

This means there is a pattern in the table indicating a relation between GROWTH and GRADUATE. This can be best seen as a % table for GRADUATE:

Graduate	Growth		
	0–50 %	50–200 %	Over 200 %
% majority	14.52	27.42	58.06
% minority	21.31	14.75	63.93

Interpretation:

Although more graduates might suggest more value-added this is not translated into growth: firms with a majority of graduate employees have experienced relatively less growth than firms with a minority of graduate employees.

3.7.1.2 GRADUATE Versus NEW

The contingency table includes 133 firms:

Graduate	New	
	Consistently high levels of new work	Other firms
Majority	28	40
Minority	21	44

Significance test:

Probability of random allocation of frequencies is 0.1005

This is not a significant result but is low enough to suggest a pattern in the table that might indicate a tendency for a relation between GROWTH and NEW. This possibility can be best seen as a % table for GRADUATE:

Graduate	New	
	Consistently high levels of new work	Other firms
% majority	41.18	58.82
% minority	32.31	67.69

Interpretation:

Generally we might expect that more graduate labour would relate to more new initiating new work, and this is the relation the analysis points towards: firms with a majority of graduate labour have more consistent moves into new spheres of work; but this is a very weak relation at best.

In Summary

Firms with a majority of graduate labour have mixed results in terms of our primary variables: they are NOT associated with additional growth but they could be associated with additional new work.

3.7.2 Analysis 16. GROWTH Versus COMP Versus NEW

As described previously, COMP measures the degree to which a firm has been able to successfully promote monopoly advantages.

3.7.2.1 COMP Versus GROWTH

The contingency table includes 92 firms:

Comp	Growth		
	0–50 %	50–200 %	Over 200 %
Rivals till competitive	8	13	30
Rivals eliminated	6	6	29

Significance test:

Probability of random allocation of frequencies is 0.0119

This means there is a pattern in the table indicating a relation between GROWTH and COMP. This can be best seen as a % table for COMP:

Comp	Growth		
	0–50 %	50–200 %	Over 200 %
% rivals still competitive	15.69	25.49	58.82
% eliminated	14.63	14.63	70.73

Interpretation:

There appears to be a monopoly advantage being exploited: those firms that have eliminated their early rivals have relatively higher growth than firms where rivals are still competitive

3.7.2.2 COMP Versus NEW

The contingency table includes 97 firms:

Comp	New	
	Consistently high levels of new work	Other firms
Still competitive	25	33
Eliminated	9	30

Significance test:

Probability of random allocation of frequencies is 0.0000

This means there is a pattern in the table indicating a relation between GROWTH and COMP. This can be best seen as a % table for COMP:

Comp	New	
	Consistently high levels of new work	Other firms
Competitors are still strong (%)	43.10	56.90
Competitors have been eradicated (%)	23.08	76.92

Interpretation:

There appears to be a classic ‘monopoly effect’ here: firms whose early rivals are still competitive have relatively higher levels of consistent new work, where rivals have been eliminated there is less new work.

3.8 Main Points

Firms engaging in new types of work do not experience high rates of growth—in other words there is not simple cause and effect happening, other features of firms complicate the situation.

The economic sector a firm belongs to, whether the firm focuses on the local market, and the nature of the firm's ownership all effect the way that growth of the firm and different types of new work are related.

Firms generating new types of work have had strategies for searching out new opportunities, including using patents, have explored new markets, are often foreign-owned, and have received public support for R&D investment.

Relatively more growth of firms has been associated with firms that had NOT entered into new business looking for market opportunities, employing patents or exploring new markets, had NOT received financial support from public or party officials for start up or R&D, EXCEPT where they are foreign firms setting up branches or subsidiaries.

The competitive situation in which a firm operates is important: monopoly tendencies are associated with relatively higher growth rates but less new types of work.

Chapter 4
Social Research Finding TWO: Business Success Stories and Inspiration

Peter Taylor, Pengfei Ni, Kai Liu, Shuting Guo, Zheng Zhao, Yuwei Li and Huifang Zhang

Based on the survey of 150 businesses in the last chapter, we selected fifteen model companies for in-depth interviews and describe the development trajectory of these companies. These companies have their own development characteristics but also fit the general rule. The relationship between economic growth and the relevant factors in the development process of Chengdu companies is explained in detail in these stories. This chapter mainly contains the specific development stories of these companies and a summary and analysis of all the cases.

4.1 Case Selection and Analytical Framework

4.1.1 Case Selection

The data from the study show that there is not necessarily a link between the extent to which a company expands new works and its total assets growth (the expected positive correlation does not exist). Thus, understanding the complex relationship between the growth of a company's assets and other variables appears to be necessary. Analysis further shows that asset growth is related to several other variables. But the results of the quantitative analysis are insufficient to give specific

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recommendations to Chengdu companies on development trends or key controllable factors. In order to have a deeper understanding of the development of Chengdu, we analyze the growth stories of fifteen local companies as cases. These fifteen cases include companies from different fields, companies of different sizes, and different types of companies, which are representative in terms of the study of Chengdu. Study of these individual companies is based on comprehensive analysis of different data. These data include: mixed quantitative and qualitative data from the survey, relevant personal interviews, and official company documents. The questions in the interviews mainly encompass four aspects: first, the experience of the founder and the legendary story of success; second, the background of the company's founding; third, the development process of the company's growth and upgrading; and fourth, the support from the city the company has received in its development process and the contribution it has made to the city. Table 4.1 briefly summarizing these areas for the 15 companies.

4.1.2 Analytical Framework and Data Collection

Studying the development stories of these companies is of substantive significance to understanding the connection between them and the city's development. In the process of studying the relevant company materials and cases in the process of the social research, the materials collected from the companies were used for analysis. The points of analysis were mainly the main variables and the relationships discovered between the variables as defined based on the quantitative analysis. Each business has its own characteristics. We mainly analyze the portions where we found connections with the relevant variables in the case studies. In addition, because the creation of new works is the foundation of an increasingly complex urban division of labor, and this is the key to urban development based on the agglomeration effect and linkage effect, each case pays close attention to the company's contribution to the refinement of the labor structure and the upgrading of

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Table 4.1 Introduction of Cases

Company	Founder experience and success story	Company founding background	Company growth and development process	Support received and contribution made
1. Shiling Poultry Cooperative	Leadership election	Providing training to employees	Guaranteeing quality through standardized production (branding and traceability, chain business model from farmer to supermarket	Government fund investment, tax exemptions, technical training
2. Sichuan FAW Toyota	More than three decades of joint-venture experience	(Paid) introduction of Toyota advanced technology	Monopoly of market segments, studying Japanese management techniques	Significant tax contributor
3. Chengdu Investment Holding Group Co.	Municipal government business	Market demand	Diversification of business fields	Policy orientation
4. Agilent Technologies (Chengdu) Co.	Multinational branch of HP	University and transportation advantage	Global leader in the testing and measurement sector	Local government attracted them to establish a factory in Chengdu
5. Huawei Symantec Technologies Co., Ltd.	Joint-venture company headquartered in Chengdu with seven global regional markets	University advantage, transportation	Beijing, Shenzhen R&D centers, Chengdu (headquarters), Hangzhou + Silicon Valley	Enjoys preferential land and tax policies
6. Maipu Communication Technology Co.	Private company, R&D center in Chengdu	Formed for "empty market" (intellectual property rights), ample university graduates	Technical innovation is the core competitive strength of telecommunications equipment	Tax exemptions, funding support
7. Kelun Pharmaceutical Co., Ltd.	Private company, headquartered in Chengdu, has sixteen subsidiaries in ten provinces	Formed due to "empty market" (intravenous injection market)	Intravenous injection solution technical knowledge Shrink infusion bags innovation Unique safety Indestructible (Saves lives in an earthquake) Developing non-intravenous products	Tax and land support, but policy is unstable, and state-owned companies have priority

(continued)

Table 4.1 (continued)

Company	Founder experience and success story	Company founding background	Company growth and development process	Support received and contribution made
8. Chengdu Hongqi Chain Co., Ltd.	Fighting against bureaucracy and political opposition	Partnership with Deron	Logistics using POS/MIS Automatic management systems, promoting diverse services	After corporate restructuring and withdrawing from Deron, the government extended a helping hand. Company contributed to earthquake relief
9. Chengdu Culture and Tourism Development Corporation Limited	Began in the cultural field	Attract professionals from various fields using a modern open platform	Outsourcing market expansion: embrace the "massive innovation" industrial chain of a large number of products,	Obtained necessary support in the medium term
10. QuanU Furniture	Started as a small factory, encountered credit issues early on	Modern technology/company	Direct sales to consumers, expanded into office supplies	Received tremendous support
11. Sichuan Shuijingfang Co., Ltd.	Football club naming rights	Using unique historical heritage to form a brand that cannot be easily copied	Transformed from a maker of low-price *baiju* to a substitute fro high-priced imports Exporter joined with Diageo	Received local government support
12. Chengdu SME Credit Guarantee Co., Ltd.	Non-profit joint venture between Hong Kong, Macau, and Taiwanese companies and SOEs. Later private capital injected by Standard Chartered	Market-oriented operations, persisting in constant innovation	Advanced postal technology University student loans	Recipient of major support through local government's unified SME financing mechanism
13. Sichuan Comfort International Travel Service	China business segment	Daring to break the routine	Introducing modern management concepts	Government has provided preferential policies

(continued)

Table 4.1 (continued)

Company	Founder experience and success story	Company founding background	Company growth and development process	Support received and contribution made
14. Intel Products (Chengdu) Co.	Foreign company Chose Chengdu over Shanghai, Shenzhen, Suzhou, and Xi'an	University talent, transportation, strategic position	Own corporate culture Mutual assistance and cooperation between companies	Government supports and provides preferential policies
15. DTZ Real Estate Consulting (Chengdu) Co., Ltd.	Merger between Hong Kong and Singaporean companies	One of 18 branches in Mainland China	Integrated, end-to-end service	Government policy support

Table 4.2 The demand of company development and the supply of the urban environment

Company demands City supplies	Factor supply	Market supply	Hardware environment	Software environment	Macro environment
Local factors	Local talent, technology, capital				
Local demand		Local market			
External connections	External talent, capital, technology	External market			
Infrastructure			Local infrastructure and outward-facing infrastructure		
Institutional culture				National institutional culture and local institutional culture, strategy	
Local macro environment					Local economy, society, technology, ecology
Global macro environment					External economy, technology, society, ecology

the quality of the labor force. These analyses require a large volume of specific data as a foundation. Taking into account the comprehensive strength factors in a city's development, the urban competitiveness model (Ni 2012) is used herein as the basic model for data collection and filtering. The specifics are shown in Table 4.2.

4.2 Company Development Stories and Related Analysis

4.2.1 Shiling Poultry Cooperative

4.2.1.1 Company Background

Shiling Poultry Cooperative is a private company in the wholesale and retail business. Located in Longquan District on Shiling Street, it currently has 340 members. It has 1.2 million chickens and annual egg production of 22 million kilograms of eggs. It has total output of 100 million yuan and fixed assets of 700,000 yuan. The company's founder responded to the survey. After completing the questionnaire, as the company's most authoritative spokesman for the company's history, he provided us with detailed information on the creating and development phases of Shiling Poultry Cooperative. We also partially adopted explanatory information about Shiling Poultry from authoritative government websites.

4.2.1.2 Company Founding and Development

The company was founded in May 2003. Based on market opportunities in retail and wholesale, Shiling Poultry was jointly invested by natural persons and operated in egg sales services. The number of members of the cooperative grew from 50 at founding to 340 in 2011, and the number of egg chickens grew from 400,000 to 1.2 million. Annual egg production grew from 8 million tons to 22 million tons, and total output exceeds 200 million yuan. A year after its founding, the size of Shiling's labor force had increased by 20–50 %, as had business volume. The proportion of employees with high school and university degrees increased 20–30 %. Compared to the first fiscal year, the company's revenue at least tripled, and equity increased by 200 % or more. Currently, the company has established 2931 sales network points distributed across Chengdu's major supermarkets and farmers markets. It has a market share exceeding 35 % in Chengdu. The cooperative sells more than 3 million kilograms of pollution-free eggs annually. The cooperative uses an interesting-linking mechanism of "cooperative + farmers + market." It has established thirteen standardized demonstration breeding bases and implements production model of unified chicks, unified feeding techniques, unified disease prevention, unified branding, and unified sales. Its main product, "Stone of Hope" brand eggs, continues to obtain pollution-free agricultural product and green food certification from the Ministry of Agriculture. Meanwhile, the cooperative has used

its own technical capabilities to develop products with high technical content like free-range eggs, baby eggs, and nutritional eggs, further expanding the market space. The cooperative has been designated as a "Sichuan Demonstration Professional Cooperative Organization," a "Chengdu Hundred Strong Professional Cooperative Organization," a "Chengdu Agricultural Industrialized Operations Key Leading Enterprise," and so on.

Shiling Poultry's development has been comprehensive. While rapidly developing economies of scale, it pioneered a new model in the industry in Chengdu: others in the industry were corporate operations, while Shiling Poultry was a farmer cooperative. The purpose of the establishment of a cooperative is to provide safe, worry-free products to society while using industrialized thinking to market agricultural products and increase farmer incomes. Therefore, in addition to obtaining success in the economy, Shiling Poultry's contributions to the development of the labor structure cannot be overlooked. These efforts include: (1) training members, not only skills training, but also trading the cooperative consciousness of members. The cooperative also strengthens brand awareness among members, making it possible for members to continuously increase revenues. (2) teaching members how to conduct professionalized production, teaching them how to make organic products and green products, and obtaining the pollution-free certification to increase product quality. (3) guiding members in brand building. (4) allowing members to benefit in the course of operations of the cooperative. Currently, the comprehensive quality of company employees is higher than mid-level. The city's Agricultural Development Board organized staff training. The good development momentum and working environment attracted employees to Chengdu. In the development process, Shiling Poultry formed its own corporate culture: teamwork, abiding by professional ethics, people-oriented, customer first, and service to the community.

At this stage, the company's core skills are in manufacturing operations, product quality, brand management and customer relations, marketing, and staff training. Shiling Poultry does not have product technology reserves. Its key technologies come from cooperative development with institutions and universities. Currently, its products are mature, it is highly competitive, and its market share has been stable for nearly three years. The interviewee explained that Shiling Poultry focused on its existing business in its development process, improved management and solidified its foundation and then expanded when opportunities arose. Specific strategies and plans are formulated by all departments and employees, and the company is fully able to complete strategic goals. In the long-term, the company is confident in expanding output value to 500–600 million yuan.

4.2.1.3 Findings and Analysis

- New works and the Company's Overall Development

Early in the company's founding, the company entered a new sector with its product, but at this stage, it has not developed into other areas. In its development

process, Shiling Poultry focused on its main business and made in-depth development of its diversity. This example is a test and verification of the relationship between new works and economic growth. It shows that when it was founded, the company brought labor market refinement to the city, with rich diversity. Then, in the development process, they focused on projects that they had already established and worked on them professionally and meticulously rather than spending energy to become involved in new technical fields. Therefore, when analyzing the data, dividing companies based on whether they have opened two or more new areas of business is worth deliberating over. This example shows that a new field entered in the founding period is closely related to subsequent economic growth. Moreover, developing stably in sector that a company has pioneered is a factor in company success. So, developing new works (working in new fields of work) and stabilizing already-developed jobs are of equal importance to economic development.

- The impact of industry category on the relationship between new works and assets growth

In the quantitative analysis of the previous chapter, we discovered that industry category is an intermediary factor interfering with new works and a company's total assets growth, and new business companies are relatively few in the agriculture and food products industry. Combining these findings to think about the Shiling Poultry case, there are several aspects worthy of reflection: (1) the definition of new works must take differences between industries into consideration. These differences may lead to ambiguous understandings of the same concept in different industries. For example, in Shiling Poultry's main work sector, does generating different product orientations and management methods so that farmers change their own work methods and ideas count as new works? Because much of agriculture and aquaculture is based on traditional new industries, it is difficult to come to an accurate results without a clear definition. (2) Continuous innovation in the agriculture and food industry is clear. This can be seen in Shiling Poultry's origination of a new model, its continuous management adjustments, and variety of product sectors. This is inconsistent with the quantitative analysis. Thus, we must careful analyze the distinctive individual phenomena in the overall phenomenon. We cannot handle them the same or take a part for the whole.

- Agglomeration and Localization

The company has had extensive cooperation with other companies in the course of its development, which reflects the agglomeration effect of companies in the city. Shiling Poultry adjusted to the market in seeking development and discovered a "supermarket + cooperative + farmers" business model. The company pioneered a product market sales chain, formally signing purchase and sales contracts with supermarkets like Chengdu Hongqi Chain, Sichuan Huhui, Trust-Mart, Ito Yokado, Carrefour, and Auchan. The company successfully entered into neighboring markets including Luzhou and Yibin and gradually covered markets outside the province, including Chongqing and Guizhou, erecting a bridge between farmers and the market.

From this information we can see that Shiling Poultry has an influence on areas neighboring Chengdu. Through the company's development of external markets, cooperative behavior between companies generated a foundation for urban agglomeration. As a company built of farmers, driving farmers to make a contribution to urban agglomeration is Shiling Poultry's contribution to exploring rural employment and development. At the same time, Shiling Poultry's permeation into the local market is of deep significance to localizing in the city. Its sales accounted for about two-thirds of Chengdu egg brands. At its founding, the first workers came from Chengdu locally, and the company procured raw materials locally (its main suppliers include Jiang Chengfeng Farming and Zeng Guishou Farming). As can be seen, the cooperation between the company and local retailers has strengthened the cohesion of the city itself, and local market consumption has enhanced the city's sustainable self-tuning and self-recovery capabilities.

- Interaction Between the Company and Urban Development

Taking into account the interaction between the company and the city, Shiling Poultry's experience demonstrates the government's full-range support of the company from its founding through its development process. First was strong capital support, which helped the company to build its production base. Starting in 2003, the government also gave the company strong support in its sales and marketing process. The company also enjoyed tax relief policies. Therefore, we can say that government support was a guarantee of Shiling Poultry's development. The data show that the frequency of contact between the company and the government has increased significantly over the past five years. The date show that last year, the time between interactions between company leaders and the government was ten days or longer. From another perspective, the acceleration role of the company's development in the development of the city is also significant (for example, asset growth and employment). In future development, Shiling Poultry's funds are suitable for expansion. The company's macro environment is something it must consider in the development process (for example, economic growth, labor wages, protection of intellectual property, and government policies).

4.2.1.4 Case Summary

Through the above analysis we can see that there are four points worth noting: (1) The Shiling Poultry case shows that the local feature of Chengdu's agriculture/aquaculture (referred to as agricultural and food industry in the quantitative analysis) is significant. The employment problems and market opportunities of the local rural population were the premise of its founding. So when studying urban development, the characteristics of a city itself cannot be ignored. We need to understand the its geographical characteristics, industry characteristics, economic development situation, population structure, and employment situation. (2) Solving the employment problems of the rural population is an exploration with extensive

significance. Shiling Poultry's new model of farmers as the basic unit of the company provided a unique exploratory experience for how urban development can spur rural development. And the city's periphery effect has thus become more prominent. This case once again confirms the basic theory that the behavior of companies drives the diversification of the urban division of labor. (3) Obviously, this case does not involve the city's international connectivity. In the not too distant future, after Shiling Poultry's planned deep food processing becomes a reality, perhaps we can look back and review this case. At present, Shiling's agglomeration effect for Chengdu and the localization of urban development are embodied in its partners across multiple cities and its local market share. (4) Shiling Poultry's driving effect for urban development is comprehensive. This overall development encompassing the economic and diversification aspects requires understanding the details of the company's operations before catching a glimpse of a clue. The customary habit of viewing agriculture and related industries as traditional industries lacking innovation cannot be applied to this case.

Shiling Poultry's successful development in Chengdu is inseparable from the area's unique local advantages. Because a large number of farmers needed to be guided to employment, the labor force problems many companies face in their early stages do not exist here. In the development process, with innovation in its business model and continuous exploration in management, Shiling Poultry gradually obtained a management advantage. We can say that this case embodies the dynamic changes in the development process relating to the company's own advantages and the advantages of the environment. In addition, there are deeper reasons for the smooth development of this company.

First, the development of an individual company cannot be separated from the overall development of the industry in a large scope. Worldwide, egg breeding and consumption have made great progress over the last decade, while the worldwide egg market structure has undergone enormous changes. Studies (Qin et al. 2012) have shown that the main producers of eggs were once developed countries, but this has shifted to developing countries. In the early 1980s, the US was the world's largest egg producer with average annual output of 4.08 million tons, 14.8 % of total world output. The Soviet Union was second, then China and Japan. After 1985, China's egg production leapt to first in the world in 2010, China produced 23.83 million tons of eggs, 37.5 % of the world total. In contrast, the US and Japan produced only 12.5 % of the world total by 2010. Domestically, in the past ten years, egg prices have growth steadily overall. Due to changes to the structure of globalization, the market for the egg industry shifted from developed countries to developing countries. In this process of change, China's egg industry leapt to become the world's largest producer. This is inseparable from China's economic development and increases to its own spending power.

In addition, as the development of the economy of a major power spurs industry development and company development, related policy also plays a guiding role. In a review of the relevant literature (Deng 2012) found that "CCP State Council Opinions on Policies to Further Strengthen Rural Work to Enhance Comprehensive

Agricultural Production Capabilities" stated: "(China should) develop agricultural industrialization. It should continue to enlarge support for leading companies in agricultural industrialization of various ownership structures and with various operating models … structural adjustment should be accelerated for township enterprises. Technology should be advanced and systems innovated. China should actively participate in industrial management." In 2006, Central Document No. 1 "CCP State Council Opinions on Promoting the Construction of a New Socialist Countryside" had this to say about industrial management: "China should develop industrial management of agriculture. It should cultivate a number of highly competitive, driving, key enterprises and enterprise cluster demonstration bases … all levels of government should strengthen support of agricultural industrialization development funds and support the development of key enterprises …." It is not difficult to see that support Shiling Poultry, from planning to funding and the market, had relevant policies as a development prerequisite. The success of the cooperative relies on "market guidance, government support, corporate operations, technology as a guarantee, brand as a support, as well as a rational allocation mechanism" (Wang 2011).

In summary, this case study reflects the following key aspects: (1) The company used local advantages and cultivated its own unique advantages in its development in Chengdu. Its open and inclusive ideology encourages innovation, which is a prerequisite for Chengdu to move out into the world. (2) The local government, under the guidance of macro policy, supports the development of local companies. Increasing capacity for consumption brought by the development of the national economy is a development prerequisite for a production company like Shiling Poultry. (3) China's domestic development is impacted by the global division of labor. This is reflected on an industry scale in adjustments brought on by changes to the global economy and market institutions.

4.2.2 Sichuan First Automotive Work (FAW) Toyota

4.2.2.1 Company Background

Sichuan FAW Toyota is located in Chengdu Economic and Technological Development Zone. It has registered capital of US$ 349.18 million and investment of US$ 1.04 trillion. The company began production in December 2000 on 455,400 m^2 of land. It currently produces 30,000 vehicles annually. To better understand Sichuan FAW Toyota, after completing the questionnaire, researchers went to interview Toyota management. The person interviewed was an employee at the founding of the company and responsible for technical management work. In addition, the company's experiences and major incidents were recorded in detail in internal company documents, which were used as an important source of information for this study.

4.2.2.2 Company Founding and Development

Sichuan FAW Toyota, located in Sichuan Chengdu Economic and Technological Development Zone, is a Sino-Japanese joint venture. Since its founding, the company has specialized in the production of automobiles. The domestic investor is China FAW. The Japanese investors are Toyota Motor Corporation and Toyota Tsusho Corporation. When it was founded in November 1998, the Chinese and Japanese side each held 50 % of the company. The data show that in the early days, total investment was US$ 99.09 million, and registered capital was US$ 67 million. In 2008, registered capital increased to US$ 330 million. Company management is composed of Chinese and Japanese. The chairman is Chinese, the president is Japanese, and the vice president is Chinese. The company is comprised of five departments, of which the heads of three are Japanese and two Chinese. For the sound development of the company, the two sides coordinate closely on production management.

Sichuan FAW Toyota's development can be described from its economic achievements and diversified development. In terms of the company's economic development, output increased from some 2100 vehicles per year at its founding to 20,800 at the end of 2010. Total revenue has grown 15 times over that of the first fiscal year, and the company currently has annual sales revenue of 9 billion yuan and profit of approximately 1 billion yuan. In addition, while achieving economic success, Sichuan FAW Toyota has also contributed to creating new works, increasing employment, and training personnel. The company's good development momentum and career opportunities have attracted a large amount of talent, and the workforce has grown from 650 employees at founding to more than 2150. The overall quality of company workers has increased somewhat, with the proportion of university graduates rising from 20 to 30 %. Employees range from 20 to 50 years old, and the personnel structure overall is diverse.

The company has a clear strategy for future development, which is formulated at the senior management annual general meeting and mid-level-management annual general meeting. The company's main competitive strength is in high-tech, irreplaceable products, and brand loyalty. The interviewee said that Sichuan FAW Toyotas products are in a mature stage, the company is highly competitive, and market share has been stable for the past three years.

Based on the research findings, the interaction between economic growth and the relevant factors in the company's development process are analyzed below.

4.2.2.3 Findings and Analysis

- The relationship between company category and economic growth: the advantage of the joint-venture model

In analyzing the development of Sichuan FAW Toyota, what we first see is the leap in the company's size and strength. In the interview, we learned that Sichuan

Travel Vehicle Manufacturing, the predecessor to the Chinese investor FAW Group, was state-owned. Its factory was located on Jiefang Road. At that time, it mainly independently manufactured and sold Xihua mid-sized buses. In order to seek better development, beginning in 2002, Sichuan Travel Vehicle Manufacturing entered Chengdu FAW Group becoming the first full-vehicle joint-venture company. In 2005, Chengdu FAW transferred its stake to FAW Group, which still holds it. In order to orient its technology toward the market and expand its market share and achieve related diversification through its main business as the core, China FAW Group established Sichuan FAW Toyota as a joint venture with the Japanese side. Throughout the development of FAW, the company benefited from its Sino-foreign joint-venture model in its overall development of technology, management, and market.

In the previous quantitative analysis, the low frequency of past data limited a clear understanding of the relationship between a company's ownership structure and its economic growth, so we do not know if FAW Toyota's development model is of universal significance. But the advantages in outside technologies, capital, and management brought by the joint venture are clear. First, its product technologies mainly relied on outsourcing, while a world-leading technical level was provided by the parent company. The company formally went into production in 2001, producing Coaster medium-sized passenger car, and began producing SUVs in 2003. The products have advantages—power and comfort—and hold monopoly positions in market segments. Second, the company's main financing channels are additional investment from investors and allocations from headquarters. Financial advantage provided a premise for the introduction of new technologies and jobs. Sichuan FAW's advantages are embodied in its comprehensive strength. Its development has brought a full range, continuing, positive influence on the city.

- The effect of new works on economic growth is lagging and cannot be explicitly quantified

FAW Toyota seized market opportunities with its founding, filling gaps in the market for similar products. Filling this gap undoubtedly brought new opportunities to the labor market. In searching for Toyota's economic development situation after creating new works, we can analyze the complex relationship between the two. In the early development of the company, its economic growth was slow. The company's turnover increased less than 20 % after a year, while the size of the labor force grew over 50 %. In the course of development, the growth rate of the company's number of employees was more than 200 %, while economic growth also reached impressive levels. Thus, we can see that in the founding stage of this company, the introduction of new works did not spur rapid economic development. Obviously the latter was in its infancy. In the later stage, the company achieved rapid economic growth, and the labor force also expanded rapidly. However, in this stage, the "new works" defined in the previous stage were no longer new works. From this we can see that the relationship between jobs and economic development is related to the development stage and lags. Looking generally at data from one

stage is meaningless. In the study, defining new works must take into consideration industry factors and time factors. Given this, in this case, the relationship between the two is positively correlated in the long term. If we look only at data from the initial stage, the results of the analysis will be misleading.

- Industry monopoly advantage drove company's rapid development

FAW Toyota's new technologies and new products demonstrate that special industry demands and the company's own monopoly advantage played a decisive role in its rapid development. But in the quantitative analysis, industry category and monopoly advantage do not signify higher asset growth for joint-venture companies. This reflects the individual differences between Chengdu companies in the development process.

- Findings and analysis: agglomeration and linkage

Sichuan FAW Toyota's major suppliers include Toyota, Denso, Ji-er Machine-Tool Group, and others. Its main market customers include government agencies, tourism development zones, hotels, corporate business reception, etc. This effect of bringing two companies from different cities together through the two channels of procurement and sales is something that companies facing the national market generally possess. In addition, as a joint-venture company, the linkage effect triggered by the company's behavior is obvious. However, this case did not collect specific data in the survey. This was not clarified in the data gathering process. But from the perspective of company behavior, Sino-Japanese cooperative management, Japanese technical support, Japanese procurement of components, etc., all provide support for the city's linkage. Sichuan FAW's supply channels include domestic and foreign merchants, and the diversified development of its products attract customers from different places. This case is further testimony to the global city theory in which corporate behavior brings agglomeration and linkage.

- Interaction between company and urban development

In this case, the city's influence on the company's development is comprehensive, while the company's contribution to the sustainable development of the city is first of all reflected in economic growth and labor market segmentation, which is of major significance.

The data collected in this survey mainly show the influence of Chengdu on Sichuan FAW Toyota, that is, the impact of the macro environment on the company, in three aspects: (1) Market demand brought by overall economic growth: in the interview, the company employee said that the rapid development of market demand was a key to Sichuan FAW Toyota's success. (2) The impact of geography: in choosing Chengdu, logistics was a great disadvantage. The company initially used rail transport but cut transportation costs by 30 % by choosing river transport. (3) Government support: the company received vigorous support from the local government in its founding and development process. During its founding, Sichuan FAW Toyota enjoyed tax incentives from the Chengdu and district

government for attracting outside investment. Currently, it received substantive public and government support in its successful expansion. For example, in use of land and concessions on its production location. We can thus say that government support has been of great significance to Sichuan FAW Toyota's development. The company and the government maintain a relatively high frequency of exchange (survey data shows that contact happens once every three days or more often).

The company's impact on the city is first of all reflected in cultural integration. The employees participating in the survey said that they had a deep sense of culture shock at work, but gradually learned many things in the process of working together with Toyota, especially in terms of management, for example, being detailed and rigorous and documenting everything. From this we can see that cultural integration is something received from the company's joint-venture model, which in turn spurred the development of the company. In addition, based on its own economic development, Sichuan FAW Toyota will seek more investment in Chengdu. Materials show that the company has sufficient funds and will invest in financial products. When assessing investment opportunities, the company will consider the market growth situation, the company's core competitive strengths, and the profit outlooks of investments. The development of FAW Toyota and Chengdu's overall development restrict each other and spur each other. Its comprehensive driving role in urban development can be reflected in: enhancing corporate management, enlivening the capital market, and spurring cultural integration.

4.2.2.4 Case Summary

Diversified division of the labor market is a foundation of the long-term development of a city and a dominant factor driving rapid urban development. This case makes a specific explanation of the influence of joint-venture companies, a particular type of company, on this aspect. Sichuan FAW Toyota's development process reflects the impact of joint-venture companies in the heavy industry sector on Chengdu's comprehensive development. In the heavy industry sector, there are still many things we must learn from technologically advanced countries including Japan. New technologies introduced by joint-venture companies provide an opportunity for the establishment of new works. This opportunity not only deepens the diversification of the labor market, but also enhances the overall quality of technical staff. Consistent with this finding in this case, "China Automotive Technology Talent Development Report" (Society of Automotive Engineers of China et al. 2012) found through a survey of the technical workers of automotive companies of various ownership types from 2001 to 2010, that R&D at joint-venture companies in China has improved from product adaptation and shifted toward product development, engineering and technology research, and forward-looking technology. The report noted that this is conducive to enhancing the overall quality of the technical personnel of China's automotive industry. Combining the findings of this case and the Society of Automotive Engineers of

China study, we can easily conclude the differences in the roles of different sectors of companies in driving overall urban development. Chengdu's open, inclusive, diverse culture provides joint-venture companies soil that is conducive to innovation in local growth and provides a premise and a foundation for Chengdu's movement into the world.

We can see from this Sino-Japanese partnership case the transfer by multinationals of processing and manufacturing to developing countries, which has provided developing countries with new opportunities. In his study of globalization, Cong (2012) pointed out in their globalization, multinational companies focus on their comparative advantage in an actual range of talent, technological strength, and research infrastructure to find the best location to deploy R&D. It is in this context that Chengdu with its unique natural and cultural environment and economy attracts foreign companies.

Overall, Sichuan FAW Toyota's case demonstrates that the relationship between the degree of growth and the related factors in a company's development process cannot be explicitly defined in a given stage. Moreover, the specific situation of a company is not of universal significance. The talent, technology, and cultural development that this case found joint-companies to bring to the city is of universal significance and has been validated in other quantitative analyses. Thinking deeply about Sichuan FAW Toyota's story, we find that it is the rise of the Chinese economy that has attracted multinational companies, and natural and cultural characteristics of cities themselves provide regional advantage. After these advantages provide a premise for the founding of a joint-venture company, the talent, management, and economic development that the company brings spurs the growth of the city. This is the company advantage and city advantage formed in the development process.

4.2.3 Chengdu Investment Holding Group Co., Ltd

4.2.3.1 Company Background

Chengdu Investment Holding, located on the northern segment of Chengdu's Tianfu Avenue, is a state-owned financial company. As of the end of 2011, the company had registered capital of 5 billion yuan, total book assets of 14.6 billion yuan, and actual controlled assets of nearly 400 billion yuan. The company founder is Wu Zhongyun, who originally worked for the government, which later ordered him to build Chengdu investment Holding Group. High-level company management participated in the survey and had a good understanding of the company's situation. The information used in the analysis in this case is comprised of interviews, the questionnaire, and company materials.

4.2.3.2 Company Founding and Development

Chengdu Investment Holding Group was formally established on October 31, 2008 as a large-state-owned enterprise under the municipal government with business covering banking, securities, insurance, financing guarantees, leasing, micro loans, pawning, venture investment, industrial investment funds, equity markets, financial real estate, government operating assets, and financial asset management. It had taken the first step toward becoming a financial holding company. The group has nine departments, the board office, strategic development department, industrial fund management department, administrative management department, human resources department, financial center, risk control department, asset management department and tender management office. The holding group has 232 people, of which 54 are at the group level. At Chengdu Holdings, economic strength and labor force expansion are complementary. The company's first employees came from Chengdu. A year after its founding, the company's work force grew by 20–50 %. In the development stage, from a year after the company's founding to date, the labor force grew by 100–200 %, and the proportion of workers with high school or university educations increased to 50 % or higher. What attracts employees is the company's good business momentum, benefits and work environment, expanded career opportunities, and the personality of leadership. Chengdu Investment Holdings has a corporate culture of teamwork, putting talents to full use, and innovation. The company has a clear three to five year strategy and plan for future development. Interviewees said that the company strategy is extremely rational, progress is smooth, and strategic objectives can be completed in part. The company's development focuses on existing business fields and being professional and detailed in those fields. Data show that Chengdu Investment Holdings Group's products are in the growth stage of the life cycle, product competitiveness is strong, and the company's market share has been expanding in the past three years.

In terms of the findings in the Chengdu Investment Holding Group Company case study, the form of ownership in this case has a clear impact on the company's development. As a large, state-owned company managing Chengdu's operating assets, investing in the local financial industry, and using innovative financial products for financing, the investment holding group's positioning is: "the work thinking of. … 'adhering to state guidance and market operation, accelerating deployment, giving prominence to key points' … giving full play to the guiding role of state-owned capital, optimizing the allocation of financial resources in Chengdu… supporting the accelerated implementation of Chengdu's 'Five Strategies,' enhancing the international influence of western finance, and providing strong financial support."

According to the company characteristics and development situation, Chengdu Investment Holdings we analyze Chengdu investment holdings in terms of the key factors related to the company and economic growth, as well as the impact of the company on Chengdu's development.

4.2.3.3 Findings and Analysis

- Industry category, ownership, and new works

The results of the quantitative analysis suggest that the high-tech industry has more companies persistently creating new works. In this classification, the finance industry falls under high-tech industry, and Chengdu Investment Holdings largely supports this conclusion. Chengdu Investment Holdings was the first company to develop such business. The company's core skills are: R&D, investment, and financing. In the founding stage, the company had two products and services entering into new sectors. At this stage, four or more are entering new fields. The company's stated reason for entering new fields of business is that it could further demonstrate its industry characteristics. These reasons include three points in the data: (1) The industries in which the new fields of business were in were growing rapidly and would have ample profits in the future. (2) The new fields of business were upstream and downstream extensions of the main business. (3) Related diversification was carried out with the main business at the core. Further analyzing the methods of which these companies develop new businesses, the irreplaceable nature of the financial industry to other industries can be seen. The methods by which new fields of business include: (1) Independently establishing branches or subsidiaries. (2) Acquire or merge with a company with development prospects in the field. (3) Form a joint-venture company with another company. (4) Invest in a controlling or minority stake in a company with development prospects in that field.

But it is worth mentioning that the quantitative analysis of the results of the survey shows that ownership structure is related to the degree of development of new works. State-owned companies have a higher degree of new work creating than other companies. Thus, the distinct advantages of a company's industry and its ownership structure are fully reflected in this case. The study findings give us a lesson: the state-owned high-tech industry to a large extent will bring a high degree of innovation by companies in new fields.

- Advantages and disadvantages of ownership structure

Consistent with the results of the quantitative analysis, as a state-owned enterprise, Chengdu Investment Holding received strong government support. The company was 100 % state funded at its founding. The data show that support included land use and production premise licensing. However, the state-owned form brings both advantages and disadvantages. Respondents stated that Chengdu Investment Holding has an extensive field of business, with controlling stakes in city commercial banks and investments in other urban infrastructure. The company is currently seeking new channels to expand its field of business, but it is encountering institutional and systemic constraints. These constraints are not covered in this study, but the advantages and disadvantages of the state-owned form of ownership are evident.

- Agglomeration and localization: significant achievements of a state-owned enterprise in the local market

State-owned enterprises devote themselves more to the local market than companies of other forms of ownership, which is revealed clearly in the Chengdu Investment Holding case. Today, the group is the largest shareholder or a minority shareholder in numerous local Chengdu companies. It is the largest shareholder in Bank of Chengdu, Chengdu Financial City Investment Development, Jinqin Property Insurance, Chengdu Jinkong Microfinance, Chengdu Jinkong Finance Leasing, Chengdu Trust Center, Chengdu Tianfutong Financial Services, Chengdu Medical Health Network Management, Chengdu Jinkong Investment Management, and Chengdu Financial Assets Exchange. It has eight wholly owned subsidiaries: Chengdu Jinkong Financial Guarantee, Chengdu Jinkong Financial Services, Chengdu Jinkong Tourism Development Equity Investment Fund, Chengdu Jinkong Financial Development Equity Investment Fund, and Chengdu Equity Investment Services Center. It is the second largest shareholder of Chengdu Rural Commercial Bank, Xinan United Property Exchange, and Wanhe Securities Brokerage. It has minority stakes in Chengdu Yinke Venture Capital, Chengdu Innovation Venture Capital, Chengdu Small and Medium Enterprise Credit Guarantee, and Chengdu Cultural Tourism Longmenshan Tourism Investment Company. As urban development theory holds, the rapid development of large cities mainly comes from companies satisfying local market demand. The data shows the driving role that Chengdu Investment Holding plays in the development of Chengdu.

4.2.3.4 Case Summary

Through the case study of Chengdu Investment Holding, we can further understand on the foundation of the quantitative analysis in the previous chapter the positive correlation between company ownership type and industry characteristics and the development of new fields. This role spurs company investment in new works and drives the further refining of the division of labor. This is the contribution of companies to sustainable urban development. In addition, State-owned companies play an notably active role in prospering of the local market. Chengdu Investment Holding's controlling and minority stakes in other companies is a reflection of the city's agglomeration strength. Because this agglomeration force is mostly devoted to the local market, this corporate behavior's driving role for Chengdu's development is particularly significant.

To make a comprehensive analysis of Chengdu Investment Holding's overall development and the factors driving it, we must first discuss the national rise as a prerequisite for Chengdu's development. From the 1990s to now, venture capital in China has begun to take shape and has played an increasingly ambitious role in the development of the national economy (Han 2009). With the rapid development of the national economy and the gradual improvement of policies related to venture capital investment, China's venture capital industry has had the soil for rapid growth. Needless to say, it is the economic rise of a power that has spurred the development of companies in this industry.

Under comprehensive development at the national level, local government policy is a deciding factor in taking a state-owned enterprise from business plan to a successful entity. The Chengdu Investment Holding was established on the spirit of the document, "Official Reply from the Chengdu People's Government to Opinions in Response to Agreeing to the Establishment of Chengdu Investment Holding Group Co." Its further development was also led by the relevant local government policies. At the Ninth Plenary Session of the Eleventh Chengdu Municipal Government, a speech proposed the Five Big Strategies: the transport first strategy, industry doubling strategy, establish city excellent city strategy, three rings one body strategy, and entire journey opening strategy. As Chengdu Investment Holding states in its own introduction, the company's development drives Chengdu's financial industry, thus accelerating the implementation of Chengdu's Five Big Strategies. This is the company's self-positioning based on local policy.

This case shows that state-owned enterprise have both notable development characteristics of their ownership structure as well as their own individual characteristics based on the overall development of the industry. This case on the surface seems unrelated to the global nature of a city. But deeper analysis shows that the development of an individual city is inseparable from the rise of the nation. Behind a company's own advances by leaps and bounds is the new division of labor in globalized industry and the overall trend in a wide range. Chengdu Investment Holding has added fuel to the flames of Chengdu's successful development through its contributions to the comprehensive development of Chengdu's financial industry.

4.2.4 Agilent Chengdu Branch

4.2.4.1 Company Background

At its founding, Agilent Technologies, Inc. was a joint venture. The original company name was Agilent Qianfeng Technologies (Chengdu) Co., Ltd. The company in 2008 changed from a Sino-foreign joint-venture company to an independently invested foreign enterprise and was renamed to Agilent Technologies (Chengdu) Co., Ltd. The company's main businesses include electronic measurement, chemical analysis, and life sciences, and it is a global leader in those fields. The respondent has worked at the company for approximately 25 years and is responsible for manufacturing and quality management. He understands the company situation and is the ideal interviewee.

4.2.4.2 Company Founding and Development

New market opportunities were the motivation for the founding of Agilent. The parent company and a Chinese company both put up funds to found the company,

whose initial products were electronic measuring instruments. At the time, it was the first company founded in this field in Chengdu. The data show that Agilent's workers at its founding came mostly from Chengdu. Since its founding, the company's main business market share growth has averaged about 10 % per year. The company currently employees 170 people.

Agilent focused on technology R&D during its development, continuing to launch successful new products on this foundation. This undoubtedly led to talent market diversification. Agilent consolidated human resources from China to achieve its R&D needs, and in two years, it successfully researched and developed many products, represented by the "Handheld RF Spectrum Analyzer N9340A," and used its sales channels to sell to 80 countries, including Japan and the US. In 2010, after its Chengdu base went into use, the company added 100 employees, bringing the total to 300. At the end of November 2012, Agilent formally started its Open Lab measurement solutions center located at its Chengdu branch. Open Lab will provide companies, research institutes, and others a shared research, development, and testing platform. Research and development of new technologies have promoted the company's core skills, for example, production and operations management, product quality, continuous research and development of new products, brand operations, and customer relations. The company's main products are in their growth stages and have reached a similar level to international competitors.

At present, the company is in the industry's rapid growth phase, and over the next three years it will focus on being professional and proficient in its existing core business areas. It will improve management and solidify its foundation, then expand opportunistically. The main risks to future development are market risks and risks in the international economic environment. The company's future strategy is set out in a specialized strategic plan formulated by functional departments and jointly developed by high-level management at the annual meeting.

4.2.4.3 Findings and Analysis

- The Relationship between New Markets and Growth

Agilent's story can explain the connection between new works and company development in the quantitative analysis in terms of seeking markets and its impact on company growth. To analyze this phenomenon, we need to understand the reason Agilent sought the China market at that time. Agilent Technologies, Inc. is mainly engaged in high-end business in the international market, but due to its high technical content, it is also in the upstream of the industrial chain. The US prohibits the sale of high-end products to China, so the goal of Agilent's investment in China was to circumvent this barrier and occupy a portion of the world's fastest-growing market. Because US auditing of companies investing in China and transferring technology is extremely strict, the Chinese market for electronic products in terms of research and development is mainly in middle and low-end products, so Agilent developed middle and low-end testing equipment for the Chinese market and used

relatively inexpensive Chinese labor to lower costs and sell to the global market.[1] This internal company positioning shows that Agilent was not seeking to develop new products in seeking this new market. But the company's success cannot be separated from the research and development and innovation in its development process. Thus, a simple judgment of the relationship between new works and market opportunities cannot be made.

- R&D Based on Local Talent

Although the quantitative analysis shows that more college graduates do not necessarily bring high economic growth, nor is there an absolute relationship with new works, the study of Agilent does not conform to these results. Agilent's R&D is based on the local supply of talent. Chengdu is the southwest region's main manufacturing base for electronics, and has formed the beginnings of a southwestern civil electronic equipment manufacturing agglomeration area. In China's distribution of industry, Chengdu's position was unique after the third-line project in the late 1950s, when Chengdu and its neighboring cities formed an R&D and manufacturing center for China's aviation, aerospace, and radar electronics. Chengdu itself has a strong base in the semiconductor industry. Not only have state investments formed many companies and research institutes storing large amounts of human resources of various levels for the civil electronics industry, but also there are also some higher educational institutions represented by Chengdu Electronic Science and Technology University, which undoubtedly formed market and human capital advantages. The human resources involved here are not clearly university graduates or not, but the locally trained and stockpiled relevant professional talent is undoubtedly closely related to Agilent's R&D and company growth. This finding raises the question, is there a more appropriate standard than "university graduates" to make a more accurate generalization of the quality of a company's workers?

- Interaction between Company Development and Urban Development

Spurring new works through research and development is a major feature of Agilent, so this is a typical case used for understanding how company development drives urban development. In 2005, Agilent Technologies invested to establish an electronics and communications testing and measurement product research, development, manufacturing, and sales base, which became an important level in its "3 + 1" (Beijing, Shanghai, Shenzhen + Chengdu) strategic layout. Symbolized by the 13,774 m^2 Agilent Technologies Chengdu Base in the Chengdu High-tech Zone in 2007, Chengdu became an important Agilent base for product R&D, manufacturing, marketing, technical support, and user training. In addition, government support of the company was reflected in land use and tax relief at the time of founding, as well as the development premise provided by Chengdu's resources. Chengdu's natural conditions, cultural environment, and scientific advantages are

[1]"Agilent Expands Its Investment in Chengdu, Enlarges Construction of Local Platform," Alibaba Electronics, April 9, 2008, http://info.china.alibaba.com/detail/1001823946.html.

an aspect of the active role the city plays for companies. Thus, we can say that Chengdu attracted and supported Agilent's development with its unique characteristics, and Agilent has enhanced Chengdu's economy, human resources, and corporate management.

4.2.4.4 Case Summary

The Agilent case study reminds us from the perspective of social research that when thinking about the relationship between economic growth and new works, we must pay particular attention to the development strategies of multinational corporations. In theory, the diversification brought by new works heralds the rapid development of the urban economy. Verifying this point requires us to understand the characteristics of the city itself and the real needs of multinational companies. This is a recommendation put forward for the following relevant research. This case is an inspiration for us in terms of the industrial division of labor in the global economy, the urban development brought by the rise of a nation, local policy support, and Chengdu's dynamic advantages.

First, in the continuously adjusting globalized industrial division of labor, developing countries attract multinational companies with matching demands through their geographical, cultural, and demographic characteristics. In this process, multinationals find soil for their own growth, while on the other hand spurring comprehensive local development. This is the opportunity for rapid development that economic globalization brings to developing countries. Secondly, without question, national economic development provides a prerequisite for the founding and development of companies. China's economy is growing rapidly, it has a vast area and a massive population. As China's southwestern center city, Chengdu can radiate to the southwest market. Stronger national development strategy, faster economic growth—these are the external conditions favorable to Agilent in this case. Under the guidance of western development policy, Chengdu Hi-tech Zone's infrastructure and management methods have been on the upswing, numerous specialized parks have been established, a variety of public technical service platforms have been established, and urban transportation and communication have improved qualitatively, all of which have led to the rapid development of business. In addition, competition among cities has pushed positive change in the Chengdu government. There are many traditional center cities in central and western China. In the process of receiving the transfer of international industry, only by more proactively carrying out reforms can cities compete to win. Chengdu is actively responding to new needs is increasing the attractiveness of the city by constantly elevating the level of public service. Chengdu's position as a regional center city is another reason for its attractiveness. In international industrial competition, companies often need to carry out resource integration across the various regions of the world in order to obtain stronger market competitiveness. And in order to cut costs, international companies often first choose regional center cities.

Another point to be noted is that although each city has its own characteristics, cities can learn from the experiences of other cities in turning regional advantage into competitive advantage in the development process. To understand this, we first analyze where Chengdu is an advantage to corporate development. Chengdu has a relatively complete educational and scientific research system and a wealth of high-end labor resources, which will greatly reduce the cost for companies carrying out scientific research and developing new fields of business. The educational and scientific research system also provides ample high-end labor, creating the preconditions for companies to obtain human capital. Meanwhile, Chengdu's open, inclusive, and diverse culture is favorable to innovation, mutually reinforcing with the world's urban development. Prices are lower in Chengdu, while it is also one of China's most famous tourist destinations, with many leisure places and numerous and unique food choices. Chengdu historically has always accepted migration, and there is no obvious rejection psychology of outside people or cultures in local culture. It is a typical, livable city. These characteristics of Chengdu are the city's advantages in attracting companies. These advantages have brought the factors necessary for urban development: the agglomeration and linkage effects brought by companies, the flourishing of the local consumer market, and the diversification of the division of labor. As we study Chengdu's successful companies, the comprehensive development of the economy and labor market brought by these companies has become a competitive advantage in Chengdu's march toward becoming an internationalized city.

4.2.5 Huawei Symantec Chengdu Branch

4.2.5.1 Company Background

Huawei Symantec Technologies Co., Ltd. is a joint venture established on March 12, 2008 between China's Huawei Technologies Co., Ltd. and Symantec Corporation of the US. Huawei Symantec is mainly engaged in the research, development, sales, and service of network security and storage products, providing world-leading security and storage solutions to global telecommunications carriers, Internet service providers, and businesses. The interviewee is a member of senior management who has been with the company since its founding.

4.2.5.2 Company Founding and Development

Due to the rapid development of the industry, the two parent companies strategically considered establishing Huawei Symantec. A branch company established away from the companies, the capital for the founding came from the companies or groups. The company's business generally includes two segments. The first segment is providing customers with products; the second is providing customers with

solutions. Specifically, the company's products include: (1) security products, such as secure routing gateways, VPN gateways, and security management software; (2) storage products, such as disk storage systems, network-attached storage systems, application storage systems, cloud storage, etc.; (3) server products, such as Tecal R-series rack servers and Tecal-series blade servers. The company provides customers with solutions of many different types, and can provide solutions for each industry. Currently the company has realized industry-specific solutions in the energy industry, broadcasting industry, media industry, the financial sector, the government sector, and the educational sector.

At founding, employees mainly came from outside Sichuan Province. In the second year, the number of employees increased by more than 200 %. Today, more than 50 % of employees have a three-year college education or better, and the overall quality of company employees is at the mid-level or above in the industry. Symantec's focus on R&D spurred the diverse development of products and talent. Currently, the company's industry is still in the rapid growth phase, and the company's flagship products are intensely competitive. The company's market share in the past three years has still been expanding. At present, the company's competitive advantage compared to major competitors is being in a leading position in the industry. The interviewee indicated that there are multiple main reasons for the company's past success, for example, rapid growth of market demand, national policy support, and assistance from the parent companies or group companies, which made it easier to obtain resources. The relationship between Symantec's economic growth and other related factors, as well as the interaction between the company's development and the city's development are analyzed below.

4.2.5.3 Findings and Analysis

- The Enlightenment of Patent Numbers: A Misreading of New work Numbers

Companies with a strategy of patent use often have persistent, high levels of new works. This is the recommendation of the results of the quantitative analysis. Symantec's patent strategy is relatively clear. The company has invested a large amount of manpower and resources in developing scientific research and applying for patents. At the time of the study, the company had 5092 employees, of which 55 % were engaged in R&D work. In the storage and security field, Huawei Symantec has more than 800 authorized and accepted patents and undertakes the primary standard formulation role at numerous international and domestic secure storage standards organizations. So, how is this reflected in the business development in new fields and the corresponding allocation of labor? Although the quantitative analysis showed that companies with more patents often have more persistent, high-levels of new works, the survey data did not provide us with a definitive basis by which to analyze this. Existing research data show that at the time of the company's founding, one new industry sector was planned. From found to date, one industry sector was involved in the business comprising the company's

operating revenue. Clearly, these data cannot truly reflect to what extent Symantec's R&D of new technologies brought about new works. This reminds us: that patents can bring more new works is a result of the quantitative analysis and displayed in a portion of the data, while showing that another portion of data from a small number of new fields developed was probably ignored. Analyzing the reasons, the number of new fields obtained by the questionnaire referred to IT, a large industry sector, which does not represent the contribution of Symantec to new technologies and the new works they bring. This finding reminds us that we require a clear, uniform definition of new works or new R&D. The conceptual misreading caused by differences in industry will cause results to vary.

- The Relationship Between Patents and Total Assets Growth

Regarding the relationship between patents and total assets growth, we must compare the common findings of the quantitative analysis and the uniqueness of this specific Symantec case. First, we have found in the analysis in the previous chapter, "Although patent use can allow a company to occupy a monopoly position in the market, the advantage cannot be converted into growth in total assets: companies using patents had lower total assets growth." So, what effect has Symantec's large number of patents had on asset growth? The data show that Symantec has achieved rapid growth since its founding, not conforming to the proposed "low asset growth" of the quantitative analysis for a company with numerous patents. This finding reminds us to pay attention to Symantec's other characteristics. As a company in existence for less than five years, we must also pay attention to its industry characteristics and ownership structure.

In the social research results, the number of high-growth joint-venture companies was notably higher than that of other ownership types. This can be used to illustrate the peculiarity of the relationship between patents and asset growth in this Symantec case. Thus we can see that an in-depth case analysis can help us understand the complex relationship between the factors related to asset growth.

- City Support of Company Development

Among the various factors of a city's investment environment, the positive actions of government are an important route to improving the local investment environment in the short-term. In regional center cities in particular, the government's timely and effective industrial development policy measures are notably efficacious. At the company's founding, it was part of the city's project to attract investment and companies, and it enjoyed tax incentives and government funding subsidies. In recent years, the Chengdu government has increased support for companies (particularly new and high-technology companies). In the construction process, the government gave Huawei Symantec a variety of benefits in land and tax policy. In addition, the Chengdu economy and the electronics industry have developed rapidly in recent years, and improvements to the city's infrastructure and market environment have followed. It is worth noting that the company established its headquarters in Chengdu Electronic Science and Technology Park. Chengdu's human resources in science and technology created the conditions for integrating its team and breaking in

management. We can say that government support, local manpower reserves, technology reserves, and a good urban environment complemented each other in this case, providing good conditions for the development of Symantec.

- The Agglomeration and Linkage Effects Brought to the City

The agglomeration and linkage effects brought to the city by the company are significant in this case. The main raw materials for Symantec's products at the time of its founding came from outside of Chengdu, and product and services were positioned globally. Suppliers at the time of founding included Huawei, Seagate, and Samsung. Five main clients or types of clients were: China Mobile, China Telecom, China Industrial and Commercial Bank, overseas telecom carriers. There companies with which Symantec had a business relationship all had national or world influence. In addition, Huawei Symantec's headquarters is located in Chengdu, and the company has R&D centers in Beijing, Shenzhen, Hangzhou, and Chengdu. The company has sales and customer service centers around the world to provide clients and partners with complete and fast service and support on a global scale. Today, the company's products and solutions are used in more than 40 countries, covering more than 1000 important clients in fields as broad-ranging as telecommunications, Internet, finance, education, transportation, water, energy, and public utilities. The agglomeration and linkage effects the company brings to the city are reflected in the interactions among these companies.

4.2.5.4 Case Summary

In analyzing Symantec's development, we must recognize that behind the successful development of companies in the high-tech industry is the rapid development of the global information industry. The development of information technology has allowed the electronic information of companies worldwide to grow in a geometric progression. In addition, the due to the rapid development of communications technology, there has been a sharp increase in network traffic between companies and their markets and social institutions. Equipment replacement and storage security issues are of increasing concern, which attracted Huawei to place more energy into developing this market.

Symantec's story demonstrates the help that Chengdu's good natural environment and its diverse culture give to the development of companies. Chengdu is one of China's famous tourist attractions, it has numerous places of leisure, its food and beverage industry is diverse and unique, and Chengdu has historically accepted migrant groups. There is no local psychology of rejection of outside people or cultures. It is a typical livable city. For Huawei Symantec in attracting talent and changing management, this is of important significance.[2]

[2]See quotes from company Vice President Su Liqing in: "Huawei Symantec: Becoming the First 'Made in Chengdu.'" Chengdu Business Daily electronic version, September 25, 2009.

4.2.6 Maipu Communication Technology Co., Ltd

4.2.6.1 Company Background

Maipu Communication Technology, founded in 1993, is a limited-liability company in the electronic information industry. It is located at 16 Jiuxing Avenue in the Chengdu Hi-tech Zone and had 1125 employees at the time of the survey. Its products are mainly enterprise network infrastructure and intelligent industry applications and services, and its main market is the network equipment needs of large industries and companies. Maipu is locally born and bred in Chengdu. Its founder Hua Xinyuan was a professor at Chengdu University of Electronic Science and Technology, who left after receiving a master's degree in electronic science and technology and founded the Maipu four years later. A company project manager was invited to participate in the study.

4.2.6.2 Company Founding and Development

Maipu is an important network and industry applications solutions provider in the Chinese market. Its products and solutions are mainly used by banks, insurers, the government, telecom carriers, the military, and in the electricity industry. It is the market leader in the network equipment market for the financial industry. The company's employees grew by 20–50 % the year after its founding, and operating revenue grew by 50–100 %. From the year after its founding to date, the company's main raw materials prices have risen by an average of 3–5 % per year. In overall quality, the company's employees are at a middle level in the industry. The company attracts employees with its development trend, benefits and working conditions, and substantial revenues. At the time of its establishment, Maipu was the first company in Chengdu to provide these products and services. The company's industry is currently entering a mature stage, and the company's revenues and profits are relatively stable. The company has a clear new development strategy. New funding for development comes mainly from bank loans and joint-stock reform IPO proceeds. The interviewee said that the company's development path should be: first, improve management, carry out structural adjustment, and extend the industrial chain.

4.2.6.3 Findings and Analysis

- New Technology Spawned from Seeking Market Opportunities

As the results of the quantitative analysis suggested, companies with strategies for seeking market opportunities tend to have a higher degree of new works. For a time, Maipu was unable to obtain faster growth because of it had a single product.

To expand its market, after 2010, it significantly expanded into the global network market. Especially in the era of full-service operation, under the leadership of the company's professional manager CEO, Maipu carried out a series of innovations. After product innovation, research, and development, Maipu achieved rapid development. In the survey, the company gradually formed the core skills of production and operations management, product quality, and continuous new product development capabilities. The technical level of the company's flagship product has reached a leading domestic position for that category, and it can be used as a substitute for imports. These efforts ultimately provided a premise for Maipu's market expansion into more than 40 countries.

- Further Explanation of New works

In the existing analysis, the questions defining new works are:

"The products and services of how many companies developed in new fields of work from the start?"
"The products and services of how many companies are currently developing in new fields of work?"

Maipu's experience tells us that there are more methods of new works being generated. In the Maipu case, the expansion of new fields and new businesses is reflected in the company's innovations in business model and promotion channels when the company was performing poorly. First, the business model shifted from a focus on the industry market to simultaneous development of industry distribution channels. To this end, Maipu began partnering with numerous domestic companies, including Beijing Bite Rui Wang Technology and Northeast Air Network. After years of effort, Maipu has established a multi-dimensional service network on a national scale. Second, in 2007, Maipu, continuing to implement its channel strategy, began updating its channel policy, expanding its focus from the key industries in which it excelled to Tier III and Tier IV cities. This new move successfully brought new work content and methods to the company and took Maipu to a development peak. We can see that the current method of defining new works cannot fully show a company's creation and development of new works.

- The Relationship Between Competition and Development

In the last chapter, we discussed that competitiveness is one way to measure to what extent a company is able successfully elevate its monopoly advantage. In this study, we have some statistics on early-stage competitors. Through a quantitative analysis of is statistical data, we discovered that companies with early-stage competitors that are still strong have relatively higher levels of sustainable new works. Maipu is one such example. At the company's founding, its main competitors were Huawei, ZTE, and H3C. Today, these companies are still the company's main competitors, and market competition is fierce. But the company's market share has still been expanding in the last three years. We can see that pressure from competitors generates impetus for development. Of course, a prerequisite for this development is the sound development of the industry as a whole.

- Government Support and the Role of the Company in the City's Development

The company received public or government tax incentives and financial subsidies at its founding. In the development process, Maipu received further support from the local government, which provided policy funding support, and relevant functional departments helped to develop domestic and overseas markets. For Maipu, a company maturing in Chengdu, Chengdu's role in the company's founding, accumulation, expansion, and even upgrading process is clearly multifaceted. It has an impact, from its market-radiating abilities as a regional center city to its human resources reserves. It is worth mentioning Maipu invests a certain amount of capital into technology R&D each year. Chengdu's relatively complete system electronic technology system allows Maipu to save a large amount of basic R&D costs and reduces the difficulty of market recognition, thereby reducing the risk of doing pioneering work.

With government support, Maipu developed rapidly. Needless to say, the company's development in turn promoted urban development. Maipu's acceleration of urban agglomeration is first reflecting in the composition of its employees at the time of founding. More than 50 % of employees came from areas of Sichuan outside of Chengdu. Additionally, the main raw materials going into the company's products at the time of its founding came from areas of Sichuan outside of Chengdu. The market for the company's services is the financial industry nationwide, including People's Bank of China, Agricultural Bank of China, China Construction Bank, Industrial and Commercial Bank of China, and PICC. Maipu also actively developed overseas markets, establishing good cooperative relationships with local agents in the major countries of southern Africa and Southeast Asia, and entering the Central Asian, Nepalese, Indian, and South American markets. Its products are sold in more than 40 countries around the world.

4.2.6.4 Case Summary

Maipu's growth tells the story of a company developing markets for survival, researching and developing new technologies to develop markets, and enhancing its strength with core technology, thereby growing continuously amongst the competition. Behind this story is the rise of the PC industry. In 1993 the development of the global PC industry accelerated, beginning the digital legend that swept the globe. In China, the high tide of PC development occurred in the late 1990s, and there were many entrepreneurs in the electronics industry. In addition, China's information technology construction (an important part of Program 863) also began at this time. Government agencies and state-owned enterprises and institutions vied to introduce a variety of computing devices and build an internal information channel in the form of local area networks (LANs). Chengdu had numerous state-owned enterprises and state-run institutions and clearly had a huge local market. This was the foundation of Maipu's success. Therefore, when making an

in-depth case analysis to understand a company's growth, a careful understanding of the external environment for the company's development cannot be neglected.

4.2.7 Sichuan Kelun Pharmaceutical Co., Ltd

4.2.7.1 Company Background

Kelun Pharmaceutical was founded in 1996 as a joint-stock company. Its founder Liu Gaixin was previously president of the Sino-US joint venture Sichuan Qili Pharmaceutical. In 1995, two years after leaving that company, he established Kelun Big Pharmaceutical Factory and later changed the name to Kelun Pharmaceutical. The company's main products cover drugs of a variety of forms, including intravenous infusions, injections, small water needles, tablets, and capsules. It is the domestic industry leader in intravenous infusions. The company is located on Baihua West Road in Chengdu. The interviewee was the company president and one of the founders. Kelun Pharmaceutical is a private company, and the registered capital was invested jointly by natural persons.

4.2.7.2 Company Founding and Development

In order to seize new market opportunities and fill gaps in the market, Kelun Pharmaceutical was founded with money from natural persons and civil loans. At the time of founding, the company received operating revenue from its infusion preparations. Kelun Pharmaceutical's founding was closely related to the personal experience and expertise of the founder. Liu Gaixin obtained a master's degree in pharmacology from Chongqing Medical University in 1980. In 1985 he went into the market and in 1992 went to work as president of Sichuan Qili Pharmaceutical until leaving that position in 1995. Two years later, he founded the predecessor to Kelun Pharmaceutical, Kelun Big Pharmaceutical Factory. In addition, the other Kelun Founders had rich work experience and were able to work together to found the company.

Kelun Pharmaceutical's overall development can be seen in economic and employee data. In the company's second year, the number of employees increased by more than 50 %, and revenue grew by between 50 and 100 %. From the end of the second year to date, the company's payroll has grown by more than 200 %, and revenue has grown by more than 240 times. Currently, Kelun Pharmaceutical is a modern pharmaceutical group with 32 subsidiaries and branches in Sichuan and around the country and more than 13,000 employees. In 2011, Kelun Pharmaceutical had revenues of more than 500 million yuan and profit of more than 157 million yuan. The company's industry is still growing, but the rate of growth has begun to decline, and industry competition is fierce. The company's new

development strategy is clearly focused on its existing fields of business and doing its business professionally and meticulously.

4.2.7.3 Findings and Analysis

- Product Innovation to Develop Markets

The results of the quantitative analysis suggest that companies with strategies to seize market opportunities are more likely to have a higher degree of new works. We should emphasize that in accordance with the close correlation between new R&D and new works found in the quantitative analysis, what we analyze here is the product innovations that Kelun Pharmaceutical has made in in order to explore the needs of the market. Kelun Pharmaceutical's early success is due to this strategy of seeking market opportunities. One of Kelun Big Pharmaceutical Factory's products was a large-dose injection for children. For a long time, China had no independent large-dose injections for children. "Children could only use high-capacity 500 ml injections for adults," which went to waste if they were not used completely. In a short period of time, Kelun produced a 100 ml high-dose injection for children, thereby gaining market share. We can see that Kelun Pharmaceutical's early success profited from an accurate analysis of the market and a grasp of the corresponding new product. While seizing such a market opportunity is very effective for a period of time, China's therapeutic infusion market began to grow rapidly at the time, and demand far outstripped supply. Profits at the time were as high as 300–400 %. At the same time, because each hospital had its own preparation rooms, big pharmaceutical factories were reluctant to produce large infusion products, and small pharmaceutical factories had difficulties in entering this technology-intensive field. This gave companies like Kelun Big Pharmaceutical Factory a potential market at the time. So, Kelun Pharmaceutical's early development was due to an accurate grasp of the broad market demand of the time and the most easily accessible gap in the market. On this basis, successful product innovation and development of new works was inevitable.

- New Technologies Spur Company-wide Development from the Side

That increases to new works spur rapid urban development has been discussed extensively, and the significance of the diversification of the labor market has been applied repeatedly in this book. One interesting finding from this can be used to supplement this theory: constant technological innovation can lead corporate culture in a more positive and healthy direction. The difficulties Kelun Pharmaceutical faced in its expansion process were rarely technical. As a company with high-tech company in the pharmaceutical industry, this is worth nothing. Kelun Pharmaceutical has a relatively stable R&D team. The company's flagship product has reached an internationally leading technical level, and the company developed the key production technology for the flagship product itself. We can thus see that developing new technologies combined with proper management can enhance the

overall competitiveness of a business and comprehensively increase the speed of development.

- Large-scale Growth through Monopoly Advantage

In the previous study we linked monopoly advantage with the existence of competitors. The Kelun Pharmaceutical case shows the company's monopoly advantage from another angle: industry qualifications. Standards mandated by the government to a certain extent give an advantage to those companies possessing qualifications. In this case, numerous companies entered the market after 2000, attracted by the profits, while the state implemented the mandatory GMP standard, which it updated in 2010. Kelun Pharmaceutical used its GMP qualifications to carry out a round of mergers and acquisitions, vastly expanding its size. In this process, Kelun Pharmaceutical built a market network consisting of production bases and distributors, thereby optimizing procurement, production, and logistics costs, and built sales channels, further settling the foundation for development.

- City Support of the Company's Development

Kelun Pharmaceutical has received support from the Chengdu government throughout its development. At the time of its founding, the company received support including help with the purchase of production and operations land, lease concessions, and tax incentives. Also, because its headquarters has always been located in Chengdu, with the company's expansion, the Chengdu government has increased its attention and has offered support the areas of taxes and land. In addition, Kelun Pharmaceutical's initial success is closely related to Chengdu's position as a southwestern center city. After reform and opening, regional center cities were often the areas with the most vigorous economies. Their human resources, private capital, and regional radiating effect provided important assistance for entrepreneurship.

- Company Development Spurs Urban Development: Agglomeration and Linkage Effects

The company's contribution to the city is first the agglomeration and linkage effects that it has brought. This can be seen from the radiating range into the middle and downstream of the industrial chain. The five major suppliers at the time of the company's founding were from different cities in Chengdu and even nationwide. Main customers came from Sichuan, Yunnan, Hunan, Jiangxi, and Henan. In the development stage, the company's main customers came from Henan, Hunan, Beijing and northeast China, eastern China, and Sichuan. Due tot he particularities of logistics in the infusions industry, Kelun Pharmaceutical's production bases are distributed across fourteen provinces, including Sichuan, Hunan, Heilongjiang, and Yunnan. Thus, Kelun Pharmaceutical's agglomeration effect and linkage effect for Chengdu with the rest of the nation is significant. Looking further, Kelun Pharmaceutical's role in spurring the comprehensive development of Chengdu is reflected in its contribution to the local market. When the company was founded, employees and major raw materials were sourced locally, and the product or service

market was also Chengdu. While these localization characteristics were later watered down by the company's development, that has only been a proportional change due to the company's size. The company's local contribution cannot be ignored.

4.2.7.4 Case Summary

The inspiration that Kelun Pharmaceutical gives us as a pharmaceutical manufacturing company developing on a national scale is that the development of inland cities is no longer limited by geographic location. Today, advances in information technology and the rapid development of transport have not only exacerbated accumulation in cities, but have also weakened the gap between inland and coastal cities previously existing due to transport restrictions. This is a prerequisite for Chengdu to move onto the international stage.

In the process of analysis, we can find that Kelun Pharmaceutical is a universally representative company in terms of the role of its founder and the company's development model. On the one hand, we learn from the company's experiences; on the other hand, we must face the crisis the reduction in market demand is bringing to this kind of company (which developed by seizing market opportunities). This has already begun to take shape in the Kelun Pharmaceutical data. To solve this problem we must study the experiences of successful enterprises, and the corresponding case studies will be helpful to companies like Kelun Pharmaceutical.

4.2.8 Chengdu Hongqi Chain Co., Ltd

4.2.8.1 Company Background

Hongqi Chain is located on Dikang Avenue in the western district of the Chengdu Hi-Tech Zone. The company is western China's largest commercial chain company encompassing chain operations, logistics and distribution, and e-commerce. Hongqi Chain is the first chain supermarket to list on the A-share market (SHE:002697). Today, Hongqi Chain has some 1300 chain supermarkets in Sichuan Province and employees more than 13,000 people. The interviewee oversees publicity work for the company and has worked for Hongqi Chain for ten years. The company, located at No. 7 Dikang Avenue, was founded as a limited liability company with joint investment from natural persons.

4.2.8.2 Company Founding and Development

Hongqi Chain's predecessor, the state-run Chengdu Hongqi Mall, was founded in 1969 and was one of Chengdu's Big Three old-brand shopping malls and the

Sichuan region's largest food retailer. Hongqi Chain was founded on June 22, 2000. On June 9, 2010, it was changed overall to Chengdu Hongqi Chain Co., Ltd. In 2010, with the gradual improvement of China's market economy system, along with the energetic support of the Sichuan and Chengdu governments, Hongqi Chain began shareholding system reform. With the rapid development of China's e-commerce market, on April 23, 2012, Hongqi Chain Online Shopping Mall officially went online, and Hongqi Chain entered the online sales era. On June 5, 2012, after a long period of preparation and hard work, Hongqi Chain completed the various requirements for listing and went public on the Shenzhen Stock Exchange.

In the company's second year, the number of employees grew by between 20 and 50 %, and operating revenue increased by between 50 and 100 %. From the end of the second year to date, the number of employees has increased by more than 200 %. From the second year after establishment to date, the prices of main raw materials have increased by an average of more than 5 % annually, total employee wages expenditure has grown by more than 50 %, and the company's market share in its main business increased by an average of 20–50 % annually. Today, employees with degrees from three-year colleges or better make up more than 50 % of the workforce. For years, Hongqi Chain has employed more than 10,000 people in Chengdu, more than half of whom are farmers, more than 60 % are elderly, and more than 70 % are women. Since its inception, Hongqi Chain has paid more than 600 million yuan in taxes to governments of all levels.

The company is not involved in many core fields, and the data reflect only one. The hard work of all employees, the personal abilities of the core leadership, and good relationships with customers have been considered the main reasons for the success of the company in the past. Currently, the company's overall capabilities are in a leading position in the industry, the company has a high level of corporate governance, and leadership is in the prime of life. The company is united and hard working and has the ability to attract and retain all kinds of outstanding talent.

4.2.8.3 Findings and Analysis

- The Inevitable Relationship between Hongqi China's Localization and High Growth

Hongqi Chain's significant feature is its local nature. The company targets business operations and products at consumer goods for the daily lives of ordinary people, and "convenient" features are prominent in the company's distribution of stores and its scale. The company opens small and medium supermarkets, selecting Chengdu as the center and radiating out through all of Sichuan through prefecture-level cities. This marketing strategy has made a major contribution to the takeoff of the modern service industry and the development of the local economy. To carry out the national spirit of resolving the "Three Agricultural" issues, Hongqi Chain has opened stores in remote rural areas and towns, greatly accelerating rural commodity circulation and enriching the material lives of farmers.

Hongqi Chain's assets last year had increased more than 200 % from the first full fiscal year after its founding, meaning that Hongqi China's total asset growth is high (as defined by the criteria in the quantitative analysis). So are Hongqi Chain's local nature and high growth of universal significance? Recalling the results of the previous quantitative analysis, it is not difficult to see that most companies relying on the local market have high growth rates. From an economic standpoint, this reflects that the growth of large cities is mainly due to satisfying local market demand.

- The Relationship Between Form of Ownership and Market Localization

In Hongqi Chain's development process was supermarket business model under the former state-owned system. Under the continuous maturation of the economic development environment and the continuous strengthening of market competition, the company no longer conformed to the needs of the existing economic development situation. On June 22, 2000, with the strong support of the Chengdu government, the company was restructured into the private Hongqi Chain Co., Ltd. The newly established Hongqi Chain had already completely shaken off the state-owned system, and operationally, it focused on the community supermarket chain. Therefore, when analyzing Hongqi Chain's form of ownership, its former ownership structure and restructuring make analysis difficult. The process of changing from a state-owned enterprise to a joint-stock enterprise makes the company difficult to sectors. Even though the company is currently a joint-stock company, the relationship between other factors and the form of ownership cannot be clearly defined as any clear relationship with the joint-stock form of ownership in this case. This is precisely the uniqueness of Hongqi Chain.

In the analysis in the previous chapter, state-owned enterprises tended to use Chengdu as a base from which to supply markets outside of Chengdu, while fewer joint-stock companies started in the local market. This is obviously different from Hongqi Chain. Under the past state-owned ownership structure and the current joint-stock ownership structure, Hongqi Chain has served the local Chengdu market, which is closely related to its industry. And as a joint-stock company, its starting form is not universal. So, in the study of this case, we must be clear that Hongqi Chain is not representative, and in this case, we will treat all findings related to form of ownership as individual cases.

- Mutual Promotion of Company Development and City Development

Hongqi China's uniqueness also extends to its support from the government. With the support of the Chengdu government, Hongqi Chain budded from a state-owned company and ultimately shook off its state-owned form to become on of China's top 500 service companies today. In the period of corporate restructuring pressure, the Chengdu government strongly supported reform after understanding the basic market situation and helped the company resolve issues of funding and staff placement. When crisis emerged in Hongqi Chain's partnerships with other companies, the Chengdu government promptly formed a coordination team to help

Hongqi Chain deal with the partnership relationship, pulling the company through the crisis. When Hongqi Chain restructured and sought further development, the Chengdu government formulated preferential policies and gathered resources to support the company's listing.

With Chengdu's multi-faceted support, Hongqi Chain's successful development inevitably strengthened Chengdu's agglomeration and linkage effects. In the year of its founding, the company's major suppliers included local Chengdu companies and companies from other areas. Today, the company has three modern logistics and distribution centers with shipment volume of nearly 2000 tons, which can support more than 6 billion yuan of annual merchandise sales. It has established mutually beneficial partnerships with thousands of suppliers. The survey data show that in the near future, Hongqi Chain is considering expanding investment through the government's inviting outside investment, finding business partners, and business association inspection activities. The company's role in promoting the development of the city will be even more prominent.

4.2.8.4 Case Summary

Hongqi Chain's establishment and development benefited from China's reform and opening. The reform of emerging market countries provided opportunities for entrepreneurs with a keen eye. The local government, with the premise of understanding the rules of market development, strongly supported the reforms of entrepreneurs. Entrepreneurs, in the key period of reforms to China's goods trade distribution system, created Hongqi Chain through their individual daring resolution. This case not only gives us Hongqi Chain's successful experience. More important is the implied meanings of its unique model: (1) The economic development and urban development experienced in China's process of reform and opening must be interpreted from a deep level; (2) When studying China's urban development, the western economic theories that have been widely drawn upon in the past must be discriminated, verified, and analyzed.

4.2.9 Chengdu Culture and Tourism Development Group Co., Ltd

4.2.9.1 Company Background

Chengdu Culture and Tourism Development Group Co., Ltd. is a state-owned exclusively invested company in the culture and tourism industry established in March 2007. The company has 962 employees and is located at No. 30 Ximianqiao Road in Chengdu. The interviewee was the company's chief accountant, who has worked at the company for four years.

4.2.9.2 Company Founding and Development

The company was founded based on the Chengdu municipal government's strategic thinking of "develop big tourism, form big industry, establish large groups" in order to deepen reform to the culture and tourism system, enhance the management level and competitiveness of Chengdu's culture and tourism industry and promote the development of the culture and tourism industry. From founding to date, Culture and Tourism Group has gone through three development stages. The first stage was the company's start-up stage. The company started from scratch, grew from small to large and from weak to strong, developing steadily. The second stage was the stage of forming core competitiveness. In this stage, the government's guidance of the company lessened, and the company relied more on market means for its growth and development. In addition, the company actively brought in strategic investors, enriching the company's funding sources, strengthening brand construction, developing and bringing in international tourism elements, and achieving the sustainable development of the company. The third stage was the stage of capitalized, diversified development. The company brought in funds from the capital market, deeply developing Chengdu's tourism industry. In the process of its development, along with its economic achievements, Culture and Tourism Group developed comprehensively, with remarkable results in innovation and diversified development.

In Culture and Tourism Group's second year, the number of employees increased by 100–200 %, and revenues increased by 50–100 %. From the end of the second year to date, the number of employees has increased by more than 200 % and operating revenue has grown by eight times. From founding to date, the company has employed thousands of people in Chengdu and contributed hundreds of millions of yuan in taxes. In order to develop new markets, expand market share, and achieve relevant diversification, the company continuously developed new fields of business. The social survey data shows that when Culture and Tourism Company was founded its operating revenue was comprised of two industry sectors. We explored this further in the interview. In fact, throughout its growth process, the company has always pioneered and innovated in different stages and aspects. The company has continuously strengthened specialization and gradually formed three professional sectors of product research and development, brand marketing, and asset management, achieving efficient allocation of Chengdu's human, financial, and material strategic resources.

The company's industry is still in a period of rapid growth. The interviewee said that the company's development path should be sustained expansion, then improving management. Currently, compared with major competitors, the company's competitive advantage lies in the company's industry-leading overall capabilities, its strong marketing power, and its strong market-development abilities. The company's management is highly proficient, and it is able to attract and retain all kinds of talent.

4.2.9.3 Findings and Analysis

- Government Support and the State-owned System

In the Culture and Tourism Group case, we first analyze the support advantage of state-owned companies found in the quantitative analysis. In the early days of the establishment of the company, the Chengdu government the Chengdu government gave the company amble freedom and liberal resources, outsourcing the city's tourism and culture to the company. This was unique within China. In the company's development stage, the Chengdu government provided a relaxed market economy environment, allowing the company to operate in a market-oriented manner. In the company's expansion stage, the Chengdu government helped the company develop cultural and tourism products and brought in capital under favorable conditions, pushing forward the healthy development of the company. From these data, we can see that the state-owned system played a key role in the formation of the company's advantages. However, among Culture and Tourism Group's operating risks, policy risks are listed first. We can thus say that understanding the effect of ownership structure on a company's advantage requires objectively looking at both the positive and negative side.

- Rapid Development Related to Ownership Type

In the analysis in the previous chapter, state-owned companies received the most support of all types of companies, and high-growth state-owned companies far outnumbered low-growth state-owned companies. Culture and Tourism Group was established with state funds, and at the time of its establishment, the company was a Chengdu municipal or district government investment project. The company also received preferential leases from the government for its production and business premises. After just five years of development, as of the end of 2012, Chengdu Culture and Tourism Group had assets exceeding 8 billion yuan, annual revenue of more than 1 billion yuan, 19 subsidiaries (wholly owned, with a controlling stake, or with a minority stake), and 962 employees. Culture and Tourism Group's experience is a case in point of the quantitative analysis. Of course, there is not necessarily a causal relationship between ownership type and a company's rapid development. So, how are the differences between different examples of the same type produced? This question requires further investigation.

- State-owned Company Based Locally To Develop External Markets

We have previously considered the relationship between ownership structure and the focus on the local market (quantitative analysis 8). The results show that state-owned companies often use Chengdu as a base from which to supply markets outside of Chengdu. At its founding, more than 50 % of Culture and Tourism Group's employees came from Chengdu, but the company served markets outside of Chengdu. The company basing itself in Chengdu and developing external markets can be interpreted in the following details. In its growth process, Culture and Tourism Group benefited from Chengdu's own advantages in the tourism

industry. Chengdu has natural sights including Qingcheng Mountain, Xiling Snow Mountain, Jiulong Ravine, Jiufeng Mountain, Tiantai Mountain, and Longchi Forest Park. Its unique natural conditions have earned Chengdu the title of the "Land of Abundance." Chengdu has rich cultural heritage sites including the Dujiangyan irrigation system, Wuhou Temple, Du Fu's Cottage, the Jinsha ruins, and broad and narrow alleys. Chengdu is the birthplace of the ancient Shu culture, and Sichuan embroidery, Sichuan brocade, Sichuan Opera, and the tea ceremony are all splendid treasures of Chinese cultural history. So the company's own development and pioneering as well as Chengdu's own advantage in tourism resources together constituted the felicitous conditions for the company's success. It is in this context that Culture and Tourism Group has attracted partners and visitors from afar.

- New Business Development

State-owned enterprises are more inclined toward new business development than companies of other forms of ownership. Corporate innovation is not only reflected in expansion into new fields. Gradually refining in the same field is another path of developing new fields. Chengdu Culture and Travel started from scratch, from content to form it can reflect its constant innovation in the tourism industry and the diversified urban development that it brings. This is reflected in the three major industries in which the business currently operates and the diverse sub-fields within each industry. Culture and Tourism Group's core business is comprehensive tourism development, and it is committed to regional and urban development and operations. In addition, Culture and Tourism Group advocates the protection and inheritance of culture, and enhances the city's value and cultural content through cultural activities.

- Company's Role in Accelerating the City's Development

The company's agglomeration and linkage effects in its development process are very clear in this case made up mainly of tourism development. This is particularly clear with the linkage effect. Culture and Tourism Group signed a partnership agreement with Chengdu Airlines in 2012 relating to tourism product development, air and ground services, brand publicity, and marketing. It achieved a bilateral, unified, synergistic development of the economy, tourism, and culture, from the air to the ground. Thus, we can see that the company's role in overall urban development and internationalization will be more prominent in the future. Culture an Tourism Group's role in accelerating Chengdu's development is also prominently displayed in its contribution to the diversification of the local economy. The group has developed scenic spots in neighboring cities and towns, helping to push forward Chengdu's integrated urban-rural planning and providing a path toward resolving Chengdu's "Three Rural" issues. Culture and Tourism Group's development of the cultural and tourism industries has greatly improved the living and educational conditions of residents of the development area, making a massive contribution to the people of Chengdu's march toward a moderately well-off society. In addition, Culture and Tourism Group has tremendously elevated Chengdu's urban image in

the integration of the major industries of culture, tourism, and sports, which has established a foundation for Chengdu's development from a local city to an international city and given Chengdu the cultural environmental conditions for becoming a world city.

4.2.9.4 Case Summary

This Culture and Tourism Group case study to a certain extent represents the characteristics of the majority of state-owned enterprises: receiving strong state support; being based in a local market to develop external markets; continuously developing new businesses. Besides these universally representative characteristics, the noteworthy points of this case study include: (1) The correlation between industry development and local characteristics. In the quantitative analysis, we found differences in net asset growth in different industries. Then, does the correlation between industry and local characteristics influence overall growth? Looking at the Culture and Tourism Group Case, this influence does exist. But this does not show a pattern of correlation between differences in total assets in different industries and the degree of local connection. (2) While this case does not reflect Culture and Tourism Group focusing on the local market and helping the rapid development of the city, the local employment and related industrial development spurred by culture and tourism corporate behavior changed the labor market structure, and corporate behavior with culture as the central theme has pushed forward the development of urban culture. So, in understanding the local character, we must on the one hand look at whether a company is facing the local market and on the other hand look at whether the company's operations are spurring related industries to change the local labor market structure.

This case highlights the intensification of urban agglomeration by information technology and transportation. Under the constant development of the two communications channels of information and transportation, a company will continuously increase cooperation with the outside world, and this two-way flow is no longer subject to geographical restrictions. And the unique characteristics of inland cities will be more attractive than coastal cities in some sectors. The Culture and Tourism Group case study allows us to more clearly see that Chengdu is gradually shrinking the gap with internationalized metropolises. Its open and inclusive pluralistic culture has pushed this process.

4.2.10 QuanU Furniture Co., Ltd

4.2.10.1 Company Background

QuanU Furniture Co., Ltd. is a privately owned, limited liability furniture manufacturing company. The company was founded in 1986 and has 7000 employees.

Since its founding, the company has attained successful development, and in 2012, it had the highest brand value in the industry and entered the ranks of "China's 500 Most Valuable Brands." For three consecutive years, it has led China's furniture industry. The interviewee was deputy director of the CEO's office, who has been at the company for eight years. The company's address is Chongzhou Prefecture Industrial Development Zone.

4.2.10.2 Company Founding and Development

QuanU furniture was established with the investment of natural persons. At the time of the company's founding, it obtained its main revenue from furniture, and the product or service the company provided was groundbreaking. From its start as a small furniture factor in the 1980s to today, when the company has established an R&D center in the creative center of Milan, QuanU Furniture has minted the business card of Chengdu furniture and assisted in Chengdu's development from a local city toward a world city. The company's creative efforts have pushed "Made in China" to develop into "Created in China," accelerated the international development of China's furniture industry, and forged China's furniture for the entire world.

In the company's development process, QuanU Furniture has attracted employees in the company's long development through its good development trend, opportunities to develop careers, and a charismatic leadership. Today, the overall quality of company's employees is above the middle level for the industry. The company currently requires management talent and marketing talent. The company's future operating risks come from: policy risks, market risks, management risks, capital risks, and technology risks. The company's high-level management formulates plans and strategies for the future at an annual meeting, and the company's strategy is considered to be extremely rational. Strategy is executed well, and the company is fully capable of achieving strategic goals. In the last year, the capital situation was able to satisfy daily operational needs, but company expansion would require outside financing. In the last three years, the company's main sources of funding have been retained earnings, bank loans, and trust funds.

4.2.10.3 Analysis and Findings

- Market Demand Triggered by Related Industries

One point in this case requires special attention: large changes to related industries can trigger substantive changes in manufacturing enterprises. This is something we did not consider in our previous analysis of company growth and related variables. One link in the successful development of QuanU Furniture is the inevitable flourishing of the furniture manufacturing industry brought by the bubbling of the real estate market. In 1999, real estate market reforms were carried out

nationwide, and rapid the real estate market demand brought on by rapid urbanization spurred the high-speed development of furniture companies. QuanU Furniture completed significant accumulation in a good market environment and formally changed its name to Chengdu QuanU Furniture Co., Ltd. and gradually and rolled out nationwide.

- Diversified Development Brought on by Research and Development

The results of the quantitative analysis show that the expansion of new business in the manufacturing industry, agricultural industry, and food industry is maintained at a relatively high level compared to other industries. The QuanU Furniture case conforms to this universal phenomenon. But the difference is that the data from the social survey show that few companies in the manufacturing industry are high growth. In the latest year, QuanU Furniture's total assets were more than 200 % higher than in its first fiscal year. In the sectors of growth laid out in the quantitative analysis in the previous chapter, this would fall under high growth. So, we can draw universal lessons by studying QuanU Furniture's role in accelerating economic growth through the development of new business (growth in new works).

The survey data show that in order to extend into the upstream and downstream of its main business, QuanU Furniture constantly developed new fields of business. its investment in R&D has been a technical guarantee of its diversified development. The company's flagship product technology has reached a leading level among domestic products of the same category, and its source of competitive strength comes from the company's ability to continuously introduce new product types and styles. Studying the source of competitive strength of its products in detail, the data show that the company possesses a transnational R&D team composed of more than 200 top designers from countries including China, Italy, Germany, and Denmark. The company mainly develops and produces panel suites of furniture, sofas, dining tables and chairs, mattresses, beds, and office furniture covering more than 50 series and 6000 product models. It is representative of China's furniture manufacturing industry providing customers with "one-stop furniture service." QuanU Furniture's international industrial port is Germany's Brunsarchitekten Institute of Planning and Design and Italy's Comani Planning and Design Institute Planning and Design. The company has gathered the world's most advanced furniture production equipment base. Its industrial port has production lines from Germany, Italy, and Denmark, and it can achieve large-scale, pipeline, intelligent, standardized, and automatic production. It represents the Chinese furniture industry's top furniture manufacturing equipment level. Thus, we can see that the positive link between innovation and high growth requires the continued support of high-end, large-scale R&D efforts.

- Indirect Force: Government Support of the Entire Industry

When analyzing the support the company has received, the results of the quantitative analysis show that private companies generally do not receive as much support as state-owned companies. But QuanU Furniture indirectly received a significant amount of support, which is related to the housing industry. This is

because the furniture manufacturing industry attracted the attention of the Chengdu government in its development process due to changes in the real estate industry. The Chengdu government, seeing the opportunities brought by China's rapid urbanization, while China was rapidly developing its housing industry, supported the furniture industry as a key industry for development in Chengdu. This was of great help to QuanU Furniture. QuanU Furniture made the leap from a local brand to a national brand in this wave of real estate development. It gathered the country's resources and markets and ultimately moved toward the international market. The revelation in this case lies in state support for a company is not only done according to its ownership structure. Other ways of support can allow companies of different types to benefit, such as in the case of support for an industry in a specific stage. Seizing the opportunity and riding the wind of industry development to one's own success is the most important thing for a successful business.

- Individual Role of the Founder

In the initial stages of this study, the role of the founder in a company's development was a point of research interest. But because the data collected were insufficient to support a quantitative analysis, we did not include the role of the founder when we were constructing variables. But this does not prevent us from doing a deeper analysis of specific details in an individual case. This is a typical case of a company relying on the efforts of an individual founder to achieve Nirvana in the early days. The company's success the a large degree came from the individual role of the founder. In 1986, company founder and current chairman Zhang Youquan founded Chongzhou Jinyang Furniture Factory, the predecessor to QuanU Furniture. At the time of the company's founding, Zhang led a seven-person entrepreneurial team. With a love of furniture, they began step by step from a making furniture in a workshop by hand. In the yearly days, Zhang obtained investment seemingly through force of will and persistence alone. Subsequently, due to the high quality of the products it produced, the company gained a good reputation and the love of the people, and gradually grew from a small workshop to a regional brand in the Chengdu area. Today, QuanU Furniture has developed from a localized company to an example of a "domestically celebrated, internationally known" company. So our question is: to what extent and under what conditions is there commonality to be found in the significant role of the founder in the company? Are there special qualities of a founder that impact a company's total assets growth in a general sense? Answering this requires analysis of a social survey of the work of a certain number of founders.

- The Mutual Relation Between Company Development and Urban Development

In this section, we analyze the support the city has given to the company in its development process sand the contribution the company has made to Chengdu in terms of agglomeration effects and internationalization. On the one hand, the creating of QuanU Furniture was part of the Chengdu or a district government's project to attract investment, and Chengdu's support of its development included preferential policies for the company's land use or production premises. In addition,

Chengdu created a good development environment for the company, allowing the company to have an efficient development platform. Complete infrastructure enabled the company to have smooth production. A mature capital operations system enabled the company to optimize allocation of resources. Finally, a free and open market enabled the company to participate in the international division of labor and build a world business.

On the other hand, the company's role in the city's agglomeration effect is reflected in its upstream and downstream relationships. The company's early suppliers were located in Guangxi and Sichuan, and major customers were located in Hunan and Hebei. Today, QuanU furniture has become one of China's largest private furniture companies encompassing R&D, production, and sales. It has four manufacturing bases covering 400 ha of land, more than 30 specialized factories, more than 20 overseas sales and service organizations, and more than 3000 specialty stores. The company's products have been sold nationwide for many years, and are sold abroad to Europe, the United States, Southeast Asia, and other countries. Its design centers are located in Chengdu, Sichuan, and Milan. In terms of internationalization, while attempting to deepen the domestic market, the company is developing international markets. In 2011, it established QuanU Furniture Milan R&D Center, indicating a wholehearted dedication to building an international furniture brand.

4.2.10.4 Case Summary

The case includes several enlightening points. (1) When studying a company's successful development, we must pay attention to changes to the larger environment with which it is associated, including large fluctuations in the industry. The existence of such effects would undermine the conventional relationship between the relevant factors. (2) The particularities in total asset growth exhibited in an individual case are worth studying. We not only want to show Chengdu's success stories. What is more significant is showing the different experiences of special cases. QuanU Furniture's success in the manufacturing industry and its unique experience in R&D may not be able to be copied, but the experiences can encourage other manufacturing companies to innovatively seek higher asset growth. The processes of the internationalization of companies and cities require open thinking and a spirit of creativity.

Recalling QuanU Furniture's history, we find that one driver of the company's rapid growth was the rise of the industry. Behind the ascent of the furniture industry was a booming real estate industry, and behind the booming real estate industry was the rise of the national economy. It is the overall effect of country's rise that has driven the consumer market and thus spurred the success of companies. Meanwhile, behind the agglomeration effect formed by QuanU is the convenience of information and transportation in the city. In the conclusion of this case, we can see that the process of the company's development and the city's development reinforcing each other, Chengdu's process of internationalization is accelerating.

4.2.11 Sichuan Shuijingfang Co., Ltd

4.2.11.1 Company Background

Sichuan Shuijingfang Co., Ltd. is a Sino-foreign joint venture in the spirits industry. Sichuan Chengdu Quanxing Group Co., Ltd. holds a controlling stake, and it is a Shanghai Stock Exchange-listed company. The company engages in the production and sales of liquor, with its main products being the Shuijingfang brand series and the Quanxing brand series. The company is located on Quanxin Road, Jinniu District, Chengdu. The interviewee was an executive at the company.

4.2.11.2 Company Founding and Development

Shuijingfang's predecessor was Western Sichuan Monopoly Bureau Liquor Factory, founded in 1952. After liberation, Chengdu nationalized the company through a public-private partnership. In the mid-1970s, Western Sichuan Monopoly Bureau Liquor Factory was renamed to Sichuan Chengdu Liquor Distillery, which was renamed to Sichuan Quanxing Distillery in 1985, and then became Quanxing Co., Ltd. in the mid-1990s. Early in its founding, Shuijingfang was small, with only some 20 million yuan in assets and fewer than 100 employees. Today, between 30 and 40 % of employees have a three-year degree or higher, and operating income has increased a hundredfold since founding.

The rapid growth of the Chinese economy and the upgrading of China's consumer market enabled Shuijingfang to gradually develop from a local distillery to one of China's 500 largest industrial companies and a Sino-foreign joint venture. It has smoothly entered the top end of the industrial product chain. With the development of the national economy, Sichuan Province and Chengdu created a positive environment for the company's development. China's finest baijiu brands, including Moutai and Wuliangye, have always attempted to develop internationally, but have over the years remained unable to break into mainstream international channels. In view of this, Shuijingfang's partnership with Diageo Group, which accounts for 30 % of global liquor sales, has given the company the strength to get through international channels to allow Shuijingfang to become an internationally recognized and accepted liquor brand in mainstream society.

At the time of the company's founding, the company received revenue from one industry. Today, two industries constitute the company's main sources of revenue. When the company was established, it was involved in sectors outside its industry including baijiu, real estate, and pharmaceuticals. Today, the company's industry is still growing, but the rate of growth has begun to slow, and competition in the industry is fierce. The company's strategic direction for future development is to focus on existing principal business areas and doing business professionally and well. The interviewee said the company's development path should be to improve

management, solidify the foundation of the company, and then seek opportunistic expansion. Long-term, the company has three to five-year plans and strategies, which are jointly formulated by specialized planning and formulation departments and mid- and upper-level management. The company's future operating risks come from: policy risks, market risks, management risks, financial risks, and technology risks. The main reasons for the company's past success include: rapid growth in market demand, making the correct decisions, and the hard work of all employees.

4.2.11.3 Findings and Analysis

- Special Growth Brought by a Particular Resource

The results of the quantitative analysis suggest that high-growth companies are fewest in the agriculture and food industry. High-growth here refers to total asset growth of more than 200 % compared to the first fiscal year. Shuijingfang's assets have growth a hundred times over the first fiscal year, so this is a special case of significant growth in this industry. In analyzing the particular reasons for its significant growth, its unique resources should bear the brunt.

One unique resource that has played a vital role in Shuijingfang's success is the ruins of an ancient wine cellar. In 1998, when the company was making a technological transformation of an old fermentation workshop, the renovation construction process unearthed the ruins of China's oldest, most complete, ethnically unique, and best preserved ancient winemaking cellar: the Shuijing Road Winemaking Site. The site was built 600 years ago at the end of the Yuan Dynasty or beginning of the Ming Dynasty, and fills in gaps in the archaeological study of winemaking shops. In China's history of winemaking, cellars were life giving. Cellar mud contained thousands upon thousands of microorganisms. The older the cellar, the more massive the family of microbes. Wine made with these microbes would become more fragrant the longer it was stored. The Shuijingfang Cellar existed through the Yuan, Ming, and Qing Dynasties, and countless winemaking masters were trained there. Thus, it gave birth to unique biological flora, lending Shuijingfang its unparalleled premium flavor profile. Shuijingfang epitomizes the timeless characteristics of Sichuan liquor and represents the highest level of Chinese baijiu making. The State Council has named its "Shuijingfang brewing craft" as a "national intangible cultural heritage." With this opportunity, Shuijingfang developed its culture on the unique brand foundation of the Shuijing Street Distillery Site and forged corporate brand. In 2000, the company established Chengdu Shuijingfang Sales Co., Ltd., successfully launching the "Shuijingfang" series of products, and receiving national recognition as a "China Famous Brand."

This finding triggers a new way of thinking in this study: in terms of impact on a company's success, are special resources worth paying attention to compared to other relevant factors? This will have to be thought about in future studies.

- Eliminating Competitors: R&D and Market Development

In the process of Shuijingfang's development, its early competitors (small workshops) were successfully eliminated. New competitors are formidable. The results of the comparative analysis suggest that companies that eliminate their competition early have higher rates of growth. This finding can be understood well in the Shuijingfang case. The results of the survey show that through product transformation and unique attempts in the sales market, Shuijingfang's growth was rapid. After eliminating its early competitors, Shuijingfang's market share was second only to Moutai and Wuliangye, ranking it third in China. The company's accurate self-positioning and pioneering of marketing channels are important reasons. After more than two years of R&D and establishment of unique sales channels (Shuijingfang broke with tradition and rather than choosing baijiu dealers, instead chose dealers in real estate, IT, advertising, and other industries), the company smoothly propelled the Shuijingfang brand into the high-end market. This clear self-positioning and bold sales strategy have proven successful. After eliminating early competitors, Shuijingfang attained great success. In this process, the company created its own core skills: production and operations management capabilities, product quality, brand management and customer relations, information management capabilities, and market development and sales capabilities.

- High Growth and Internationalization Brought by Change in Ownership Structure

In terms of the relationship between growth and ownership structure, this case clearly demonstrates the general character of joint ventures, which is a high rate of growth. Because Shuijingfang is a joint-venture company that was once a joint-stock company, the changes after the transformation are very convincing in explaining the general character of joint ventures. In 2006, Shuijingfang began a partnership with the world's biggest spirits group, Diageo, taking the company into the internationalization stage of development. In 2007, Diageo acquired 43 % of Quanxing Group, and the two companies formed a strategic partnership. In 2008, Diageo's holdings reached 49 %, and increased to 53 % in 2011. After partnering with Diageo group, Shuijingfang smoothly entered the international market through Diageo, and international sales of high-end baijiu achieved breakthrough development. Before internationalization, Shuijingfang was only able to sell round 50 tons of baijiu per year to the international market. Through Diageo's sales channels, Shuijingfang's sales situation improved significantly, reaching approximately 200 million tons in 2011, four times that of the past. Additionally, Shuijingfang smoothly entered more than 20 countries and the duty free stores of more than 40 airports. Customers are now able to purchase high-end Shuijingfang baijiu in mainstream markets such as the UK and the US.

These findings show the international partnership's breakthrough in sales channels, and the joint venture's strengths and its enormous benefits are very obvious in this case. But when analyzing the high growth brought by the

joint-venture model, the role of other factors, such as Shuijingfang's unique resources, must be taken into account.

- Interaction between Company Development and Development of the City

Analyzing the city's role in company development, it is easy to see that as a major city in one of the world's newly industrialized countries, Chengdu has provided Shuijingfang with a free and open market at home and abroad, an excellent environment for business growth, and excellent human and financial capital, enabling Shuijingfang to grow strong under a good economic and social system. In its development process, Shuijingfang expanded the market it serves from Chengdu at the time of its founding to the international market today. This may not be the same as the concept of companies serving the local market and accelerating urban development, but in the process of Shuijingfang's move from local to international, economic development and its internationalization process have been real. From this we can see that the company has been of great significance in spurring agglomeration and linkage effects. The company's actions have undoubtedly led to progress in the city's internationalization.

4.2.11.4 Case Summary

Through this case study, we can see the mutual benefit of partnerships between multinationals and domestic companies. On the one hand, such partnerships dredge out obstacles formed by cultural differences and other reasons, and on the other hand they allow each party to profit. This is a development opportunity sought by developing countries under the initiative of their companies. This shows that Chinese companies' products need proper channels by which to enter the international market. In this case, global economic integration has enabled international liquor giants like Diageo to enter the Chinese market, providing Chinese companies like Shuijingfang with opportunities for international development. Shuijingfang has gradually grown from a local Chengdu liquor brand to a respected Chinese baijiu company. Besides the company's own correct development strategy and steady development path, the globalized industrial division of labor, China's rise, and the rapid development of Chengdu have all created a positive environment for growth.

In addition, Shuijingfang's development has come at a key time in China's rapid economic growth. "Western development" and other national strategies have enabled Shuijingfang to develop rapidly in Chengdu. At the same time, with China's rise, the Chinese consumer market has risen sharply. Shuijingfang seized this opportunity to improve product quality, successfully creating a high-end liquor brand and entering China's high-end liquor market. These experiences in the development of the company show that increased spending power brought by China's rise and shifting national strategy have spurred the company's success.

4.2.12 Chengdu SME Credit Guarantee Co., Ltd

4.2.12.1 Company Background

In order to support small and medium enterprises (SMEs) and ease the difficulty of SME financing, Chengdu SME Credit Guarantee Co., Ltd. was founded in August 1999. The Chengdu Municipal People's Government approved the founding. The company's scope of business includes financing guarantees, such as bank liquidity loan guarantees, bank project loan guarantees, and export credit guarantees such as financing guarantees, corporate debt and financial lease loan guarantees. It also includes non-financial guarantees. The company is located at 188 Babao Street in Qingyang District's Guoxin Square, Chengdu. The interviewee was an assistant general manager who had worked at the company for four years and was familiar with its development situation.

4.2.12.2 Company Founding and Development

At its inception, the company was a wholly state-owned, non-profit policy guarantee institution that obtained its revenue from financing and investment guarantee services. Today, the company is a non-profit Hong Kong, Macau, and Taiwan joint venture. As of December 2011, it had cumulative guarantees of 48.4 billion yuan, more than 8000 cumulative guarantee customers, a balance of 16 billion yuan of guarantees, total guarantees of more than 48 billion yuan, and 1500 active guarantee customers. Of this, SME guarantees accounted for more than 90 %, the compensatory rate was 0.56 %, and the average rate was around 2 %. The company has gone through multiple adjustments since its founding a decade ago. The management mechanism has become more rational, an employment mechanism and innovation mechanism have gradually formed, and the company has cultivated a positive corporate culture and provided important systemic guarantees of future development. "Chengdu SME Guarantee" has become a nationally recognized guarantee brand, and guarantee capabilities and management proficiency are at the forefront of the industry. The company is currently developing from a local guarantee organization to a regional guarantee organization. In the development process, operating revenue has increased 20 times. The company currently employs 92 people, of which 35 are graduate students or above. More than half of employees have senior professional titles. In terms of internal management, the company has six front-office departments, one middle-management department, and three back-office supervisory departments (Risk Oversight Department, Audit Department, and Lending Center), as well as a financial department and office management department, forming a relatively complete organizational structure.

From founding to present, the company has grown from small to large and from weak to strong and become a leader in the guarantee industry in Sichuan province and even one of the nation's top 30 guarantee businesses. The company owes its

success largely to the national policy of supporting SMEs, as well as to support from the Chengdu Municipal Party Committee and Government. The company has relied on a continuously innovated, market-oriented operating model. This model combines state-owned capital, private banks, and SMEs to form an intrinsic mechanism of shared interests, shared risks, and sustained development, thus enabling the company to grow continuously. On the other hand, a continuously developing and strengthening Chengdu SME Guarantee also better played the role of a policy-oriented guarantee institution, bore more social responsibility, and played an increasingly important role in spurring the development of Chengdu SMEs. After these years of development, the company has the following core skills: ability to research and develop new products, brand management and customer relationships, market development and marketing capabilities, investment and financing capabilities, and employee training capabilities. The company's flagship product's competitiveness comes from the company's ability to constantly introduce new varieties and styles. The company's flagship product is in the mature stage of the lifecycle, and the technical proficiency of the company's self-developed flagship product has reached a leading level among similar domestic products. The company constantly innovates new models and varieties of guarantees, and it is today the guarantee institution with the largest total guarantees, most customers, and must on-going guarantees in southwestern China. Its guarantees are also on the rise. Beginning in 2005, its annual guarantees accounted for nearly 50 % of total guarantees to companies by Sichuan guarantee institutions, and its cumulative guarantee amount exceeded 50 % of the cumulative total for Sichuan guarantee institutions. The company's strategic direction of future development is focus on existing principal business areas and handling them professionally and well. The interviewee said that company's development path should be to improve management, solidify its foundation, and then expand opportunistically, and that there is a need to make every company employee understand the company's development strategy. The company's future operating risks come from market risks and management risks. The company's future plans and strategies are developed jointly by middle and senior management at an annual meeting.

4.2.12.3 Findings and Analysis

- High Number of New works Produced by Industry's Development

The survey data show that at the time of the company's founding, its main business revenue came from more than four industries, and this is the case today as well. The data show that the number new industry fields involved at the time of founding and from founding to date reached the highest level, which puts the company among only several others of the 150 surveyed companies. This is related to Chengdu SME Guarantee's particular industry and the specific policies of the times. As a new business in a new industry, Chengdu SME Guarantee was the first of its type in Chengdu at the time of its founding. At that time, the role of SMEs in

the Chinese national economy was becoming increasingly prominent along with economic development, and the global difficulties of SME financing became an issue of policy concern. To help SMEs improve their credit capabilities, alleviate their financing difficulties, and improve the environment for their survival and development, in June 1999, the then-State Economic and Trade Commission issued "Opinions on Establishing a Pilot Credit Guarantee System for Small and Medium Enterprises." Additionally, the Chengdu Municipal Party Committee and Government promulgated "Opinions on Further Deepening and Accelerating Reform and Development of Small and Medium Enterprises," which increased support for SMEs. On this basis, Chengdu SME Guarantee was founded in 1999. From this we can see that Chengdu SME Guarantee was founded to cater to new industry needs, and that the substantial extent and great number of business innovations were necessary and not subject to the influence of other factors.

From this we can see that when we analyze the relationships between new business and growth and new business and industry, it is difficult to apply universally analysis results to a company in such a new industry. The government and corporate behavior unique to developing countries of constantly adjusting and constantly adapting to new demands is often difficult to attribute to universal characteristics.

- New Business, Development, and Growth

Further analyzing the multifaceted relationships between Chengdu SME Guarantee's new businesses and high asset growth, the details of the company's development process show the high growth brought by new businesses inseparable from the company's perseverance in developing and exploring new markets. Only by constantly seeking suitable markets for established business can corporate behavior be transformed into high asset growth. The data show that early in the company's founding, Chengdu SME Guarantee had only 35 million yuan in registered capital. Due to the small scale of guarantee capital, society and banks paid little heed to the institution. In order to expand its market and influence, the company employed a membership system to attract SMEs and guaranteed member companies. By the end of 2000, the company had attracted 4 member companies and had provided 100 million yuan of guarantee support for members. In 2008, in order to further improve the financing environment for SMEs, the company the company, by investing in guarantee guiding funds, actively got involved in guarantee system construction, fully bringing into play its own channel advantages and management advantages, integrated various resources, and accelerated the development of guarantee institution business in various districts and counties, achieving mutual benefit for the government, company, and guarantee institutions at the municipal and county (district) levels. In 2009, the company further strengthened team building, actively responded to market competition, improved marketing capabilities, and explored cross-regional partnerships and business spaces such as small-scale loans and non-financial guarantees. In 2011, net assets grew to 3 billion yuan, guarantee capabilities increased significantly, and the company could leverage tens of billions of yuan in capital. It thus became the largest SME guarantee

institution in western China and possibly all of China. In addition, with the company's growing strength, the government gradually withdrew from the risk-sharing mechanism, and going forward, the company will mainly share risks with banks. The company fully uses policy and brings its own advantages into play and constantly innovates in the guarantee business. Besides the traditional loan guarantee business, the company is actively partnering with banks on a deeper level, even entering the capital markets and providing diversified financial services including private equity, trust, debt, M&A, counseling, and listings.

Chengdu SME Guarantee, as a curriculum vitae of founding and development in a new industry, told us that expanding innovation is a must in a nascent industry. But the results of the quantitative analysis show that among companies developing new businesses, those developing new markets have lower growth. This clearly shows that Chengdu SME Guarantee's success is not universal. So, what factor played a decisive role between the company's innovation and its success? This survey cannot answer this question. This finding demonstrates that an unknown successful experience exists in the process of the rise of a nation. Thus, it would be significant to further study the success rates of companies in innovative industries and the factors causally related to this success.

- Policy Support in the Development Process

In the early stages of this study, we defined support as "land use or production site authorization" or "policy support". But we did not further analyze the relationship between support and total asset growth. Our existing analytical results found that state-owned companies have received significantly more support than other classes of companies. Due to Chengdu SME Guarantee's particular industry and new business form at the time of its founding, we need to understand how the company developed smoothly with the support of state policies.

In 2001, two years after its founding, Chengdu SME Guarantee's guarantee business began to shrink, and development entered a slump. The root cause was professional guarantees were still a new business, with little recognition among financial institutions. So, in the spirit of "supporting reform of municipal state-owned enterprises, promoting the adjustment of the municipal industrial structure, accelerating municipal industrial economic development, establishing an all-new mechanism, and quickly growing big and strong," with the support of the municipal party and government, on the basis of the restructuring of the Big Four state-owned Chengdu investment companies into Chengdu Industrial Investment Management Co., Ltd., Chengdu SME Guarantee was similarly restructured. Its registered capital increased to 110 million yuan, and its guarantee capabilities increased somewhat. At the end of 2002, the municipal party committee and government introduced "Opinions from the Chinese Communist Party Chengdu Municipal Party Committee and Chengdu Municipal People's government on promoting SME Financing Work." As a framework document for promoting SME financing in Chengdu, it clearly proposed establishing a guarantee system of multiple entities, multiple levels, and multiple forms, to effectively build an SME

financing platform. Less than a month after the document was released, Chengdu SME Guarantee's new registered capital of 60 million yuan arrived, and the company's guarantee funds reached 100 million yuan, making it the strongest guarantee company in the province. More importantly, the government also stipulated a financing pilot principle of company, bank, intermediary, and government interaction and mutually supported by market-oriented cooperation and the government, and correspondingly issued five detailed implementation documents. Chengdu SME Financing Guarantee thus formed a government-led, overall pushing-forward posture, and Chengdu SME Guarantee's financing work thus entered a new era. The company's registered capital, loan guarantees, and customers grew precipitously.

- The Company's Role in Accelerating Urban Development

We have specifically analyzed Chengdu SME Guarantee's government support as a state-owned company. Here we will analyze the company's role in spurring the long-term growth of Chengdu. First, in terms of agglomeration, as of the end of 2011, the company had launched partnerships with some 300 branches of more than 20 banks including the China Development Bank, China Construction Bank, Bank of Communications, China Merchants Bank, Bank of China, Bank of Chengdu, Chengdu Agricultural and Commercial Bank, Exim Bank, and others. Its scope of business covers 20 districts (prefectures) and counties of Chengdu, and has expanded to prefecture-level cities within Sichuan Province, including Leshan, Nanchong, Neijiang, Panzhihua, Mianyang, as well as Chongqing and Guizhou, and is radiating westward. Meanwhile, the company's local nature is worth noting. At the time of its founding, more than 50 % of the company's employees came from Chengdu, and Chengdu was the company's market at that time as well. As a policy-oriented guarantee institution, the company has always devoted itself to undertaking more social responsibilities, such as coordinating with national policy, helping banking consortiums, and bringing first-rate talent and technology into the countryside through micro loans. In addition, the company has further developed university student loans and entrepreneurial loans and further accelerated the construction of the SME credit guarantee system and credit system. These are all Chengdu SME Guarantee's contributions to the rapid development of Chengdu during the course of its own development.

4.2.12.4 Case Summary

A notable feature of this case is the company's local nature. As mentioned earlier in this book, companies devoting themselves to the local market are closely correlated with a city's development. In fact, at the national level, companies devoted to the domestic market drive the comprehensive, rapid development of the national economy, using products and services to enhance the country's economic self-sufficiency, expanding domestic demand to pull development, thereby

expanding the diversified division of the domestic labor market. Therefore, we when we study the development and internationalization of successful cities, we must comprehensively consider the overall role the company plays in the national economy and the role played in the urban competitiveness required for the internationalization of a city.

In studying the economic growth of Chinese companies, due consideration of the impact of China's national conditions is necessary. In China, the national economy is subject to government macro regulation and control, and new regulation and control measures and corresponding policies and regulations may result in radical changes for businesses. Thus, in analyzing the relationship between a company's asset growth and new businesses, we must first sift through the data to remove the interference of these factors, or else the results will lack credibility.

4.2.13 Sichuan Comfort International Travel Service Co., Ltd

4.2.13.1 Company Background

Sichuan Comfort International Travel Service Co., Ltd. is a company in the tourism industry in which the state holds a controlling stake. The company has 400 employees, and the controlling shareholder is China Comfort Travel Group. The company is located at No. 1 Tianxianqiao North Road, Chengdu. The company was established in 1993 to accelerate the development of the tourism industry. After 20 years of development and growth, Sichuan Comfort has become the fastest-developing travel company in Sichuan, which has also received the most domestic and international tourists and has had some of the fewest complaints among travel companies. The interviewee is a vice president who has been with the company for 12 years.

4.2.13.2 Company Founding and Development

This is China's first joint-stock cooperative travel agency, which has been written into the textbook for reform and restructuring pilots by the national Tourism Administration. The company underwent shareholding reform in 1994, becoming the first company in Chinese travel industry to be an employee stock ownership plan stock cooperative enterprise. In 1995, the company received a minority investment from China Comfort Travel Group and became a state-controlled company. The company's name changed to "Chengdu Comfort—West Travel Agency." In 1997, the company received approval from the National Tourism Administration to become an international travel agency, and operating revenue reached 5 million yuan. In 1998, it received "China Outbound Travel Agency"

qualifications, and operating revenue broke 50 million yuan, making it one of the top three travel agencies in Sichuan. In October 2003, Chengdu Comfort was renamed to Sichuan Comfort International Travel Service Co.

In the year after its founding, the number of employees grew by between 20 % and 50 %, and from the end of that year to date, the number of employees has grown by more than 200 %. Today, more than 50 % of company employees have at least a three-year degree. Compared to the first full fiscal year, the company's net assets (equity attributable to shareholders) in the most recent fiscal year had increased more than 200 %, making it a high-growth company. At the time of its founding, the company's revenue was made up of one industry sector, which is still the case. Compared to its major competitors, the company's competitive advantages are: industry-leading comprehensive capabilities, good product quality, customer satisfaction with the company's products, a high level of corporate governance, leadership in the prime of life, and unity and hard work among employees. The company's industry is entering a mature stage, and operating revenues or profits are stable.

4.2.13.3 Findings and Analysis

- Employee Quality and Asset Growth

A remarkable feature of Comfort Travel is the high quality of its workers. After nearly 20 years of development, the company has a high-quality, multi-lingual staff, tour guides, and tour team. Those with university or three-year degrees make up 84.24 % of the workforce, 31.2 % of employees have high school-level professional or technical functions, and 93.57 % of employees have undergone professional travel education and systems training. The company has the most and best German tour guides, has one "National Super Guide" and numerous "Top Ten Guides," "National Civilized Guides," and "national Excellent Guides." The company's foreign-language tour guides all have undergraduate degrees from key foreign language institutions, and more than 60 % have had study-abroad or training experience. Of the more than 200 employees in the business department, many have been in the tourism industry for more than five years, with ample experience in product design, marketing, and team operations. Some have received technical certifications as travel experts and senior planners from national professional organizations.

From the levels and professionalism of Comfort Travel employees, we can see that the quality of employees is closely linked to the characteristics of the industry. The high-level service of the tourism industry requires that employees have high translation quality and technical ability. These are prerequisites for Comfort Travel obtaining various industry qualifications and honors. Therefore, in this unique case, we can explain the relationship between high employee quality and high corporate growth. However, in general, companies with more university graduates have slower growth than companies with a minority of university graduates. Thus, Comfort Travel can provide experience in translating quality employees into additional value.

- Growth, Industry, and Ownership Structure

Referencing the results of the quantitative analysis, high-growth companies are relatively common among service businesses, making up 60 % of companies in the service industry, which is second only to the real estate industry for high-growth companies. So Comfort Travel's high growth is not surprising. In addition, although there is no significant correlation between the state-owned form and higher rates of growth, we can see from the various qualifications obtained and the company's key position in the Sichuan tourism industry the facilitating role that government support brought by its state-owned ownership structure has played in this travel company's operations.

In 1997, Comfort Travel's qualifications were elevated from domestic travel agency to international travel agency, and in 1998 the company obtained "China Outbound Travel Agency" qualifications. In 2003, it obtained "China Outbound Tourism Tour Group Agency" qualifications and was identified by the Sichuan government as a "Key Travel Agency of Sichuan Province." In 2005, the Chengdu government identified the company as an "Inbound Tourism Market Promotion Agency," and in 2007 the company was identified as a "Key Enterprise to Underpin in the Chengdu Tourism Industry," and the company entered the ranks of the top 100 international travel agencies in China (where it has remained since). In 2008, The Sichuan government and related departments assessed the company as a "Sichuan Tourism Backbone Enterprise," a "Sichuan Travel Agency of the First Order," and a "Sichuan Enterprise with Advanced Quality Management." In 2009, the company was the only travel agency selected by Chengdu news media for inclusion on the "3–15 Sincere Brands List," and in 2010 it was the only Sichuan travel agency designated by the World Expo Tour. In 2010, the company was identified as a "Sichuan Tourism Standardization Pilot Unit." In 2012, the provincial government identified the company as a "Sichuan Service Famous Brand," which was the first time a travel agency had been included on the "Sichuan Famous Brands" list. Comfort Travel also became the number one service brand in the Sichuan travel agency industry.

- Innovation and Growth

In general, innovation is strong among service industry companies, which is suggested in the results of the quantitative analysis. In this case, Comfort Travel's corporate team has a strong capacity for R&D and innovation, such as innovations in niche aspects of the tourism market, in regional marketing of tourist destinations, and in marketing of scenic areas. In addition, the company has made "business integration and process reengineering" reforms of the tourism industry, and through specialized division of labor and unified marketing, it has established a management system and operating processes more suited to the rules modern travel agency management and development trends.

- Individual Role of the Entrepreneur

The study found that the company's good development trend, opportunities for individual careers, and the charisma of company leadership attracted employees in the company's development. The role of the entrepreneur in the company's development process is not only reflected in the company's ability to attract employees, but in his role in guiding the company's gradual development and expansion. Comfort Travel's predecessor was "Chengdu West Travel Agency," the founder and chairman (president) of which was Zhou Xiaoding. Zhou was born on November 23, 1958 in Chengdu, and is a member of the Chinese Communist Party. In 1982, he graduated from Sichuan Institute of Foreign Languages with a major in German. After graduating, he threw himself into the travel industry, spending time as a tour guide, tour manager, sales manager, and liaison manager. From 1991 to 1992 he was sent to Hamburg, Germany for postgraduate studies. After returning to China he served as assistant general manager for China International Travel Service. In 1993, he founded Comfort Travel, of which he is still president, and he has led the travel agency from small travel agency into one of the best and most successful large travel agencies in Sichuan, an international travel agency with the right to operate outbound travel, and a "Sichuan Key Travel Agency" as identified by the Sichuan government. In 1997, he was named among the first batch of "National Super Tour Guides," making him one of China's 21 Super Tour Guides. In 2004, he became an expert receiving a special government subsidy.

- The Relationship between Company Development and Urban Development

When asked about the main reasons for the company's past success, national policy support was considered to be the most important reason. In 1995, the company received a controlling-stake investment from the state-owned China Comfort Travel Group, which was a cause and starting point of its escalating development and growth. Thereafter, policy support from the Sichuan Provincial Party Committee and Government and the Chengdu Municipal Party Committee and Government spurred the company's rapid development. So, what has Comfort Travel's role in supporting urban development been? This can be explained in the agglomeration effects the company has brought to the city. From 1998 to 2011, the company grew stronger. In 2010, the company had a customer collection system of more than 100 "Comfort Travel Supermarkets" distributed around the province, in the city of Chengdu, and in the city's suburbs, as well as a network of some 400 agents in 21 prefectures (states). Moreover, the company's agglomeration and linkage effects are worldwide in scope. This is reflected its scope of business and the partners involved. Comfort Travel's operating scope includes domestic travel, China outbound travel, travel to Taiwan, domestic reception of foreign tourists, as well as providing official and business reception, business trip management, business travel, awards travel, and conference and exhibition services for official offices, groups, and corporate customers. The company has a sales network of more than 100 points across the province, with sales terminals spread across Chengdu, its suburbs, and prefectures (and states) within the province. These outgoing

businesses and partnerships are the path by which the company generates urban agglomeration and linkage effects. We should note that compared to other cases in this study, the internationalization effect generated by Comfort Travel has been more prominent.

4.2.13.4 Case Summary

This case has is unique in the two key points of employee quality and the role of the individual entrepreneur. When the hypothesis that high-quality employees would bring high efficiency could not be successfully validated in the quantitative analysis, the possible confounding factors are not the focus of this research. Comfort Travel's case gives us a hint in this area: whether industry characteristics and business needs are matched with high-quality employees is the key point on which we need to focus. This finding is of its own special significance, which is that pursuing high-quality employees is not necessarily the most appropriate thing for a company to do. The social demands and the relevant research produced by education that may extend from this will be of far-reaching social significance. In addition, the entrepreneur's personal role is not a characteristic of an isolated case. This has also been discussed in the QuanU Furniture case. The relevant findings can be combined for the reference of future research.

In the conclusion of this case we must mention that Comfort Travel's entire development is closely related to the improvement of the macroeconomic environment, Without China's rise there would not be a flourishing tourism industry or the international development of this industry. This is something we must repeatedly emphasize in this study on the basis of our research and discussion into the various aspects of Chengdu's development.

4.2.14 Intel Products (Chengdu) Co., Ltd

4.2.14.1 Company Background

Intel Products (Chengdu) Co., Ltd. is a wholly foreign-owned company in the semiconductor industry. At the time of its founding, the company received operating revenue from chipsets and microprocessor products and had 3500 employees. Due to the development of the electronic information industry in western China and China's western development strategy, as Intel's fifth global manufacturing base, Intel Products landed in Chengdu in August 2003 and quickly gained its footing in the industry's rapid development stage. The company is located in Chengdu Hi-Tech Zone's western park district in Chengdu Zongbao District at No. 8-1 Kexin Road. The interviewee is a director of public affairs for Intel in western China, who has been with the company for six years.

4.2.14.2 Company Founding and Development

On August 27, 2003, Intel CEO Craig Barrett announced an important decision in Chengdu: the company would inject US$ 375 million to establish a large chip packaging and testing plant in Chengdu. At the time of its founding, the company was the first to offer this product in Chengdu.

Intel has continuously introduced new businesses over the past decades, and persistently high levels of R&D spending have brought about Intel's core skills: production and operations management, product quality, and the ability to continuously research and develop new products. The data show that Intel's technology is difficult to replace, making it difficult for competitors to challenge the company. Over the past decade, Intel's Chengdu base has become its top branch worldwide, and the most links in Intel's global "territory." Moreover, Chengdu's high-tech industry has gained a seat in the global industrial chain. Intel Chengdu has become one of Intel's largest chip packaging and testing centers globally, and more than half of Intel microprocessors for mobile devices come from Intel Chengdu. The government support the company received at its founding includes but is not limited to: a city or district government investment project and tax incentives. Key government support for the company's development came in the way of: providing policy support and helping to resolve difficulties arising in operations.

From the year after founding to date, total employee wages have increased more than 200 %. After a decade of development, the company now has 3500 full-time employees averaging 27 years of age. Seventy percent of employees in technical departments have graduated from university within the past two years. The company pays particular attention to the growth of local staff, creating opportunities for them to improve their leadership and management experience and capabilities, as well as a cross-cultural work environment in which they cooperate sincerely with foreign colleagues to create a highly cohesive, multinational team. Intel also emphasizes diversity among employees. Females make up 40 % of total employees and 30 % of technical employees. The company also places emphasis on career planning for female employees. The overall quality of employees is in the middle of the industry or higher, and factors attracting workers to the company include: the company's good development trend, better benefits and working conditions, and opportunities to develop individual careers.

Currently, competition is fierce in the market for the company's flagship product, and market share has been stable over the past three years. Compared to the company's main competitors, its advantages lie in: the company's overall capabilities leading the industry, good product quality, and customer satisfaction with the company's products. The company is technically strong and has research and development capabilities. The quality of employees is high, and the company is able to attract and retain all kinds of talent.

4.2.14.3 Findings and Analysis

- Industry Development

Since 2003, Intel Chengdu has create an unprecedented pace of development and leapfrog-style progress in aspects including plant construction, additional project capital, product delivery, integration into the community, and project relocation, and the set goal of promoting western economic and trade development has been initially revealed. This decade has also been a decade of rapid development for the Chengdu IT industry. The overall development of the industry has created a positive environment for the development of individual companies. At the same time, it is the pioneering and forging ahead of companies that has determined the healthy development of the industry. Although the quantitative analysis found that medium-growth companies make up the majority of those in the new and high-tech industry, this does not affect our understanding of the rapid development in the new and high-tech industry over the past ten years. Certain attributes of the companies in the existing data may have determined the results of the study, but that is not the focus of this study.

- The Relationship between R&D, Economic Growth, and Competition

From the survey data we can see that at the time of the company's founding, Intel Chengdu's revenue came from one industry, which is still the case today. This shows that Intel has devoted itself to the development of its main business and has not gotten involved in other fields. But for the analysis of new works driven by new business, we still need to look at the company's research and development of new products. The data show that construction on the second stage of the Intel project began in August 2005, the project was completed in October 2006, when the training center began to be used. The microprocessor factory began production in 2007, packaging and testing Intel's most advanced multi-core microprocessor products. In March 2009, Intel's packaging and testing plant in Shanghai was successfully integrated into the Chengdu plant, and the Chengdu plant was upgraded in production capacity and production technology. Production capacity reached a new milestone of 480 million chips, and in 2010, the newest Intel Core mobile microprocessors and other star products went into production in Chengdu. In 2013, will attempt a large-scale transition, in which high-end fields such as cloud computing, the mobile market, mobile phone chips, and UltraBooks become the company's development priorities. In this transition, Chengdu Intel will play a "leading" role, further achieving dual upgrading in production capacity and technology.

This shows that the quantity and speed of Intel's new technology development and production are relatively high, and its R&D of new technologies is directly related to its economic growth. Referencing the results of the quantitative analysis, the high and new-technology industry has the most continuous development of new businesses. Intel's high-level new business development is of universal significance

to the industry. But the previous study findings further tell us that in a general sense, there is no simple causal relationship between the growth of a company's economic size and new works (Quantitative Analysis 1). Thus, Intel's experiencing in translating new technology into economic benefit can perhaps be analyzed further in future studies so that other companies in the new and high technology industry may learn from its experience.

In addition, the survey shows that at the time of its founding, Intel Chengdu's main competitors in terms of market share were AMD and Samsung. Combining the results of the quantitative analysis (companies that still have strong competitors have higher levels of continuous new business, while those that have eradicated competitors have less new business), Intel's story shows a similar to experience in terms of growth to most companies with relatively fixed competitors.

- Ownership Type, Growth, and Multinational Strategy

In the Chi-square evaluation, foreign-funded companies exhibit a characteristic, which is that foreign-funded companies setting up branches or subsidiaries have higher total assets growth. As a foreign-funded business, Intel's development in Chengdu tells this story. In 2003, Intel formally signed an agreement to locate in Chengdu. In February of the next year, construction started on the first phase of the chipset factory project, which went into production at the end of 2005, with products exported around the world. In January 2012, the 1 billionth chip came off the production line at the Intel Chengdu chip assembly and testing facility, marking a new milestone in cumulative production for the Chengdu factory. Intel Chengdu was elevated to the most important production base worldwide and Intel's third sub-allocation center in China. Even so, from 480 million chips to 600 million, to 1 billion chips, Intel Chengdu's factory was Intel's fastest growing plant globally.

Then what factors are behind the pervasive high-growth of foreign-funded businesses? In Intel Chengdu's case, high and new technology is the main driver of development. One could say that part of the reason for the widespread high growth of the branch and subsidiary companies set up by multinationals is their technology and R&D capabilities. From another perspective, the transfer of the development of these multinationals to developing countries also brings opportunities for local technological improvement, giving hope for resolving the technological bottlenecks in the development of developing country businesses.

- Agglomeration Effects Formed for Numerous Reasons

Intel executives explain that under the major premise of accelerating trade transformation and transfer, the company selected Chengdu mainly because of the high efficiency of government departments, which could quickly respond to and resolve issues faced by the company. Chengdu's strong ability to radiate meant the company could conveniently cover neighboring Third and Fourth-tier cities, even Fifth-tier and Townships and Villages. Chengdu's human environment is very good and it has abundant human resources, with numerous institutions of higher learning in the city, such as the University of Electronic Science and Technology and

Sichuan University, which could provide the company with a large number of excellent candidates. Today, the majority of the company's employees are from Sichuan, and all are outstanding and can fully compete with others from around the world in the same industry, including management. With these natural advantages and various preferential policies from the local government, Intel settled in Chengdu. These reasons show that Chengdu's multiculturalism, its policy advantages within western development, as well as the selection criteria of multinationals in the professional market process, have decided Chengdu's agglomeration role, enabling numerous companies to quickly gather and develop.

- The Inland Urban Development Brought on by the Development of Information Technology and Transportation

From this case we can see that the increasing convenience of information technology and transportation on the one hand intensify urban agglomeration and on the other hand show the shrinking gap between inland and coastal cities. In 2012, it was officially announced that Intel's third distribution center in China, the Western China Distribution System, would be located in Chengdu High-tech Zone. Previously, Intel's distribution centers in China had only been established in Shanghai and Shenzhen, with no distribution in the west. Even if "Made in Chengdu" Intel chips were supplied to Chinese PC manufacturers, they had to be distributed through Shenzhen or Shanghai back to Chengdu, not only wasting time but also increasing costs due to logistics. The western distribution center not only satisfies demand in western China, but also distributes around the world to Europe. Alongside Shanghai and Shenzhen, the Chengdu distribution center forms the triangle of Intel's supply chain. But the significance of Chengdu's distribution center does not stop in the southwest. Intel has stated that Chengdu is an important Asia link in the company's global supply system, a market bridgehead connecting the Central Asian, European, and Russian markets.

4.2.14.4 Case Summary

The discoveries and analysis results of this case can be summarized as: (1) the new global industrial division of labor and the shift by multinationals of processing trade to developing countries on the one hand is not limited to a single city and on the other hand provides opportunities for developing countries. (2) Low-carbon environmental protection places higher requirements on developing countries. The more favorable the environment, the easier it is to attract the investment of multinationals and high-end talent. (3) An open, inclusive, and diverse culture (casual Chengdu) is conducive to innovation and complementary to the development of cities of the world. (4) Institutional factors: local government policy secured Intel's investment in Chengdu. We can see that the system of decentralized power enables local policy to be more competitive.

4.2.15 DTZ Real Estate Consulting (Chengdu) Co., Ltd

4.2.15.1 Company Background

DTZ Real Estate Consulting (Chengdu) Co., Ltd. is a foreign-invested company with 100 employees. DTZ Chengdu was established in 1998 and is one of DTZ's 16 branches in Mainland China. It was originally DTZ Real Estate Consulting (Chongqing) Co., Ltd. Chengdu Branch. The company is located on Shunchang Street in Chengdu. The interviewee is the company's assistant general manager, who has worked at the company for nine years.

4.2.15.2 Company Founding and Development

DTZ is one of the Big Five international real estate consultancies (DTZ, CB Richard Ellis, Colliers International, Savills, and Jones Lang LaSalle) and has a long, far-reaching history. The company dates back to 1784 when one of the companies that invested to form DTZ, Chesshire Gibson, officially opened in Birmingham, England. The company is headquartered in London, and as of 2011, it had 225 companies and 27,000 employees in 150 cities in 45 countries. Including service contractors, 43,000 workers provide transnational real estate services for clients. To seize market opportunities and to fill gaps in the market, the company invested to create DTZ Debenham Tie Leung, which settled in Chengdu in 1998. It was the first company to provide this service in Chengdu. From the end of the company's second year to date, the number of employees has increased by over 200 %, and today those with three-year degrees and above make up over 50 % of the workforce. The interviewee said the reasons for the company's past success include: the rapid growth of the market, the hard work of all employees, and good customer relationships. Today, the company's growth rate has started to decline, and the industry is highly competitive.

4.2.15.3 Findings and Analysis

- Industry Characteristics and Economic Development

As a real estate management company, the rise of the real estate industry created a great opportunity for DTZ's entrance and growth. Housing reform policies introduced in 1998 opened a new chapter on Chengdu's real estate market development. Residential investment increased year after year, and DTZ, starting with residential property management and property consulting, gradually entered the commercial and insdustrial property management business, and business volume expanded. Especially since 2007, the company's pace of development has been quick. In 2007, the industrial park market exploded, with demand for garden-style,

detached corporate office communities exceeding supply like in Beijing, Shanghai, and other Tier I cities. At that time, Tianfu Software Park, Chengdu Qingyang Industrial Headquarters Base, Jinjiang Industrial Park, Haixia Straits Technology Park, were the main industrial park force in Chengdu. The beginning of construction of Chengdu SBI Innovation Street presaged the industrial park craze driven by expanding market demand in Chengdu. Since 2007, demand for industrial parks in Chengdu has remained strong, with demand originating from the high-tech, manufacturing, financial, and telecommunications industries. In addition, Chengdu's commercial property management has also developed rapidly. According to a DTZ research report, among China's 18 main, high-end commercial property investment markets (cities), Chengdu ranks fourth in overall attractiveness.

- Ownership Structure and Economic Development

As the results of the quantitative analysis suggest, growth is higher among foreign-invested companies establishing branches or subsidiaries. DTZ's development is successful, and its business has foreign characteristics. Compared to its peers, when DTZ was the first to advance into Chengdu in 1998, DTZ provided the majority of property management business in Chengdu. As of 2009, within a decade, DTZ was servicing more than 130 projects in Chengdu, mainly: full management of First City Plaza, consulting on Jin Guan New City, consulting on Gaoxin International Plaza, full management of Ling Jiang Feng Ge, consulting on Lu Shan International, and consulting on Ludao International. DTZ arrived first, has done the most work, and is most adapted to the local market. This is undoubtedly where DTZ's differentiating advantage lies. For more than a decade, DTZ has not left behind its inherent foreign habits, excelling at foreign partnerships and favoring companies with foreign backgrounds.

- Market Demand Drives Company Development

Chengdu is working to build a western financial center, logistics center, and scientific and technological information center. This series of strategies has accelerated the flourishing development of the real estate industry in Chengdu, which provided various opportunities for DTZ to provide real estate consulting and property management services. Chengdu's high-end office buildings, villas, and commercial buildings continue to emerge, and the property management market is in a less than mature stage. This provides significant market opportunity and space for property management and services companies with sufficient expertise.

- The Interaction between City Development and Company Development

Using the opportunity of building the Chengdu-Chongqing Economic Zone and a modern world garden city, while promoting its own economic development, Chengdu also attracted a large number of companies (including many Fortune 500 companies) to invest in the city, causing many industrial parks to spring up and commercial real estate to thrive, thus driving demand for related property management. This is the opportunity that Chengdu created for DTZ's development.

Additionally, government support created a positive environment for DTZ's development. On the other hand, at the time of its founding, the company's employees mainly came from Chengdu, and the raw materials for its products mainly came from the city as well. After more than a decade of development, DTZ has grown into a professional service organization with more than 3000 professionals around China who provide a high standard of professional services and maintain good partnership relationships with many customers. These achievements undoubtedly enhance Chengdu's agglomeration and linkage effects.

4.2.15.4 Case Summary

One similarity between this case and the QuanU Furniture case is the change that industry development brought to the business. As a property management company, DTZ is closely related to the real estate industry. Therefore, when analyzing the company's development, paying attention to the trends in the main related industry and understanding the direction of its economic development is of value. In addition, the connection between rapid growth of foreign-invested companies and the policy direction of western development cannot be ignored. The Chengdu government's favorable policies and Chengdu's low-carbon, environmentally friendly environment are equally important to companies coming to invest. The agglomeration and linkage effects of these companies are accelerating the progress of Chengdu's internationalization.

4.3 A Comprehensive Analysis of Multiple Cases

Before summarizing and discussing the findings of the cases, we must clarify one thing. That is, the specific situations of individual enterprises are not necessarily universal. These findings lead us to do more detailed and in-depth thinking about the relationship between total assets growth and the related factors in the development of businesses in order to interpret the universality and uniqueness of Chengdu's rapid development in the internationalization process.

4.3.1 Diversity and Creativity of New Works

The data from each case show that in rapidly developing national economies, new works exist in a variety of methods and forms. For example, Maipu brought new works through new business models and sales channels; Chengdu Culture and Tourism gradually refined its business in the same field; Shiling Poultry explored an operating model suited to rural development. These findings remind us that in the

relevant studies, we must have detailed, clear definitions of new works and new R&D. In rapidly rising countries, it is difficult to directly quantify new works through numbers relating to the expansion into new fields. In addition, the development of new works and the lagging of the related economic effect should not be ignored. Continuously expanding new works (working in new work fields) and stable, existing jobs, are both equally important to economic development. This has been analyzed in detail in the Sichuan FAW Toyota and Shiling Poultry cases.

4.3.2 Market Development Drives Expansion of New Works

In order to specifically illustrate "new works," in constructing the variables, we focused on why companies enter new fields. One resulting variable was "market opportunities." The results of the quantitative analysis suggest that companies with strategies to seek market opportunities are more inclined to have higher levels of new works. In the case studies we found that this is an important motivation for business innovation. Kelun Pharmaceutical carried out product innovation to develop a market; Maipu produced new technology to vie for market opportunities; Chengdu SME Guarantee sought market opportunities to expand into new businesses and brought about the company's rapid growth. These findings remind us to note that companies continuously innovate to expand into new markets, and this sustained innovation brings about rapid growth in assets. The operational approach in each case is unique. Each has its own particularities. These three cases originate in different industries and illustrate that companies in different stages of development must all innovate constantly in order to expand into new markets. Companies with this sense of innovation and experience in innovation are undoubtedly active in the expansion aspect of new works and are actively making efforts toward the rapid diversification and internationalization of the city. What we need to examine is, among these companies, what factors play deciding roles in the relationship between innovation and success? This is a question this study is unable to answer. But these findings prove that unknown successful experiences exist in the process of the rise of a nation. In order to turn these experiences into usable knowledge relating to urban development, future studies can focus on the common characteristics of companies constantly innovating in order to carry out their strategies of expanding into new markets.

4.3.3 Local Market and Local Influence

Companies make comprehensive contributions to local economic development, including economic benefits, expanded employment, industry segmentation, and overall development of the upstream and downstream supply chain. For our understanding of local nature, we must on the one hand look at whether a company

is oriented toward the local market, and on the other hand look at whether the in the course of its operations the company drives related industries to change the local labor force structure. For example, Culture and Tourism Group has not focused on the local market and looks as if it has not assisted in the rapid development of the city. But the local employment and changes to related industries driven by Culture and Tourism Group's corporate behavior changed the structure of the labor force, and the company, which is based on culture, accelerated the development of the city's culture. So, when we seek to understand local nature, we must on the one hand look at whether a company is oriented toward the local market, and on the other hand look at whether the in the course of its operations the company drives related industries to change the local labor force structure.

4.3.4 The Effects of Policy Factors Within the Nation's Rise on Different Industries

In the quantitative analysis of the previous chapter, we found that industry category is an intermediary factor interfering with new works and a company's total assets growth. The results of the case studies remind us to pay attention to the effect macro policy controls on specific industries in the development of a nation. For example: (1) The effect of rapid growth of the housing market under the guidance of real estate policy on the furniture manufacturing industry and related service industries (QuanU and DTZ cases). (2) The support and development the government's focus on employment of the rural population brought to Shiling Poultry. Second, in developing countries, some industries are completely new, and the impact of national power on nascent industries makes the development of companies in these industries non-universal. Chengdu SME Guarantee is a typical case.

4.3.5 Companies of Different Ownership Structures Have Different Development Advantages

First, the state-owned enterprises have given expression to their advantages and disadvantages in development. In Quantitative Analysis IX in the previous chapter, state-owned companies received the most support among all ownership types. The category also had the most high-growth companies, far higher than the number of low-growth companies. These characteristics found in the quantitative analysis are reflected in the Culture and Tourism Group, Comfort Travel, and Chengdu Investment Holding cases. The findings of the case studies demonstrate that the degree of support received by state-owned enterprises is far higher than companies of other ownership types, but the drawbacks of state ownership can also be seen in the data. For companies, state ownership, in addition to the advantages of support,

also brings numerous constraints, the details of which we have not covered in this study. These findings remind us that understanding the effects of ownership structure on company advantage requires looking objectively at both the positive and negative sides. Second, low-growth companies are most numerous in the foreign-direct-invested category, where high-growth companies also number the fewest. So the experience of various companies obtaining high growth within their ownership sectors is worth studying to a certain degree. DTZ and Intel's development in Chengdu demonstrated the reasons for their high growth: farsightedness in business offerings and their technical and R&D capacities. In the Intel case, new and high technology was the major driver of development. In DTZ's case, the company relied on a relatively sophisticated business model for its high growth. Finally, the results of the previous statistical analysis suggest that Sino-foreign joint investment is the ownership category with the most high-growth companies. The case studies found that joint investment brings clear advantages in outside technology, capital, sales channels, and management. In the Sichuan FAW Toyota case, the comprehensive talent the company has brought to the city in terms of talent, technology, and culture, is of universal significance. In addition, in terms of the relationship between growth and ownership structure, the Shuijingfang experience demonstrates a breakthrough in sales channels by way of an international partnership. The advantages of the joint-venture structure and its enormous benefits are clear. Overall, ownership form and company development are correlated. When calculating the growth of companies in different industries, we must consider the impact of their ownership structures.

4.3.6 The Importance of an Appropriate Workforce

In the preliminary study we found that there was no correlation between a majority of workers with university degrees and total assets growth, but that better educated workers did signify more new works. The case studies note the relationship between employee quality and company demand. The hypothesis that high-quality workers would bring about high efficiency could not be validated in the quantitative analysis, and we have realized the need to consider possible confounding factors. The Comfort Travel and Agilent cases remind us that what we need to focus on is whether industry characteristics and business demand are matched with employee quality. This finding is of special significance, which is that pursuing high-quality workers is not necessarily the best approach for a company. The related studies on social needs and education extending from this will be of far-reaching significance. Thus, we must consider how to establish a more appropriate standard to replace "university graduates" in order to make a more precise appraisal of a company's quality of employees. Industry qualifications, work experience, and overall quality can also be taken into account in order to make a comprehensive assessment.

4.3.7 Changes to the Competition and Company Total Asset Growth Are Related

As to the relationship between competition and company development, the relevant findings from the case studies coincide with the results of the quantitative study. First, companies whose early-stage competitors are still strong have high levels of new works. In the previous chapter we discussed that competition is used to balance to what extent a company can successfully elevate its monopolistic advantage. In this study, early-stage competitors were included in the survey questionnaire. Through quantitative analysis of this data, we found that (1) companies with early-stage competitors that are still strong have higher levels of sustained new works. Maipu is one such case. At the time of its founding, its main competitors were Huawei, ZTE, and H3C, and these companies are still Maipu's main competition. Market competition is fierce, but the company's market share has been increasing over the past three years. From this we can see that competitive pressure from other companies is impetus for development. (2) Companies that eliminated their competition early on are generally higher growth. Shuijingfang is one such example. In Shuijingfang's development process, its early-stage competitors (small workshops) were successfully eliminated, but new competitors are strong. (3) Companies whose competitors are still strong have higher levels of sustained business, while companies that have eradicated the competition have fewer new businesses. Intel's story shows a similar growth experience to the majority of companies with relatively fixed competition.

4.3.7.1 Support Received by Companies of Different Ownership Types

Cities have a significant influence on the development of companies through their policies. In analyzing the ownership forms in the cases, we have described in detail the support received by state-owned enterprises. For example, the development of joint-venture companies is mainly supported by government land and tax concessions at the time of the company's establishment. Chengdu's natural conditions, cultural environment, and academic advantages are attractive to multinational companies. Companies with direct foreign investments (such as Sichuan FAW Toyota and Agilent) received investment project tax concessions at from the Chengdu or district government at the time of founding. Joint-stock companies received sustained support (such as Maipu and Kelun Pharmaceutical). It should be noted that when analyzing the support received by a company, the results of the quantitative analysis show that privately owned companies generally have not received as much support as state-owned companies. We do have two cases that show private companies receiving government support. The experience of Shiling Poultry shows the government's comprehensive support from the company's founding and through its development process. QuanU Furniture, on the other hand, is a recipient of indirect support through government support of the housing

industry. One can see that we cannot simply link state support of companies with ownership type, as different businesses can benefit from support through different channels.

4.3.7.2 Other Findings

In the company development process, changes to the larger environment can undermine the conventional relationship between variables. Thus, in addition to the 13 important variables based on the quantitative analysis, in the case studies we focused on more factors influencing the development of Chengdu's companies. These newly found factors include:

4.3.7.3 The Un-ignorable Role of the Founder

In the initial phase of this study, the role of the founder in the development of a company was a point of research interest. But because the volume of collected data was insufficient for quantitative analysis, the company founder situation was not included in the construction of variables. But this did not prevent us from making a deeper analysis of the details of individual cases. The study found that the founders of some companies play important, inseparable roles in the development of those companies. For example, the experience and special knowledge of Kelun Pharmaceutical's founder is closely related to the company's success. QuanU Furniture is a typical example of a company relying on the efforts of its founder to achieve early success. Comfort Travel's good development trend, opportunities for individuals to make careers, and the charm of company leadership have attracted employees to the company. These data show that the role of the founder in the development of a company is of the utmost importance. Then, among the multitudes of companies, to what extent is the role of the founder universal? What special qualities of a founder have a major influence on company asset growth in a general sense? This requires deeper analysis in a social survey of a certain number of founders.

Fluctuations in Related Industries Become Key Factors in the Growth of Some Companies

The cause studies found that major changes to related industries can trigger substantive changes to manufacturing industry companies. This is something we did not consider among the previous variables related to company growth. The specific details can be deciphered in the cases of QuanU Furniture and DTZ. These two cases show us that development in related industries can play a decisive role in the growth of a company. If this point does not get the attention it deserves, looking at factors internal to the company is one-sided in terms of understanding its growth.

When the interference of external factors reaches certain intensity, the effects of other factors on company growth is of little value to the study.

The Key Role of Special Resources in Individual Companies

The results of the quantitative analysis show that the agriculture and food industry has the fewest number of high-growth companies. High growth here refers to total assets growth of more than 200 % compared to the first fiscal year. Shuijingfang's assets grew a hundred times compared to the company's first fiscal year, so this is a special case of significant growth in that industry. Analyzing the particular reasons for the significant growth, the company's unique resource (the ancient wine cellar ruins) should come first. This finding leads to a new way of thinking in this study: is the effect of special resources in a company's success of noteworthy significance compared to other relevant factors? Have special resources played a hidden role in the major successes of other companies? This is something for future studies to consider. This report suggests that when studying the development of companies, we must take more note of the impact of additional factors, including large fluctuations in related industries. The existence of such impacts would undermine the conventional relationships between factors.

4.3.7.4 Summary: The Uniqueness of Company Development and the Positive Role Companies Play in Urban Development

Overall, the relationship between growth and other factors in the development process cannot be clearly defined at a certain stage, and the specific situation of any company is not universal. This is inseparable from the objective reality that Chinese is currently in a stage of rapid development and change. That is to say, when analyzing the relationship between a company's total assets growth and other factors, universal analytical results are difficult to apply to companies in new sectors. In the development process, developing countries constantly adjust and adapt to suit their needs, and the corporate behavior that these changes lead to is difficult to attribute to any universal characteristics. This study confirms that cities are large platforms for providing new and old jobs. This platform is constantly developing in the process of the continuous division and diversification of labor. A prerequisite for urban diversification is the city's agglomeration and linkage effects. Since the substance of this study has been prescribed as understanding Chengdu's development trajectory in the process of internationalization through the activates of companies, how are agglomeration and linkage effects achieved through the behavior of companies? Through information related to the connections between various countries and other cities and countries, we can see that: (1) in the process of research and development companies need not be constrained by geography for talent or markets; (2) sales markets are centered on Chengdu and radiate out to varying extents; the upstream and downstream supply chains of companies

constantly and steadily expand; (3) international partnerships are constantly expanding. These factors are the channels through which companies develop their own agglomeration role, and the constant development of numerous companies in a city in this regard is the fountainhead of continuously strengthening agglomeration effects. When analyzing the development and internationalization of successful cities, we must, from the perspective of economic development, fully consider the overall role companies play in the national economy and the role of urban competition required for city internationalization. In addition, Chengdu's development has been rapid and unique. This process is constantly internationalizing. Many of the agglomeration roles of companies in the past have laid the groundwork for the move toward internationalization. One can imagine that the accumulation of agglomeration and linkage effects among a multitude of companies will bring rapid globalization to Chengdu in the near future. Looking further, we can conclude from this study of multiple cases that corporate behavior is the foundation of urban diversification. It is the constant innovation of companies in areas of technology research and development, business models, management, and markets that drives the constant expansion of new works. The continuous increase in these new works further drives the rapid development of the city.

4.4 Discussing Chengdu's Development Characteristics According to the Stories of Companies

The results of the case studies show that in their development processes, companies exhibit their own characteristics, the local characteristics of Chengdu, and China's national conditions. The details of these findings can help us analyze the following aspects of the development characteristics of Chengdu.

4.4.1 The Effects of Chengdu's Unique Characteristics on the Development of Companies

Chengdu's location natural conditions, cultural atmosphere, policies, and regulations all determine the uniqueness of Chengdu's development. These characteristics have attracted certain businesses, such as IT company Intel and Sichuan FAW Toyota, which were seeking an appropriate development environment, Shiling Poultry, which was founded and developed based on the specific local situation, and Chengdu Investment Holding, which was born to meet the development needs of the local economy. In addition, Symantec's story shows the assistance Chengdu's good natural environment and diverse culture bring to a company. Chengdu Culture and Tourism benefited from Chengdu's advantages in tourism. The effect of companies on the internationalization of the city is also reflected in cultural

integration. This can be seen in the case of Sichuan FAW Toyota. So, Chengdu's characteristics have guided and facilitated the economic development of Chengdu. Pioneering companies and Chengdu's own tourism and resources advantages have jointly constituted the necessary conditions for company success. It is precisely because of the comprehensive factors, including its low-carbon environmental protection, its open, inclusive, and diverse culture, and advantages in human resources and industry development that have provided a premise for and guarantee of Chengdu's economic development, enabling the rapid agglomeration and development of companies in Chengdu. Therefore, a low-carbon environment places higher demands on the development of developing countries, and it is easier and easier for environment to attract multinational investment and high-end talent. Chengdu's open, inclusive, and diverse culture is conducive to innovation and complementary to the development of a world city. In Chengdu's development, companies have used local advantages and further cultivated their own unique advantages. Open and inclusive thinking has encouraged innovation, which is a prerequisite for Chengdu to move into the world.

4.4.2 Modern Communications and Transport Networks Bring Inland Cities New Opportunities for International Connections

The findings of the case studies to a certain extent reflect the intensification of urban agglomeration from advances in information technology and transport links. Through the continuous development of information and transport, the two major channels of communications, companies persistently increase external cooperation. This bilateral movement is no longer subject to geographic restrictions, and we can more clearly see the shrinking distance between Chengdu and internationalized metropolises. Its open, inclusive, and diverse culture has accelerated this process. For example, Kelun Pharmaceutical has achieved development on a nationwide scale in pharmaceutical manufacturing; Intel established a distribution system in Chengdu; and Comfort Travel has a global customer base. These cases show that Chengdu's advantages as an inland city have increased with the development of information technology and transport. The development of information technology has intensified the city's agglomeration, and the development of transport has accelerated the city's international connectivity. On this basis, the gap between inland cities and coastal cities has narrowed significantly. This has become a major characteristic of urban development in the new era. And it is precisely this infrastructure development and the readjustment of the city's regional advantages that have solidified the foundation for Chengdu's internationalization. Therefore, we can say that new technology represented by telecommunications technology have given impetus to the development and upgrading of industry, promoted the industrial upgrading and organizational adjustment of emerging economic units,

while also changing the city's spatial setup and structure. This accelerated urban agglomeration has allowed the position of large cities and center cities to be more prominent and given them a stronger ability to radiate. Relevant research shows that 35 provincial capitals and cities with independent planning accounted for 40 % of Chinese GDP in 2010. Industrial transfer and upgrading has made the regional division of labor more and more clear-cut, and the position of the service industry in large cities and center cities has been magnified. The average proportion of the service sector output (49 %) of these 35 cities has exceeded their industrial sector output (46 %). A structure has emerged in central and western China where large cities are regional centers, such as Wuhan in central China, Chengdu and Chongqing in southwestern China, and Xi'an in northwestern China, all of which have assembled populations of more than 5 million people in their city centers and overall populations of around 10 million people. The service proficiency in transport, communications, science and technology, and finance, is limited. As centers of regional social and economic activity, they radiate and drive the development of neighboring small and medium cities and towns. On the other hand, modern means of transport and communication have narrowed distances around the world, breaking the traditional location relationship. First of all, convenient communications and transport have provided remote communication, and the populations of large cities have dispersed to suburbs. Second, inland cities are no longer constrained regionally. By strengthening modern communications networks, building out infrastructure, and reducing communications costs, they are accelerating communication with the world.

4.4.3 Decision Making Power in International Economic Activities Shifting to Multinational Companies and Government Management and Strategy

A portion of the case studies involves the development of multinational companies in developing countries. It is well known that the manufacturing industry of multinationals has been transferred to developing countries. The specific data of these cases show that developing countries possess the conditions for developing processing and manufacturing but are subject to technological bottlenecks. Moreover, when multinationals transfer processing and manufacturing o developing countries, they provide opportunities for development to different cities in developing countries. The Agilent, DTZ, and Shuijingfang cases include such details. The experiences in the development processes of these companies indicate that in the process of the continuous adjustment of the globalized division of labor, the regional, cultural, and population characteristics of developing countries have attracted multinationals with related needs. In this process, multinationals on the one hand have found soil for their own growth, and on the other hand, they have brought about comprehensive local development. This is the opportunity for rapid

development that economic globalization brings to developing countries. In this context, Chengdu has attracted foreign-invested companies with its unique cultural, natural, and economic environment. Existing research (Hall 1966) shows that the globalized operations of multinationals, the globalized division of labor, and the agglomeration of producer services in cities as enabled the strengthening of connections between cities with different functions and has allowed production activities to transcend national borders. World cities and the world city network are increasingly important in economic development. The globalized distribution of multinational cities has driven the internationalization of the division of labor, and companies establish branches and subsidiaries according to the factor endowments and comparative advantages of different countries. The result is cities become specialized units in the division of labor. On the one hand, investing in emerging industrial countries requires corresponding financial, insurance, consulting, marketing, and other producer services, manifested as multinationals accelerating investment and deployment in emerging industrial countries, strengthening the global service functions of some cities. Cities like Beijing and Shanghai have become globally important research and development and service centers. On the other hand, the growth of emerging industrial country companies requires corresponding support from financial, legal, consulting, and research and development service industries. Chinese businesses, for example, need to draw support from international capital. China's cities have increasingly close ties to Hong Kong, London, New York, and Singapore.

4.4.4 The Rise of a Nation Drives Urban Development

There is an obvious common characteristic in the research process of each company, which is the clear, positive role of the nation's rise in the development of industries and individual companies. For example: (1) Comfort Travel's entire development is closely related to the improvement to the macroeconomic environment. Without the rise of the nation there would be no flourish travel industry or international development of this industry. (2) Behind the rapid development of QuanU furniture is the flourishing furniture industry, which is in turn driven by the ascendant real estate industry. And behind the ascendant real estate industry is the rise of the national economy. It is precisely the comprehensive effect of the nation's rise that has driven the consumer market and hence the company's success. (3). Chengdu Investment Holding's overall development opportunity has driven the development of Chengdu. From the 1990s to date, venture capital's development in China has begun to take shape, playing a broad role in the development of the national economy (Han 2009). With the rapid development of the national economy and the gradual improvement of policies relating to venture capital investments, China's venture capital industry has had the soil for rapid growth. This is the rise of the nation's economy driving the development of a company in this industry. The

country's economic development provides the prerequisites for the founding and development of companies. China's rapid economic development, vast area, and massive population, Chengdu's ability as a center city to radiate to the southwestern market, additional government effort toward the development strategy, and the accelerating growth of the economy are all beneficial external conditions for company development. The development of these companies has spurred the city's development, but in the final analysis, the development of companies and the city stands on the development of the entire national economy. The relationships among these three are complementary. After more than three decades of reform and opening, the China has achieved remarkable economic success. The economy has grown at an annual average of nearly 10 %, and per capita GDP has grown at 9 %. China has become the world's second largest economy and largest exporter. And the Chinese economy and society have undergone two historical transformations. First, China has transformed from a rural and agricultural society to an urbanizing and industrializing society. Second, China has carried out deeper and deeper market-oriented reforms with Chinese characteristics. The rise of the Chinese economy and economic and social development have brought great opportunities for urban development.

Studying the history of world economic development, we find that the country effect in city development is a widespread natural phenomenon. This country effect will ultimately spur the development of the city, changing the position of the city and even the country in the world economic pattern. Beginning with the industrial revolution in Britain in the 19th century, industrialization and urbanization have spread out on a global scale. Advantages in labor, resources production management and innovation, policies, and institutions rise and fall, and the global value system spreads around the world, with the center of gravity moving between different countries. From the early to mid-20th century, American standardized production enabled the US to become the world's manufacturing center, bringing about the rise of mid-western cities such as Chicago. The first transfer of industry began in 1950, and the world's manufacturing and supply center tilted towards Asia. With the "Japanese Miracle" and the rise of the "Asian Tigers," cities like Tokyo, Hong Kong, and Singapore became world cities.

In the future, China's rise will enhance the status of Chinese cities in the world. First, with the development of China's educational proficiency and higher education, the quality of China's labor force will increase substantially, reserving strength for China to move up the value chain. The enhancement of the quality of the population and the heightening of skills will enable production to shift from labor-intensive and capital-intensive industry to technology-intensive and knowledge-intensive industry. Second, fundamental changes to production, consumption, and service models brought on by the rapid advance of urbanization and growth of the Chinese middle class, are but elevation of quality of form. Third, infrastructure construction and investment improve the urban environment and will strengthen urban connectivity and accelerate the development of corresponding producer services. Needless to say, under China's rise, Chengdu has accelerated its internationalization.

4.4.5 *Policy Role: Policy Implications of Diversified Urban Development*

City support policies for business development are reflected in the entire process, from founding, to development, to expansion. In form, these include investment incentives, funding and land needed for operations, guidance and channel-clearing for expansion, brand support for key enterprises, and macro policies for regional development. These findings suggest that increased competition among cities and the pursuit of economic interests enable city governments to more actively employ measures to spur local economic development, improve local infrastructure and the operating environment, formulate industrial development plans, and increase support for companies with growth potential and large companies. This was clearly found and analyzed in the cases of Chengdu Investment Holding, QuanU Furniture, and DTZ. These are sufficient to illustrate that central government policy guidance is an important factor affecting local urban development. The local government supported the development of local companies under the guidance of macro policy. In global economic activities, decision-making power is shifting toward multinational companies and government management and strategy. This can be seen in the effects of western development policy on the development of companies. Under the guidance of western development policy, Chengdu's Hi-tech Zone infrastructure and management methods have been on the rise, a number of specialized parks have been established, a variety of public technical service platforms have been established, and the city's transportation and communications have improved. These have all led to the rapid development of business.

Analyzing these policy factors, the implementation of the western development strategy in 2000 gave western China an opportunity for development. In 2010, policy tilted toward central and western regions as the only way for Chinese economic growth, driven by further reform and opening and a new round of economic structural adjustment. Economic structural adjustment, that is, increasing the contribution of the service industry and consumption in the national economy, is a key factor if China is to sustain rapid economic growth. Rising costs of labor and living, the deterioration of the environment, and lack of resources are restraining eastern developed regions, and there is a need for industrial upgrading and structural adjustment. The industrial gradient transfer brings new opportunities for development to central and western regions, while at the same time giving them more opportunity to participate in the international division of labor (Tian and Tan 2010). To reduce costs, numerous information communications companies have settled in Chengdu, such as Dell, Lenovo, Compal, and Wistron, and the clustering of the electronic information industry has improved. The "westward movement of eastern shoes" has enabled Chengdu's ladies shoes industry to flourish. The national government has written narrowing the income gap between regions and "prioritizing western development" into the report from the 18th National People's Congress. The benefits and advantages of western development and other policies

have been conducive to central and western regions obtaining more resources and support for infrastructure construction, urban management, and capital and human resources. They have also been favorable to the development of a diversified division of labor in western cities. There have been similar practices around the world. South Korea, Indonesia, Brazil, and other countries have spurred agglomeration in large cities through central government policy preferences.

4.4.6 Dynamic Comparative Advantages in Rapid Urban Development

The advantages of companies change significantly in different stages, for example, Shiling Poultry's early model and support advantages and later management and market advantages, Shuijingfang's special resource advantage and later brand and international market advantage, and Sichuan FAW Toyota's early joint-venture technology advantage and later advantage in overall strength. What these changes bring is the overall development of the city. These dynamic changes to advantages are reflected in: (1) government support policies for companies and the flourishing local economy and market brought by the company receiving benefits; (2) the multicultural integration and increase in comprehensive management proficiency facilitated by companies and brought by the attractiveness of local manpower, land, and culture; (3) the comprehensive, diversified development guided by the city's focused cultivation of particular industries or companies. Reflecting on these dynamic changes, we find that it is the rise of the nation that has attracted multinationals, and it is the city's specific natural and cultural advantage that have provided regional advantages for the founding of companies. Once these advantages provided a premise for the founding of joint-venture companies, development of human resources, management, and the economy brought by companies spurred the growth of the city. These are the advantages to the company and to the city formed in the development process. These advantages brought with them factors necessary for the city: the agglomeration and linkage effects brought by companies, the flourishing local consumer market, and the diversification of the division of labor. As we study Chengdu's successful companies, the comprehensive development of the economy and labor market brought by these companies has become a competitive advantage for Chengdu as it internationalizes. Another point to be noted is that although each city has its own characteristics, each can learn from the experiences of the others in turning regional advantages into competitive advantages.

Simply put, the location of the city's advantages changes throughout the development process. Tracking and understanding the dynamic changes to the city's advantages is conducive to predicting development trends in the study of urban development and objectively comparing the dynamic changes in differences between cities. This is a part of the study of global cities that cannot be ignored.

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Chapter 5
Moving onto the World Stage

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5.1 Findings

5.1.1 Connectivity

From a connectivity point of view, the available data indicate that Chengdu's international connectivity has been increasing, but there is still a large gap with leading world cities. The particularities of Chengdu's external connectivity determine its advantages in external linkage. This is reflected in the following aspects.

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5.1.1.1 Chengdu's Infrastructure Network Is Beginning to Reach a World-City Scale

Chengdu's modern external aviation connectivity is superior to other Chinese cities besides Beijing and Shanghai. As an important western hub city, Chengdu is an important city connecting western cities with central and eastern cities. With China's integration into globalization, Chengdu as a regional center city is ahead of other western cities in the process of integrating into the global city network. From the perspective of direct connections with global cities, Beijing and Shanghai are on the first tier, with close contact with Hong Kong, Tokyo, and other world cities. Chengdu and Guangzhou are on the second tier of Chinas connections with world cities. Other Chinese cities still make up main body of their external connections, and interaction with world cities is not widespread.

Chengdu already has the basic conditions for connecting with the major countries of the world. Looking at air links from abroad, while Chengdu's links to metropolises like London, New York, and Paris are not prominent, it has close links to cities across the Asia-Pacific, North America, Europe, and Australia. This is very similar to the global connections of Beijing and Shanghai, that is, foreign connections are concentrated in major cities in developed regions, indicating that Chengdu has established a basic transport network linking it to the world's major cities. Thus, Chengdu is an emerging world city.

5.1.1.2 Chengdu's Global Commerce Connections Lead China and Are in the Middle for the World

In the world city connections coefficient measured using the high-end service industry network, Chengdu is in the middle of the pack of 526 cities, but it stands at number eight among more than 50 Chinese cities (not including Taiwanese cities). The distribution of global city network connectivity has a long tail structure, that is, a small number of cities have a high level of connectivity, including London, New York, Tokyo, Hong Kong, and Singapore, while the majority of cities have a lower degree of connectivity (approximately one-fifth of cities have degrees of connectivity above 25 %, while four-fifths have degrees of connectivity below 25 %, and half have degrees of connectivity below 15 %). The global connectivity structure of Chinese cities is similar, with Hong Kong, Beijing, and Shanghai as veritable world cities, exhibiting high degrees of connectivity with other world cities. Chengdu does not have the same external links as these cities.

5.1.1.3 Chengdu Has Strong Local Connectivity as Well as Global Connectivity

Chengdu's global connectivity "localism" index is 25 times that of Hong Kong, 10 times that of Shanghai, and 5 times that of Beijing, indicating that Chengdu's

connectivity with local cities is higher than with global cities. From the perspective of large world cities like London and New York, Chengdu's score ranks behind Beijing and Shanghai, with their higher degrees of connectivity, but ahead of the vast majority of Chinese cities, which lack connectivity. This shows that Chengdu has week connectivity compared to world cities like London and New York, but its connectivity is developing.

5.1.1.4 Chengdu Is Ushering in a Golden Period of Accelerated Global Connectivity

It is worth noting that Chengdu's rate of internationalization and quality has been increasing over the past decade. Due to the scope of data collection and time constraints, this is not directly reflected in the objective data of this study. This development process can be understood clearly by tracing back the history of Chengdu's external connections.

Chengdu's road to globalization has not been smooth. After liberation, the country put forward the thinking of "construction behind closed doors." There were almost no exchanges between China and Western countries, and international exchange overall was restricted basically to economic and technical exchange with a few socialist countries including the Soviet Union. Chengdu's international economic and cultural exchanges were limited, with international exchange mainly including two aspects. The first occurred when experts from the Soviet Union and elsewhere came to Chengdu for technical support. The second occurred when a small number of Chengdu officials were selected to visit the Soviet Union, Mongolia, North Korea, and other socialist countries and when Chinese technical workers went to assist construction in backward countries. With reform and opening policies, Chengdu's level of openness to the outside world gradually increased, but compared to other similar cities, Chengdu's level of internationalization was still low. In 1985, the first Sino-foreign joint-venture company was established in Chengdu. The arrival of foreign capital signified the start of Chengdu's internationalization. Although the use of foreign capital grew approximately 70 % annually thereafter, this was slow compared to other cities. In 1997, Chengdu's actual use of foreign capital still ranked it behind number ten of 16 sub-provincial-level cities. The proportion of industry in Chengdu at this time was actually falling, with the proportion of the secondary industry falling from around 50 % in the early 1980s to 36 % by 2000. During the same period, with the transfer of manufacturing production and processing to China, the proportion of industry in the Chinese national economy was rising. Compared to cities in coastal regions, Chengdu had few advantages in location, information, or communications, and its ability to accept international industrial transfer was limited. Chengdu's scope of opening was singular. In terms of the direction of external trade, Chengdu's main markets were concentrated in Asia, and Chengdu's international investment came mainly from Hong Kong and Taiwan.

In the last decade, Chengdu has leveraged its natural, cultural, policy, and management advantages to become a hot spot for attracting foreign investors. In 2003, only Intel among the world's top 500 companies had settled in Chengdu. Today, 229 of the world's top 500 companies have settled in the city, including automobile, logistics, technology, and service companies. Chengdu is a western financial center, ranking behind only Beijing, Shanghai, and Guangzhou in terms of the number of foreign-invested banks. In recent years due to the complex and serious domestic and international macroeconomic situation, China has been less able to attract international investment, but Chengdu has achieved the opposite, bringing in more investment. It has been listed as one of the fastest growing cities of the next decade by Forbes magazine. Chengdu has attracted the attention of the world with its unique charm, and it is becoming an internationalized "garden city." Today, nine countries have established consular offices in Chengdu. It has been called the gourmet capital of the world and the best tourist city by UNESCO and the World Tourism Organization. Chengdu is attracting people from around the world for business, tourism, and living, making it an internationalized "city that one does not want to leave." On the one hand, the activities of multinationals and international organizations in Chengdu have been increasing in recent years. In addition, companies are gradually forming their own markets and supply chains in the process of development. These will all make it possible for Chengdu to enter the ranks of the world cities.

With deepening globalization and China's growing strength, we see that the rapid spread of the world city network is influencing the development of China's cities, and the impact is most pronounced in China's major cities and regional center cities, whose world influence and connectivity is increasing. Chengdu's position as an important hub for China's connection with the world is not only reflected in its links to the majority of China's major cities, but also in its widespread links to the world. Although we cannot place Chengdu among the ranks of the world cities in the current analysis, Chengdu is already an important city within the world city network.

5.1.2 Agglomeration

In the data analysis in Chap. 2, we discussed that for a city to become a world city it must focus on improving the agglomeration of labor and production capital and technology and research and development capital.

While it has been strengthening its global connectivity, Chengdu has also been realizing agglomeration of local industry, that is, globalization has accelerated Chengdu's industrial agglomeration and rapid urban development. One reflection of this is that foreign-invested companies have driven the rapid development of the local economy. The survey data show that more than two-thirds of foreign-invested companies have growth rates exceeding 200 %. The second reflection is that the

high-tech and service industries are conducive to Chengdu's industrial agglomeration, accelerating the diversified development of Chengdu. The survey data show that the high-tech industry develops 10 % more new business than companies in the agriculture and food industry, and 20 % more than companies in the construction and real estate industry. Companies in the service industry develop 5 and 15 % more new business than these sectors, respectively.

New business exhibits the new characteristic of serving the external market more than the local market. Under the impact of the forces of globalization, the high-tech and modern service industries have become high-growth industries, and many of these companies are multinationals or are practicing global operations. Their industry characteristics determine that they serve not only any one city, but radiate to the broader regional market and even around the world. Thus they break through the phenomenon of the correlation between a high ability to develop new business and the local market.

Through the analysis of 15 cases of enterprise development, we can see that the vertical development of companies is another important reason for Chengdu's increasing industrial agglomeration. The large-scale operations of companies, as well as expansion into R&D, production, logistics, marketing and other parts of the supply chain, have achieved industry agglomeration, capital agglomeration, and human resources agglomeration. Although there is a gap between Chengdu's rate of agglomeration and that of other Asian world cities, this gap will shrink with Chengdu's rapid and comprehensive development.

5.1.3 Diversification

Globalization is promoting the diversified development of Chengdu. The survey shows that foreign-invested companies have a greater ability to create new industrial divisions of labor and new business than non-foreign-invested-companies. For example, Intel has constantly introduced new businesses in Chengdu for a decade. Persistent, high levels of R&D have brought about Intel's core skills.

Looking at the structure of sectors, the service industry has more ultra-high-growth companies and the least ultra-low-growth companies. The high-tech industry has the most mid-growth companies and significantly fewer low-growth companies. For example, Chengdu Culture and Tourism has diversely developed and created new fields of business. For example, Chengdu SME Guarantee was the first financial company to finance SMEs at the time of its founding.

In terms of the nature of companies, state-owned companies, private companies, and Sino-foreign joint-venture companies have higher growth, and local companies participating in the international division of labor and market expansion is an important driver of the growth of new works. In addition, the government plays an

important role in diversified operations. For example, those companies accepting startup and R&D funding support generally have more a persistent high level of new works.

5.1.4 Local Nature

Historically, an important force in Chengdu's successful development is localized development. Even under the influence of globalization, localization is still a key to a successful business. The study findings show:

The more companies rely on the market, the higher their growth. The survey results show that of 59 companies relying on the local market, two-thirds obtained high asset growth of 200 %.

Chengdu's development requires the common push of globalization and localization. The survey data show that Chengdu's Sino-foreign joint-venture companies often have higher rates of growth. Ninety percent of Sino-foreign joint ventures in the survey had asset growth exceeding 200 %, higher than the 43.75 % proportion of foreign-direct-invested companies.

Localization is the foundation of the establishment of many Chengdu companies. Sixty-five percent of the 128 companies in the survey questionnaire were based on the Chengdu market at the time of their founding. Localization and the local market are important driving forces of the city's development. New market opportunities are a major factor in a company creating and launching new businesses. Among companies with high levels of new businesses, more than 50 % said new markets were a reason for accelerating the development of new businesses. A portion of companies involved in this survey mainly focus on the local market, and they are involved in different industries, such as retail, service, finance, and agricultural sidelines.

Even companies based on the local market will encounter market bottlenecks after developing to a certain extent and will expand nationwide or even globally. Localization provides intrinsic force for the diversified division of labor, the globalization of local companies, and their ability to participate in the international market. Chengdu's local-outward development is also different from the external introduction company development path of coastal regions.

5.2 The Reasons for Chengdu's Successful Development in the Global Network

With Chengdu's strengthening global connections, Chengdu's agglomeration effects have been more and more clear. Especially in the last decade, Chengdu has ushered in the rapid development of globalization and the growth of the city. Chengdu's development is the result of internal and external forces working together.

5.2.1 *Excellent and Beautiful Urban Environment Has Attracted Multinational Companies and High-End Industry*

Chengdu is subtropical and humid, with complex topography, and a diverse natural environment of mountains, plains, and hills. Xiling Mountain and Qingcheng Mountain are national scenic areas; Jiuzhaigou and Tiantaishan are fairylands rare in the world; and Dujiangyan and the panda research base are world-class cultural and natural heritage sites. Chengdu is known as the "Land of Abundance" and a "city you won't want to leave." Today, with global warming, environmental dedication, and various "urban diseases," investors, tourists, and immigrants all view a city's environment as a major condition for selecting a location. Chengdu's good urban environment will undoubtedly become a trump card to attract the world.

Chengdu's unique natural scenery is the foundation for Chengdu's construction into an "international garden city." Chengdu's reasonably combines idyllic natural scenery and modern functions and blends history and culture with modern civilization. Through rational planning and strategy, Chengdu retains unique natural scenery and combines it with the functions of a modern commercial city. People and nature are united in harmony, and the city and nature mingle. The garden has become an important factor in attracting multinationals and high-end service companies, as well as an important factor in attracting and retaining top talent.

5.2.2 *Long-Term Accumulation of Ancient City History Attracts the Attention of the World*

Chengdu's cultural resources are rich. Chengdu has 4400 years of history as a civilization and 2310 years as a city. Chengdu originated in the Warring States period in 311 B.C. in the Qin state, the construction of the Dujiangyan reservoir allowed the rapid development of agriculture in Chengdu, and Chengdu was known as the "Land of Abundance." Throughout Chengdu's history, the city was capital of seven feudal separatist states and had three heydays during the Three Kingdoms, Tang and Song, and Ming Qing dynasties. In the Late Western Han, Chengdu's population had reached 76,000, making it the second largest city in China after Chang'an. During the confrontation among the Three Kingdoms of Wei, Shu, and Wu, Liu Bei unified the Ba and Shu, founded his capital in Chengdu, and carried out large-scale urban construction. During the Tang and Song period, Chengdu's unique geography gave it ample resources and shielded it from chaos and harassment. Chengdu developed economically, and in the Tang Dynasty, the saying "Yangzhou is first, Yizhou second," that is, Yangzhou is the largest city in China, and Chengdu is second. At this time, Chengdu's paper and printing industries led the nation, and a free market developed during the Song Dynasty. At the pinnacle of literary and artistic development, numerous poets came to Shu and wrote a large

volume of fine works in Chengdu, including Li Bai, Du Fu, and Lu You, as well as Gao Shi, Cen Can, Bai Juyi, Yuan Zhen, Xue Tao, Liu Yuxi, Zhang Xiang, Du Mu, Li Shangyin, and Wei Zhuang. Music, dance, drama, and painting prospered, and the saying "Sichuan opera crowns the world" came into vogue. Chengdu's colorful scenery and long history have attracted numerous tourists from China and abroad, and Chengdu is a well-known tourist city.

Globalization has pushed the integration of human civilization and social internationalization. The sharing of the achievements of human civilization has accelerated, cultural contacts are increasingly frequent, unique and unique ethnic culture is closely related to a city's competitive advantage. Increasingly flourishing international exchanges will enable unique ancient styles, rich cultural heritages, and rich historical heritages to have more charm and radiate new vitality, which will be of great benefit to Chengdu's international image and to elevating its economic and social development. Under a certain natural and cultural environment, a long accumulation of cultural heritage has allowed Chengdu to achieve a special character. Chengdu was called the "capital of leisure," and the name spread.

5.2.3 Developed Modern Transport and Communications Networks Magnify Location Advantages

Breakthroughs continue to be made in transportation and communication technology. Innovation in information technology is an important driver of globalization and has also weakened the impact of regional factors in local development. Western China's status in the past has been inferior to that of coastal regions, mainly due to information blockages and transportation obstacles. But the development of information and communications technology, and in particular the arrival of the Internet age, broke through this barrier. With the construction of network, communications, and transportation infrastructure, Chengdu has narrowed the distance with the rest of the nation and the world. Chengdu has begun to build China's fourth-largest international air hub, its fifth-largest railway hub, and a western highway hub, and it has opened western China's first direct international outgoing data channel.

With the advance of economic globalization and regional economic integration, international trade friction and competition among countries have increased, and competition among countries for factors for development and space for their markets has intensified. China's traditional eastern coastal thoroughfare is facing pressure, giving southwestern China a more prominent role in the country's development strategy. As the connection point between eastern and western China and the intersection between China and the Eurasian Continent, Chengdu in the future will become an important new growth pole for the Chinese economy and is expected to become a strategic hub for economic exchanges and intercourse among the Eurasian Continent, the Chinese mainland, ASEAN, and South Asia.

5.2.4 Excellent Science Education Foundation Makes Chengdu's Leading High-End Possible

According to the "China City Competitiveness Blue Book 2011: China City Competitiveness Report," Chengdu ranks sixth among 294 Chinese cities at the prefecture level and above for science and technology competitiveness. It ranks first in the western region. Chengdu has a solid foundation of science and technology, with more than 2700 research institutions and more than 80 national-level R&D centers, making it one of China's most innovative cities. It has nation-leading science and technology parks and science and technology companies and significant regional advantages in high-tech fields including electronic information and bioengineering. Additionally, Chengdu has numerous national-level and provincial-level institutes of higher learning, including Sichuan University, University of Electronic Science and Technology, Southwest University of Finance and Economics, and Southwest Jiaotong University, as well as several dozen professional and vocational schools. Its educational resources are abundant. Talent flocks to Chengdu. According to official statistics, Chengdu has some 2 million professionals, giving it an absolute advantage in numbers. Compared to open coastal cities, professionals in Chengdu are low-cost, more inclined to remaining in the city, and highly stable.

Strong science and technology is an important condition for Chengdu's accelerated integration into globalization. Science, technology, and talent are core competitive factors for companies, and necessary conditions for a city to attract high-end manufacturing and services. Top talent and technological strength attract high-end manufacturing attracts not only high-end manufacturing industry, but also high-value-added service industry to support the manufacturing industry. Thus, a strong base of science and technology is not only favorable to Chengdu's participation in the vertical international division of labor. It can also help Chengdu compete for more opportunities to participate in the horizontal international division of labor. Moreover, the accumulation of high-end services is also an important symbol of a global city.

5.2.5 The Global Industrial Division of Labor and Industrial Transfer Has Spurred Development in Newly Industrialized Countries Including China

The transfer of industry and the internationalization of the division of labor have accelerated the rapid growth of newly industrialized country as well as rapid urbanization in these countries. From the 1960s to 1980s, Japan transferred labor-intensive and resource-intensive industries with low added value to neighboring Asian countries, leading to the rise of the Asian Tigers of Hong Kong, South Korea, Taiwan, and Singapore. Since the 1990s, developed countries including

Europe, the US, Japan, and the Asian Tigers have transferred low-end industry to developing countries including China, India, Brazil, and Mexico.

Agglomeration in Chinese cities is closely linked to the global trend of industrial transfer. Since implementing the reform and opening policy in 1978, international industrial transfer has first driven the development of coastal regions, in particular cities in the Pearl River Delta, Yangtze River Delta, and Bohai regions. With the adjustment to China's industrial structure and the upgrading of its industry, central and western China will benefit from a new round of industrial transfer and the global division of labor. After 30 years of development, China has become the "world's factory floor," and "Made in China" products can be seen in supermarkets around the world. In the context of China's absolute leadership in the global supply chain (Lehmann 2012), the rapid development of China's industry has driven the rapid development of urbanization and prosperous urban economies. In addition to Beijing and Shanghai, China's two largest economic center cities, more Chinese cities are attracting international capital with their unique manufacturing clusters, rich local factors, and environmental and cultural aspects, such as the manufacturing industry in Suzhou and Hangzhou in the Yangtze River Delta, and Guangzhou, Shenzhen, and Dongguan in the Pearl River Delta. Chengdu is a western center of trade, finance, culture, and education that radiates to and influences the development of mid-stream and upstream regions on the Yangtze River, making it a gateway for the world to understand western China.

With rising labor costs in China's eastern coastal regions and the emergence of resource and environmental bottlenecks, Chengdu has formed a comparative advantage in resources and labor. As an inland gateway city, Chengdu is one of the most attractive cities for the domestic transfer of industry. From the survey we can see that Chengdu's fastest-growing companies are found in the high-tech and service sectors driven by globalization.

5.3 Inspiration for World Cities from the Development of Emerging Economies

5.3.1 Urban Agglomeration Forces Will Change the Pattern of the World City Network

On the one hand, the globalized development of production has given China and other developing countries opportunities and the possibility of development. On the other hand, traditional world cities still control the high-end of the production industrial chain and the high-added-value portion. The cities of emerging economies still lack core technology and talent and are in a subordinate position in the global city network. However, beginning in the 1990s, in addition to the transfer of labor-intensive industry, developed nations and emerging economies also began to

transfer capital-intensive and technology-intensive industry to China. Beijing and Shanghai are developing into world-class financial and R&D centers.

The vast market and strong consumption in emerging economies will impact the trend of industrial transfer and the international division of labor. In the last decade, more and more Chinese companies have developed international markets and taken the international road. The growth of emerging industrial country companies will be an important force affecting world economic policy. In the 2012 Fortune 500 rankings, the Chinese mainland (including Hong Kong) had 73 companies. Although the majority are state-owned companies, private companies like Lenovo and Huawei also made the list. Companies from other emerging economies are also making the list. In addition to developing international markets and businesses, many of these companies are going to international capital markets to raise capital. Their world influence is increasing, on the one hand because they impact the spatial aggregation and rating of service companies, and on the other hand because their own aggregation and distribution affects the dynamic changes of the world city network. Chengdu also has local companies going international, such as QuanU Furniture, which is accelerating its establishment of international R&D centers and establishing a production base in Chengdu to build a world-class furniture company.

Especially after the 2008 financial crisis, China's cities started to think about changing the passive acceptance of foreign capital and technology and employ proactive liberalization mainly to attract foreign capital, using their own characteristics and development features to attract corresponding companies, not ruling out Chinese companies using international resources, launching international partnerships, and controlling and using international resources. By consolidating global resources, Chinese cities hope to improve their status in the world city network.

5.3.2 China's Rise and Sustained Growth Drives the Rise and Development of Cities

Beginning with Britain's industrial revolution in the nineteenth century, industrialization and urbanization have spread across the globe. Various countries have competed for advantage with factors including labor, resources, production management and innovation, and policy and mechanisms, and a global value system has spread around the world. And the center of the value system has shifted from country to country. In the nineteenth century, Britain and the European continent were the world's manufacturing center, and London, Paris, and other cities were centers controlling the world. From the early to mid-twentieth century, standardized production enabled the US to become the center of manufacturing, leading to the rise of midwestern cities including Chicago. In the transfer of industry beginning in 1950, the world manufacturing and supply center tilted toward Asia. Japan and the Asian Tigers rose abruptly, and Tokyo, Hong Kong, and Singapore became world cities.

After more than three decades of reform and opening, the China has achieved remarkable economic success. The economy has grown at an annual average of nearly 10 %, and per capita GDP has grown at 9 %. China has become the world's second largest economy and largest exporter. And the Chinese economy and society have undergone two historical transformations. First, China has transformed from a rural and agricultural society to an urbanizing and industrializing society. Second, China has carried out deeper and deeper market-oriented reforms with Chinese characteristics. The rise of the Chinese economy and economic and social development have brought great opportunities for urban development.

The opportunities of China's future rise elevate the position of China's cities in the world. First, with the development of China's educational proficiency and higher education, the quality of China's labor force will increase significantly, giving China the power to move up the value chain. The enhanced quality of the population and improved skills will enable production to shift from capital-intensive and labor-intensive production to technology-intensive and knowledge-intensive production. Second, the rapid progress of urbanization and the growing Chinese middle class bring fundamental changes to production, consumption, and service models, not only quantitative growth, but enhancements in form and quality. Third, infrastructure construction and investment improve the urban environment, enhance urban connectivity, and spur corresponding development of producer services.

5.3.3 Modern Communications Networks Give Inland Cities New Opportunities to Connect Globally

New technology represented by information and communications technology provides new impetus to industrial development and upgrading. It also changes the spatial pattern and structure of cities. For one thing, with accelerated agglomeration in cities, the position of large cities and center cities becomes more prominent, and they have a stronger ability to radiate.

Relevant research shows that 35 provincial capitals and cities with independent planning accounted for 40 % of Chinese GDP in 2010.[1] Industrial transfer and upgrading has made the regional division of labor more and more clear-cut, and the position of the service industry in large cities and center cities has been magnified. The average proportion of the service sector output (49 %) of these 35 cities has exceeded their industrial sector output (46 %). A structure has emerged in central and western China where large cities are regional centers, such as Wuhan in central China, Chengdu and Chongqing in southwestern China, and Xi'an in northwestern China, all of which have assembled populations of more than 5 million people in their city centers and overall populations of around 10 million people. The service

[1]Source: *China Statistical Yearbook* 2011.

proficiency in transport, communications, science and technology, and finance, is limited. As centers of regional social and economic activity, they radiate and drive the development of neighboring small and medium cities and towns.

On the other hand, modern means of transportation and communication have also shortened distances around the world, breaking traditional relationships of location. First, convenient communications and transportation have provided remote communication, and the populations of large cities have dispersed toward the suburbs. Second, inland cities are no longer trapped by regional effects. By strengthening the construction of modern communications networks and constructing transportation infrastructure, they reduce communications costs and speed up communication with the world.

5.3.4 *Multinationals and Changes to Their Strategies Determine the Pattern of Global Cities*

The global operations of multinationals (Hall 1966), the globalization of the international division of labor, and the agglomeration of producer services in cities enables the strengthening of connections between cities with different functions and allows for production activities to transcend national borders. The position of world cities and the world city network are increasingly important in economic development. The globalization layout of multinationals drives the internationalization of the international division of labor. Companies establish branches according to the factor endowments and comparative advantages of different countries. The result is that cities become a unit in the specialized division of labor. On the one hand, investment in newly industrial nations requires the support of corresponding producer services including finance, insurance, consulting, and marketing. This can be seen in the strengthening of the global service functions of some cities from the accelerated investment and deployment of multinationals in newly industrialized countries. For example, Beijing and Shanghai have become globally important R&D and service centers. On the other hand, the growth of the companies of newly industrialized nations also requires the support of corresponding financial, legal, consulting, and R&D services. For example, Chinese companies require international capital, and Chinese cities have increasingly close ties with Hong Kong, London, New York, and Singapore.

5.3.5 *Policy Implications of Diversified Urban Development*

Competition among cities and the pursuit of local economic interests make city governments more active in employing measures to spur local economic development, improve the local infrastructure and business environment, formulate industrial development plans, and support businesses with growth potential and

large businesses. But pure economic growth does not represent diversified urban development. Our study shows that government R&D and capital support can drive up growth in corporate profits but cannot guarantee that companies will create more businesses and divisions of labor. The study also shows that companies with monopoly characteristics are more likely to lose the impetus to create new businesses.

Central policy guidance is another important factor affecting local urban development. South Korea, Indonesia, and Brazil all have preferential policies by the central government to promote agglomeration in large cities (Jefferson and Singh 1999). The implementation of the western development strategy in 2000 provided opportunity for western development. In 2010, policy orientation for central and western regions was that economic growth driven by expanded reform and opening and a new round of economic structural adjustment is the necessary course. Economic structural adjustment—increasing the contribution of the service industry and consumption to the national economy—is a key factor if China is to sustain economic growth. Eastern developed regions are constrained by factors including rising labor and living costs, environmental degradation, and resource scarcity, and they must thus carry out industrial upgrading and structural adjustment. The gradient transfer of industry brings a new opportunity for development to central and western regions and also gives western China more opportunities to participate in the global division of labor (Tian and Tan 2010). For example, in order to lower operating costs, numerous information communications companies have settled in Chengdu, such as Dell, Lenovo, Compal, and Wistron, and the clustering of the electronic information industry has improved. The "westward movement of eastern shoes" has enabled Chengdu's ladies shoes industry to flourish. The national government has written narrowing the income gap between regions and "prioritizing western development" into the report from the 18th National People's Congress. The benefits and advantages of western development and other policies have been conducive to central and western regions obtaining more resources and support for infrastructure construction, urban management, and capital and human resources. They have also been favorable to the development of a diversified division of labor in western cities.

5.3.6 Knowledge and Innovation Factors Become Key Factors for Global Cities

The development of cities in a newly industrialized country is affected by the dual roles of industrial transfer and the transformation of the country's economy from farming to industry, especially manufacturing. Its economic development is closely correlated to urbanization and industrialization. The population and economic growth agglomeration situation showed a high degree of imbalance in time and space. In general, cities will experience a period of high economic and population

growth and peak, followed by a slow growth period. London, Stockholm, Chicago, Zurich, New York, and other world cities reached their growth peak in the 1950s. Tokyo reached this peak at the end of the 1980s, and Hong Kong in the mid-1990s. Chinese cities began entering the period of rapid urban agglomeration after 2000.

However, influenced by knowledge and new technologies, cities have ushered in a new round of rapid growth in the last decade, showing that globalization promotes knowledge spillovers. Knowledge has also become an important driving force for cities in late-developing countries including China.

The innovation and exploration of companies in the process of the rise of a country are reflected in the initial idea, the full range of the role of the founder, challenges faced in the fundraising and expansion process, and developing channels to develop domestic and foreign markets. The experience, management knowledge, economic models, industry methods of operation, etc. generated in this process are a new knowledge system of social value. Examples include the correlation discovered between industry and local characteristics in the Culture and Tourism Group case, the contribution to localization in the process of developing local markets, the inspiration of QuanU Furniture's unique experience for innovative development in the furniture manufacturing industry; the new model of farmers as the unit pioneered by Shiling Poultry, which is of vast social value in China; Intel's industry-representative expansion model and its operating experience in turning new technologies into economic benefit; and Sichuan FAW Toyota's enhanced management proficiency and contribution to cultural integration throughout the founding and development process.

5.4 Suggestions for Further Research

5.4.1 Thinking Obtained from Field Research

The study of a city's growth and its methods of external connections through questionnaires and site visits can be expanded upon and referenced in future studies. But due to space restrictions and the limitations of site visits, there are many issues that need further study and exploration. Future study should on the one hand pay attention to the influence of the 13 important variables obtained in this study on the economy, while on the other hand paying attention to the unique characteristics of the targets of this study. In addition, future studies could carefully consider the following suggestions.

5.4.1.1 "New Work" Must Be Clearly Defined

New works, which are closely related to business growth, must be a clearly defined concept in future studies. The precise definition of this key factor has been

discussed many times in the case studies. The concept and methods of quantization of new works must be discussed further and clarified in order to avoid conceptual misunderstanding due to factors such as differences across industries. Defining new works in the study must take into consideration industry and time factors. In addition, steadily developing in a sector that has already opened up is another factor of a company's success. When studying the relationship between new works and company growth, paying attention to developing new works and stabilizing previously developed jobs are of equal importance to economic development.

5.4.1.2 Other Factors Related to Company Growth Requiring Consideration

Later study of company development should additionally consider the following factors: the role of the founder, the dynamics of related industries, the influence of possible special resources, and the development state of the company's industry.

5.4.1.3 Study Reasonable Assessment Criteria that Can Reasonable Represent Employee Quality

We need to consider how to establish a more appropriate standard to replace "university graduates" as a clearer concept representing the quality of employees. Existing industry qualifications, work experience, and overall quality can be taken into account and used to calculate a reasonable assessment value.

5.4.2 City Connectivity and Development: A Two-Dimensional Space-Time Analysis

In different spatial and temporal contexts, the specific constitution of these factors is different, and there are differences in the actual roles they play. First, looking at the temporal dimension, the development of a city is a long-term process of historical change. Over time, the factors influencing a city's development and their mechanisms of action will change. In the current context of the information society and the low-carbon era, high-tech factors and ecological and environmental factors are increasingly prominent. Secondly, looking at the spatial dimension, the development of a city exists in a certain spatial context. With the conversion of space, the factors affecting the city's development and their mode of action will change. In today's globalization trend, in addition to being affected by domestic factors, cities are increasingly impacted by international factors, and the correlation between a city's development and the global market and world order is increasing.

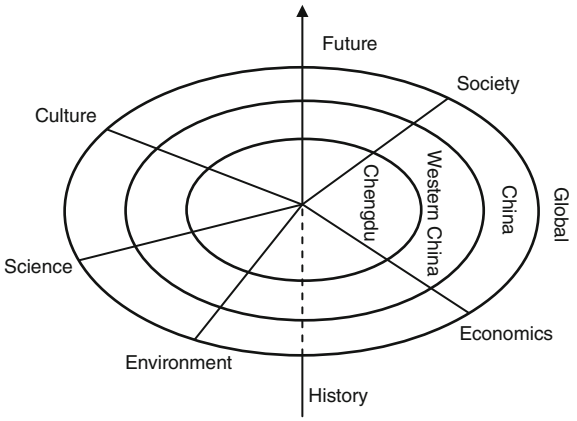

Fig. 5.1 Model for city strategic positioning analysis

A city's strategic positioning should be global and future-facing, that is, within the global coordinate system, a city must be clear as to where it will develop, what it will develop, and how it will develop. The key to solving these problems is, within the two-dimensional space-time framework, from the coupling of the spatial dimension of city, region, nation, and globe, as well as the joining of the temporal dimension of past, present, and future, to comprehensively and systematically analyze the various economic, social, cultural, technological, and environmental factors affecting the development and positioning of the city, and on this foundation take the pulse of the city's development trend, clarify the city's development goals, and formulate the city's development strategy. Based on this study, we discovered a model for the analysis of a city's strategic positioning (Fig. 5.1). The model simultaneously, from the multi-level spatial perspective and long-term time-series perspective, brings the various factors affecting a city's strategic positioning comprehensively into a unified research framework, providing an effective tool for the theoretical analysis of a city's strategic positioning. Evaluation and correction of this model will require study of additional cities (Fig. 5.1).

Therefore, under the present social situation (information, management, administrative divisions), cohesive external manifestations await the research and development of new evaluative models and standards. Appraising Chengdu cannot stick to the original framework.

5.4.3 Looking at World Cities from a New Perspective: Quality Effect

At the beginning of this book, we reviewed several theories regarding the urban economy. We paid particular attention to the diversification and localization of cities as main criteria for a city's success and proceeded with the discussion from there. The data in this study show that the diversified development process driven

by the founding, development, and expansion of companies in Chengdu's development process is precisely this process, and the city has been able to develop comprehensively as a result. Meanwhile, the localization direction is more notable in the sales industry, finance industry, and service industry than in other industries. In the growth processes of the majority of companies, we can see that a company's localization is shown in its attention to the local consumer market, its improvement of the local labor market, and the spurring of related local industries.

However, in addition to economic development factors, a city's changes to management, systems, and culture in the development process are clear but difficult to assess. This is the quality effect of urban development. In modern society of highly developed information, the spreading of the quality effect and its driving role for society cannot be ignored. If diversification and localization are characteristics of successful cities, then the quality effect is the main characteristic of world cities in the new era and the force behind their impact on the macro environment. On this basis, we must reexamine that concept of the world city. What is a world city? In modern society, a world city is a city that makes major contributions to society, the economy, and culture. Driven by the quality effect, the cities of newly industrialized countries have already affected changes to the world order. They could be called contemporary, emerging world cities. The development trajectories of these cities are different from cities in the past. This is worth considering.

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Appendix
Survey of Chengdu Success Stories

As a main participant in the economic activities of the city, we are very interested in you and your company's business development history. Please tell your business story according to the following four headings (sections). You are welcome to write about any factors related to you and the success of your company.

This project is a joint inspection project undertaken by the Chinese Academy of Social Sciences Urban Competitiveness Research Center and the Globalization and World City Research Group and Network in order to understand Chengdu's extraordinary economic growth.

Name	
Position	
Years at Company	
Address	
Phone	
Email	

Company	
Sector	
Ownership	
Number of employees	
Time of Founding	

Part I: Your Background
Briefly describe your childhood (parents' work), education, early work, standard qualifications, and experience before joining the company. Did you found the company? If not, who founded the company and for what reason? Why did you join the company?

P. Taylor et al., *Global Research of Cities*,
DOI 10.1007/978-981-287-981-3

1. Where did you live before age 12?

   ☐ Countryside
   ☐ Town
   ☐ Small City
   ☐ Capital (or provincial capital)

2. What was your father's occupation?

   ☐ Farmer
   ☐ Worker
   ☐ Cadre
   ☐ Expert or Technical Worker (e.g. doctor)
   ☐ Businessman
   ☐ Other

3. What was your mother's occupation?

   ☐ Farmer
   ☐ Worker
   ☐ Cadre
   ☐ Expert or Technical Worker (e.g. doctor)
   ☐ Businesswoman
   ☐ Other

4. What is your educational background?

   ☐ Primary
   ☐ Middle School
   ☐ High School
   ☐ University
   ☐ Masters
   ☐ Above

5. Your ultimate work (or vocational qualifications) are
   _____

6. Did you found the company?

   ☐ Yes
   ☐ No
   If not, who was the founder?
   _____

7. Why was the company founded?
   _____

8. How did the founder decide to found the company?
   _____

9. How did you join the company?

   ☐ Founder
   ☐ M&A
   ☐ Recruited
   ☐ Transferred in from government or NGO
   ☐ Sent from headquarters
   ☐ Other _____

Part II: Company Origin
(If this company was formed from a merger or acquisition, please trace back to the company before the M&A). How was the company created? Where did the idea of starting the business come from? How were the funds raised (from where)? What external support (public or government officials) has the company received? What original products or services has the company created? Was the company the first in Chengdu to produce these products or services? Where did the first employees and raw materials originate? Did the company originally supply the local market or other domestic markets (where?) or international markets (where?)? If the company had early-stage competitors, who were they? What is their development status? What was the size of the company (employees, turnover) a year after the company's founding?

10. The company's ownership structure at founding was:

    ☐ State-owned
    ☐ Private
    ☐ Joint venture
    ☐ Foreign direct invested
    ☐ Hong Kong, Taiwan, or Macau-invested
    ☐ Other _____

11. How was the company created?

    ☐ M&A
    ☐ Branch or subsidiary of a foreign company
    ☐ LLC
    ☐ SOE shareholder reform
    ☐ Other _____

    If you selected M&A, please give the details of the former company _____

12. Why was the company founded?

- ☐ Market opportunity
- ☐ To use patents
- ☐ To enter the local market
- ☐ It was a distributor or supplier for another company
- ☐ It was in the expansion stage
- ☐ Other _____

13. How did the company raise funds (can select more than one)?

- ☐ State-owned capital
- ☐ Investment from the parent company or group
- ☐ Natural person or joint investment of natural persons
- ☐ Loan from an individual
- ☐ Bank loan
- ☐ Joint-venture company
- ☐ Other

14. What external support has the company received (can select multiple)?

- ☐ Investment project
- ☐ Reduced rent for production and business establishment
- ☐ Tax incentives
- ☐ Government subsidies
- ☐ Low-interest or no-interest loan from seed fund
- ☐ Other

15. The company's original product or service was

_____

16. Was the company the first in Chengdu to provide this product or service?

- ☐ Yes
- ☐ No

17. Where did the company's first employees originate?

- ☐ Chengdu
- ☐ Regions outside Chengdu
- ☐ Other domestic regions
- ☐ Abroad

18. Where did the company's first labor and raw materials originate?

- ☐ Chengdu
- ☐ Regions outside Chengdu
- ☐ Other domestic regions
- ☐ Abroad

19. Where was the company's original market?

☐ Chengdu
☐ Regions outside Chengdu
☐ Other domestic regions
☐ Abroad
If not within Sichuan, then where? _____

20. If the company had early competitors, who were they (list three)?

① _____
② _____
③ _____

21. What is their development status?

☐ Still competitors
☐ Market share not comparable
☐ Bankrupt
☐ Other _____

22. How did the company's workforce change the year after founding?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

23. How did the company's turnover change the year after founding?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

24. Please list the names and addresses of the company's five main suppliers at the time of investment

① _____
② _____
③ _____
④ _____
⑤ _____

25. Please list the names and addresses of the company's five main customers at the time of investment

① _____
② _____
③ _____
④ _____
⑤ _____

Part III: Company Development
Has the company's size changed to date (staff, business volume)? Are there products that have expanded into new work fields? When? Why? How? Was the company the first in Chengdu to enter this field? What developments have ensured the company's success? Is there more than one type of this development? What changes have occurred in labor, raw materials, and markets? Where has new capital come from? Where do new ideas come from? Where is the competition? Who are they? What is their situation? What partnerships has the company launched with other businesses? Did the public/government officials provide particularly useful assistance in the company's successful development process? How did they help?

26. How did the labor force change in the year after founding?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

27. How has the proportion of university graduates in the workforce changed?

☐ 10 % or below
☐ 10–20 %
☐ 20–30 %
☐ 30–40 %
☐ 40–50 %
☐ 50 % or above

28. How much has the company's revenue grown compared to the first fiscal year?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

29. How much have the company's assets grown compared to the first fiscal year?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

30. How much has the company's equity grown compared to the first fiscal year?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

31. How much have the company's profits grown compared to the first fiscal year?

☐ 20 % or below
☐ 20–50 %
☐ 50–100 %
☐ 100–200 %
☐ 200 % or above

32. Early on, how many of the company's products/services were in new work fields?

☐ 1
☐ 2
☐ 3
☐ 4
☐ More than 4

33. Today, how many of the company's products/services have entered new work fields?

☐ 1
☐ 2
☐ 3
☐ 4
☐ More than 4

Please list the details of the company's entrance into new work fields, such as time, name, etc.

① _____
② _____
③ _____

34. Why did the company enter the new work fields?

- ☐ Market opportunity
- ☐ To use patents
- ☐ To enter the local market
- ☐ To become a distributor or supplier for another company
- ☐ It was in the development stage
- ☐ Other _____

35. How did the company create new works?

- ☐ M&A
- ☐ A foreign company established a branch or subsidiary
- ☐ LLC
- ☐ SOE restructuring
- ☐ Other _____

Was the company the first in Chengdu to develop this business?

- ☐ Yes
- ☐ No

36. Which of the following developments "settled" the company's success (can select multiple)?

- ☐ Growing market
- ☐ Government support
- ☐ Resources from headquarters
- ☐ Correct strategic choices
- ☐ Employee efforts
- ☐ Ability of leadership
- ☐ Good customer relations
- ☐ Other

37. What advantages did the company have early on compared to competitors (select at least 5)?

- ☐ Overall strength
- ☐ Massive product demand
- ☐ Higher product quality
- ☐ Advanced equipment
- ☐ Strong R&D
- ☐ Low price
- ☐ High-quality workers
- ☐ Strong sales and marketing capabilities
- ☐ Good management
- ☐ Strong leadership
- ☐ Recruitment of top talent

38. What changes have occurred to raw materials prices?

- ☐ Decreased
- ☐ Increased by less than 3 %
- ☐ Increased 3–5 %
- ☐ Increased 5 % or more

39. How have labor costs changed?

- ☐ Less than 20 %
- ☐ 20–50 %
- ☐ 50–100 %
- ☐ 100–200 %
- ☐ More than 200 %

40. How has the market changed?

- ☐ No change
- ☐ Increased by 10 % or less
- ☐ Increased 10–20 %
- ☐ Increased 20–50 %
- ☐ Increased 50 % or more

41. Where does the company's capital come from (can select multiple)?

- ☐ Bank loans
- ☐ Private capital
- ☐ Trust fund
- ☐ Corporate debt
- ☐ IPO
- ☐ Private borrowing
- ☐ Other

42. In what stage of growth is the company's industry?

- ☐ Rapid growth
- ☐ Mature
- ☐ Decline

43. Does the company have a new strategy?

- ☐ Yes
- ☐ Yes, but not clear
- ☐ No
- ☐ Don't know

44. What is the company's development direction?

- ☐ Focus on existing business
- ☐ Shrinking and refining the market
- ☐ Cultivating new sources of profit
- ☐ Other

45. How will the company complete its strategic goals?

- ☐ Strengthen management
- ☐ Wait for opportunities to expand
- ☐ Shrink business to seek survival
- ☐ Restructure and spread across the industrial chain

46. Is it necessary for employees to understand the company's strategy?
47. Does the company have partnerships with other companies?

- ☐ Yes
- ☐ No

48. Did the public/government officials provide particularly useful assistance in the company's successful expansion process?

- ☐ Yes
- ☐ No

49. What assistance?

- ☐ Land use or production and business site concessions
- ☐ Startup capital or R&D financial assistance
- ☐ Policy support
- ☐ Developing domestic markets or overseas markets
- ☐ Other

50. Please list the company's five biggest suppliers during its development stage and their addresses

① _____
② _____
③ _____
④ _____
⑤ _____

51. Please list the company's five largest customers during its development stage and their addresses

① _____
② _____
③ _____
④ _____
⑤ _____

Part IV: Company's Current Situation
Describe your current business – production, labor force, raw materials, market, competition, partnerships, financing, and concept channels. What is the company's current relationship with the public and government?

52. What type of corporate culture do you hope to have? (pick five according to order of importance)

( ) Survival of the fittest	( ) Teamwork and cooperation	( ) Abiding by professional ethics
( ) People-oriented	( ) Customer-first	( ) Shareholder's equity first
( ) Using talents and materials to the utmost	( ) Serving the community	( ) Everything for the employee
( ) Service first	( ) Innovation	( ) Other:

Other

53. Does the company have a 3–5 year plan?

- ☐ Yes
- ☐ Yes, but not very clear
- ☐ No
- ☐ Don't know

54. What risks will the company face in the future?

( ) Policy risk	( ) Market risk	( ) Management risk
( ) Financial risk	( ) Technical risk	( ) Other risk:

Other

55. Who makes company policy?

- ☐ Planning and development department
- ☐ High-level management annual meeting
- ☐ Mid- and high-level management annual meeting
- ☐ All departments and employees

56. Do you think the company's strategy is reasonable?

- ☐ Quite reasonable
- ☐ Reasonable
- ☐ Okay
- ☐ Not reasonable
- ☐ Don't know

57. Do you think the company's progress in its strategy has been smooth?

- ☐ Very smooth
- ☐ Smooth
- ☐ Okay
- ☐ Not smooth
- ☐ Don't know

58. Do you think the company can achieve its strategic goals?

- ☐ Definitely
- ☐ Partially
- ☐ No
- ☐ Don't know

59. Which of the following core capabilities do you think the company possesses? (Rank the top five in order of importance)

( ) Production and operations	( ) Product quality	( ) Cross-sector management
( ) R&D	( ) Brand management and customer relations	( ) Information management
( ) Market expansion	( ) Investment and financing	( ) Strategic planning
( ) Employee training	( ) Government and public	( ) Other:

Other

60. What is the competitiveness of the company's flagship product?

- ☐ High technology
- ☐ Low price
- ☐ No replacement products
- ☐ Variety, style, and function
- ☐ Brand loyalty
- ☐ Other

61. In what stage of the product lifecycle are the company's products?

- ☐ Introduction
- ☐ Growth
- ☐ Maturity
- ☐ Decline
- ☐ Elimination

62. Does the company have product technology reserves?

- ☐ Yes
- ☐ No
- ☐ Company relies on outsourcing

63. How is the company's technical proficiency?

- ☐ World leader
- ☐ At a world level
- ☐ Can act as a substitute for imports
- ☐ Domestic leader

64. Source of company's core technology:

- ☐ In-house R&D
- ☐ International or domestic technology transfer
- ☐ R&D in partnership with institution or university
- ☐ M&A
- ☐ Provided by headquarters

65. How is the company's R&D financial position?

- ☐ Not much
- ☐ Fixed percentage of annual sales
- ☐ Budget plan from annual meeting
- ☐ A portion of sales
- ☐ Depends on annual sales
- ☐ Other

66. In the industry, the quality of employees is:

- ☐ Higher than median industry level
- ☐ A high level
- ☐ Lower than the median
- ☐ Don't know

67. What do you think attracts employees? (select a maximum of 3)

- ☐ Company's development prospects
- ☐ Company benefits and work environment
- ☐ Career opportunities
- ☐ Substantial income
- ☐ Leadership personality
- ☐ None of the above
- ☐ Other

68. What kind of people does the company hope to attract? (can select multiple)

- ☐ Management
- ☐ Marketing
- ☐ R&D
- ☐ Finance
- ☐ Other

69. What factor do you think can most influence the stability of the core team?

- ☐ Salary level
- ☐ Development prospects at the company
- ☐ Ability to use professional strengths
- ☐ Company respect for knowledge and ability
- ☐ Fair competition
- ☐ Simple relationship
- ☐ Good rules
- ☐ Attention to business
- ☐ Company reputation
- ☐ Boss' personality
- ☐ Other

70. The competitiveness of the companies products is:

- ☐ Strong, stable market share in the past three years
- ☐ Strong, expanding market share in the past three years
- ☐ Strong, shrinking market share in the past three years
- ☐ No replacement products, stable customers
- ☐ Almost no competition due to monopoly
- ☐ Industry access restricts competition

71. What advantages does the company have compared to its competitors?

- ☐ Company's overall strength
- ☐ Demand for products
- ☐ Product quality
- ☐ Advanced equipment
- ☐ R&D capabilities
- ☐ Cost
- ☐ Quality of employees
- ☐ Sales capabilities
- ☐ Management
- ☐ Effective leadership
- ☐ Ability to recruit talent

72. Relationship between company and suppliers:

- ☐ Those who hold stock have a priority right to supply
- ☐ Those who hold stock have a guaranteed right to supply
- ☐ Signed long-term contracts
- ☐ Frequently changed suppliers in past three years
- ☐ Sign contracts annually
- ☐ Belong to the came company
- ☐ Other

73. Relationship between company and customers:

- ☐ Long-term contract with single customer
- ☐ Several stable VIP customers
- ☐ Distribution through multiple agencies
- ☐ Belong to the same company
- ☐ B2C

74. Main financing channels in the past three years (rank three in order of importance)

( ) Additional investment from shareholders	( ) Retained earnings	( ) Issue and allotment
( ) Bank loans	( ) Trust funds	( ) Private loans
( ) Issuing corporate debt	( ) Allocations from headquarters	( ) Other

Other

75. Company's financial situation:

- ☐ Ample funds and investing in financial products or reliable investment projects
- ☐ Ample funding suitable for expansion
- ☐ Enough to satisfy daily operating needs; outside funding needed for expansion
- ☐ Financing limited; only enough for daily operations
- ☐ Hoping to obtain financing

76. Please list the names and addresses of the company's five largest suppliers:

① _____
② _____
③ _____
④ _____
⑤ _____

77. Please list the names and addresses of the company's five largest customers:

① _____
② _____
③ _____
④ _____
⑤ _____

78. How does the company obtain investment information or opportunities: (rank three according to importance)

( ) Government investment	( ) Conventions	( ) Media
( ) Business partners	( ) R&D bodies	( ) Intellectual property departments
( ) Business associations	( ) Headquarters	( ) Other

Other

79. What investment factors does the company consider? (rank three according to importance)

( ) GDP	( ) Economic growth	( ) Local demand
( ) Labor wages	( ) Land usability	( ) Satisfaction with infrastructure
( ) Comfort of founder	( ) Protection of intellectual property	( ) Arbitration quality
( ) Government policy	( ) Degree of tax relief	( ) Other

Other

80. What factors does the company consider in assessing investment opportunities? (rank three according to importance)

( ) Industrial policy	( ) Industry development stage	( ) Market growth situation
( ) Company resource similarity	( ) Highly efficient management	( ) Risk control
( ) Company's core competitiveness	( ) Company's advantage	( ) Investment prospects
( ) Market competition	( ) Consistency in development policy	( ) Other

Other

81. Does the company pay attention to "one-stop service"?

☐ Yes
☐ No

If yes, is the service feasible?

☐ Yes
☐ No

If feasible, why?

82. In the last five years, how frequent has the company's contact with the government been?

- ☐ Declining
- ☐ No change
- ☐ Increased significantly

83. In the past year, how long have company leaders interacted with government officials?

- ☐ 3 days or less
- ☐ 3–5 days
- ☐ 5–10 days
- ☐ 10 days or longer

84. In the past five years, how have company expenditures on interaction with the government changed?

- ☐ Reduced
- ☐ No change
- ☐ Increased, but not much
- ☐ Increased significantly

85. Proportion of outlays related to government to total expenditures in the past year:

- ☐ Less than 5 %
- ☐ 5–10 %
- ☐ 10–15 %
- ☐ 15–20 %
- ☐ More than 20 %

Thank you for your cooperation!