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Globalization, Geopolitics, and Social Networks: Overseas Chinese and Overseas

Non-Chinese Investments in China

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Geography

by

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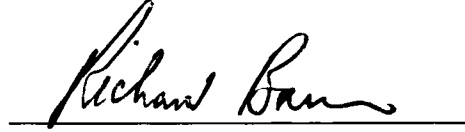This dissertation is partly supported by the Summer Research Mentorship (2002-2003) from Graduate Division of UCLA (Quality of Graduate Education Supplemental Allocation Program initiated by Graduate Division); Graduate Travel Fellowship from Graduate Division of UCLA; Small Grant Award from Urban China Research Network (Lewis Mumford Center for Comparative Urban and Regional Research, University at Albany). I would like to acknowledge these sources of financial support during the dissertation research and writing process.

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ABSTRACT OF THE DISSERTATION

Globalization, Geopolitics, and Social Networks: Overseas Chinese and Overseas

Non-Chinese Investments in China

by

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Doctor of Philosophy in Geography

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China has been the biggest recipient of foreign direct investment (FDI) among all the developing countries since the 1990s. FDI in China comes from two main sources due to its special geopolitics in East Asia. The first is from overseas Chinese investors in Hong Kong, Macao, and Taiwan. The second is from overseas non-Chinese investors (non-Hong Kong-Macao-Taiwan investors). This dissertation focuses on an ethnic and cultural dimension of Chinese FDI and non-Chinese FDI. Non-Chinese FDI is a global phenomenon, while Chinese FDI is merely a regional phenomenon. Overseas Chinese investment and overseas non-Chinese investment exhibit different sectoral and spatial patterns, and have different spatial outcomes and impacts on China's development.

This research argues two different development patterns. One special development pattern, regional integration, is driven by overseas Chinese investors. The other, globalization, is driven by non-Chinese investors. Under CEPA (closer economic partnership arrangement), a new regionalism between China and Hong Kong and Macao has formally come into being. More interestingly, overseas Chinese

investment in China is different from the simple cross-border investment (e.g. the U.S. and Canada, the U. S. and Mexico, Germany and France, Belgium and France) because the overseas Chinese have social network advantage (mainly in the form of *guanxi* networks) in mainland China. Questionnaire surveys conducted in southern China are used to verify the expected significance of *guanxi* networks for overseas Chinese investors from Hong Kong, Macao, and Taiwan. *Guanxi* or social networks are a key to understanding Chinese transnationalism, new regionalism, and Chinese capitalism. In addition, based on detailed micro-level firm data (industrial census data), I construct sectoral and spatial models on overseas Chinese and non-Chinese investments in order to figure out what factors have influenced the distribution of the two types of investors. The statistical analysis results support the central argument, that is, overseas Chinese investment is spatially as well as sectorally uneven from non-Chinese investment. Sectorally, it finds that Chinese FDI focuses more on labor-intensive, low-cost, low-skill manufacturing activities, and non-Chinese FDI focuses more on capital-, knowledge-, and skill-intensive industries. Spatially, it points out that a majority of overseas Chinese enterprises are more dispersed to medium- and small-sized cities, whereas a majority of non-Chinese enterprises are more concentrated in super-large and mega-cities. Furthermore, I challenge the eclectic paradigm as it applies to China by pointing out a significant blind spot of it –the neglect of the social network factor. This research is also one of the important FDI studies from a social-network approach.

The analysis results from quantitative approach (statistics and modeling, spatial analysis techniques) and qualitative approach challenge the conventional FDI theories and fill a significant gap in the theoretical realm of FDI studies.

Chapter 1 Introduction

This chapter first discusses the importance of foreign direct investment in transitional China. After briefly introducing China's economic transition and its open-door policy, I define overseas Chinese investment and overseas non-Chinese investment, which are the focus of this research. Then the basic research goals and research questions are outlined in this chapter. Data sources and methodology are also discussed and included. Finally, I conclude this chapter by providing the overall framework of this dissertation.

1.1 Foreign Direct Investment in Transitional China

China has been the biggest recipient of foreign direct investment among all the developing countries since the 1990s. FDI has played a critical role in China's internationalization and China's astonishing growth rate since 1979. FDI has also been helpful in improving Chinese management, productivity, and competitiveness, and has supplied China with foreign technology and institutions. In sum, FDI is one of the most important factors affecting China's transition. It is the key to understanding China's reforms and its reintegration into the world economy.

Initially, foreign capital in China took the forms of foreign loans, foreign direct investment, and other forms of investment. In the 1980s, foreign loans were the main form of utilizing foreign capital. Only since 1993, has FDI surpassed foreign loans and become the main sources of foreign capital (State Statistical Bureau, 2003). FDI in China is mainly in the form of green-field investment, namely the foundation of new enterprises, which include the basic entry modes of FDI, such as equity joint ventures (EJVs), cooperative joint ventures (CJVs), and wholly foreign-owned

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enterprises (WFOE). Unlike green-field investment, other forms of FDI such as cross-border merger and acquisition are still restricted by the Chinese government. In addition, the industry structure of FDI is uneven in China because of government restrictions. Due to limited sectoral openness, FDI is mainly concentrated in some manufacturing industries. The FDI entry in service industry is still restricted by the government (SSB 2003).

FDI has played an important part in China's national economy. Figure 1.1 shows the share of exports and imports of foreign invested enterprises to the national foreign trade from 1986 to 2004. By 2002, total exports and imports of foreign invested enterprises accounted for more than 50% of the total foreign trade flows in the national economy.

Figure 1.1 The Export & Import Share of Foreign Invested Enterprises to National Foreign Trade in China 1986-2004
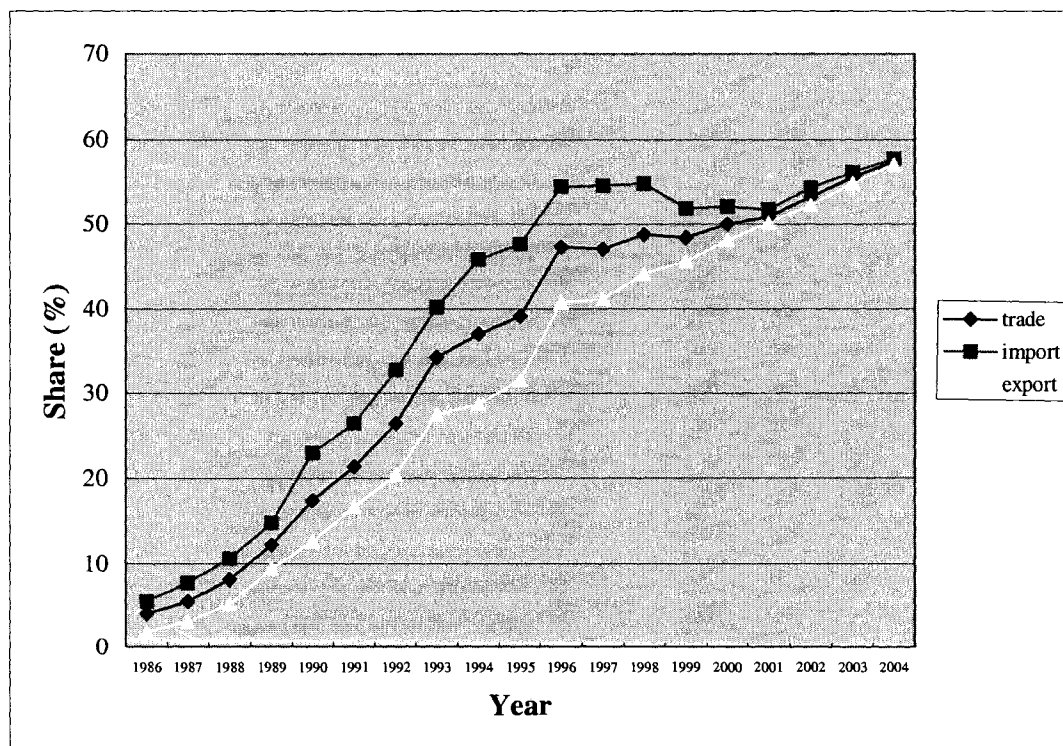
Source: Yearbook of China Foreign Economy and Trade, 2003; data of 2003-2004 is from the Commerce Department of China 2005.

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Figure 1.2 shows the FDI trend in China over the past two decades (1979-2004). Due to the impact of China's open-door policy and economic transition, FDI has experienced several stages in China from 1979 to the new century. Stage-1 (1979-1983): initial stage of the reform and open period. Stage-2 (1984-1988): development stage. Stage-3 (1989-1991): stagnation stage. Stage-4 (1992-1995): high speed development. Stage-5 (1996-2001): stable stage and the Asian financial crisis stage. Stage-6 (2002-present): post-WTO (World Trade Organization) stage (see figure 1.2). The late effect of the East Asian financial crisis in 1997 caused the decline of FDI around 1999-2000. From 1979 to 2004, accumulated FDI stock in China was U.S.$ 562.101 billion, accumulated contract FDI was US$1096.608 billion. And by the end of 2004, there was a total of 508,941 overseas Chinese and overseas non-Chinese enterprises approved in China (SSB 2005). Most of these foreign enterprises were manufacturing enterprises.

Figure 1.2 FDI in China 1979-2004
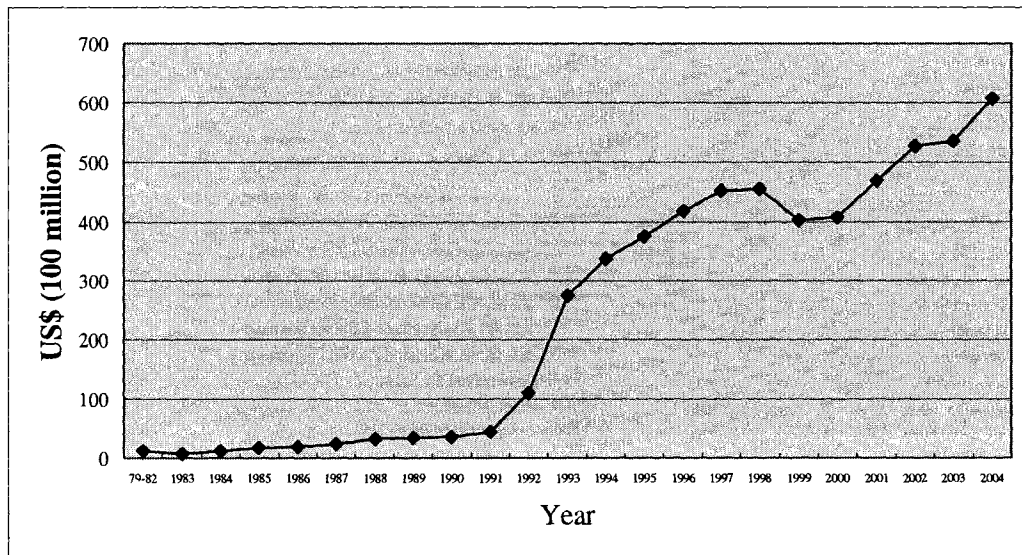
Source: Abstract of China Statistical Yearbook 2003, 2004. Data of 2004 is from the Commerce Department of China 2005.

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In addition to promoting China's foreign trade as described in figure 1.1, FDI

has also contributed to China's total tax revenue, national industrial output, total fixed

asset investment, GDP, and employment. Figure 1.3 shows the share of foreign

invested enterprises' tax revenue and industrial output to the national economy, and

the ratios of FDI to total fixed asset investment and GDP from 1992 to 2002. In 2002,

the proportion of industrial output of foreign enterprises to national industrial output

was 33.37%, the share of tax revenue from foreign enterprises (excluding customs

duty, tariff, and land fees) to national tax revenue from industry and commerce was

20.52%, the proportion of actual FDI to total fixed asset investment was 10.10%, and

the share of FDI to GDP was 4.3% (SSB 2003; see figure 1.3). By the end of 2003,

total employees in foreign invested enterprises were about 23,500,000 (SSB 2004).

Figure 1.3 The Contribution of FDI to Tax Revenue, Industry Output, Total Fixed Asset Investment, and GDP (%)
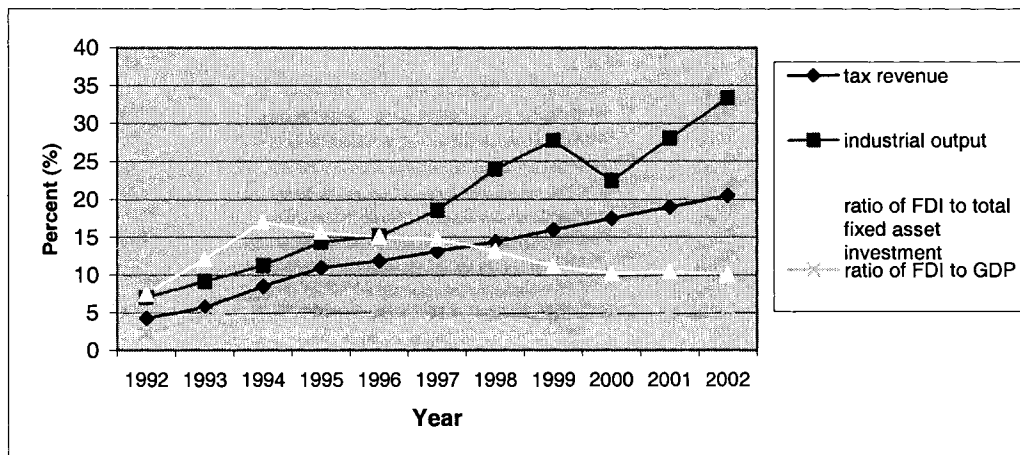
Source: Yearbook of China Foreign Economy and Trade, 2003; Abstract of China Statistical Yearbook 2003.

As the largest developing economy in the world, China has been undergoing a

unique economic transition from a centrally planned economy to a market economy.

Economic transition is evident in two aspects. On one hand, the open-door policy was

initially started in south China and gradually expanded to coastal region, and diffused

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to the whole nation. On the other hand, market forces have been gradually introduced in every field and market system has penetrated into the national economy. The dynamic economic and social space dominated by two forces (institutional factors and market factors) has been an important feature of China's transition over the past two decades. During the period of economic and social transition, however, there is inevitably some weakness in China's legal system, institutional factors, and even market system. Therefore, some traditional customs and rules that include the *guanxi* (personal relationship) networks, kinship networks, and other forms of social networks, other cultural norms, have become a third potential force dominating China's economic and social space. Social networks include *guanxi* networks and kinship networks, etc. As an invisible hand and the main form of social networks, *guanxi* is a type of hidden and important custom in China's economic, social, and political systems. *Guanxi* particularism can be simply defined as reciprocal relationships in the Chinese culture. This means that foreign direct investment in China needs to deal with three forces, institutional forces (the state, its institutions and legal system), market forces, and the latent traditional customs or rules (including *guanxi* forces, kinship ties, and other forms of social networks, civil society, etc.). It is under this framework that FDI has gradually embedded into China's economy.

The development of FDI in China is one of the most interesting components of its economic transition process. The evolution of the open-door policy has corresponding effects on the spatial and industrial patterns of FDI in China. Since the establishment of the first special economic zone in Shenzhen in 1980, China has gradually relaxed the locational and industrial restrictions on FDI. By mid-1990s,

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foreign firms were able to invest in most parts of China; they were no longer subject to very stringent foreign exchange and tariff controls.

On April 21, 1980, Beijing Aviation Food Corporation, the first equity joint venture with a Hong Kong investor, was approved by China's central government and obtained the first FDI operating license in China (SSB 2004). This had raised the curtain on China's utilization of FDI. The Chinese government has successfully guided FDI patterns during the transitional period from a socialist economy to an open market economy. During the transitional period, FDI has greatly depended on China's state policies. The state has played a significant role in directing market forces towards national economic development. The state control includes governing the formation and operation of foreign investment enterprises, the approval and supervision of foreign investment projects, and entry modes. For example, only since 2002 has wholly-foreign-owned enterprises become the main form of FDI entry modes due to the commitments to the WTO (SSB 2004). Investment incentives include tax holidays, concessionary rates, and exemptions from import or export duties. In addition to tax incentives, the special economic zones, economic and technology development zones, coastal open cities and many provinces also provide preferential land-use fees to foreign investors.

1.2 Overseas Chinese Investment and Overseas Non-Chinese Investment

From 1979 to 2004, FDI in China was mainly from the ten Asian countries/regions (Japan, Korea, Hong Kong, Macao, Taiwan, Singapore, Malaysia, Indonesia, Thailand, Philippines), the U. S. A. and the European Union (see figure 1.4). In 1992, the ten Asian countries and regions had a FDI share of 89.46%, the U.

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S. A. had a share of 4.06%, and the European Union had a share of 2.82% (see table

1.1). From 1979 to 2003, the Ten Asian countries/regions had a share of 71.27%, the

U. S. had a share of 8.79%, and the European Union had a share of 7.55% (SSB 2004).

In 2004, the proportions of the Ten Asian Regions, the U. S. and the European Union

to the total FDI shifted to 61.47%, 6.50%, and 6.99%, respectively (SSB 2005). In a

word, FDI in China is mainly the intraregional FDI of East Asia and Southeast Asia

countries, especially the intraregional FDI flows in Chinese regions or greater China

(mainland China, Hong Kong, Macao, and Taiwan). Furthermore, FDI can be

classified as overseas Chinese and non-Chinese investments (see figure 1.4).

According to the State Statistical Bureau (SSB) of China, FDI refers to

investment from foreign enterprises, economic organizations or individuals (including

the overseas Chinese, compatriots from Hong Kong, Macao, Taiwan, and Chinese

enterprises registered abroad), who establish ventures following the relevant policies

and laws of China. FDI also includes the reinvestment of profits by foreign

enterprises and capital that enterprises borrow from abroad. China's first main FDI

source is overseas Chinese investment, which is mainly from Hong Kong-Macao-

Taiwan investors. The second is non-Chinese investment, which is mainly from non-

Hong Kong-Macao-Taiwan investors. This research adopts this definition due to the

special status of Hong Kong, Macao, and Taiwan in greater China and the economic

connections of different overseas Chinese Diaspora with Mainland China as will be

discussed later. Due to increasing transnationalism and the intensification of

globalization, this definition underestimates the amount of overseas Chinese

investment and overestimates the amount of non-Chinese investment in China.

However, it greatly simplifies the data acquirement, data processing and modeling.

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Figure 1.4 Overseas Chinese, Non-Chinese and Other Major Investors in China
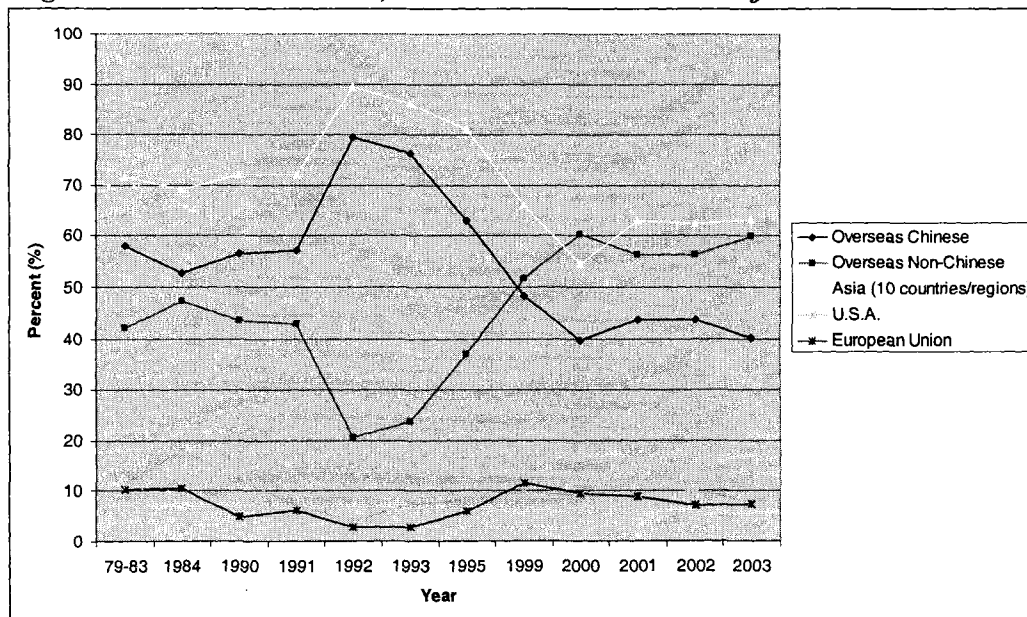
Source: China Foreign Economic Statistical Yearbook and Almanac of China's Foreign Economic Relations and Trade; 2003 data comes from the Commerce Department of China.

Over time China's FDI sources have been more diversified. Initially, during the period from 1979 to 1992, overseas Chinese investment from Hong Kong, Macao, and Taiwan was the dominant source of investment, and in 1992 it accounted for 79.4% of the total FDI in China. However, since 1992, investment from developed countries (mainly from the United States, western European countries, etc.) has increased greatly. Overseas non-Chinese investment has overtaken overseas Chinese investment since 1998 when non-Chinese FDI had a share of 51.95% to the total FDI (SSB 1999). In 2002, overseas non-Chinese investment accounted for 56.21% of the total FDI, although overseas Chinese investment still accounted for 43.79% of the total FDI (see table 1.1). In 2003, Chinese FDI further declined to 40.17%, while non-Chinese FDI increased to 59.83% (SSB 2004). Hong Kong and Taiwan investors had only a share of 36.48% in 2004, although Hong Kong was still the dominant investor (US$ 18.998 billion, 31.34% of the total FDI) in China (SSB 2005).

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Table 1.1 FDI Sources in China 1979-2003 (%)

Country	79-83	1983	1984	1990	1991	1992	1993	1995	1999	2000	2001	2002	2003
HK & Macao	57.96	51.59	52.69	56.42	57.04	70.04	64.93	54.64	41.79	34.67	36.82	35.76	33.86
Taiwan	0	0	0	0	0	9.33	11.3	8.43	6.5	5.14	6.79	8.03	6.31
Chinese FDI	**57.96**	**51.59**	**52.69**	**56.42**	**57.04**	**79.37**	**76.24**	**63.06**	**48.29**	**39.81**	**43.61**	**43.79**	**40.17**
Singapore	0.73	0.32	0.08	1.42	1.25	1.12	1.77	4.93	6.55	4.4	4.32	4.25	3.85
Japan	12.81	20.35	15.83	13.86	13.06	6.63	4.9	8.28	7.22	6.2	9.08	7.92	9.45
U.S.A.	11.54	9.08	18.06	12.28	7.09	4.06	7.45	8.22	9.95	8.88	9.14	10.10	7.85
Southeast Asia	0.82	0.58	0.6	1.71	1.88	2.4	3.62	6.97	7.72	5.45	5.99	5.82	5.33
European Union	10.36	11.92	10.4	4.83	6.09	2.82	2.66	5.85	11.58	9.53	8.88	7.24	7.35
East, SE Asia	71.59	72.52	69.11	71.99	71.99	89.46	86.13	81.1	66.24	54.5	63.01	62.49	63.34
Non-Chinese	**42.04**	**48.41**	**47.31**	**43.58**	**42.96**	**20.63**	**23.76**	**36.94**	**51.71**	**60.19**	**56.39**	**56.21**	**59.83**
Total FDI(%)	100	100	100	100	100	100	100	100	100	100	100	100	100

Note: Overseas Chinese investment here refers to FDI from greater China (excluding Mainland China, namely, Hong Kong, Macao, and Taiwan). Overseas non-Chinese investment refers to FDI from non-Hong Kong-Macao-Taiwan investors. Both overseas Chinese investment and overseas non-Chinese investment are FDI in Mainland China. Statistics for Taiwan investment has started from 1992. Southeast Asia countries include Singapore, Thailand, Malaysia, Philippines, and Indonesia, which are the core members of ASEAN (Association of Southeast Asia Nations).

Source: China Foreign Economic Statistical Yearbook and Almanac of China's Foreign Economic Relations and Trade (1984-2004).

When examining the volume, the diversity of sources, changing entry modes, the spatial and sectoral characteristics of FDI from 1979 to 2004, a few interesting features can be distinguished. First, overseas Chinese investment from Hong Kong, Macao, and Taiwan has made up a large proportion of FDI especially in southern China. This is a unique phenomenon compared with other countries or regions in the world. Overseas Chinese investment has caused a unique development pattern because kinship networks, social ties and other social networks with Mainland China have greatly facilitated overseas Chinese investment and its integration with China. The ethnic component of FDI in China and its potential utility for social networking deserve more attention. A second striking feature is the uneven spatial distribution of FDI, which has been highly skewed for over two decades. FDI has concentrated in the eastern coastal region, and there is little diffusion to central and western China (although the government has been encouraging FDI to locate in central and western China since the late 1990s). There has been only a sticky movement of FDI from southern coastal area to northern coastal China due to the effect of institutional forces and market forces such as agglomeration (Fan and Lu, 2001). The effects of institutional framework (policy environment), market factors, and *guanxi* or social networks on FDI are very important features of FDI in transitional China. However, these factors haven't been systematically studied in the current FDI literature, and my research attempts to fill these voids.

The study of the overseas Chinese investment has by now become a global subject, raising new theoretical problems and empirical challenges. The transnational economic connections between Chinese communities have drawn the attention of scholars from many fields. The transnational and transregional economic activities of

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the overseas Chinese between East and Southeast Asia have raised some challenging

questions with the intensification of globalization. In general, the overseas Chinese

make up a number of different groups:

a. Compatriots of Hong Kong and Macao;

b. Compatriots of Taiwan;

c. Overseas Chinese in Southeast Asia;

d. Overseas Chinese in North America (Chinese American);

e. Overseas Chinese in other developed countries, e.g. the European Union, Oceania,

and other developed countries;

f. Overseas Chinese in other developing countries (mainly due to labor cooperation

for some special construction projects. These temporary labors or migrants will

return to mainland China after the end of cooperation): e.g. South Africa, Cuba, Peru,

Mexico, and Eastern European Countries.

This is the general structure of the overseas Chinese world system formed by

the dynamic overseas Chinese transnational groups. During the 1980s and 1990s,

only the first three groups engaged in significant investment in China, especially the

first two groups. Overseas Chinese capital from Hong Kong, Macao, and Taiwan

tends to be spontaneous and unofficial investments, although Taiwan and China's

governments are still in the virtual state of war. In fact, Taiwan investment in China

is FII (foreign indirect investment channeled through Hong Kong, British Virgin

Islands and other free ports) instead of FDI. Although most Southeast Asian

countries' economies are dominated by the overseas Chinese, their direct investment

in Mainland China is different from that from Hong Kong, Macao, and Taiwan. First

of all, not until 1991 had China established or reestablished diplomatic relations with

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these Southeast Asian countries. Due to the cold war, China was in hostile relations with these nations. A few of these countries still have a subtle relationship with Mainland China, e, g. Indonesia has overt racial discrimination towards Chinese (Ma and Cartier 2002). For overseas Chinese capital from Southeast Asia, their investment has official links between their governments and China. Namely, investors from these Southeast Asian countries must be loyal to their governments. Therefore, there are strong government involvements for investors from Southeast Asian countries. For example, Suzhou Industry Park in China's Jiangsu Province was a super-large FDI project between China's and Singapore's governments in the 1990s. The overseas Chinese elsewhere in Southeast Asia dominated the economies of their countries and had significant political influence. For example, some Malaysians and Indonesians criticized the flow of Chinese investment in Mainland China as "capital flight", although Southeast Asian Chinese insisted that their loyalties were strictly to their country of birth not that of their ancestors (Huntington 1996). In short, Southeast Asian countries have different and subtle attitudes towards overseas Chinese investment in mainland China.

For the overseas Chinese in North America, their main connections with China are remittances, return visits and traveling, donations, and trading, etc. As the accumulation of economic wealth and the improvement of their social and economic status in North America, the overseas Chinese Diaspora in North America will become the origin of FDI in Mainland China during the new century. The overseas Chinese in the European Union and Oceania, and other developed countries has a long history, however, due to the small number of Chinese, overseas Chinese capital from these countries probably won't appear in China in the near future. In addition,

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different generations and descendants of the overseas Chinese also have different economic and social connections with China.

In my dissertation, overseas Chinese investment specifically refers to Chinese investment from Hong Kong, Macao, and Taiwan due to their differences with other overseas Chinese. The rest of the overseas Chinese invested relatively little in China in the 1980s and early 1990s, and therefore their FDI is largely omitted in the analysis. Hong Kong, Macao and Taiwan have very unique geopolitical relations with Mainland China. Hong Kong was a British colony before 1997 and Macao was a Portuguese colony before 1999. And Taiwan is considered as a renegade province by P. R. China. In addition to the reasons mentioned above, the most important reason is that Chinese investment from Hong Kong, Macao, and Taiwan is the direct relocation and migration of manufacturing enterprises into Mainland China due to the industrial restructuring and deindustrialization in these newly industrialized Chinese regions in the 1980s and 1990s. This special investment has generated an industrial division of labor between China and Hong Kong, Macao, and Taiwan, and has also improved the industrial structure in these regions. The Taiwan investment, which has a root in Taiwan, and a stem connecting the cross-strait, has facilitated the increase of cross-strait trade. These enterprises have imported a lot of equipment from Taiwan. In sum, Taiwan investors are the lubricant for the cross-strait relations. Mainland China has become the production base for Hong Kong, Macao, and Taiwan. The relocation of small and medium-sized manufacturing enterprises to China is not only the expansion of Chinese capitalism in mainland, but also has greatly promoted the integration of greater China. Geopolitics, *guanxi* and social networks, and China's special treatment

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on Hong Kong, Macao, and Taiwan have caused a unique development pattern in the world.

In this dissertation, I separate overseas Chinese and overseas non-Chinese FDI, and look at their sectoral and spatial differences. The importance of overseas Chinese investment to China is unique in the world due to both geopolitics factor and *guanxi* networks. Overseas Chinese and overseas non-Chinese investments have different sectoral and spatial patterns, and have different impacts on China's development. In this dissertation, I analyze why they are different and how they can gain competitive advantage after examining their social networks (*guanxi* networks) in China. The basic argument is that FDI from overseas Chinese investors is spatially and sectorally different when compared to FDI from overseas non-Chinese investors.

1.3 Research Goals and Research Questions

Foreign direct investment in China is spatially as well as sectorally unevenly distributed as that will be discussed in Chapter three and four. Due to country of origin effect, other firm-specific variables, and industry-specific variables, overseas Chinese and overseas non-Chinese enterprises have different ownership and internalization advantages. Therefore, they differ in many aspects (e.g. sectoral patterns and spatial patterns, and social networks). Overseas Chinese enterprises from Hong Kong, Macao, and Taiwan are mainly small- and medium-sized and labor-intensive, therefore, their sectoral and locational choices must be different from overseas non-Chinese investors. This dissertation adopts quantitative approach (statistics and modeling) and qualitative approach to explore the differences (spatial patterns, sectoral patterns, *guanxi* and social networks) between overseas Chinese

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investment and overseas non-Chinese investment. In particular, I will use a comparative framework to organize this presentation. The hypothesis here is that overseas Chinese FDI from Hong Kong, Macao, and Taiwan is spatially and sectorally uneven from that from overseas non-Chinese investors. Due to *guanxi* and social networks, overseas Chinese investors can gain competitive advantage over non-Chinese investors. So another hypothesis is that *guanxi* and social networks play an important role in overseas Chinese investors' sectoral and locational choices. The aim of the dissertation is to explore statistical differences between the two types of investors and reveal reasons of why FDI patterns are different. In addition, I will present a theoretical framework to explain Chinese FDI from Hong Kong, Macao, and Taiwan in terms of geopolitics, Chinese capitalism, Chinese transnationalism, and social networks.

As a whole, this dissertation has five goals. The first goal is to uncover the sectoral differences between overseas Chinese and overseas non-Chinese investments. The second objective is to document the spatial differences between the two types of investments. The third goal is to construct a model to answer the question of what firm/industry-specific and other factors explain the preference of overseas Chinese and non-Chinese investors of some sectors over others. The fourth goal is to construct a spatial model to assess what location-specific factors explain the preference of overseas Chinese and non-Chinese investors of some cities over others. The final important goal is to investigate and compare the *guanxi* and social networks of overseas Chinese and overseas non-Chinese investors. Since *guanxi* and social networks cannot be simply measured by the models, a sample survey was conducted

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for this dissertation. In sum, this research provides a challenging theoretical

framework to explain overseas Chinese FDI and non-Chinese FDI.

1.4 Data Sources and Methodology

1.4.1 Data Sources

This research relies on two types of data sources: (1) Macro-level published

government data including cumulative FDI flows (1979-2004) from the State

Statistical Bureau. (2) Micro-firm-level data, which are seldom used by existing

studies due to the difficulties of getting data from the Chinese government. (3)

Survey data from fieldwork in China.

(1) Macro-level Data

Macro-level data are usually aggregated by country and sector and can provide

the general explanation of geographical patterns and sectoral distribution. The China

Statistical Yearbook (1985 to 2004) and Chinese Urban Statistical Yearbook (1985-

2004) can provide these FDI data at the provincial scale and city scale, respectively.

The Third Industrial Census of China in 1995 not only provides firm-level

data, but also has three aggregated data sources published (aggregated on the basis of

firm-level data). They are: (a) volume of general industries (*zonghe hangye juan*); (b)

volume of regions (*diqu juan*); (c) volume of state enterprises, foreign enterprises, and

rural enterprises (*guoqi, sanzi, he xiangcun gongye juan*). This is also an important

source for comparing overseas Chinese and non-Chinese enterprises.

(2) Micro-level Data

Current FDI studies are mainly macro-level based, and the micro-level studies

are seldom touched upon due to the difficulties of getting data. Micro-level data can

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provide more detailed information on individual firms, such as the number of employees, entry modes, firm size, location, productivity, and wage, sales and profit, etc. The third national industrial census in 1995 provides detailed information on individual manufacturing firms. The use of these firm-level data will permit a comprehensive analysis of FDI from different countries and regions.

The Third Industrial Census of China has provided around 50,000 overseas Chinese and non-Chinese manufacturing enterprises with an independent accounting system. The data set is purchased from SSB (State Statistical Bureau), which has some detailed indicators, such as (1) the name of the city or county where a foreign manufacturing enterprise is located; (2) postcode, telephone, fax; (3) starting year; (4) industrial classification code; (5) foreign investments, etc. This data set can be sorted by county or city, entry mode, origin, and sector, etc.

(3) Survey Data

Survey data on managers (or CEO) of about 100 FDI firms in southern China. Field research can explore important management-specific variables, namely corporation behavioral variables which are seldom paid attention to by conventional FDI studies.

1.4.2 Research Methods

This research adopts both qualitative method and quantitative method to compare overseas Chinese and overseas non-Chinese investments. Using industrial census data, this dissertation figures out the sectoral and spatial differences between overseas Chinese investment and overseas non-Chinese investment in China. I use descriptive statistics (correlation, Chi-square goodness of fit test, etc) and spatial mapping (GIS) to answer the first two research questions (the first two research

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goals). In addition to the sectoral and spatial differences between overseas Chinese and non-Chinese investors, by constructing a sectoral model, this dissertation also discovers more differences such as firm size and scale, intangible asset, capital/labor ratio, export performance, productivity, etc, which are the explaining variables in the model.

Two multiple regression models, sectoral model and spatial model, are constructed to explain differences between the two investment sources (the third and fourth research goals). In the international business literature, models on FDI and MNE depend mainly on different types of factors, including firm-specific factors, industry and country-specific factors. Based on empirical research in international business studies, I have constructed some important variables related to firm-specific and industry-specific factors. Most of these industry-specific variables haven't been investigated in China yet. This study fills in this conceptual and empirical gap. For country-specific or location-specific factors, the empirical studies have tested them in many cases and countries. Most importantly, the models measure the effect of institutional factors and market factors on the spatially and sectorally uneven distribution of the two types of investments. By constructing the two models, this dissertation has a number of implications for FDI studies in China. The basic purpose is to develop a set of empirically based models to identify differences between the two types of investors, in terms of firm/industry –specific variables and location-specific variables. An equally important purpose of the study is to investigate the effect of institutional factors and market factors on the two types of investments. By using both quantitative and qualitative methods, my methodological design avoids limitations and maximizes the generalizability of the study.

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Due to the number of independent variables, I address the multicollinearity of multiple regression models when dealing with the data. Other modeling issues, e.g. endogeneity and spatial autocorrelation, are also addressed. Spatial analysis techniques including Moran's I, local Moran's Ii, Moran scatterplot and LISA (local indicators of spatial associations) are employed to detect the problems of spatial dependence in the spatial patterns and spatial model.

Fieldwork and questionnaire survey methods are employed to investigate the final research goal of this dissertation. In addition to exploring the significance of *guanxi* and social networks by conducting fieldwork in Dongguan City of Guangdong province, this study has also provided the statistical evidence of social networks by using the number of the overseas Chinese as a proxy for ethnic and social networks. Some correlation analyses between the number of the overseas Chinese and FDI from four major investors at the province scale are conducted by comparing investments from Hong Kong, Taiwan, Japan, and the U. S.

1.5 Overall Framework of the Dissertation

This dissertation is organized in six chapters. Chapter-two is a review of FDI literature and the theoretical framework of this dissertation in order to provide a more robust explanation to overseas Chinese FDI and non-Chinese FDI. Chapter-three then illuminates the sectoral differences between overseas Chinese and overseas non-Chinese investments at two-digit SIC (standard industry code), three-digit SIC, and four-digit SIC levels. Then I construct a multiple sectoral regression model based on three-digit SIC level data. Chapter-four discusses the spatial differences between the two types of investments. By constructing a spatial model based on 600 Chinese

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cities with a foreign investment presence, I explore the reasons behind the spatial

differences. Chapter-five investigates the social networks of overseas Chinese

investment in Mainland China by conducting a field survey in *Dongguan* City.

Chapter-six concludes this research by pointing out the significance of this study and

a future research agenda.

In short, an important part of the dissertation is to differentiate the sectoral and

spatial differences between overseas non-Chinese and overseas Chinese investments

by constructing multiple regression models based on firm-level data. Another one is

to verify and investigate the significance of *guanxi* networks of foreign direct

investment in China, which is a notable and prominent difference between overseas

Chinese and overseas non-Chinese investments, yet it remains a significant blind spot

in FDI studies.

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Chapter 2 Literature Review and Theoretical Framework

2.1 Introduction

In this chapter, I review general FDI studies and theories of the past few decades. After evaluating the mainstream FDI theories, I point out a general scenario of FDI studies in China. I also touch upon some current studies on overseas Chinese and non-Chinese investments. Based on studies of Chinese FDI and Chinese capitalism, this dissertation also illuminates the limitations of current FDI theories by pointing out a blind spot of it, namely, the neglect of social networks. After comparing two different development patterns caused by overseas Chinese and non-Chinese investments, I outline the theoretical framework of this dissertation and conclude this chapter.

Before seeking an effective approach to explain overseas Chinese and overseas non-Chinese investments in China, this research first reviews the past and current paradigms, theories and studies on FDI, which have been mainly centering on developed countries that are the most important origins and destinations of FDI.

2.2 The Mainstream FDI Theories

The mainstream FDI theories are based on industrial organization theory, transaction cost theory, trade theory, and location theory. In the international business literature, FDI studies are usually connected with studies of transnational corporations (TNCs) because transnational corporation is the leading vehicle of cross-border transactions. Since the mid-1970s, there have been several attempts by economists to explain international production. They fall into two approaches, the macro-economic and

the micro-economic approaches. The micro-approach focuses on the behavior of groups of firms rather than that of countries and offers the most promise for explaining international production. Each of these approaches should be considered as complementary rather than competitive to each other, and to the partial explanations earlier put forward.

2.2.1 Macro-Theories of FDI –The Flying Geese Model

The macro-level studies mainly include Kojima's flying geese model (Kojima 1978, 1982; Ozawa 1995). The flying geese paradigm of economic development was developed in the 1930s as a general theory of economic development by the Japanese economists and policymakers who stressed the importance of state policy. It focuses on three consecutive steps: import-oriented strategy; import-substitution strategy; and export-oriented strategy. Kojima's theory of FDI is an extension of the neoclassical theory of trade that embraces cross-borer transactions of intermediate products (technology, management skills). The "flying-geese" process can be seen from the hierarchical character of Japanese, NIE (*newly industrialized economies*), and ASEAN (*Association of Southeast Asian Nations*, e.g. Thailand, Malaysia, and Indonesia) capitalism on national and regional levels (Henley and Kirkpatrick 1999). However, it is neoclassical in its stance and it ignores the essential characteristics of TNC (Transnational Corporation) activity, namely the internalization of intermediate product markets.

Kojima argues that countries should undertake outward direct investment in industries which employ resources in which they are comparatively disadvantaged (or

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becoming less advantaged), while encouraging inward direct investment in those industries which require resources in which it is comparatively advantaged (or becoming less disadvantaged). Kojima's approach is one of the best-known macro-economic theories of FDI, which looks at the issue of outward and inward investment from a country's viewpoint, and attempts to argue that it is the comparative locational or competitive advantages of countries which should determine the amount, form and structure of international business operations.

2.2.2 Micro-Theories on FDI

Industrial Organization Approach

Economists, such as Stephen Hymer, Raymond Vernon, and John Dunning have contributed to micro-level studies of FDI. Hymer's industrial organization approach explains why international investment will happen. Before Hymer's pioneering study in 1960, there was no genuine and specific theory of why firms engaged in international production. Hymer's contribution is that domestic firms have an intrinsic advantage superior to foreign firms. A foreign firm wishing to produce in that market has to possess some kinds of firm-specific advantage which would offset the advantages held by indigenous firms, for example, firm size, economies of scale, market power and marketing skills, technological expertise, or access to cheaper sources of finance. On these bases, a foreign firm would be able to out-compete domestic firms in their own backyard. This approach concerns the choice between exporting strategy and FDI (Hymer 1976; Kindleberger 1969; Hirsh 1976; Horst 1972).

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Hymer argues that the possession of monopolistic advantages is a necessary condition for FDI and he firmly embraces the industrial organization explanation of industrial production. But as Casson (1987) points out, some of the gains arising from FDI are more appropriately described as competitive than monopolistic advantages, in the sense that they aid rather than impede the efficiency of cross-border resource allocation. For example, small- and medium-sized overseas Chinese firms can also gain competitive advantage over non-Chinese firms in China, although some of these small- and medium-sized firms don't necessarily possess obvious ownership or internalization advantages. In short, this approach omitted to consider one of the main driving forces for growth of firms. Therefore, his industrial organization theory is only a partial theory of FDI.

Product Life Cycle Theory

The product life-cycle theory of FDI (Vernon 1966, 1979) describes the interaction between international trade and foreign investment. It contends that firms go through an exporting phase before switching first to a market-seeking FDI phase, and then to cost-oriented FDI phase. Technology and marketing factors combine to explain standardization, which drives location decisions. However, Vernon's approach cannot explain the majority of international investment by TNCs and their global strategies. Vernon and other scholars applying the product-cycle model (Hirsch 1967; Wells 1972) are not primarily interested in organizational questions, and had little to say on the "how" or which kind of international production. As mentioned above, the industrial organization approach doesn't answer where ownership-advantages are exploited, and the location theory approach doesn't explain how foreign owned firms could outcompete

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domestic firms in supplying their own markets. To the questions of "how' and "where",

Vernon added "when" to the theory of foreign investment.

In short, the product life-cycle theory predicts that the maturing of a product will

trigger the diffusion of production of standardized product to peripheral and low-cost

locations. This is helpful to understand the sectoral patterns of FDI in China. Especially,

the migration of Taiwan's labor-intensive sectors (shoes, garment, IT industry, etc.) can

be explained by this theory. Although Taiwan is not the center of R&D and innovation

of these industries, these industries were originally shifted from developed countries, e.g.

North America and Japan. And usually Taiwan receives the international order from

these developed countries. Due to the high labor cost and land fees, Taiwan investors

were forced to shift these industries to Mainland China in the 1990s, e.g. IT industry. In

short, the product life cycle model is evidenced by the cross-Taiwan-strait industry

division of labor.

The life-cycle model has great implications for international business studies and

especially the globalization of firms (Moore 2004, *Harvard Business Review*). An

innovation life cycle might include disruptive innovation, application innovation, product

innovation, process innovation, experiential innovation, marketing innovation, business

model innovation, and structural innovation.

Internalization Theory

Another approach, internalization theory (Buckley and Casson 1976, 1981;

Buckley and Pearce 1979; Contractor 1984; Rugman 1985) explains how international

investment happens and can be summarized in a sentence, namely, large firms are able to

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expand because of their integrative capacity and the exclusion of competitors from their know-how. The central proposition is that the existence of the cross-border value-added activities by firms stem from the failure of intermediate product markets to operate efficiently. The internalization of such markets by hierarchies leads to an extension of the boundaries of the firm. This approach is based on the transaction cost paradigm of Williamson (1975) and is an important one in the modern theory of the transnational enterprise. This theory establishes a link between FDI by large corporations and their internal organization reflected by their hierarchical integration of business functions.

Internalization is particularly common in manufacturing business with high R&D cost and capital intensity (e.g. chemicals, automobile), and large scale intermediary products in the form of components and semi-finished goods (consumer electronics, pharmaceuticals). However, the limitation of the internalization approach is that it is incapable of explaining net national flows of foreign direct investment and in particular changes in net national flows. Even so, the internalization paradigm (namely, the transaction cost paradigm) was a major breakthrough in the 1970s and is one of the most powerful analytical tools evolved in the last 30 years. It has implications and applications well beyond the boundaries of economics. It helps in explaining why firms exploited their ownership advantages themselves, rather than selling the right to do so to other firms (e.g. externalizing their use). In this respect, the internalization paradigm has largely supplanted the industrial organization approach in our understanding of international production.

Eclectic Paradigm

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John Dunning (1979) has proposed his well-known eclectic paradigm, which attempts to integrate various strands of explanation of international production. According to Dunning, a firm will engage in international production if, and only if, three conditions are present: ownership-specific advantage, internalization, and location-specific factors. Because the three principles themselves are derived from a variety of theoretical approaches (the theory of the firm, organization theory, trade theory and location theory), Dunning labels his approach as an eclectic approach/paradigm. This paradigm provides a micro-level of explanation of the TNC and of the internationalization of economic activity and incorporates the diversity of international production to explain the widely differing characteristics of TNCs of different sizes and from different source nations. Dunning's ownership advantage –sometimes called competitive or monopolistic advantages –must be sufficient to compensate for the costs of setting up and operating a foreign value-adding operation, in addition to those faced by indigenous producers or potential producers. This approach has been called eclectic for three main reasons. First, it draws on each of the main lines of explanation for MNE activity which have emerged over the past three decades; second, it can be used to explain all types of FDI investment; and third, it embraces the three main vehicles of foreign involvement by enterprises, that is, direct investment, trade and contractual resource transfers (e.g. licensing), and suggests which route of exploitation is likely to be preferred.

The major value of Dunning's approach to the explanation of international production is that it can incorporate the diversity of transnational investment, which is

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such a major feature of today's global economy. But there might be some behavioral-related variables of firms that have not been successfully incorporated into the eclectic paradigm. A dynamic eclectic paradigm should embrace the economics of entrepreneurship and technological innovation and change, etc. Also, Kojima criticizes the eclectic paradigm for being too micro- or business-oriented, and claims that it is of limited use for policy formation by home or host countries. Vernon (1985) has alleged that the eclectic paradigm is couched in static terms and is unable to explain the dynamics or the process of change of international production. Although there are some criticisms of the eclectic paradigm, it remains a useful and robust general framework for explaining and analyzing not only the economic rationale of economic production but also many organizational and impact issues in relation to TNC activity (Dunning 1987).

Dunning's eclectic paradigm still remains an influential general framework for explaining international production and it can be summarized as three determinants: ownership advantage, internalization advantage, and location-specific advantage (OIL framework). The FDI and MNE literature has centered on essentially these three sets of independent explanatory variables: firm-specific factors; location- or country-specific factors; market structure or industry-specific factors. This OIL framework is the basic guideline for modeling FDI in China. This eclectic approach is helpful to understand the sectoral and spatial patterns of both overseas Chinese and non-Chinese investments in China. For example, the ownership-specific advantage and internalization advantage are helpful to understand why overseas non-Chinese investors focus on some key industries and overseas Chinese investors focus on other labor-intensive and non-key industries in

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China's national economy. The location-specific advantage is actually location-specific variables that are the components of niche environments where both overseas Chinese investors and non-Chinese investors have their own preferences. Namely, location-specific advantage is one of the keys to understanding why overseas Chinese investment is more dispersed to small- and medium-sized cities and overseas non-Chinese investment is more likely to locate in major economic centers and super-large cities.

2.2.3 Other Related Theories or Concepts

There are also some other related concepts or theories that are the foundation of current FDI theories. For example, the core-periphery theory, new international division of labor theory, location theory, agglomeration theory, distance decay principle and gravity attraction model, Michael Porter's competitive advantage concept, and international trade theory, etc. The earlier theory of international trade assumes that trade and investment are substitutes. Of all these related concepts or theories, some are more influential in explaining current international production and globalization of TNCs. They are transaction cost approach, bargaining power theory, organizational capability analysis, and the horizontal-and-vertical FDI theory, etc. Many of these approaches have been developed since the 1990s.

Bargaining Power Theory. Unlike the traditional agenda on transnational corporations (e.g. transaction cost approach), the bargaining school has recently received attention by scholars (Dicken 1994; Gomes-Casseres 1990; Vachani 1995; Pan 1996; Yeung and Li 1999). According to the bargaining theory, FDI is determined by a bargaining process, namely the negotiation between local state (or firms) and foreign

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firms, both of which have bargaining power. The interactions between TNCs and local authorities (or local companies) in the host country are determined by the power relations between the two sides (Dicken 1994). This bargaining power approach can also help explain the investment behavior and strategies of foreign firms in a host country. Bargaining power (BP) theory views FDI's entry mode choice as an outcome of negotiations between the firm and the government of the host country (e.g. Gomes-Casseres, 1990). BP theory assumes that the MNC uses its ownership advantage as a source of bargaining power, while the host government relies on its control over marketing access (Kumar and Subramanian, 1997). Foreign firms will intend to dominate the market and protect proprietary technology, while the local government of the host country usually imposes regulations and interference on foreign firms.

BP theory views that the actual FDI activity will depend on the relative bargaining power of firms and host government. In general, a FDI project is likely to be selected by a TNC when the host government strongly desires to attract FDI and relaxes the investment environment, and when the TNC has little need for local resources (Gomes-Casseres, 1990). A firm's bargaining power factor depends on its ownership advantages such as technology and marketing skills (Das and Teng, 2000). The local government side includes government policies, country risk, and demand conditions, etc.

Transaction Cost Paradigm. Transaction cost approach is not only an important concept for economic geography, but also the foundation of current FDI theories, e.g. internalization theory. In the international business literature, transaction cost approach posits that the internationalization of a TNC is driven by a desire to minimize transaction

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cost (Williamson 1985). From transaction cost perspective, a firm's investment decision centers on minimizing the sum of transaction costs and production costs. Market failure is the primary antecedent to the firm's decision to integrate and assume greater control; the most important determinant of market failure is the presence of transaction-specific assets (Rugman, 1981; Williamson, 1985).

Organizational Capability. Another approach, organizational capability (OC) theory, focuses on a firm's capabilities. According to the theory, the nature and pattern of organizational capability and experience are critical to understanding the international activities of TNCs (Madhok 1994,1997). OC paradigm focuses on the bundle of firm-specific-based capabilities and resources and how a firm can utilize this bundle to gain competitive advantage. Moreover, the development of a mixture of capabilities as a safeguard against contextual fluctuations enables the firm to improve its competitive position.

The Horizontal-and-vertical FDI theory. According to Caves (1996), TNCs can be distinguished into two types of firms: vertical multinational firms and horizontal firms. Vertical multinational firms refer to those whose vertically integrated production units are located in different countries. Horizontal multinational firms, on the other hand, have several production facilities in different countries or regions, each producing identical or similar products. While vertical firms can be motivated by relative factor endowment differences, horizontal ones are often a result of the trade-off between proximity to markets and scale economies from production concentration. This is Caves's vertical-and-horizontal FDI theory. This theory can explain a large portion of

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overseas Chinese vertical firms and non-Chinese horizontal firms.

2.3 Synthesis of the FDI Theories and Concepts

A TNC's internationalization is determined by numerous factors such as resource contribution, bargaining position, and organizational capabilities. In order to understand multiple determinants of FDI activities, we have to utilize an integrative perspective and synthesize the above theories, concepts and paradigms. In essence, these theories are not competing explanations of FDI, but address the same issue from different perspectives. As each of the theories contributes a different but complementary perspective to our understanding of FDI, they collectively have greater explanatory power than any single one in describing the underlying determinants of TNCs' activities. Therefore, they serve as the theoretical foundation for the future proposition and theoretical development.

For overseas Chinese investment and overseas non-Chinese investment, this dissertation adopts different theories, paradigms, and multi-perspectives to examine its industrial and locational differences in order to understand the complex nature of the two different types of investors. For example, the product life cycle theory, transaction cost theory, eclectic paradigm, bargaining power theory, industrial organization approach, internalization theory, and other perspectives (such as social network perspective and cultural perspective, and institutional perspective) are combined together to explain overseas Chinese and non-Chinese investments in the following chapters.

2.4 Empirical Studies of FDI

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In general, the traditional FDI studies are basically along the guideline of Dunning's eclectic paradigm and other FDI theories described above. These empirical FDI studies have followed the evolutionary trajectory of FDI theories and paradigms.

Empirical studies of FDI have become much more ambitious in scope over the last 30 years. Early FDI theory sought to explain the existence and growth of FDI with country-specific factors, such as political uncertainty, local market demands, and factor cost differentials, finance and foreign exchange, etc. (Aliber 1970; Leftwich 1973). In the 1960s, the main focus of the Hymer-Kindleberger theory (Hymer 1976; Kindleberger 1969) and the product cycle theory (Vernon 1966) was exporting versus FDI. Following Hymer's (1976) application of industrial organization theory to FDI, emphasis shifted to include more firm-specific and industry-specific explanations (Buckley/Casson 1985; Rugman/Dunning 1985; Kogut 1993; Hennart 1994). In the 1970s the internalization approach identified licensing, franchising and subcontracting as other strategic options. Dunning's well-known eclectic model of international production includes ownership, locational, and internalization variables. This eclectic paradigm is based on internalization theory, the theory of location and competitive dynamics, the fundamental concepts of the firm derived from Coase (1937), Kaldor (1934), Williamson (1975, 1985), modern industrial organization theory, international trade theory and theories of monopoly and monopolistic competition (Hymer 1976), and traditional investment determinants (Buckley and Dunning 1976; Teece 1986; Casson 1987).

In short, FDI theories and related studies are found in the international business studies literature, which mainly focuses on firm-specific advantage, industry-specific

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advantage, internalization advantage, location costs, the choice of location of production, country of origin effect, cultural distance, entry mode choice, and other business fields. Country of origin is an important focus of the FDI and TNC literature (Grosse and Trevino 1995; Hennart and Larimo 1998). The FDI & TNC literature has centered on essentially four sets of interdependent explanatory variables to explain international investment: (1) Firm-specific factors; (2) Location- or country-specific factors; (3) Market structure or industry-specific factors; (4) Management-specific factors (Schollhammer and Nigh 1983). FDI is viewed as the consequence of a process by which corporate decision-makers take cognizance of firm-specific, location-specific, and market-specific advantages and act to bring them under direct, internal control. Firm-specific competitive advantage and nation-specific comparative advantage are essential for FDI studies.

However, in the past decades, there have been some studies challenging the conventional FDI theories and paradigms. These FDI studies mainly focus on national culture and cultural distance, which are very important to management-specific variables of firm's decision-makers. Buckley and Casson (1998) highlight the importance of psychic distance and cultural factors (e.g. trust) for foreign investors. Both national culture and the distance among national cultures have significant influences on strategic decisions. For example, culture distance between partners significantly affects international joint venture conflict and failure (Tung 1984) and managers' decisions (Tse, Lee, Vertinsky and Wehrung 1988). Also, Bangert and Pirzada (1992) suggest that national culture influences each aspect of negotiations. As the cultural distance between

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the two countries involved in an international service alliance increases, the degree of reciprocity between the partnering entities of the respective countries will be negatively affected. National cultural distance can affect cross-border acquisition performance. However, the controversial role of culture distance is disputed. For example, some argues that national cultural distance hinders cross-border acquisition performance by increasing the costs of integration, while others argue that national distance enhances cross-border acquisition performance by providing access to the target's and the acquirer's diverse set of routines and repertoires embedded in national culture (Bangert and Pirzada 1992).

In fact, cross-culture negotiations are admittedly complex and uncertain. Cross-culture differences in emotional expression, and linguistic style, level of trust, cultural values and norms, have influences on cross-culture negotiations. It is contended that language is a useful indicator of culture and cultural distance can be measured by language distance (West and Graham 2004). Increasing globalization has resulted in an increased volume of face-to-face negotiations between members of different cultures. International joint ventures, licensing agreements, seller-buyer relationship, distribution agreements, production agreements, mergers, and acquisitions are just a sampling of the arenas in which managers are required to negotiate with people from other countries and cultures.

It is argued that cultural and historical ties between host and home countries can affect foreign ownership preferences. TNCs with positive historical or cultural ties with the host country will enjoy a higher proportion of foreign ownership retained than those

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without such ties, e.g. the U. S. TNCs will have higher proportion of foreign ownership retained than European multinationals (Bangert and Pirzada 1992). In short, cultural distance (or the socio-cultural gap) and historical & cultural ties between host and home countries can be important factors in affecting FDI. For example, Hispanic investors based in Mexico and the southern United States, Malay investors from Singapore, English investors from Hong Kong and the United Kingdom, British firms in Pakistan and India, Japanese investment in Hawaii, Spanish and Portugal investment in Latin America, and Hong Kong investors in southeast Asia countries. Due to cultural distance, foreign investors have the preference of following the leading foreign firms, namely, following the leader effect. Cultural distance has challenged foreign firms when facing the situation of cross-culture management and organization: for example, how to build up the corporation trust. Basically, there are two means. One is based on personal relations, human feelings or religions, which are like the *guanxi* particularism in China. Another one is based on contract, regulation, institution, and working relations, which are common in developed countries.

In the 1990s, the role of FDI in "transitional" or "emerging " economies (Eastern and central Europe, China, Vietnam, etc.) has brought back into focus some of the classic issues of the 1960s. However, studies on FDI in transitional economies have also brought challenges to conventional FDI studies. FDI in former centrally planned economies is different from that in market economies because the nation-state continues to be the key player in transitional economy. In recent years, research on FDI in central and Eastern Europe and other transitional economies, including Russia, Hungary, Poland,

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and Czech has been increasing. For example, Meyer (2001) examines the institutions, transaction costs and entry mode choice in transitional Eastern Europe. Du Pont (2000) analyzes FDI in transitional economies using a case study of China and Poland. FDI in Vietnam has increased as a result of the lifting of the U. S. embargo and the implementation of foreign investment law of 1987. Vietnam's economic and political reforms in the 1990s, especially its entry into the Association of Southeast Asian Nations (ASEAN), has made it attractive to foreign investors (Leinster 1993; Truong and Gates 1996; Nguyen 2004). In Russia, although FDI is still scarce and portfolio capitals are coming in temporarily, it did help Russia join the international capital markets (Buch and Heinrich 1999).

The demise of communism has triggered large flows of FDI into Eastern Europe. In Eastern Europe, Hungary and Czech have been by far the most successful transitional economies in attracting FDI. Other transitional economies in Eastern Europe are considerably lower. Hungary's success in attracting the bulk of FDI entering central Europe can be attributed largely to its adherence to OECD policies regarding FDI (Houde 1994). The Czech Republic has been among the leading recipients of FDI in central European Economies mainly due to its geographical location close to Germany and Austria combined with its lower production costs compared to Western Europe, relatively well developed economy with central Europe, political stability, and prospects for future economic growth (Michalak 1993).

In transitional economies, the role of states is very different from that of free market economies. Namely, there are some hidden costs behind the state and market, e.g.

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invisible transaction costs and hidden institutional costs. In short, the institutional perspective on FDI in transitional economies deserves further studies.

Another challenge for conventional FDI studies is from studies on ethnic networks and ethnic advantage. With the trend towards globalization and the increase of international migration, some research has paid attention to transnational investment related to international migration. Saxenian (1998) illuminates the network connections between Taiwanese Tsinchu high-tech park and Silicon Valley and Shanghai. This network-based investment has challenged the eclectic paradigm. It looks like there has been increasing ethnic interests in homeland investment. By examining four Diaspora communities (Armenia, Cuba, Iran, and Palestine) residing in the United States that were targeted by their homelands as foreign investors during the 1990s, Gillespie and Riddle (1999) highlight the concept of ethnic advantage. Ethnic advantage, altruism, homeland orientation, perceptions of business impediments, and demographic factors are the determinants of interest in homeland investment.

2.5 FDI Studies on China

FDI studies on China have been rich in the literature. There are a few reasons. First of all, China has been undergoing an economic transition in the past two decades and FDI's spatial patterns are a focus of many studies. Second, China has been very successful in attracting FDI since the 1980s. In 2004, total actual FDI was about US$ 60.63 billion (SSB 2005).

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FDI in China has played an increasingly important role in China's national economy since the 1980s. The contribution of FDI can be summarized as tax revenues, industrial output, etc. Compared with some newly industrializing countries, China has much freer FDI policies. It is not surprising that FDI in China has drawn attention of scholars in the past two decades.

The current FDI theories are based mostly on the experiences of the world's market economies (both developed and developing countries, such as the U. S. A., Japan, Korea, Latin America, Caribbean countries, and other less developed countries). The centrally planned economies have received little attention, although many of them are currently moving towards incorporating the market into their economic management (Dicken 1998). In recent years, studies on FDI in central and Eastern Europe (Russia, Hungary, Poland, and Czech) have been increasing (Fischer 2000; Buch and Heinrich 1999; Swain 1998 etc.). FDI usually concentrates in those transitional economies with a favorable investment climate comprised of political and economic stability and reasonable growth prospects (Tiusanen 1996). China's experience indicates that the central government interacts with foreign forces, and foreign investment has been embedded into the institutional framework of transitional China (Sit and Liu 2000). However, China's successful experience is not only due to the strong involvement of the Chinese central government during economic transition, but also due to China's connections with the overseas Chinese and the ethnic components of FDI sources. These are two important features of China's experience of utilizing FDI.

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Studies on FDI in Mainland China are rich in both the western and the Chinese literature. Some scholars have tried to explain the growth and general profile of FDI, as well as the performance and consequences of FDI (Kueh 1992; Chen and Chang and Zhang 1995; Chi and Kao 1995; Eng and Lin 1996; Huang 1998; Li 1999). Empirical studies have focused on the determinants of FDI in China (Cheng and Kwan 2000; Wang and Swain 1995; Dees 1998). These determinants can be summarized as market size, labor cost and wage rates, exchange rate, tariffs, trade, political stability, geographic distance, cultural distance, per capita income, stock market return rates, host country's central bank's discount rates, etc. The impact of FDI on China's national economy has also been touched upon by examining GNP growth, accumulation of fixed asset investment, the transition to a market economy, the transfer of advanced technology, and price stability and foreign debt, etc. (Lo 1994; Pearson 1991; Wang and Swain 1995).

In addition to the relationship between FDI and the economic development of China, the spatial patterns of FDI at the provincial scale are also examined by scholars (Leung 1990, 1996; Xie and Dutt 1993; Gong 1995; Chi and Kao 1995; Henley and Kirkpatrick and Wilde 1999, Sun and Tong 2002). The literature shows that FDI is unevenly distributed in China and has been highly concentrated in the coastal provinces since 1979, particularly along large cities such as Beijing, Tianjin, Shanghai and Guangzhou, and the special economic zones. Most of the research points out the uneven distribution of FDI due to the location advantage of the eastern coastal region which has well-established industrial and commercial infrastructure. Naughton (1996) and Sun & Tong (2002) find that the importance of FDI determinants can change through time at the

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provincial scale. In addition to studies at the provincial scale, however, there are only few studies at a higher resolution –the county or city scale (Gong 1995; Head and Rie 1996; Kinoshita 1997).

FDI policies of China have played an important role during the economic transition. Both policies from host and home countries affect FDI. The state control of FDI includes governing the formation and operation of foreign investment enterprises, the approval and supervision of foreign investment projects, and investment incentives. China's FDI control policies can be summarized as follows: (1) A policy of area preference to foreign enterprises where to invest. This is can be seen from China's open-door policy which includes special economic zones, coastal open cities and regions, economic development zones, etc. (2) The state policy of managerial controls on FDI to affect foreign investors to choose the entry modes of FDI (Lee 1997; Pomfret 1991; Henley and Kirkpatrick 1999; Hayter and Han 1998). For EJVs, CJVs, and WFOEs, the Chinese government has different restrictions on ownership control. (3) The strategy of sector preference to guide foreign investors in what to invest.

For example, in 1995 the central government carried out *Directory of foreign investment industrial guide*, which includes encouraged sectors, allowed sectors, restricted sectors and forbidden sectors. Encouraged sectors include agriculture, basic infrastructure, high-tech industry, export-oriented industries, non-environmental pollution industries, industries that can facilitate the redevelopment of western China, and those industries within the framework of state economic and industrial policy, etc. Restricted sectors include those industries well-developed by domestic enterprises and technology,

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purposeful experimental industries for attracting FDI by the government (e.g. insurance), rare-metal mining industries, those industries planned and restricted by the state law and regulations. Forbidden sectors include those industries that can jeopardize national security (telecommunication, movie, weapon, etc), industries with environmental pollution, industries that use unique techniques (e. g. green tea, pottery), and industries forbidden by the state law and regulations.

From the open-door policy in 1979 to recently joining the membership of the WTO, the Chinese government had carried out a series of foreign trade policies, FDI policies, regulations on customs and taxation, finance & foreign exchange, etc. Spatially, by the end of 2000, the state preferential policies mainly covered the following regions: five special economic zones; fifteen coastal open cities; coastal open economic zones of the Yangtze River Delta, Southern Fujian Delta, the Pearl River Delta, and Shandong & Liaoning Peninsulas (300 cities or counties in 11 provinces or municipalities); 16 cities which were granted economic autonomy in 1988; nine open cities along the Yangtze River; open provincial capital cities (18 cities); border cities or towns (13 cities, counties, or towns); 43 national-level economic & technology development zones; 15 tariff-free zones; 14 border economic cooperation zones; 53 high-tech industry development zones; 11 national-level resort & tourism zones; and the three-gorge economic open zones (17 cities or counties) (Almanac of Foreign Relations and Trade 1996/1997). Namely, FDI policies vary among these open regions.

In addition, due to decentralization, provincial governments and local governments (city, county, or town) have additional preferential policies attracting FDI

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(e.g. flexible local tax rate, energy supply, land, labor, industrial policy, etc). Tax incentives and low cost of land/labor have contributed to the current FDI patterns in China. With the joining of the WTO, the preferential policies should be common or identical throughout the country. Preferential policies may no longer be crucial to the performance of foreign enterprises as time goes by. But the competitive advantage or initial advantage of the eastern coastal region, once established, tends to be self-sustained. In fact, both institutional factors and market forces have effects on the spatial patterns of FDI. Since the late 1990s, the state policy has started to encourage FDI to locate more in western China, whereas the market factors tend to acerbate the uneven distribution of FDI, namely, the uneven spatial concentration of FDI in China's eastern coastal region. Compared with institutional forces, market competition will become a more and more important force shaping FDI's patterns in China. For two decades, there have been few changes in the spatial distribution of FDI in China's three economic regions. And FDI is still highly skewed towards the eastern coastal region due to its initial competitive advantage triggered by China's open-door policy starting in 1979. In short, China's experience shows the importance of government policy and market factors in channeling FDI.

2.6 Overseas Chinese Investment and Overseas Non-Chinese Investment

Many studies on FDI in China have pointed out the diversifying sources of FDI from Hong Kong, Macao, Taiwan, Japan, the U. S. A., the European Union, and other

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countries. However, the differences between overseas Chinese investment and overseas non-Chinese investment are downplayed by the current literature.

There are a few studies shedding lights on Taiwan and Hong Kong FDI in China. Based on in-depth fieldwork, scholars have pointed out the importance of kinship and blood-thick-than-water development of overseas Chinese investment (Hsing 1996; Leung 1990, 1993; Smart and Smart 1991). Chen and Chen (1998) argue that the network linkage (internal and external linkages) is an important determinant of the locational choice for Taiwan FDI (small and medium scale firms) in Mainland China. Hsing (1996a) provides a detailed account of the working of Taiwanese production networks, which consist of manufacturers, trading firms, material suppliers, machinery and equipment providers, and subcontractors in the fashion shoe industry. Hsing (1996b) also documents how local Chinese government officials interpreted laws and regulations flexibly to accommodate the needs of Taiwanese investors. Flexible interpretations have accelerated the application process of investment projects and circumvented customs inspection procedures, which in turn enabled Taiwanese investors to retain their flexibility and nimbleness in serving their export markets from China. Flexible interpretation is made possible through effective communications between Taiwanese investors and local Chinese officials who shared common culture and language.

Leung (1993) highlights the personal contacts, subcontracting linkages, and development in the Hong Kong-Zhujiang Delta Region by examining the locational structure and economic consequences of Hong Kong's production subcontracting activities in the Pearl River Delta. He contends that this is attributable mainly to the

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extensive use of preexisting kinship and Hong Kong business ties to establish linkages, which can insure exchange reliability and facilitate further cooperation between firms. The investors are mostly small- and medium-sized, independent manufacturing firms, and they have been dealing with local governments instead of the central government. For overseas Chinese investment, kinship-networks play an important role. The experience of FDI in modern China has indicated that cultural and ethnic affinities, which provide a secure environment and amicable milieu for cooperation, can also be a significant factor contributing to the location of FDI. Smart and Smart (1991) contend this as local capitalism in terms of the integration of greater China (Mainland China, Hong Kong, Macao, and Taiwan).

Some studies try to compare Hong Kong-Macao-Taiwan investment and non-Hong Kong-Macao-Taiwan investment. Eng and Lin (1996) attempt to give a comparative analysis of investment by Hong-Kong-Macao-Taiwan and other foreign capital. However, they didn't give sufficient and effective explanations to the differences between Hong Kong-Macao-Taiwan and foreign investors. Luo (1998) compares the developed country investors (the United States, Britain, and Germany) with some emerging market investors (Hong Kong, Singapore, Taiwan, and Macao) in China. Ethnic ties represent an important factor contributing to differences in investment behavior of different origin investors. Different origin investors reveal fundamentally different behavior in such strategic traits as product diversity, market breadth, futurity, proactiveness, resource commitment, R&D intensity, and promotion efforts. While developed country investors place an emphasis on market effectiveness in the local

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setting and behave in a highly innovative and proactive manner, their counterparts from emerging markets focus on operational efficiency in either local or international markets and demonstrate a low level of innovation, resource contribution, and resource commitment to the local market (Luo 1998). However, his comparative study only sheds scanty lights on overseas Chinese investment in China and the explanation framework is still fuzzy.

2.7 An Emerging Business Network Debate

Kao (1993) illuminates the worldwide web of Chinese business. He points out that the Chinese entrepreneurial networks and the traditional small size and family orientation of Chinese business, are now grounded in both traditional Chinese values and western practices that encourage flexibility, innovation, and the assimilation of outsiders. Yeung's (1997, 1998) empirical studies show that intra-firm (regional ties), inter-firm (personal friendship), and extra-firm (political patronage) relations are the essence of Hong Kong-based Chinese business networks. However, this study only illuminates the business networks of overseas Chinese investment in Southeast Asia. Furthermore, it neglects the business networks of non-Chinese firms, especially those from developed countries, which also have their business networks in cross-cultural environment.

Some studies have pointed out the nature and effect of *guanxi* (connection or relation) on business relationships between Western and Chinese business persons, and that *guanxi* particularism has played an important role in the success of doing business in China (Abramson and Ai 1999; Lovert and Simmons 1999). *Guanxi* particularism may

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be defined by a common hometown or dialect, kinship or friendship, even work places and social clubs. It might involve the exchange of gifts, favors and banquets. It is critical for foreign investors to understand the importance of *guanxi* in China in order to reduce transaction cost and improve efficiency. Luo (1997) also indicates the relationship between *guanxi*-based business variables and the performance of foreign-invested enterprises operating in China and the findings suggest that *guanxi*-based business variables have a significant and positive impact on venture's accounting and market performance.

These international business studies have revealed the importance of *guanxi* networks in doing business for both overseas non-Chinese investors and overseas Chinese investors. However, these studies still cannot provide sufficient explanations on how overseas Chinese and overseas non-Chinese investments can gain their competitive advantage in China. In chapter-five, this dissertation compares the *guanxi* networks of both overseas Chinese and overseas non-Chinese investors and explains how small- and medium-sized overseas Chinese investment can gain competitive advantage compared with overseas non-Chinese investment, especially those from developed countries.

2.8 Limitations of the Current FDI Literature

The mainstream FDI theories and paradigms are based on the experiences of Western European TNCs, North American TNCs, and Japanese TNCs, namely, the models of Western European capitalism, North American capitalism, and Japanese capitalism, etc. However, in East Asia, overseas Chinese transnationalism and related

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international investment cannot be fully and effectively explained by the theories based on western economies and non-Asian firms.

The current literature on FDI in China has some limitations. First, the effect of transitional China's institutional factors and market factors on FDI has not been fully explored by the current literature. The trajectory of FDI and its embeddedness into China's policy environment deserve more attention. The effect of institutional forces, market forces, and latent cultural norms on FDI in transitional China, which is an important feature of China's experience, hasn't been paid enough attention by the current literature.

Second, the sectoral patterns of FDI haven't been sufficiently addressed although some studies have pointed out that FDI is mainly concentrated in manufacturing sectors. However, 3-digit and 4-digit SIC (standard industrial code) manufacturing industries haven't been studied yet due to data availability. Compared with 2-digit level data, 3-digit and 4-digit level data are more detailed and are better for analysis and modeling. For modeling purpose, more disaggregated data usually have more ideal modeling results. The spatial determinants of FDI are already illuminated in the literature, however, the sectoral determinants of FDI haven't been explored yet.

Third, most of the empirical studies are macro-level studies based on aggregated FDI stock data at the national and provincial scale. There are few studies at the county or city scale, which can reveal the most intriguing features of FDI. Compared with the province-scale data, the county or city-scale data are more disaggregated data which usually have more ideal spatial modeling results. In addition, a significant difference

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between overseas Chinese and non-Chinese investments is at the urban scale. Different investors from different countries should have different locational choices among these cities or counties. The macro-level FDI data include all of source economies, however, different home countries have different investment behaviors and motivations. Also, few studies have been focusing on micro-level data –foreign firms in China. Firm-level data combined with cumulative FDI flows data will be able to show more detailed profile of FDI in China.

Fourth, the literature doesn't provide any systematic theoretical explanations on the differences between overseas Chinese and overseas non-Chinese investments. Investment from the overseas Chinese (mainly Hong Kong, Macao, and Taiwan) and the entrepreneurship of the overseas Chinese cannot be fully explained under the eclectic framework and other conventional theories. The influence of culture, history, and kinship on patterns of business behavior and investment should be paid more attention. The network approach, embeddedness approach, and bargaining school need to be further investigated when comparing the two types of investors. In conclusion, examining FDI in transitional China will challenge the mainstream arguments of FDI theories.

Fifth, the relationship between national culture and FDI flows needs further investigations. The current theories have neglected cultural distance and other culture-related factors. Cultures such as the Chinese Diaspora can transcend political boundaries (Redding 1993). As West and Graham (2004) contend that cultural difference or distance can be measured by language distance which is a useful indicator of culture and may influence thinking. From a cultural perspective, FDI is a type of practice or collaboration

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in a foreign cultural context, which will bring about the conflict or clash between its own business culture and the host country's local culture and the local business culture. Therefore, national cultures will impact FDI projects. Cultural distance and cultural differences, cultural sensitivity, language skills, operating strategy, learning experience, management style, networks, and localization will become a series of challenges to foreign investors. In short, the cultural perspective of FDI should be paid more attention.

Sixth, FDI and social networks. The social network perspective on FDI has challenged conventional FDI theories. The concept of the social network is closely related to social capital, cultural capital, and *guanxi* capital. Social network is a type of social capital, which posits that those characteristics of social structure or social relations that facilitate collaborative action and, as a result, enhance economic performance. The term has been popularized by Robert Putman (1993), a political scientist, who emphasizes key aspects of social organization "such as trust, norms, and networks". However, the original usage of the term is normally attributed to Coleman (1990), a sociologist, whose definition is somewhat broader. In Putman's classic study, the concept of social capital emerged as the central explanatory variable in his analysis of the factors underlying the economic success of the northeastern regions of Italy relative to the rest of the country. In China's case, *guanxi* and social networks are the potential rules of game which can affect the sectoral and spatial patterns of FDI. In this sense, examining the effect of *guanxi* and social networks on FDI will fill a significant gap in the FDI theoretical realm.

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2.9 Theoretical Framework of the Dissertation

Foreign direct investment in China is somewhat different from that in other developing countries. Although China in a large extent is similar to other developing countries, it exhibits its own characteristics or special mechanisms in terms of utilizing FDI due to its unique economic transition and its close connections with the overseas Chinese from Hong Kong, Macao, and Taiwan. As I have mentioned above, a distinguished feature of FDI in transitional China is the differences between overseas Chinese and overseas non-Chinese investments. This dissertation argues that overseas Chinese investment brings about a special development pattern due to the unique geopolitical location and social networks in greater China, while overseas non-Chinese investment brings about a different path of development.

2.9.1 Regional Integration Driven by Chinese FDI: Geopolitics and Social Networks

Overseas Chinese investment refers to enterprises established by the overseas Chinese from Hong Kong, Macao, and Taiwan on the Chinese mainland. China's early open-door policies were implemented to attract investors, who mainly comprised largely entrepreneurs from Hong Kong, Taiwan, and Macao. Overseas Chinese investment has great implications for the integration of greater China especially the transformation of Mainland China. Overseas Chinese investment in mainland China is a part of the fast-growing "greater China" economic cycle. The emergence of the greater China economic sphere is greatly facilitated by a "bamboo network" of family and personal relationships and a common culture. The greater China area contains substantial amounts of technology and manufacturing capability (Taiwan), outstanding entrepreneurial,

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marketing, and services acumen (Hong Kong and Macao), a tremendous pool of financial capital (Hong Kong, Macao, and Taiwan), and very large endowments of land, resources, and labor (mainland China).

The causes of this unique development can be summarized as:

(1) Geopolitics and locational proximity. Mainland China is the natural hinterland for overseas Chinese investors. The principal of distance decay matters. This is similar to the cross-border investment between the U. S. and Canada, the U. S. and Mexico, Germany and France, Belgium and France, etc. This development pattern shares similarities with the European Union and the North America Free Trade area (NAFTA). However, overseas Chinese investment in China is not the simple cross-border interaction, instead there is a strong and deep regional integration in the cross-border Chinese regions.

(2) Deep political differences between China and Hong Kong, Macao, Taiwan. This has caused a strong border gradient or border orientation for overseas Chinese investment in Mainland China. Political harmony among the four regions remains an elusive goal. There is a "one China, two systems" formula or framework for Hong Kong and Macao (two special administrative regions of China since 1997 and 1999, respectively). China considers Taiwan as a renegade province. Cross-strait relations are volatile and there is still mutual political and military hostility between Taiwan and the mainland. For three decades after 1949, the two Chinese republics were in a virtual state of war; they refused to recognize each other's legitimacy and had no communication with each other. In fact, Taiwan investment in China is a special phenomenon under special

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historical background. After the end of the Cultural Revolution, China has entered its reform and open-door stage. Meanwhile, its policy towards Taiwan has shifted from "military liberation" to "peaceful reunification" and this has opened a new chapter for the cross-strait relations. In the 1980s, the Taiwan government had shifted away from its previous "three no's" policy of no contact, no negotiation, and no compromise with the mainland. In 1987, Taiwan first dropped its ban on travel to the mainland and allowed family visits to mainland China –an ice-breaking gesture after a four-decade standoff between the two sides of the Taiwan Strait. However, before 1992, there was no direct investment from Taiwan to Mainland China.

Contrary to the nonintervention policy of the British Government, Taiwan authority has set up a few hurdles for direct investment in China. However, this still cannot prevent the spontaneous investment of Taiwan enterprises. In July 1987, Taiwan authority eliminated foreign exchange governance and allowed firms to engage in outward FDI. This has provided potential opportunities for indirect investment in China. On July 15, 1987, Taiwan lifted martial law which had ruled the Taiwan Island since 1949. Subsequent liberalization and deregulation have given rise to booming economic, tourism and cultural exchanges between Taiwan and the mainland. The Taiwan investment has facilitated the increase of cross-strait trade. In January 1990, Taiwan authority had to carry out the management regulation for indirect investment in China, which means it had allowed indirect Taiwan investment in China. However, after 1995 the cross-strait relations encountered crisis due to Taiwan's economic structural adjustment, political reasons, and the change of China's economic environment. In

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particular, in 1996 Lee Teng-hui proposed his "no haste, be patient (*jie ji yong ren*)" approach and carried out new regulations towards investment in China, especially restricted large firms and high-tech industry to invest in China.

In December 2001, both China as a sovereignty state and Taiwan as a separate customs region joined the WTO. Since then, Taiwan investors have faced with new opportunities in China. In fact, on January 1, 2001, the two sides launched the "Mini-three-links" –direct transportation, postal, and trade links between China and Taiwan's offshore islands of Kinmen and Matsu –as a preparation for direct cross-strait links. In August 2001, the administration took steps to allow local enterprises a freer reign to pursue business in China, adopting a more open-policy of 'proactive liberalization with effective management" (*jiji kaifang, youxiao guanli*) to replace Lee Teng-hui's "no haste, be patient" approach.

(3) Cross-border regional division of labor. Interregional links and intraregional heterogeneity create an economic division of labor linking the core and periphery. Despite the political difference with mainland, industrial restructuring in Hong Kong, Macao, and Taiwan has caused the migration of manufacturing enterprises (with capital, technology, marketing networks, etc.) to the mainland which has a large pool of cheap labor, huge market, cheap land, and human capital, etc. Overseas Chinese investment has not only transformed China but also caused a major restructuring of the Hong Kong economy in the late eighties, and Taiwan's economy in the 1990s to present. By the mid-1990s, the economic integration of Hong Kong and the Mainland had become virtually complete, with political integration to be consummated after 1997. Economic

complementarity and private entrepreneurship are important for the understanding of the trans-border regions. Expansion of Taiwan's ties with the mainland lagged behind Hong Kong's. The Taiwan authority's going south policy has caused a heavy flow of Taiwanese investment to Southeast Asia, like Philippines, Malaysia, and Vietnam. However, due to the anti-Chinese sentiments of local population in Southeast Asian countries, over half of Taiwan investment still chose to go west and invest in mainland China (SSB 2004). In sum, despite the political difference, the Chinese communities have a strong regional integration, economic complementarity and convergence.

Recently, there are efforts of the Chinese government officials to establish the West Taiwan Strait Economic Zone (*haixia xi an jingji qu*): the hard core area is Fujian Province, including the Taiwan Strait. This economic zone belongs to an emerging Pan-Taiwan-Strait-Economic-Circle. This Taiwan Strait Economic Circle is adjacent to the Yangtze River Delta and the Pearl River Delta. Fuzhou and Xiamen are the core cities (*taisheng* 2004). The spatial industrial division of labor between Taiwan and mainland has gradually come into being.

(4) Social ties or social networks including kinship networks facilitate overseas Chinese investment in the mainland. The patterns of ethnic investment flows are due to the presence of a common cultural heritage–Confucianism and Chinese business networks. Namely, common culture values and networks can transcend political boundaries and political differences between the Chinese communities. Social networks can be business ties, family ties (kinship), native-place ties, and friendship ties (interpersonal networks), which can provide platforms for building trust. Cultural and

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social ties, especially the common language and culture, can help the overseas Chinese from Hong Kong, Macao, and Taiwan avoid a lot of investment risks and uncertainties in transitional China. The value of social ties is correlated with the uncertainty of exchange. Social relationships may bring about information benefits, uncertainty reduction, norms regarding behavioral expectations, and trust; *guanxi* connections through the same language and culture can make up for a lack in the rule of law and transparency in rules and regulations. The rapid expansion of economic relations between Taiwan and the mainland has been greatly facilitated by their "shared Chineseness" and the mutual trust that resulted from it (Huntington 1996).

(5) Political considerations of the Chinese government (e.g. unification). In 1991 Taiwan created the Straits Exchange Foundation, and the mainland the Association for Relations across the Taiwan Straits, for communication with each other. The people of Taiwan and China, as Taiwan's principal negotiator observed, have a "blood-is thicker-than-water kind of sentiment," and took pride in each other's accomplishments. Four special economic zones which are the windows for the overseas Chinese to explore mainland China especially during the 1980s and 1990s, had been granted a lot of state preferential policies and domestic investment in the 1980s. Originally these four special economic zones were only small and remote border towns and have now become big cities in south China. In this sense the development of south China including the four special economic zones has reduced regional inequality and caused regional convergence between south China and Hong Kong, Macao, and Taiwan. In particular, the four special

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economic zones have become the buffer zones between Hong Kong, Macao, Taiwan and the poor hinterland China.

Although overseas Chinese investors enjoy the same preferential policies as overseas non-Chinese invested enterprises in principal, some local governments have started to consider overseas Chinese investment as special domestic capital and carried out some regulations towards overseas Chinese investors, like housing, healthcare, car purchase, education, and marriage, etc. For example, Shanghai People's Congress has proposed that Taiwanese investment should be considered as special domestic capital with the impact of joining the WTO and the local government should set up Taiwan Businessman High-tech Industrial Park and Taiwan Businessman Development Zone in order to prevent the separation of Taiwan (Feb. 9, 2002, *Shanghai Union Times*). Another example is Yantai Development Zone where Taiwan investors may enjoy the same preferential policies as foreign investors, but some investment restrictions can be a little more relaxed for Taiwanese (*Administrative Committee of Yantai Economic & Technological Development Area*, 2002). In Dongguan City, there are a regional association of Taiwan investors, a school for the children of Taiwan investors, and recently a newly proposed plan of building a hospital for Taiwan Investors. Over there Taiwan investors can even affect the local politics and request more political participation (Journal of *Taisheng* 1980-2004). In a nutshell, these five aspects summarize the unique development pattern caused by overseas Chinese investment.

There are both "push" factors and "pull" factors causing the current development pattern (bamboo capitalism, local capitalism). The "pull" factors are from Mainland

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China's open and reform policies after the disastrous Cultural Revolution. China's preferential policies towards overseas Chinese and foreign investors, cheap land, a huge pool of labor, and the tremendous consumer market are the major "pull" factors for overseas Chinese investment. The "push" factors are from the host countries where these overseas Chinese Diasporas are located. Especially these Chinese regions were fast-growing newly industrialized regions (Taiwan, Hong Kong, and Macao). More importantly, these Chinese regions happened to be in a stage of drastically domestic industrial restructuring. Many labor-intensive sectors have been losing comparative advantage and have to be relocated in less developed countries. In the early 1980s, in responding to China's open-door policy, most of Hong Kong's firms were relocated to the neighboring Guangdong province, which is the natural hinterland of Hong Kong. Cross-border regional division of labor has caused a far-reaching economic integration between Hong Kong and the Pearl River delta. Structural transformation in Hong Kong from manufacturing industry to service economy (from the early 1980s to the mid-1990s) through FDI has caused a unique development pattern in Mainland China. Recently, there is a significant trend of the migration of Taiwanese high-tech firms to China, where they can find cheaper costs and access to a huge booming market, and many fear that this could lead to a hollowing out of the Taiwanese economy since IT industry is a market niche of Taiwan. In the context of China's business environment, it is widely believed that social relations (*guanxi* particularism) are an important factor of business success. Investors from Hong Kong, Macao, and Taiwan can of course enjoy advantage based on cultural and geographical proximity.

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This special type of development which is based on informal social networks and geopolitical factor, is quite different from the European Union and NAFTA (North American Free Trade Agreement) which are based on well-developed institutional framework. However, after the handover of Hong Kong and Macao to Mainland China, Hong Kong, Macao, and Mainland China signed CEPA (Closer Economic Partnership Arrangement) in 2003. After the signing of CEPA, Hong Kong and Macao's brands, products and services began to enter Mainland China's market without tariff starting from January 1, 2004. This means that a new stage for the regional integration and cooperation between Hong Kong, Macao and Mainland China has come into being. After summer 2003, citizens of Guangdong province, Beijing and Shanghai Municipalities were allowed to apply for personal tourist trip (*ge ren you* or *zi you xing*) in Hong Kong and Macao. Starting from 2004, this policy was extended to nine cities in Fujian Province (Fuzhou, Xiamen, Quanzhou), Jiangsu Province (Nanjing, Suzhou, Wuxi) and Zhejiang Province (Hangzhou, Ningbo, Taizhou). This policy was again further extended to Tianjin and Chongqing municipalities in early 2005. In addition, in order to further promote the economic integration between Hong Kong, Macao and China, the Chinese government has carried out a Pan-Pearl River Delta Cooperation model –the 9+2 cooperation formula, namely, Guangdong, Fujian, Hainan, Hunan, Jiangxi, Guangxi, Yunnan, Guizhou, and Sichuan nine provinces plus Hong Kong and Macao.

CEPA covers many fields including the personal tourist trip, service trade, commodity trade and bilateral convenient investment and trade. Under CEPA, mainland

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Chinese firms can easily invest in Hong Kong and Macao. Like the mainland citizens, Hong Kong and Macao citizens will be eligible to set up individual vendors, street pedlars or private enterprises (*ge ti hu*) in China without the approval of FDI administration departments in some provinces of mainland China (the Commerce Department of China 2004). In 1997, however, these attempts in some places of Guangdong Province were once prohibited by the State Council (Notification of the State Council on some issues of Hong Kong Special Administrative Region citizens' investment in China, December 22, 1997).

Economic integration between Macao and China has also greatly increased in the past five years. The Zhuhai-Macao cross-border Industrial District (about 400,000 square meters) between Zhuhai Special Economic Zone and Macao was under construction (according to the author's fieldwork in 2004). There are also other cooperation projects between mainland China and Hong Kong, Macao, like the controversial Hong Kong-Macao-Zhuhai Bridge in the future, which aims at facilitating the transportation channel of west Hong Kong (according to the author's fieldwork).

The implementation of CEPA is a significant turning point for regional cooperation between mainland China and Hong Kong, Macao. Namely, the spontaneous, informal, non-government dominant, and market-driven regional integration in the past 25 years has shifted to a new stage of cooperation with the institutional arrangement between the Chinese government and the governments of the two Special Administrative Regions under the impact of globalization and regionalization trends.

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In a nutshell, overseas Chinese investment has formed a unique development pattern which is similar to the concept of local capitalism argued by Smart (2000). This local capitalism is quite different from the global capitalism formed by the expansion of TNCs from developed countries. Overseas Chinese capital from Hong Kong, Macao, and Taiwan has been blended with the labor force in Guangdong and Fujian provinces of China. This development pattern is created mostly through informal and non-institutional economic and socio-cultural interactions among small and private businesses, traders, and migrant labors. The integration of south China with Hong Kong, Macao, and Taiwan has reduced regional inequality in south China and south coastal China. The deindustrialization in Hong Kong and Taiwan has caused industrialization in four special economic zones, Guangdong and Fujian provinces, and the whole south China since the 1980s and 1990s. For example, Sit and Yang (1997) contend the urbanization in south China as ex-urbanization, which is mainly driven by FDI from Hong Kong and Macao that specializes in export-oriented and labor-intensive manufacturing industries. On the other hand, the spatial concentration of overseas non-Chinese investment in super-large and major economic centers of China has exacerbated regional inequality in China. This is a significant difference of the two different development patterns caused by overseas Chinese and non-Chinese investments. Namely, the two types of investors have different spatial outcomes and impacts on China's development.

Studies on East and Southeast Asian business networks have shown that the Chinese business networks are largely personal networks and are organized primarily through kinship circles and ties of common origins (Chen and Hamilton 1991). Personal

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trust instead of system trust is essential to the success of overseas Chinese business (Wong 1991). Redding (1991) argues that Chinese business networks derive from their attraction and legitimacy from certain cultural predisposition, most of which are traceable to the Confucian values. The Chinese business networks have low transaction costs, strategic flexibility (personal trust), and a capacity for innovation-individual entrepreneurship.

The overseas Chinese from Hong Kong, Macao, and Taiwan and their business firms have emerged as one of the most important economic forces in Mainland China and many Southeast Asia countries. The fundamental organizational feature of overseas Chinese family business is the strength of network ties -weak organizations and strong linkages (Hamilton 1991; Redding 1991). This local capitalism or network capitalism (Smart 2000, Do Rosario 1993) is due to personal connections which can facilitate the Chinese investment activities of ethnic Chinese living abroad and such connections can help one circumvent the often troublesome legal system within China. However, kinship and social networks cannot be simply summarized as the loyalty to their ancestral homeland. For the overseas Chinese from Hong Kong-Macao-Taiwan, the cultural and linguistic link helps to reduce informational and contractual costs. But kinship and social networks are not the only factors affecting overseas Chinese investors. As Li Xiaojian's survey (1995) shows, kinship factor, cheap labor, transportation factor, preferential policies, and other investment milieu (e.g. efficiency of government) of Mainland China are all important factors for the locational choices of Hong Kong investors. As I will elaborate in chapter-5, the combination of geopolitics (geography factor), which is a

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primary factor, with social networks, which are a minor factor, provides a robust explanatory framework.

Worthy of attention is that FDI from Taiwan has been surging since the early 1990s due to Taiwan's policy relaxation for direct outward investment. Actually, joint-production geared toward international markets has fostered closer economic ties within the greater China constituents of Hong Kong, Macao, Taiwan and the Chinese mainland. FDI from Taiwan to Mainland China was not permitted until 1991. Up to 1991, the typical mode of Taiwan investment was one routed through Hong Kong and was included in the official statistics of Hong Kong investment. With the improvement of the relationship between Taiwan and Mainland China, Taiwan's FDI and cross-strait trade will enter a new stage, although Taiwan's government continues to prohibit the transfer of strategic projects and high technology to China, along with direct trade, air links and shipping (three direct links-namely, the so-called "*san tong*"). In the early 1990s, most of Taiwanese investment was small- and medium- sized enterprises in traditional export-oriented sectors, like textile, garments, plastic shoes, and umbrella, etc. The cross-strait division of labor is that Taiwan takes orders from international markets and these products are then made in China. From the late 1990s to the new century, Taiwan's government has allowed chipmakers to set up a number of wafer plants (recently eight-inch wafer) on the mainland if companies meet certain conditions. Taiwan, the third largest PC exporter of the world, is moving their production lines to Mainland China to reduce their cost. Many PC-related manufacturing agglomerations have come into being at the coastal areas of Mainland China (Tong and Wang 2002). The migration of

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Taiwan's IT industry has promoted two high-tech industrial zones in China, that is,

Shanghai-Kunshan-Suzhou and *Shenzhen-Dongguan-Guangzhou.*

This cross-strait industrial division of labor is the extension of international

production networks, namely, R& D and design -manufacturing and assembly -sales and

service. These Taiwanese investors are mostly small- and medium-sized, independent

manufacturing firms, which have been dealing with local governments instead of the

central government. In Kunshan City of Jiangsu Province, Taiwan investors even request

to join the People's Representative Conference (*renmin daibiao da hui*) and local Chinese

People's Political Consultative Conference (CPPCC). These requests for local political

rights and political participation in mainland China are used to protect their benefits and

rights in the mainland. And these investors may further request the governments to open

more service industries and provide more extensive investment fields. In addition to

political participation, these Taiwan investors have formed strong regional associations in

China's main prefecture-level cities, namely the Association of Taiwan Investors

(*taishang touzi xie hui*).

The profile of cross-strait exchanges of 2002 was: visits from Taiwan to China:

3,660,600; visits from China to Taiwan: 154,770; total value of cross-strait trade: US$

37.39 billion; total Taiwan investment in China: US$ 3.86 billion. In 2002, the principal

areas of Taiwan investment in China were: electronics and electrical products; food and

beverage processing; plastic and rubber products; basic metals; and precision instruments

(Mainland Affairs Council http://www.mac.gov.tw).

In short, the cross-strait policies and politics have affected the Taiwan investment. Mainland China has adopted encouraging and supportive attitudes towards Taiwan investors. In fact, China has adopted some differentiated treatment policies for Taiwan investors, namely, the well-known "the same preferential policies, but a little relaxed on some regulations and restrictions when encountering some special situations" (*tongdeng youxian, shi dang fang kuan*". No matter how volatile the cross-strait relations and politics are, China insists that political difference should not disturb and affect economic integration, trade, and investment across the strait. Local governments also propose additional preferential policies to encourage more Taiwan investment and help to resolve difficulties of these Taiwan investors. On the other hand, Taiwan authority adopted a policy criticized by mainland as ostrich policy –ostrichism because Taiwan authority has set up many restrictions on outward investment in China.

This dissertation argues that the development pattern or regionalization caused by overseas Chinese investment is very different from the development driven by non-Chinese FDI. As only a minor factor compared with geopolitics in shaping this development pattern, social ties and social networks have still played an important role for overseas Chinese investors. Their choices of location are more affected by its small bargaining power, kinship networks, and local government's entrepreneurship. This local Chinese capitalism will help Mainland China integrate into the greater China circle. In conclusion, the Chinese business networks are largely based on personal trust and organized through kinship circles and ties. This helps firms to transcend their inherent limitations and explore flexibility and competitiveness. These features endow

competitive advantages to overseas Chinese business in traditional labor-intensive industries, such as textile, clothes, shoes, and furniture (Hamilton 1991; Chen 1994). Due to overseas Chinese investment, regional integration and regional cooperation between Mainland China and Hong Kong, Macao, and Taiwan have come into being.

2.9.2 Globalization Driven by Non-Chinese FDI

Chinese FDI in China is merely a regional phenomenon, while non-Chinese FDI is a global phenomenon. They have not only differences but also connections. Only through comparison, can we understand their different spatial outcomes and the causal mechanisms. Global TNCs from developed countries are the main driving forces of international direct investment and globalization. They have established global production networks through strategic alliances, cross-border operation, merger and acquisition. Non-Chinese FDI through TNCs is accelerating the process of the global production system. In 2003, Motorola in China, which ranked the fifteenth largest corporation among all the firms in China, had a sales value of RMB 38,614,210,000, a total asset of RMB 24,910,310,000, and a total of 11,081 employees (Chinese Industrial Statistical Yearbook 2004). Many global brand names have appeared in China, such as Volkswagen, General Motors, Siemens, Bell Telecommunication Equipment, Dell, P&G, Nokia, Coca-Cola, Wal-Mart, IBM, Kodak, Pfizers, General Electrical Product, Ford Motor, Crown Automotive, COMPAQ, Cisco Systems, AT&T, LUCENT, XEROX, SONY, etc.

Contrary to the pioneering small- and medium-sized Chinese FDI in south China, in the 1980s, most of the non-Chinese investment was in a stage of investigating and

evaluating the investment climate of China. Some very large non-Chinese firms just set up representative offices before their formal investment. Theoretically, this should be able to improve the possibility of investment success. In the 1990s, especially after 1992, investment from the U. S. A., Japan, and the European Union had increased greatly. By the end of 2000, of all the FORTUNE 500 TNCs, there were over 300 TNCs that had established businesses in China (SSB 2001). The Yangtze River Delta and the Bohai Bay area have become new centers of FDI due to the spatial concentration of these non-Chinese investors.

Overseas non-Chinese enterprises mainly concentrate in Shanghai, Beijing, Tianjin, Shenyang, Wuhan, Guangzhou, Chongqing, Harbin, Nanjing, Xi'an, etc., which are the major national and regional economic centers. A few mega-cities have been globalizing with the concentration of overseas non-Chinese FDI. On one hand, non-Chinese FDI has brought international rules to these Chinese big cities. On the other side, this has caused the accumulation of human capital. For example, the R& D centers established by those well-known TNCs from developed countries have attracted many talents, professionals, and college students in big cities. Due to the connections with other global cities, for example, the flows of capital, labor, finance, information through information infrastructure, and with the support of banks, foreign exchange and capital markets, some of these Chinese cities have become the regional headquarters of these non-Chinese firms in order to penetrate into China's huge market. Shanghai is the regional headquarter of many global well-known TNCs, e.g. Volkswagen, Siemens, Microsoft, General Motors, LUCENT technologies, Intel. etc. In a nutshell, the location

of overseas non-Chinese investment is different from the small-medium-sized overseas Chinese -Hong Kong-Macao-Taiwan enterprises. National or regional economic centers, and provincial capitals are the main targets of these non-Chinese firms.

Due to the lack of intensive and extensive knowledge about China's market, non-Chinese firms tend to locate in these super-large cities with an open and transparent legal system that is closer to the international rules and regulations. In fact, there is still some distance compared to the world standards. For example, the intellectual property right system has only a history of two decades in China. By locating in major economic centers, these large non-Chinese TNCs can apply for their patent rights, trademarks, and copyrights, etc. In addition, super-large cities have a human-capital advantage and their urban economies are more connected with the international market.

Technological transfer from non-Chinese TNCs has improved a lot compared with that of small- and medium-sized overseas Chinese enterprises in the 1980s. Non-Chinese enterprises particularly TNCs from developed countries pay more attention to the national legal system, local industrial structure, the openness and efficiency of local governments. For example, the most important investment goals of Japanese enterprises in China are to construct global production networks and to penetrate into the host country's market (*overview of overseas Japanese trade enterprises*, 1998). After a longer period of investigation, overseas non-Chinese investment has gradually put China into its global production and distribution networks as a general globalization strategy. For example, IBM has started to sell its products in China since 1979 and set up a representative office in 1980. However, only since 1992, has IBM started its direct

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investment in China. In short, compared with the integration of local production networks (or subcontracting networks) among greater China (Mainland, Hong Kong, Macao, and Taiwan), non-Chinese FDI directly brings Mainland China into the global production networks and usually has larger size and higher technology standard.

Different from Chinese FDI which has a dominant quantity, non-Chinese FDI has a better quality and more important impacts on China's national economy. Non-Chinese FDI has brought China with new key technology and management models. Non-Chinese investors are mainly from North America, the European Union, and Japan, which have brought American capitalism, European capitalism, and Japanese capitalism into China. These firms have large size and higher technology level. They possess the ownership advantage, internationalization advantage, and location-specific advantage, monopolistic advantage and can gain competitive advantage in China. For example, the amount of German FDI in China is not dominant, however, its influence in car industry, household electrical products, electronics industries is paramount (Hu 1996). The amount of Belgium FDI is even less than Germany, however, it has played a very important role in China's telecommunication equipment, medicine, and micro-electronics, etc. In 1995, three Belgium firms were selected as the top ten best FDI firms in China: Bell Telecommunication Equipment Manufacturing co. in Shanghai (no.1); Xi'an Janssen Pharmaceuticals, co. (no. 2); and Shanghai Beiling Micro-electronics (Hu 1996).

Overseas non-Chinese investment, including that from developed countries and western economies, has played an important role in some important capital- and technology-intensive key sectors, such as automobile industry, telecommunication

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industry, electronics, etc. Compared with overseas Chinese enterprises, overseas non-Chinese enterprises possess different firm-specific and industry-specific advantages. They have more developed technical progress, and advanced technology and equipment which can narrow the technology gap between China and the rest of the world (Wang, etc 2000). In addition, overseas non-Chinese enterprises have larger firm size and plentiful investment experience. Due to their strong bargaining power, they are more likely to locate in large economic and industrial centers with established infrastructure and good investment climate. Overseas non-Chinese firms are mainly based on system trust (trust in law) and legal institutions. For overseas non-Chinese investment, the main efficiencies in coordination derive from large-scale organization, while in the case of overseas Chinese investment, the equivalent efficiencies derive from networking (Redding 1991).

2.10 Conclusion

This chapter provides a detailed FDI literature review and a theoretical framework of this dissertation. The mainstream FDI theories include the flying geese model, industrial organization approach, product life cycle theory, internalization theory, eclectic paradigm, and other related theories and concepts, such as bargaining power theory, transaction cost paradigm, organization capacity theory, the horizontal-and-vertical FDI theory, etc. These theories provide different but complementary perspectives or angles on FDI activities. The combination of these theories will have greater explanatory power than any single one in understanding TNC's activities.

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In the past few decades, empirical FDI studies are basically along the guideline of conventional FDI theories. However, in recent decades, these theories have encountered some challenges, e.g. the effect of national culture on FDI and the influence of social networks on FDI flows. After reviewing the empirical FDI studies and in particular the studies on China, this research points out the limitations of the current FDI literature on China. These limitations are the targets that this dissertation will address. In addition, a theoretical framework is provided in this chapter. Overseas Chinese investment and overseas non-Chinese investment have different sectoral and spatial patterns and have brought about two different development patterns in China.

It is too simplistic to assume that foreign enterprises are homogenous. They vary in size, sector, country of origin, and business interests. In this dissertation, I differentiate them into two: overseas Chinese investment and overseas non-Chinese investment. I am doing this because overseas Chinese investment is different from non-Chinese investment. In the current business literature, empirical studies and models have suggested a number of factors which will be used to test the differences between overseas Chinese and overseas non-Chinese investments. In the following two chapters, I construct sectoral and spatial models on overseas Chinese and overseas non-Chinese investments using firm-specific variables, industry-specific variables, and location-specific variables. The statistical analysis results support the basic argument, that is, investment from the overseas Chinese is spatially as well as sectorally uneven from that of overseas non-Chinese.

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Chapter 3 The Sectoral Differences between Overseas Chinese and Overseas Non-Chinese Investments

3.1 Introduction

This chapter investigates the significant sectoral differences between overseas Chinese and non-Chinese investments. The two types of investors have different sectoral choices and different sectoral preference due to their different ownership advantage and internalization advantage. Due to country of origin effect, different investors tend to focus on specific sectors as their economic niche in order to exploit the industry-specific advantage. The sectoral patterns are the basis for understanding the spatial patterns of FDI since different sectors have different locational requirements in a host country. For example, capital- and technology-intensive sectors have different locational choices from small- and medium-sized labor-intensive firms. Industry-level data were aggregated at two-digit SIC (standard industry code), three-digit SIC, and four-digit SIC levels from 50,000 firm-level FDI data. This chapter has two main goals. The first one is to document the sectoral differences of Chinese and non-Chinese FDI at different industry resolutions. The second goal is to construct a sectoral model at a finer resolution -three-digit SIC level in order to identify the industry-specific variables that contribute to the sectoral patterns and differences between overseas Chinese and non-Chinese investments.

The first part of this chapter is about the general feature of FDI's sectoral patterns. State industry policies towards FDI are also briefly introduced. Then I show the sectoral distribution of overseas Chinese and non-Chinese investments. I also compare the sectoral distribution and show the statistical differences of the two types of investors at different SIC levels. Using some industry-specific variables, I

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construct a sectoral model at three-digit SIC level. At last, I conclude this chapter by emphasizing the theoretical and empirical implications of the sectoral model.

3.2 The Overall Sectoral Patterns of FDI in China

From the experience of developed countries, the sectoral structure of FDI will shift as time goes by. For example, in the late 1950s and early 1960s, there was a shift from simple raw material processing to production of finished products: automotive components, chemicals, pharmaceuticals, furniture, textiles and apparel, leather goods, processed goods and beverages (Dicken 1998). Starting from the late 1970s and early 1980s, the high-tech revolution and fierce competition compelled IT companies such as IBM, Intel, AT&T, Siemens, Toshiba and Alcatel to look for low-cost manufacturing sites for the assembly and production of computers, telecommunications and other information technology products. To overcome trade restrictions, TNCs like General Motors, Volkswagen, Fiat and Ford began to produce cars in new markets such as Brazil and Mexico, which also offered labor cost advantages.

The early 1990s witnessed the rise of service TNCs: banks, insurance companies, transport agents, hotel chains, engineering firms, advertising agencies, management and legal consultants, and recently real estate and retail companies. Their global expansion is linked to the growing importance of services for national economies. In short, the growing role of services in FDI also reflects the increased involvement of industrial TNCs in non-manufacturing activities, although manufacturing companies will still remain important foreign investors. In today's world economy, these sectors have strong global involvement, such as automobile

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industry, machinery industry, light industry, textile and garment industry, food-processing industry, and electronic industry. In the 1990s, it was in the service industries that the most significant relative change had occurred, like financial services (banking, insurance, accounting); trade related services (wholesaling, marketing, distribution); telecommunication services; business services (consulting, advertising, hotels, transportation, construction); some consumer services (retailing, fast food). If the globalization of manufacturing activities is the first wave of globalization, the globalization of service industries should be considered as the second wave of globalization.

As Peter Dicken (1998) argues, three broad types of manufacturing industries have an especially large TNC involvement: (1) technologically more advanced sectors, such as pharmaceuticals, computers, scientific instruments, electronics, and synthetic fibers. (2) Large-volume, medium-technology consumer goods industries, such as motor vehicles, tires, televisions, and refrigerators. (3) Mass-production consumer goods industries supplying branded products, such as cigarettes, soft drinks, toilet preparations, and breakfast cereals. In short, there is a gradual shift of FDI from labor-intensive, low-cost, low-skill manufacturing industries to more capital-, knowledge-, and skill-intensive industries.

In China, there is also a shift from manufacturing FDI to service FDI due to the globalization trend of service industries. So far, foreign investors are not allowed in some critical sectors and not permitted to merge large state-owned enterprises but are allowed to merge with small- and medium-sized state-owned enterprises. Since the entry into the WTO, the restrictions on some sectors like finance, telecommunication, and automobile industries have been gradually removed. Tariffs

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on bank, insurance, telecommunication, foreign trade, tourism, and other service

sectors have been decreasing. Therefore, there has been an increase in service FDI

and some formerly-protected manufacturing sectors since 2001 (see table 3.1).

Table 3.1 FDI Distribution in Major Industries for 2001-2002

Industry	Projects 2002	Projects 2001	Change %	Contract FDI 2002	Contract FDI 2001	Change %
Agriculture—Fishery	975	887	9.92	168804	176174	-4.18
Agriculture	571	536	6.53	79371	96194	-17.49
#plantation	400	299	33.78	56165	38570	45.62
Forestry	26	24	8.33	3466	3979	-12.89
Animal husbandry	133	115	15.65	45338	35336	28.31
Fishery	157	126	24.60	26972	24669	9.34
Mining	164	149	10.07	38088	64448	-40.90
Petroleum,natural gas	8	8	0.00	6971	4390	58.79
Manufacturing	24930	19106	30.48	5926985	4884686	21.34
Food processing	1154	927	24.49	176533	144353	22.29
#grain&feedstuff processing	122	134	-8.96	24288	28110	-13.60
#vegetable oil processing	28	24	16.67	13454	10414	29.19
#slaughtering,meat processing	86	67	28.36	10683	14615	-26.90
#aqua-product processing	256	213	20.19	22844	22698	0.64
Petroleum refining & coking industry	62	45	37.78	17196	16438	4.61
Chemical raw materials &products	1587	1163	36.46	372057	419677	-11.35
#synthetic materials	271	175	54.86	84949	110782	-23.32
Non-metal mineral products	1115	713	56.38	272956	237316	15.02
#cement products	37	25	48.00	32776	21616	51.63
#tile, lime and building materials	504	305	65.25	90053	71597	25.78
##light building materials	178	88	102.27	43645	35134	24.22
#glass and glass products	155	96	61.46	37807	32382	16.75
## glass products for construction	17	8	112.50	6118	12553	51.26
#ceramics products	156	137	13.87	40316	35433	13.78
## construction ceramics &sanitary ceramics	51	33	54.55	19751	17332	13.96
General machinery	1185	911	30.08	213273	230770	-7.58
Special equipments	1109	794	39.67	183691	157801	16.41
Transport equipment	745	490	52.04	230545	135972	69.55
#automobile	537	294	82.65	163917	87229	87.92
Electronics& telecommunication equipment	2976	1993	49.32	1456037	1064763	36.75
#telecommunication equipment	253	223	13.45	201041	104228	92.89
#computer	324	236	37.29	111389	136198	-18.22
#electronic parts	245	158	55.06	377427	163848	130.35
Utilities production &supply	185	136	36.03	147495	213422	-30.89
Electricity, steam, hot water	106	67	58.21	113928	80379	41.74
#power generation	78	57	36.84	91609	75700	21.02

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##thermal power	19	15	26.67	62565	20845	200.14
##hydro power	49	28	75.00	21644	15475	39.86
##other power industry	10	14	-28.57	7400	39380	-81.21
production and supply of gas	63	38	65.79	18776	22733	-17.41
#production of gas	13	13	0.00	5368	11879	-54.81
#faucet water	8	16	-50.00	11521	13847	-16.80
Construction	329	256	28.52	105761	182281	-41.98
civil engineering construction	206	158	30.38	83688	153448	-45.46
#railway,highway,tunnel, bridge	70	54	29.63	37764	60446	-37.52
#dam,power station/port construction	12	7	71.43	12727	45093	-71.78
Geological survey, and water management	10	11	-9.09	3088	1308	136.09
Transport, warehousing, post&telecommunications	405	297	36.36	152902	88354	73.06
Wholesale, retailing, catering	1716	1232	39.29	166364	139806	19.00
Bank and insurance	17	8	112.50	46002	8612	434.16
Real Estate	1316	820	60.49	721713	503061	43.46
# property development, operation	1163	707	64.50	685725	478429	43.33
Social services	3418	2673	27.87	498789	428884	16.30
#hotel industry	148	64	131.25	49745	38395	29.56
Healthcare, sports& social welfare	50	39	28.21	25796	13305	93.88
Education,culture, arts, broadcasting, film industry	48	28	71.43	10884	7174	51.71
Scientific research/ technical services	227	196	15.82	53365	65429	-18.44
Other Sectors	381	302	26.16	210797	142511	47.92
Total	34171	26140	30.72	8276833	6919455	19.62

Source: Yearbook of China's Foreign Economy and Trade 2003. Note: #refers to three-digit level, ## refers to four-digit level.

Data in table 3.1 reveal a number of interesting trends. FDI's sectoral distribution shifted significantly in 2002 -the first year after joining the WTO. Contrary to the decrease of contract FDI in agriculture, mining, utilities production and supply sectors, there was a significant increase of contract FDI in manufacturing and service industries (table 3.1).

In 2002, contract FDI in only a few manufacturing industries decreased compared with 2001: grain and feedstuff processing, slaughtering and meat processing, chemical raw materials and products, synthetic materials, general machinery, and computer, etc. Contract FDI in most other manufacturing industries increased dramatically in 2002. The most significant changes happened in electronic

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parts, telecommunication equipment, automobile, transport equipment, cement

products, glass products for construction, electronics and telecommunication

equipment, and vegetable oil processing, etc. (table 3.1).

Most of the service industries had more FDI inflows in 2002 compared with

the year 2001, except for scientific research and technical services sector. The most

significant changes happened in banking and insurance sector; geological survey and

water management; healthcare, sports and social welfare; transport, warehousing, post

and telecommunications service; education, culture, arts, broadcasting, and film

industry; real estate including property development and operation; hotel industry;

wholesale, retailing and catering; social services including hotel services (table 3.1).

Table 3.2 Agreement FDI in China by Sectors 1983 (US$ 10,000)

Sector	FDI amount	FDI (%)
Coal	0	0.00
Petroleum	0	0.00
Transportation	1730	0.90
Telecommunication	4264	2.22
Machinery	11815	6.16
Offshore Oil Development	102204	53.32
Electronics	2178	1.14
Light Industry	4105	2.14
Foodstuff	3808	1.99
Textile	2201	1.15
Metallurgy	61	0.03
Non-ferrous metals	20	0.01
Chemical Industry	1837	0.96
Building material & construction	5669	2.96
Forestry	120	0.06
Agriculture, husbandry, fishing	1657	0.86
Culture, education, hygiene	357	0.19
Tourism	9489	4.95
Commerce	3927	2.05
Others	36248	18.91
Total	191690	100.00

Source: Almanac of China's Foreign Economic Relations and Trade 1984. The earliest
available industry data from SSB.

FDI is unevenly distributed among the industries in China. During the initial stage of attracting FDI, only limited types of industries were allowed FDI entry (see table 3.2). In 1983, offshore oil exploration and development was the biggest industry with FDI entry –about 53.32% of FDI was flowed in that sector due to the strong government involvements between the host and foreign countries. Other manufacturing sectors had only limited FDI entry.

Table 3.3 Contract FDI Sectoral Distribution 1993-2002 (%)

Sectors	1993	1995	1997	1998	1999	2000	2001	2002
Agriculture	1.64	1.24	2.09	2.31	3.57	2.38	1.92	1.95
Mining	N/A	0.46	1.41	1.64	0.78	0.81	1.73	1.10
Manufacturing	55.95	53.65	53.06	59.17	61.45	70.94	65.93	69.77
Electric power, water, gas production	N/A	4.14	7.17	3.78	3.97	1.97	4.85	2.61
Construction	2.19	2.24	6.12	3.36	2.66	1.33	1.72	1.34
Geological Survey	0.01	0.05	0.04	0.00	0.13	0.02	0.02	0.01
Transportation, storage, telecommunication	1.88	2.89	5.14	4.42	2.70	2.27	1.94	1.73
Wholesale & retail, trade, catering service	4.99	3.71	3.61	2.52	2.92	2.30	2.49	1.77
Finance &insurance	0.17	0.27	0.00	0.00	0.09	0.13	0.08	0.20
Real Estate	30.92	23.21	12.20	12.76	10.13	8.39	10.96	10.74
Social Service	0.00	6.23	5.23	5.78	7.32	6.82	5.54	5.58
Health care, sports	0.36	0.38	0.28	0.27	0.16	0.25	0.25	0.24
Education, cultural art	0.79	0.52	0.14	0.04	0.18	0.13	0.08	0.07
Scientific research	0.29	0.18	0.27	0.30	0.32	0.40	0.26	0.37
Others	0.81	0.82	3.25	3.66	3.61	1.86	2.24	2.50
Total	100	100	100	100	100	100	100	100

Source: China Foreign Economic Statistical Yearbook 1994, 2000; China Statistical Yearbook 2000-2003.

From table 3.3, we find that FDI was unevenly distributed in different sectors from agriculture to social service sectors in the 1990s. In the 1990s, over half of FDI was concentrated in manufacturing sectors. In 2000, manufacturing industries had a FDI share of 70.94% (see table 3.3). In 1993, over one third of FDI was in real estate sector. However, the presence of FDI in basic infrastructure sector was rather low. Due to the restrictions on some key service industries, like finance, banking, insurance, etc., the presence of FDI in these sectors was still small.

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3.3 The FDI Industry Guide of the Chinese Government

The uneven sectoral FDI distribution in China is caused by a few factors, for example, host-country industry structure, state policy, and labor cost, etc. One of the most important factors is the state industry policies (*chan ye zheng ce*) towards FDI entry. Due to limited openness in the 1980s and 1990s, only a few industries had a significant foreign presence. Before 1995, although there was no any formal industry guide, the Chinese central government very strictly monitored, approved and supervised foreign investment projects. In addition, a few government departments are involved in approving FDI projects. These departments include the State Planning Committee (*ji wei*), the Foreign Economic and Trade Department (*wai jing mao bu*), the State Council (*guo wu yuan*), the State General Bureau of Industry and Commerce (*gong shang zong ju*). More branches of local governments are involved in FDI projects, e.g. the Environmental Bureau (*huan bao ju*), the Labor Bureau (*lao dong ju*), etc. Compared with free market economies, China's transitional economy implies some hidden institutional costs and transaction costs for foreign investors. Sometimes the economic reforms and policy shifts have perplexed foreign investors, e.g. the frequent reforms of tax system and the volatile macro-economic policies of the state. The stability and consistency of FDI policies is a vital concern for foreign investors. In 1995, the central government carried out a directory of foreign investment industrial guide, which includes encouraged sectors, allowed sectors, restricted sectors and forbidden sectors (SSB 1996, table 3.4).

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Table 3.4 The 1995 Foreign Direct Investment Industry Guide

Encouraged Sectors	Agriculture, basic infrastructure, high-tech industries, export-oriented industries, non-environmental pollution industries, industries that can facilitate the redevelopment of western China, those industries within the framework of state economic and industrial policy, etc
Restricted Sectors	Those industries already well-developed by domestic enterprises and technology; purposeful experimental industries for attracting FDI by the government (e.g. insurance); rare-metal mining industries; those industries planned and restricted by the state law and regulations
Forbidden Sectors	Those industries that could jeopardize national security (telecommunication, movie, weapon, etc); industries with environmental pollution; industries that use unique techniques (e. g. green tea, pottery); and industries forbidden by the state law and regulations.
Allowed Sectors	Industries that don't belong to any of the encouraged sectors, restricted sectors, forbidden sectors

Source: Almanac of China's Foreign Economic Relations and Trade 1996-1997.

In 1997, the Department of Foreign Trade and Economy, and the Department of Planning Committee (*ji wei*) revised the 1995 FDI Industry Guide. In 1999, China's government adopted a strategy to develop the Western China (*xi bu da kai fa zhan lue*) and encouraged foreign investment to locate in central and western China. Therefore, in 2000 the Chinese government carried out a Directory of Advantageous Industries for Foreign Investment in Central and Western China (*zhong xi bu di qu you shi chan ye mu lu*). For FDI projects that are listed in the directory may enjoy the same preferential policies as those encouraged industries in the FDI Industry guide. During the tenth Five-Year Plan (2001-2005) and after joining the WTO in 2001, in

order to attract more FDI and improve the quality of FDI, the Chinese government carried out a new Directory for Foreign Investment Industrial Guide which has been effective since April 1, 2002. Compared with the 1997 Industry Guide, the 2002 Industry Guide has more encouraged sectors, and has reduced some sectors with limitations or restrictions. Some sectors that were once forbidden to foreign investors have now become the new open fields to foreign investors, e.g. telecommunication infrastructure, gas, water supply and other urban infrastructure. The equity share for foreign investors has also been relaxed. The 2002 Industry Guide is also consistent with the government's commitments to the WTO.

As I have mentioned above, transitional economy has very frequent shifts in policies towards FDI. In particular, every year a number of old laws and regulations have been annulled and a number of new laws and regulations have been carried out since 2001 in order to meet with the WTO requirements (Almanac of China's Foreign Economic Relations and Trade 2002-2003). Due to the policy shifts and the WTO effect, there will be significant changes in some former restricted industries. It is predicted that there will still be uneven distribution of FDI in different industries.

In short, China's economic transition implies a few uncertain factors for foreign investors due to the frequent shifts of policies and the strong involvement of the central government and local governments, e.g. the hidden institutional costs and transaction costs. FDI projects must conform to the requirements of the FDI Industry Guide, the Directory of Advantageous Industries for Investment in Central and Western China, and other laws and regulations. Since sectoral FDI inflow is highly uneven, namely, the foreign presence index of each sector is different, FDI in some industries is still tiny for both overseas Chinese and overseas non-Chinese investors.

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Therefore, it is expected that overseas Chinese and overseas non-Chinese investors may vary only by some major industries instead of each industry.

3.4 The Sectoral Distribution and Sectoral Differences at two-digit, three-digit, and four-digit SIC levels

I examine the sectoral characteristics of overseas Chinese and non-Chinese investments using data of the third industry census. The hypothesis here is that overseas Chinese investment focuses more on labor-intensive, low-cost, low-skill manufacturing activities, and overseas non-Chinese investment focuses more on capital-, knowledge-, and skill-intensive industries. Compared with their overseas non-Chinese counterparts, overseas Chinese investors have their own sectoral niches and choices. The labor-intensive investment projects are the comparative advantage of overseas Chinese investment.

In fact, at different SIC levels, the entire industrial distribution of FDI is highly uneven and many industries have near-zero proportion or similar low proportion between overseas Chinese and non-Chinese investments. Therefore, instead of focusing on the entire distribution, the industrial comparison involves only those sectors that are significantly different between the two types of investors. In this research, only the top-ranked sectors are selected to run a correlation between overseas Chinese investment and non-Chinese investment. The selection is based on two requirements. On one hand, the "cut-off" point for the top-ranked sectors ensures that all the top ranks are included. Namely, if top N sectors of Chinese FDI are selected, then the top N sectors of non-Chinese investment must also be selected. In this case, sectoral rank and sorting were performed and the final selection included more than N sectors (N is the cut-off point or the top ranked number, e.g. at 2-digit

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level, the cut-off point is 17, but 20 sectors are selected; at 3-digit level, the cut-off

point is 48, but 63 sectors are included in the analysis). Namely, n+m sectors are

finally selected in order to ensure the top N sectors of both Chinese and non-Chinese

FDI were included. On the other hand, the correlation p-value at the "cut-off" point N

(finally including n+m sectors) should be larger than 0.05 in order to make sure that

there is a non-correlation (insignificant correlation) between the two types of

investors. In this case, n+m is the critical point of non-correlation.

Table 3.5 Sectoral Difference between Overseas Chinese and Non-Chinese Investments at Two-Digit SIC Level

Digit	Sector	Chinese FDI %	Rank	NonChinese FDI%	Rank	Absolute difference
17	Textile industry	12.84	1	4.93	11	7.91
31	Nonmetal mineral products	8.79	2	7.39	5	1.40
41	Electronic and telecommunication equipment	8.73	3	12.13	1	-3.40
18	Garments and other fiber products	7.93	4	4.29	12	3.64
30	Plastic products	7.34	5	2.77	13	4.57
34	Metal products	6.45	6	5.08	9	1.37
40	Electric machinery and equipment	5.92	7	8.43	4	-2.51
19	Leather, furs and related products	5.01	8	2.11	19	2.90
26	Raw chemical materials and chemical products	4.34	9	8.58	3	-4.24
14	Food production	4.27	10	5.58	7	-1.31
13	Food processing	4.19	11	4.96	10	-0.77
22	Paper-making and paper products	4.11	12	2.27	16	1.84
15	Beverage production	4.07	13	5.48	8	-1.41
37	Transport equipment	3.77	14	9.42	2	-5.65
24	Culture, education and sports goods	2.83	15	0.93	23	1.90
35	General machinery	2.32	16	6.71	6	-4.39
32	Smelting and processing of ferrous metals	2.19	17	1.36	20	0.83
27	Medicine and pharmaceutical products	1.65	23	2.69	14	-1.04
36	Equipment for special purpose	1.57	25	2.69	15	-1.12
42	Instrument/meter/cultural/office machinery	1.67	22	2.19	17	-0.52

Source: The Third Industrial Census 1995. Note: absolute difference is the proportional
difference of overseas Chinese investment and non-Chinese investment. This is not the entire
distribution since eight industries are dropped from the list. These are the top ranked 20
industries of all the 28 two-digit sectors.

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The sectoral distribution and sectoral differences of overseas Chinese and non-Chinese investments are mainly indicated at two-digit and three-digit SIC levels (see table 3.5, and appendix). In the two tables, the proportional distribution, ranks of different sectors, and the absolute difference between the two types of investors are included. Among all of the 28 two-digit SIC sectors, this research selects the top-ranked twenty industries for comparison and the remaining eight sectors are excluded from the analysis (table 3.5). Data in table 3.5 show the uneven distribution of Chinese FDI and non-Chinese FDI in different two-digit SIC level manufacturing industries. At two-digit SIC level, overseas Chinese FDI mainly focuses on these sectors: textile, plastic products, garments and other fiber products, leather/furs and related products, culture/education and sports goods, etc. Non-Chinese FDI mainly focuses on these niche industries: transportation equipment, general machinery, raw chemical materials and chemical products, electronic and telecommunication equipment, electric machinery and equipment, etc. At three-digit SIC level, Chinese FDI is mainly concentrated in these industries: cotton-textile, garment, pottery product, leather products, knitting-textile, etc. In comparison, non-Chinese FDI is mainly distributed in these industries: automobile, consumer chemical product, general equipment, alcohol and beverage, electrical generator, etc. (see appendix).

The list of four-digit industries is not included in this research. However, the sectoral distribution at four-digit level is very consistent with that of 2-digit and 3-digit SIC levels. For example, at four-digit SIC level, these industries are the niche market for Chinese FDI: apparel, pottery, printing and dying of textile, leather shoes, and toys, etc. In comparison, non-Chinese FDI mainly targets on these industries: car, soap/lotion/detergent, beer, whole motor, automobile parts and fittings, etc. (the Third

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Industrial Census 1995). This provides solid evidence that Chinese FDI is more likely

in labor-intensive and low-skill manufacturing activities, while non-Chinese FDI is

more likely in capital/technology-intensive industries. Small- and medium-sized

overseas Chinese FDI is driven by the deindustrialization of Hong Kong-Macao-

Taiwan's economy. On the other hand, non-Chinese investors are more interested in

the traditional "producer-driven" commodity chain.

Table 3.6 Sectoral Correlation Analyses between Overseas Chinese and Overseas Non-Chinese Investments

SIC Digit	Top Sectors	Correlation Coefficient	P-Value
2-digit	20	0.3793	0.0991
2-digit	18	0.2888	0.2452
2-digit	16	0.1573	0.5698
2-digit	15	0.0473	0.8672
3-digit	63	0.2406	0.0575
3-digit	60	0.2184	0.0986
3-digit	58	0.2029	0.1267
3-digit	51	0.1312	0.3586
3-digit	45	0.0681	0.6566
4-digit	94	0.2020	0.0509
4-digit	86	0.1774	0.1022
4-digit	75	0.1327	0.2564
4-digit	50	0.0332	0.8189

Source: The Third Industrial Census of China 1995.

Table 3.7 Sectoral Goodness of Fit Test between Overseas Chinese and Overseas Non-Chinese Investments

SIC Digit	Top Sectors	Chi-square Value	Table Value Φ- $\alpha=0.05$	Conclusion ($\alpha =0.05$)
2-digit	20	45.68	30.14	significant
2-digit	18	40.81	27.59	significant
2-digit	16	39.82	25.00	significant
2-digit	15	40.76	23.68	significant
3-digit	63	112.04	81.37	significant
3-digit	58	113.13	75.61	significant
3-digit	51	108.53	67.50	significant
3-digit	45	111.89	58.46	significant
4-digit	94	2950.97	116.51	significant
4-digit	86	3044.28	107.51	significant
4-digit	75	3256.94	95.07	significant
4-digit	50	4101.92	66.33	significant

Source: The Third Industrial Census of China 1995.

According to the Chinese industry classification, in total there are 28 two-digit SIC sectors, 167 three-digit SIC sectors, and 516 four-digit SIC sectors. At two-digit SIC level, the correlation coefficient of the twenty comparing-industries is 0.3793 and P-Value is 0.0991, which suggests that sectorally there is a non-correlation between the two types of investors (table 3.6). Goodness of fit test (chi-square value) of the top twenty two-digit sectors is significant at 0.05 level (table 3.7). Using the same selection method as that of two-digit SIC level, this research has chosen 63 three-digit sectors (see Appendix) and 94 four-digit sectors (excluding the textile and garment industry which is an outlier in correlation analyses).

Table 3.6 and table 3.7 show results of sectoral correlation analyses and goodness of fit tests for the two types of investors at 2-digit, 3-digit, and 4-digit SIC levels. For the top 63 three-digit SIC sectors and top 94 four-digit SIC sectors, there are also non-correlations between overseas Chinese and non-Chinese investments (see the p-values in table 3.6). Goodness of fit tests at 3-digit and 4-digit SIC levels are all significant at 0.05 level (see table 3.7). The sectoral distribution patterns of the two types of investors are clearly indicated in table 3.6 and table 3.7. For two-digit, three-digit, and four-digit SIC levels, at different cut-off points, the correlation p-values are all larger than 0.05. The critical points at two-digit, three-digit, and four-digit SIC levels are 20, 63 and 94, respectively. Goodness of fit tests at different cut-off points (including the critical points) for different SIC levels are all significant at 0.05 level.

These statistical analysis results suggest that, among the top-ranked portion of the industrial distribution, there is a statistically significant difference between the two types of investors. These statistical differences between overseas Chinese and overseas non-Chinese investments are the basis for constructing a sectoral model on

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the two types of investors. Textile and garment is a very special industry in developing countries as it is a labor-intensive sector. And there are quota limitations and other non-tariff barriers between developed nations and developing nations. Garment and textile firms are usually confined by the rules of origin and quota restrictions in international trade and investment. Therefore, textile and garment sector is considered as an outlier in correlation analyses at three and four-digit SIC levels. In the sectoral regression model, correlation analyses, and goodness of fit test analyses, textile and garment sector is dropped from the industry data at three- and four-digit SIC levels.

3.5 Sectoral Modeling Using Industry Census Data

Modeling Method

The basic model is the OLS (ordinary least square) model. The current literature suggests a series of OIL (ownership/internalization/location advantages) factors. Combining the empirical literature with the data set I have, these variables are feasible (see table 3.8).

Sectoral Modeling:

$Yi = f(X1, X2... X12)$

Dependent variable Yi is the sectoral difference between overseas Chinese investment and overseas non-Chinese investment, namely, proportional overseas Chinese FDI data----proportional overseas non-Chinese FDI data in sector i.

Independent variables include industry-specific variables and institutional factors (x1, x2, ...x12). From the Third Industrial Census, three sets of data are available: 2-digit SIC level; 3-digit SIC level; and 4-digit SIC level. With this data I

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construct a sectoral model. The selection of independent variables conforms to the

objectives of this study and literature support. Although there are dozens of sectoral

variables, rigorous empirical studies have repeatedly shown that only a handful of

variables are significantly associated with the sectoral differences of the two types of

investors. The sectoral model highlights the relationship between sectoral inward

investment and industry-specific factors. These firm- or industry-specific variables

are based on ownership/internalization advantages, and industrial organization theory.

Table 3.8 Independent Variables (Industry-specific Variables)

Variable	Name	Measure	Expected Sign
Global Strategy			
X1	Export performance	Export sales of that sector	positive: +
Technology Environment			
X2	Productivity	Industrial added value/employment	negative: -
X3	R&D expenditure/technology intensity	R&D expenditure (total R&D fee)	negative: -
Industrial Organization			
X4	Capital intensity	Capital/labor ratio (total asset/employment)	negative: -
X5	Firm size and scale economy;networking & collaboration	The average size of foreign firms	negative: -
Industry-specific conditions			
X6	Sectoral profitability	Net profit or total profit of foreign firms	negative: -
Labor Condition			
X7	Labor cost	Annual wage of employees	negative: -
X8	Human capital; education standards	Employees with college degrees/total employees	negative: -
Ownership Advantage			
X9	Intangible asset intensity	Intangible assets (total asset-liquid asset-fixed asset)/employment	negative: -
X10	Advertising intensity; product differentiation	Advertising expenses/total sales	negative: -
Institutional Factor			
X11	State policy and institutional factor	Tax holidays, tax rate; tariff, entry barriers (sales tax as a measure)	negative: -
X12	Government interaction measure	Industrial output or total assets of TVEs (township-village enterprises)	positive: +

Note: Industry-specific variables are X1-X10; institutional context variables are x11, x12.

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Global Strategy (X1): FDI in the host country has different global strategies, e.g. market access, technology access, cost reduction, and competitiveness, etc. Overseas Chinese and non-Chinese investors have different investment strategies in China. Since most FDI is either export- or market-oriented (import-substitution investment) in China, the variable adopted here is X1 (export performance of firms).

X1-Export performance. TNCs have different strategies. Some are export-oriented, while some are market-oriented, etc. Namely, export is a type of important market strategy of TNCs, and the degree of export activity can discriminate the relative internalization of firms. Export-oriented FDI usually consists of standardized technology and is geared to low labor cost regions, whereas market-oriented FDI has a higher technology level, e.g. non-Chinese FDI. Efficiency-seeking FDI is usually export-oriented (Dunning 1980, 1993). Chinese FDI in mainland belongs to this efficiency seeking and export-oriented category. Therefore, overseas non-Chinese investment is more likely to be market-oriented, while overseas Chinese investment is more likely to be export-oriented. In general, some developing countries are the assembly platforms in the international production process, particularly in the textiles/apparel and electronics industries. A classical example of Hong Kong's export success is found in the toy industry (to North America). Another is Taiwan's export of footwear to the U. S. A. Due to industrial restructuring, overseas Chinese investment in Mainland China was attracted by cheap labor and was used to produce labor-intensive goods in order to reexport to their traditional market (Shi 1996). These industries are highly vertically disintegrated and they depend on external resources to reach both economies of scale and flexibility (Tong and Wang 2002). In light of overseas Chinese investment, FDI in China is not a global phenomenon.

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Kaynak and Kothari (1984) contend that due to flexibility, small and medium-sized firms are more likely to export and can be quickly activated. Empirical studies have shown that export performance has a positive effect on the sectoral FDI inflow. The hypothesis is that overseas Chinese investment is more likely than overseas non-Chinese investment to invest in export-oriented industries.

Technology Environment (X2, X3). Technological developments including productivity, increasing R&D costs, technology transfer and skill formation, research intensity, and other innovation synergies, are important drivers of globalization.

X2 -Productivity. The FDI literature indicates that productivity has a positive impact on the sectoral inflow of manufacturing FDI and high-productivity firms enjoy greater advantages than their low productivity counterparts. Productivity gain at the industrial level is a type of determinant of FDI in that industry (Driffield and Munday 2000). Usually TNCs have technology spillovers to domestic firms. Due to ownership and internalization advantage, market breadth, proactiveness and promotion efforts, non-Chinese FDI usually has higher productivity compared with Chinese FDI. Namely, due to market effectiveness and other factors, non-Chinese FDI is more efficient. My hypothesis is that overseas non-Chinese firms are more likely to invest in high productivity sectors than overseas Chinese firms.

X3 -R&D intensity or technology intensity. R&D intensity is a measure of technology intensity and is the principal means of gaining a market share in global competition. TNCs' ownership advantages arise from knowledge-capital and knowledge-creating activities such as research and development (Markusen 1997). R&D spending can boost productivity and allow the industry to compete more effectively abroad. Firm-level FDI patterns have a positive correlation with R&D

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expenditures and technological innovation. Firms possessing significant ownership advantages based on R&D, advertising competency and economies of scale, may be expected to overcome host-country entry barriers. FDI in a sector is positively and significantly associated with the sectoral R&D intensity. For example, Buckley and Casson (1976) demonstrated that R&D intensity was an important determinant of US investment into UK. Previous researchers have generally argued that TNCs from newly industrialized countries don't have a significant advantage in technology-intensive industries in relation to the TNCs from advanced countries. Non-Chinese FDI behaves in a highly innovative and proactive manner in the host country (Luo 1998). Compared with Japanese, American, and European Union firms, overseas Chinese firms have low technology transfer to Mainland China due to the guerilla tactics of operations in China (Lai Si Tsui-auch 1999). For example, Hong Kong firms are weak in capital investment, technological upgrading and joint product development and innovation. Therefore, Chinese FDI is less involved into R&D activities. From the media reports, more and more non-Chinese TNCs are starting to establish R & D centers in China. The R & D activities of non-Chinese TNCs in China will foster the national technological innovation. Therefore, the hypothesis here is that overseas non-Chinese investment is more likely to invest in sectors with more R&D activities.

Industrial Organization (X4, X5). Industrial organization is an important industry characteristic and includes capital/labor ratio, economies of scale or scope, and firm size. Overseas Chinese firms pursue quick profits, while non-Chinese firms from developed countries stress long-term development. For example, US firms have the tradition of mass production and other industrial culture. Overseas Chinese firms

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preserve the distinctive styles of management and industrial structure based on small- and medium-sized enterprises, family loyalty and personal connections.

X4 -Capital Intensity. Capital/labor ratio is the inverse of labor intensity and is a measure of capital intensity, technological sophistication, and competitiveness. This variable is a type of important factor for economics of firms. Shi (2001) finds that large TNCs from developed countries seek market potential in China and their investment is more likely to be capital-intensive; while investors (including overseas Chinese investors) from Asian NICs seek cheap production inputs of labor and land, their investment is more labor-intensive. Low-capital and labor-intensive manufacturing technology represents a major source of competitive advantage for third-world TNCs including Chinese FDI (Erramilli 1996; Grosse 1988). Capital intensity is a significant difference between Chinese and non-Chinese FDI. The hypothesis is that generally overseas non-Chinese firms have higher capital/labor ratio and may prefer capital-intensive sectors. On the other hand, low-capital intensity represents a source of competitive advantage for overseas Chinese investment.

X5 -Scale economy. The average firm size variable represents economies of scale in the industry. Scale and size are important advantages for large companies and non-Chinese FDI, and the size of a firm implies a higher level of Chinese government involvement. Empirical evidence indicates that the impact of firm size on FDI is positive (Buckley and Casson 1976; Cho 1985; Caves and Mehra 1986; Yu and Ito 1988). In other words, the size of a firm is expected to be positively correlated with its propensity to enter a foreign market. Domestic sectors characterized by greater scale are characterized by higher levels of foreign investment. A firm's asset power is reflected by its size, and multinational

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experience, and skills by its ability to develop differentiated products (Agarual and

Ramaswawi 1991). Chinese FDI doesn't have the advantage of scale economy. For

example, Taiwanese firms of small- to medium-size maintain flexible product lines.

Hong Kong firms are highly flexible, respond to changes rapidly, and have been

investing in labor-intensive assembly lines in light manufacturing operations in

southern China (Pang and Komaran 1985). Scale economy is a type of internalization

advantage of overseas non-Chinese investment, while overseas Chinese investment

relies more on flexible production to gain competitive advantage. The hypothesis is

that non-Chinese investors are more likely than overseas Chinese investors to invest

in sectors with higher scale economy.

Industry-specific conditions (X6). Industry-specific conditions include industry

structure characteristics and the industrial attractiveness. Industry's attractiveness or

potential for entry and potential profits are expected to include profitability, industry

size and growth, competitive intensity, entry and exit barriers.

X6 -Sectoral profitability. Firms enjoy sectoral profitability and economic

productivity, and go to the most profitable and fastest growing industries (Buckley

and Dunning 1976). Profit is an indicator of the sector's performance and future

potential, and is hypothesized to be positively associated with increases in new inward

investment. The comparative disadvantages of some industries in developed

countries due to high labor cost and resource deficiency are considered as the main

reason for these industries to shift production abroad. Consequently, labor cost

should be one of the most important factors affecting the location of FDI, especially

for labor-intensive and export-oriented FDI. These industries are also industries of

standardized technology and production processes. Spatially, this will cause the

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agglomeration of FDI; sectorally, foreign investors will be driven to the most profitable sectors. Due to ownership and internalization advantage factors, overseas non-Chinese firms can perform better at gaining profit than overseas Chinese firms. The hypothesis is that overseas non-Chinese investment is more likely to invest in more profitable sectors.

Labor condition (X7, X8). Labor condition can be measured by labor cost and human capital accumulation and is an important factor affecting sectoral FDI inflows.

X7 -Labor cost. This factor is a measure of production cost and labor quality. Third world TNCs including Chinese FDI usually are more labor-intensive, and have smaller scale but more flexible technology than others. Additionally, TNCs from the third world competed based on lower price than on product differentiation (Wells 1983; Lecraw 1977, 1981). Overseas Chinese capital combining with Chinese temporary migrants has formed a unique production network. Compared with non-Chinese investment, overseas Chinese investment is more correlated with China's floating population; the average age of its labors is younger, the education level and wage are lower. Since overseas Chinese firms require lower labor cost and lower wage, the hypothesis is that overseas Chinese investors are more likely to invest in sectors with lower labor cost.

X8 -Human capital. This factor is a measure of innovation potential. The presence of TNCs in an industry can heighten competitive pressures, enhance the quality of human capital, and increase the take-up of new ideas and technology in domestic firms (Dunning 1993; Caves 1996). Human capital also means more skilled labors and the access to productive knowledge, which are important sources of technological advantage. Large- and capital-intensive non-Chinese firms tend to have

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more human capital. Since overseas Chinese investment is more labor-intensive and lower-cost production, it is hypothesized that overseas Chinese investors are more likely to invest in sectors that require less skilled labors.

Ownership advantage (X9, X10). Ownership advantage is the competitive advantage of FDI (e.g. know-how and asset strength). This is also an important driver of business globalization.

X9 -Intangible asset intensity. Intangible asset is the stock of knowledge accumulated by firms from past R&D investment including trademarks and brand names, and is an important ownership advantage. Non-Chinese firms including those from developed countries have more making-sophisticated and more brand name luxury goods (Liu and Silver, 2000). Third world TNCs including Chinese FDI were found to be rarely building brand names, undertaking R&D, or concentrating their efforts on activities from which they could build a suitable advantage (Beamish and Banks 1986). Therefore, it is hypothesized that overseas non-Chinese investment is more likely to invest in industries with higher intangible asset intensity.

X10 -Advertising intensity/product differentiation (product specialization or diversification). Product differentiation is an important ownership advantage that can ensure higher economic rent. Firms attempt to differentiate products in many ways, but an important component is the creation of positive brand images through the use of marketing promotions including advertising. Ornstein and Lustgarten (1978) have found that advertising activities create and maintain product differentiation. Product diversity is a strategic trait of non-Chinese FDI (Luo 1998). Historically, developing country TNCs including Chinese FDI have lacked financial sources and marketing skills needed to compete successfully and survive in industries dominated by

developed country TNCs that have established strong brand images. Empirical studies have suggested that sectoral FDI inflows will be more extensive in R&D and advertising-intensive industries. The hypothesis is that overseas non-Chinese investment is more likely than overseas Chinese investment to invest in sectors with higher advertising intensity/product differentiation.

Institutional factor (X11, X12). The institutional factor is an important environmental factor affecting the sectoral distribution of FDI in China. This factor might include tariff and trade barriers, political climate, government intervention, legal and regulatory factors, incentives, regulations, and investment barriers.

X11 -State policies and institutional factor. State policies that affect sectoral FDI inflows include tax holidays, tax rate, tariff, and non-tariff entry barriers. The government's policies including laws and regulations on FDI which can limit a company's ownership play an important role in China. Institutional policies and government intervention include price control, local content requirements, currency inconvertibility, remittance control, quotas, tariffs, tax differences, interest rate, and exchange rate, etc. Globerman and Shapiro (1999) illuminate the impact of state policy including sectoral policies on FDI in Canada. Tariff and tax incentives are important in inducing FDI (Raff and Srinivasan 1998; Suenson 1994; Janeba 1996; Rahman 1983). Sales tax is adopted as a proxy of state policies and institutional factor. In China, tax can be classified as local tax (*di shui*) which is flexibly determined by the local governments, and state tax (*guo shui*) which is strictly determined by the central government. Chinese FDI benefited a lot from the flexible and preferential local tax rate from the local governments. The hypothesis is that compared with overseas Chinese investment, overseas non-Chinese investment might

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experience a higher tax burden than overseas Chinese firms because the later may benefit more from the local state preferential policies.

X12 –Economic volume of different ownership economies (government interaction measure). The government factor is more significant for operation in China than in other market economies because different levels of governments represent different tasks to investing firms (Grow 1986; Tse 1990). There is an interaction between domestic economies and foreign direct investment. It is generally regarded safer to work with higher levels of local governments because higher-level local governments have more power in approving projects, interpreting government policies, and exercising controls. On the other hand, firms enjoy more flexibility by working with lower levels of local governments. Overseas Chinese firms are more attracted to clusters of economic activities in their own and in closely related industries and activities. They are more dependent on externalities and linkages because they can reap the benefits of internal economies of scale and scope. The hypothesis is that overseas Chinese investors have more interactions with lower levels of local governments and benefit more from the state-policies than non-Chinese investors. In particular, overseas Chinese firms have more interactions with lower levels of local governments (e.g. county or township officials). For overseas Chinese enterprises, there are more personal contacts with local governments and local initiatives; while for overseas non-Chinese investment, the contacts are mainly with the central and provincial governments. I use the industrial output of TVEs (township-village enterprises) as a proxy of government interaction measure. The hypothesis is that compared with overseas non-Chinese investment, overseas Chinese

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investment is more likely to invest in sectors dominated by township-village enterprises (TVEs).

The sectoral model takes into account these 12 elaborated factors. Sectoral index of multinationality (or sectoral foreign presence index), which measures international involvement of the industry, is not a significant factor contributing to the sectoral differences. Therefore, this variable is excluded from the model. Due to data availability, target industry concentration ratio (global four firm concentration ratio, or global concentration –the number of competing players) and target industry growth rate are not tested in the model. In addition to the economic factors and institutional factors, there are also other non-economic factors affecting the sectoral choices of FDI. For example, the business culture of foreign firms, the management-specific variables of managers, and cultural factors of host countries can also significantly affect the sectoral patterns of FDI. FDI, especially overseas Chinese investment in China is not the purely economic activity, there is a subtle ethnic consideration. In addition, historical and social ties, and cultural distance might also affect FDI's sectoral choices.

In the Chinese society, *guanxi* and social networks are the important traditional forces as well as institutional factors and economic factors that can affect the sectoral patterns of FDI. However, *guanxi* networks cannot be measured in the statistical sectoral model. Detailed analyses on the effect of *guanxi* and social networks on sectoral choices are conducted in chapter-5, that is, the social networks of overseas Chinese and non-Chinese investments. It is important to note that the forces shaping the sectoral patterns of FDI (industry-specific variables, institutional

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factors, and conventional *guanxi* connections) have different weights in different industries.

3.6 Discussion on Modeling Results of the Independent Variables

Table 3.9 shows the data availability of these independent variables at two- three- and four-digit SIC levels. In general, the most disaggregated industry level is the best one for analysis. However, at four-digit SIC level, an important independent variable –R&D expenditure is unavailable.

Table 3.9 Data Availability of the Independent Variables at Two-, Three-, and Four-digit Levels

	Variable Name	2-digit	3-digit	4-digit
X1	Export performance	yes	yes	yes
X2	Productivity	yes	yes	yes
X3	R&D expenditure	yes	yes	no
X4	Capital Intensity	yes	yes	yes
X5	Firm Size	yes	yes	yes
X6	Sectoral Profitability	yes	yes	yes
X7	Labor Cost	yes	yes	yes
X8	Human Capital	yes	yes	yes
X9	Intangible asset intensity	yes	yes	yes
X10	Advertising intensity	yes	yes	yes
X11	Tax and institutional factor	yes	yes	yes
X12	Government interaction measure (TVE)	yes	yes	yes

During the preliminary sectoral regression analyses, I find that the regression results of the dependent variable with these independent variables are consistently significant at two-digit, three-digit and four-digit SIC levels. Therefore, the sectoral modeling is conducted at three-digit SIC level.

Table 3.10 Correlation Matrix: Results of Correlation Analysis (Three-digit SIC Level, Correlation Coefficient)

	Df	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	0.4637											
X2	-0.5691	-0.0671										
X3	-0.4926	0.0947	0.3861									
X4	-0.3643	-0.2096	0.6687	0.2968								
X5	-0.3839	-0.0488	0.8306	0.2096	0.8467							
X6	-0.5350	0.0008	0.7228	0.5960	0.3608	0.4333						
X7	-0.5327	-0.1118	0.7391	0.4206	0.5809	0.5964	0.6632					
X8	-0.5753	-0.2728	0.6905	0.3713	0.5480	0.5218	0.4720	0.5628				
X9	-0.4379	-0.2654	0.3480	0.5483	0.6244	0.3901	0.2740	0.3398	0.4531			
X10	-0.2507	-0.2834	0.1754	-0.0307	-0.0407	-0.0884	0.1754	0.0750	0.4372	0.0994		
X11	-0.4495	-0.0761	0.4172	0.2405	0.2562	0.3127	0.3116	0.2833	0.1010	0.4177	0.1726	
X12	0.3026	0.5168	-0.1627	0.1392	-0.0479	-0.0840	-0.0585	-0.2782	-0.3227	0.1037	-0.2666	0.0072

Table 3.11 Correlation Matrix (Three-digit SIC Level, p-value)

	Df	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	0.0001											
X2	0.0000	0.6014										
X3	0.0000	0.4604	0.0018									
X4	0.0033	0.0993	0.0000	0.0182								
X5	0.0019	0.7038	0.0000	0.0991	0.0000							
X6	0.0000	0.9953	0.0000	0.0000	0.0037	0.0004						
X7	0.0000	0.3831	0.0000	0.0006	0.0000	0.0000	0.0000					
X8	0.0000	0.0306	0.0000	0.0027	0.0000	0.0525	0.0001	0.0000				
X9	0.0003	0.0356	0.0052	0.0000	0.0000	0.0016	0.0298	0.0064	0.0002			
X10	0.0475	0.0244	0.1690	0.8110	0.7517	0.4909	0.1690	0.5590	0.0003	0.4383		
X11	0.0002	0.5534	0.0007	0.0577	0.0427	0.0126	0.0129	0.0244	0.4309	0.0007	0.1762	
X12	0.0159	0.0000	0.2026	0.2765	0.7094	0.5127	0.6486	0.0273	0.0099	0.4186	0.0347	0.9553

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Before constructing a multiple regression model, correlation analyses between the dependent variable and the 12 independent variables are conducted. Correlation coefficients and p-values are reported in table 3.10 and 3.11. The correlation coefficients are all correctly signed as I have described in the theoretical hypotheses of each industry-specific variable, and p-values are all significant at 0.05 level. This suggests that all these 12 independent variables can explain the industrial differences between overseas Chinese and non-Chinese investments. Correlation analyses (see table 3.10) indicate that dependent variable (sectoral difference) has the closest positive relations with export (0.4637) and township-village-enterprises (0.3026), suggesting that industries which are more export-oriented or industries with more township-village-enterprises are more likely to attract more overseas Chinese investment than overseas non-Chinese investment. Dependent variable (sectoral difference) has the closest negative relations with human capital (-0.5753), productivity (-0.5691), sectoral profitability (-0.5350), wage level (-0.5327), R&D fee (-0.4926), sales tax (-0.4495), intangible asset (-0.4379), sectoral scale economy (-0.3839), capital/labor ratio (-0.3643), and advertisement cost (-0.2507), suggesting that industries with more human capital, higher productivity, sectoral profitability, wage level, R&D fee, sales tax, intangible asset, scale economy, capital/labor ratio, and advertisement spending are likely to attract more overseas non-Chinese investment than overseas Chinese investment.

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Table 3.12 Multiple Regression Results

Independent Variable	Coefficient	Standard error	T-value	Significant level (P>|t|)
Export performance	0.0069549	0.0014223	4.89	0.000
Productivity	70.2163	1127.175	0.06	0.951
R&D expenditure	-0.0000571	0.0000192	-2.97	0.005
Capital Intensity	403.3594	227.7362	1.77	0.083
Firm size	-299.5262	238.7054	-1.25	0.215
Sectoral profitability	-0.0079351	0.028057	-0.28	0.778
Labor cost	-0.1218575	0.1211963	-1.01	0.320
Human Capital	-10.62979	4.999863	-2.13	0.038
Intangible asset intensity	876.6588	1115.253	0.79	0.436
Advertising intensity	3.94697	6.962388	0.57	0.573
Sales tax	-0.1772022	0.0618566	-2.86	0.006
Industry output of TVEs	-0.0006553	0.0014283	-0.46	0.648
Constant	1.32643	0.8653117	1.53	0.132

Dependent variable is sectoral difference. R-square = 0.7241; adjusted R-square = 0.6579; $F_{(12, 50)}=10.94$; Prob>F=0.0000

Table 3.12 reports the results of multiple regression analysis between sectoral difference and all the twelve independent variables. The multiple regression model yields a R-square of 0.7241, which suggests that 72.41% of the sectoral difference can be explained by the sectoral model and also indicates a reasonable goodness of fit of the regression model. However, the fact that insignificant t-values but higher overall R-square (and a significant F-value) is a signal of multicollinearity. Multicollinearity means the existence of a "perfect" or "intercorrelated"(but not perfectly so) linear relationship among some or all explanatory variables of a regression model. Although there are no sure methods of detecting collinearity, there are several indicators. Due to multicollinearity, five independent variables are not correctly signed: productivity, capital/labor ratio, intangible asset, advertisement cost, and township-village enterprises. And eight independent variables have insignificant t-values: productivity, capital/labor ratio, scale economy, profitability, wage level, intangible asset, advertisement cost, and township-village enterprises.

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In the literature, a few methods are used to test for multicollinearity in the independent variables (Clark and Hosking 1986). (1) First, if no correlation coefficient is larger than 0.8 in the correlation matrix, it indicates that the collinearity is not severe.

(2) Second, a comparison between correlation coefficient and regression R-square.

(3) Tolerance and variance inflation factor. Variance-inflating factor (VIF) is the most common method to detect multicollinearity.

VIF for an independent variable indicates whether there is a strong linear association between it and all the remaining independent variables. Therefore, it is an indicator of multicollinearity. The larger is the value of VIF_j, the more "troublesome" or collinear is the variable X_j.

Table 3.13 Test for Multicollinearity

Variables	Ri-square	Tolerance (1-Ri-square)	Variance inflation factor (VIF)
Export performance	0.4786	0.5214	1.918
Productivity	0.8951	0.1049	9.533
R&D expenditure	0.6468	0.3532	2.831
Capital Intensity	0.8515	0.1485	6.734
Firm size	0.8733	0.1267	7.893
Sectoral profitability	0.7288	0.2712	3.687
Labor cost	0.6664	0.3336	2.998
Human Capital	0.7738	0.2262	4.421
Intangible asset intensity	0.7520	0.2480	4.032
Advertising intensity	0.4990	0.5010	1.996
Sales tax	0.5274	0.4726	2.116
Industry output of TVEs	0.5048	0.4952	2.019

In addition to detect multicollinearity (see table 3.13), how to get rid of the problem is another big issue. Omitting some highly collinear variables is the common choice, e.g. productivity, scale economy, and capital/labor ratio. In order to address the problem of multicollinearity, I removed eight independent variables from the

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model. A final multiple regression model with four independent variables is

constructed: export, R&D fee, human capital, and sales tax (see table 3.14).

Table 3.14 Multiple Regression Results of the Final Regression Model

Independent Variable	Coefficient	Standard error	T-value	Significant level (P>|t|)
Export Performance	0.0053529	0.0011263	4.75	0.000
R&D Expenditure	-0.0000521	0.0000133	-3.93	0.000
Human Capital	-10.00952	2.781578	-3.60	0.001
Sales Tax	-0.1756554	0.0451002	-3.89	0.000
Constant	1.08815	0.2924242	3.72	0.000

R-2: 0.6645; adjusted R-2: 0.6414; F(4, 58)=28.72; Prob>F =0.0000

The final multiple sectoral model has a R-square of 66.45%, which suggests a

reasonable goodness of fit of the model. Namely, 66.45% of the sectoral difference

can be explained by the four independent variables. Since all the four variables are

correctly signed, and p-values are all significant at 0.00 level, there is no sign of a

serious multicollinearity problem. This is verified by the VIF test as reported in table

3.15. As I have indicated in the table of correlation coefficients, no correlation

coefficient between the four independent variables is larger than 0.8, indicating that

collinearity is not severe.

Table 3.15 Test for Multicollinearity

Variables	Ri-square	Tolerance (1-Ri-square)	Variance inflation factor (VIF)
Export Performance	0.1285	0.8715	1.147
R&D Expenditure	0.2254	0.7746	1.291
Human Capital	0.2340	0.7660	1.305
Sales Tax	0.0682	0.9318	1.073

Worthy of attention is that there is probably a two-way, or simultaneous

relationship between dependent variable (Y) and (some of) the X's (independent

variables), which makes the distinction between dependent and explanatory variables

of dubious values. Namely, the OLS may not be consistent and causal analysis should

be conducted. Therefore, the problems of endogeneity need to be detected and

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addressed. Durbin-Wu-Hausman test (augmented regression test –DWH test) is

performed to address endogeneity. IV (instrumental variable method) regression

(two-stage least square regression) is also performed.

Table 3.16 Results of Using Durbin-Wu-Hausman Method to Test Endogeneity

Tested Variables	Augmented Regression Results- t values	P-value	Whether OLS is consistent?	Conclusion
Export Performance	-0.38	0.707	consistent	no endogeneity
R&D Expenditure	-1.26	0.211	consistent	no endogeneity
Human Capital	0.01	0.994	consistent	no endogeneity
Sales Tax	-0.58	0.566	consistent	no endogeneity

From the reported results of augmented regression test (DWH test) suggested

by Davidson and MacKinnon (1993), the larger p-values of the four independent

variables (export, R&D fee, human capital, and sales tax; p value over 0.05 will be

considered as insignificant) indicate that OLS is still consistent (see table 3.16). This

suggests that endogeneity problems are not serious in the final OLS regression model.

If p-values are smaller than 0.05, then OLS regression is not consistent and

endogeneity problems need to be addressed. Performing an IV (instrument variable

method) regression, which is in fact a two-stage OLS regression, is an effective

method to address endogeneity.

In conclusion, the final regression model can also be expressed in the

following equation:

Sectoral difference = 0.0053529 * export – 0.0000521 * rdfee – 10.00952 * humanf –
0.1756554 * saletaxf + 1.08815

Final regression equation reveals that the sectoral difference is positively

related to sectoral export performance, indicating that more export-oriented industries

are more likely to attract more overseas Chinese investment than non-Chinese

investment. Sectoral difference is negatively related to sectoral R&D fee, human

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capital, and sales tax, indicating that industries with higher R&D intensity, human capital, and sales tax, are more likely to attract more overseas non-Chinese investment than overseas Chinese investment. Regression modeling results strongly support the theoretical hypotheses on the independent variables (industry-specific variables).

3.7 Conclusion and Discussion

Transitional China has gradually opened its different sectors to overseas Chinese and overseas non-Chinese investors. In the past 25 years, the overall sectoral distribution had shifted gradually from 1979 to 2004. However, manufacturing industry is still the dominant sector to attract FDI in modern China. The foreign entry in service sectors is still restricted by the state industrial policies. After joining the WTO in 2001, more sectors are open to foreign investors, especially some service sectors. During the transitional period, the Chinese government has carried out a directory of industry guide for attracting FDI since 1995 in order to cater to the new situation of opening to the world. Due to policy shifts and the economic transition, foreign investors will face with some hidden institutional costs and transaction costs in China compared with other free market economies.

This chapter finds that overseas Chinese and overseas non-Chinese investors have different sectoral choices. Chinese FDI and non-Chinese FDI tend to invest in different niche industries in order to exploit industry-specific advantage and gain competitive advantage in the Chinese industry economy. Due to limited sectoral openness to foreign investors, the two types of investors may vary by only some critical or key sectors. The sectoral patterns of overseas Chinese and non-Chinese investments are explored at two- and three-digit SIC levels. I find the statistically

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significant differences between the two types of investors at two-, three-, and four-digit SIC levels. Sectorally, overseas Chinese investors are more likely to engage in these labor-intensive industries to take advantage of being the small- and medium-sized firms, such as textile, toys, garments and fiber products, leather products, and plastics products, etc. In comparison, non-Chinese investors are more likely to engage in these capital- and technology-intensive sectors, like electronic and telecommunication equipments, transportation equipment, electronic machinery, and chemical products.

This chapter constructs a sectoral model to explain the sectoral differences between overseas Chinese and overseas non-Chinese investments. Since two-digit, three-digit, and four-digit SIC level data are aggregated from the same firm-level data, the regression analyses at two-digit, three-digit, and four-digit SIC levels are consistently significant. Thus, I choose the more disaggregated three-digit SIC level to construct the sectoral model. Based on international production and investment literature, I have constructed twelve industry-specific variables as explaining factors to the sectoral differences. They are global strategy (export performance), technology environment (productivity, R&D expenditure and technology intensity), industrial organization (capital intensity, firm size and scale economy), industry-specific conditions (sectoral profitability), labor condition (labor cost, human capital and education standards), ownership advantage (intangible asset intensity, advertising intensity/product differentiation), and institutional factor (state policy and tax rate, government interaction measure –industrial output of township-village enterprises).

Correlation analyses have shown that all these twelve industry-specific variables are correctly signed and p-values are all statistically significant. In

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particular, the sectoral difference has positively correlated with sectoral export performance and the industrial output of township-village enterprises. This means that sectors with better export performance and more township-village enterprises are more likely to attract more Chinese FDI from Hong Kong, Macao, and Taiwan. The remaining ten variables have negative correlations with the sectoral difference.

The multiple regression model with all the twelve independent variables yields· a reasonable goodness of fit. The insignificant T-values and the incorrect signs of some independent variables suggest that multicollinearity is a serious problem in the model. VIF (variance inflation factor) methods are employed to conduct the regression diagnostics for the multicollinearity problem. After omitting some highly collinear variables, a final OLS (ordinary least square) regression model with just four independent variables is constructed. The four independent variables are these industry-specific variables: export, R&D fee and technology intensity, human capital and education level, and sales tax. This final model has important theoretical and empirical implications. Theoretically, this model explains why overseas Chinese investment is more concentrated in labor-intensive and export-oriented industries and overseas non-Chinese investment is more likely to invest in technology- and capital-intensive industries. Empirically, the final sectoral regression model is the basis for understanding the spatial differences between Chinese FDI and non-Chinese FDI. The sectoral model also has implications for policy-makers who are interested in attracting and guiding FDI in different industries. In this sense, this sectoral model is helpful for revising the recent FDI Industry Guide.

In addition to detecting and addressing multicollinearity problem using VIF methods, this research also detects the endogeneity problems in the final regression

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model since there might be a two-way, or simultaneous relationship between

dependent variable and some independent variables. Durbin-Wu-Hausman test

(augmented regression test –DWH test) is performed to detect endogeneity. Of all the

four independent variables in the final regression model, p-values of augmented

regression results are not significant at 0.05 level. This means that OLS (ordinary

least square) is still consistent and endogeneity problems are not serious in the OLS

regression model.

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Appendix: Sectoral Difference at the Three-Digit SIC Level
(Top Ranked 64 Industries among all the 167 three-digit Sectors)

Digit	Sector	Chinese FDI %	Rank	Non-Chinese FDI %	Rank	Absolute difference%
181	Garment	6.35	1	3.55	3	2.80
172	Cotton-textile	4.94	2	1.62	18	3.32
192	Leather-product manufacturing	3.56	3	1.51	21	2.05
315	Pottery products	3.36	4	0.94	35	2.41
178	Knitting-textile	3.01	5	1.39	25	1.62
416	Electronic elements	2.37	6	2.72	5	-0.36
222	Papermaking	2.25	7	1.48	23	0.78
141	Desert and candy manufacturing	2.09	8	1.71	13	0.37
406	Consumer electric machinery	2.09	9	2.13	9	-0.04
344	Container and metal packing bag	1.86	10	1.32	29	0.55
417	Consumer electronics	1.80	11	2.22	8	-0.42
151	Alcohol and beverage production	1.80	12	3.51	4	-1.71
372	Automobile	1.77	13	6.04	1	-4.27
311	Cement manufacturing	1.72	14	1.69	14	0.04
309	Other plastic product	1.71	15	0.54	55	1.17
231	Printing	1.64	16	1.05	33	0.59
152	Soft-beverage production	1.63	17	1.53	20	0.10
348	Consumer metal products	1.62	18	1.33	28	0.29
174	Down-textile	1.55	19	0.57	53	0.98
282	Synthetic fiber	1.55	20	0.39	65	1.15
404	Electrical engineering equipment	1.50	21	1.41	24	0.09
244	Toys	1.48	22	0.30	79	1.19
223	Paper product	1.42	23	0.65	49	0.78
314	Glass and products	1.33	24	2.07	10	-0.74
131	Grain and forage processing	1.26	25	1.67	16	-0.41
267	Special chemical product	1.19	26	0.76	43	0.43
415	Electronic components	1.16	27	1.59	19	-0.44
411	Telecommunication equipment	1.09	28	2.56	7	-1.47
304	Foam plastic and man-made leather	1.07	29	0.38	66	0.69
324	Steel processing	1.00	30	0.88	39	0.12
149	Other food production	0.98	31	1.67	15	-0.69
338	Nonferrous metal pressing and processing	0.94	32	0.43	60	0.51
177	Silk-textile	0.93	33	0.35	71	0.58
302	Plastic board/tube	0.90	34	0.42	61	0.47

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265	Organic chemical products	0.88	35	1.64	17	-0.76
179	Other-textile	0.88	36	0.31	78	0.57
407	Lighting appliance	0.87	37	0.94	37	-0.07
202	Man-made board	0.80	38	0.40	63	0.40
414	Computer	0.80	39	1.50	22	-0.70
268	Consumer chemical product	0.79	40	3.82	2	-3.03
313	Brick and other construction materials	0.77	41	0.94	36	-0.17
426	Clock	0.76	42	0.17	101	0.59
135	Aquatic product processing	0.75	43	0.63	51	0.12
301	Plastic film	0.68	44	0.21	94	0.48
402	Power supply and control equipment	0.67	45	1.38	27	-0.71
307	Consumer plastics	0.64	46	0.25	88	0.39
272	Chemical medicine preparation	0.63	47	1.06	32	-0.43
374	Bicycle	0.63	48	0.41	62	0.22
353	General equipment manufacturing	0.52	57	2.71	6	-2.19
373	Motor	0.32	82	1.91	11	-1.59
401	Electrical generator manufacturing	0.20	98	1.90	12	-1.70
291	Tires	0.46	66	1.38	26	-0.92
351	Boiler and motive generator	0.35	77	1.23	30	-0.88
354	Bearing/valve manufacturing	0.17	106	1.08	31	-0.91
273	Chinese medicinal materials and herbs	0.29	84	1.03	34	-0.75
425	Cultural/office machinery	0.29	83	0.89	38	-0.60
261	Basic chemical raw material production	0.33	80	0.84	40	-0.51
367	Other special equipment	0.20	96	0.81	41	-0.61
365	Medical machinery manufacturing	0.20	95	0.77	42	-0.57
419	Other electronics equipment	0.48	62	0.75	44	-0.27
142	Milk-production	0.08	128	0.70	45	-0.62
266	Synthetic material manufacturing	0.57	53	0.67	46	-0.11
144	Yeast production	0.14	113	0.66	47	-0.51
132	Vegetable oil	0.52	60	0.65	48	-0.14

Source: The Third Industrial Census 1995. Note: absolute difference is the proportional difference of overseas Chinese investment and non-Chinese investment. Garment sector is an outlier for statistical analysis and is dropped in correlation and sectoral modeling. Sectoral percentage is based on the total 167 industries.

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Chapter 4 Exploring the Spatial Differences between Overseas Chinese and Non-Chinese Investments Using Spatial Analysis Techniques

4.1 Introduction

This chapter intensively investigates the spatial differences between overseas Chinese and non-Chinese investments at the city scale and focuses on the empirical application of spatial analysis techniques in FDI studies. After briefly introducing the spatial analysis techniques and some critical measures for testing spatial dependence, I emphasize the spatial patterns of FDI in China using spatial analysis techniques. By comparing the geography of overseas Chinese and non-Chinese investments, I explore the spatial differences between the two types of investors. Using spatial analysis software (geoda 0.9), some descriptive spatial analysis statistics are generated, such as global Moran's I, Moran scatterplot, and LISA (local indicators of spatial association) clusters, etc. I also provide theoretical explanations to the spatial differences between the two types of investments by constructing a spatial model. In particular, spatial modeling is based on 600 Chinese cities with a foreign presence and spatial autocorrelation is detected in this research. Finally, I conclude this paper by pointing out the implications and contributions of this empirical study.

The research topics or questions to be examined in this paper are threefold. The first one is about the geography of overseas Chinese and overseas non-Chinese investments at a higher resolution -an urban scale. The second one is on the spatial differences between overseas Chinese and overseas non-Chinese investments. Finally, why do overseas Chinese and overseas non-Chinese investors have different locational

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choices (namely, why do they choose different cities)? What kinds of location-specific factors have influenced the spatial distribution of the two types of investments?

4.2 Spatial Dependence, Spatial Analysis, Moran's I and LISA Clusters

Total FDI, overseas Chinese FDI, and overseas non-Chinese FDI of each Chinese city are aggregated from firm-level data. Location-specific variables are the data from urban statistical yearbook 1996 and 1995. According to the 1995 Industrial Census data of China, about 87% of total FDI was concentrated in urban areas, while only 13% of total FDI was located in rural counties. Among all the 640 Chinese cities in 1995, 600 cities had a foreign investment presence. This further verifies the uneven distribution of FDI in a host country's urban regions and rural regions. Namely, FDI in developing countries including China is mainly located in urban regions. Therefore, the spatial analyses of total FDI, overseas Chinese investment, overseas non-Chinese investment, and their spatial differences are conducted at an urban scale.

In this chapter, some spatial analysis techniques are incorporated into FDI studies. Spatial autocorrelation is concerned with the degree to which objects or activities at some place on the earth's surface are similar to other objects or activities located nearby (Goodchild 1986). The existence of spatial dependence is reflected in the proposition which Tobler (1970) has referred to as the first law of geography: everything is related to everything else, but near things are more related than distant things (Sui 2004; Miller 2004; Barnes 2004; Goodchild 2004; Tobler 2004). TFL (Tobler's First Law of

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Geography) is central to core spatial analytical techniques as well as analytical

conceptions of geographic space.

Spatial dependence is of two basic forms, error dependence and lag dependence

(Anselin 1988). For both the lag and error models, the spatial regression equation should

be solved using maximum likelihood estimation (MLE). Namely, if spatial dependence

is a serious problem, OLS regression won't be consistent any more.

The most common measures of spatial autocorrelation are the Moran's I

statistic/Index/Coefficient (Moran 1948), Geary's c statistic/index (Geary 1954, 1968),

and join count statistics (Moran 1948; Krishna Iyer 1949; Dacey 1965; Cliff 1969;

Haggett 1976; Cliff and Ord 1973, 1981; Getis and Boots 1978; Haining 1978; Goodchild

1986; Odland 1988; Griffith 1988; Anselin 1988). Moran's index provides an alternative

to Geary's c for the same data context, and in most applications both are equally

satisfactory.

Moran's I:

$$I = \frac{n}{\sum\sum W_{ij}} \frac{\sum\sum W_{ij}(X_i - \overline{X})(X_j - \overline{X})}{\sum(X_i - \overline{X})^2}$$

Where n is the number of regions and the double summation indicates

summation over all pairs of regions. W_{ij} is the spatial weights for the pair of regions i

and j; X_i and X_j are their data values; $\overline{X}$ is the mean for the entire sequence. $(X_i - \overline{X})(X_j -$

$\overline{X})$ are the cross-product terms for each pair of regions. Moran's I is merely the spatial

autocovariance-$\sum\sum W_{ij}(X_i - \overline{X})(X_j - \overline{X})$, standardized by two terms; the variance of the

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data series $\sum (Xi - \overline{X})^2$, which depends on the Xi values but is invariant with their arrangement; and n/$\sum\sum Wij$ (Odland 1988).

In this research, I use only Moran's I as a measure of spatial dependence. The Moran index is positive when nearby areas tend to be similar in attributes, negative when they tend to be more dissimilar than one might expect, and approximately zero when attribute values are arranged randomly and independently in space.

Moran's I has an expected value of $-[1/(n-1)]$ that corresponds to the case of zero spatial autocorrelation. The calculated value of I should be equal to this expectation, within the limits of statistical significance, if the Xi is independent of the values of Xi at neighboring locations. Values of I that exceed $-[1(n-1)]$ indicate positive spatial autocorrelation in which values of Xi tend to be similar to neighboring values. Values of I below the expectation indicate negative spatial autocorrelation in which neighboring values are not independent but tend to be dissimilar. Notice that $-[1/(n-1)]$ approaches zero, which is the expectation for an ordinary correlation coefficient, as the number of regions becomes large (Odland 1988). Based on Moran's I, the expectation of Moran Index E(I) and the standard deviation of Moran index S.D.(I) can be calculated. Finally, Z-score which is equal to (I – E(I)) / S.D.(I) can be obtained. In general, if Z-score> 1.96 or < -1.96 (or p-value > 0.05), the null hypothesis of no spatial dependence should be rejected, namely, in this case, spatial dependence is significant. If Z-score is between 1.96 and –1.96, we accept the null hypothesis of no significant spatial dependence.

$$E(I) = -\left(\frac{1}{N-1}\right)$$

$$Z = \frac{I - E(I)}{S.D.(I)}$$

The variance of Moran's I, under the assumption of normality is

$$\text{Var (I)} = \frac{n^2 S_1 - n S_2 + 3(\sum \sum Wij)^2}{(\sum \sum Wij)^2 (n^2 - 1)}$$

In the past one decade, the focus of spatial analysis has shifted from detecting global patterns to exploring local patterns of spatial association. The identification of local patterns of spatial association is an important concern in spatial analysis. In this case, a new general class of local indicators of spatial association (LISA) has recently been suggested by Luc Anselin (1995). Following Anselin (1995)'s work, this research also generates Moran scatterplot and LISA cluster maps using spatial analysis software – geoda 0.9. LISA (local indicator of spatial association) is the decomposition of global indicators, such as Moran's I, into the contribution of each observation. The LISA statistics serve two purposes. On one hand, they may be interpreted as indicators of local pockets of nonstationarity, or hot spots, similar to the Gi and Gi* statistics of Getis and Ord (1992). On the other hand, they may be used to assess the influence of individual locations on the magnitude of the global statistic and to identify "outliers" or "spatial regimes", as in Anselin's Moran scatterplot (1995). Local spatial clusters, sometimes referred to as hot spots, may be identified as those locations or sets of contiguous locations for which the LISA is significant (Anselin 1995).

The progress of spatial analysis techniques includes these following aspects. (1) the empirical studies of using global measures of spatial autocorrelation (Moran's I, Geary's c, join-count statistics), (2) the development of critical local measures of spatial

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association: Getis and Ord (1992)'s Gi(d) and Gi*(d); Anselin (1995)'s local Moran's I,

LISA (local indicators of spatial association), Moran scatterplot; (3) Anselin (1988)'s

spatial econometrics and Lagrange Multiplier tests for spatial dependence in regression

models; and Kelejian and Robinson (1992)'s spatial autocorrelation test; (4) Spatially

autoregressive models (with spatially lagged dependent variables or spatially

autoregression error term) and geographically weighted regression (GWR) techniques for

spatially varying parameters (Brunsdon, Fotheringham and Charlton 1996; Fotheringham,

Brunsdon and Charlton 1998; 2001; 2002). Although much of the skeleton of the spatial

statistical theory has been constructed already, considerable territory remains untouched.

The empirical application of spatial analysis and spatial modeling techniques in

FDI studies yields encouraging findings and outcomes in this research. I use Arcview 3.3

to generate spatial maps. The ARCview file is the basis for generating LISA clusters and

Moran scatterplot. Some descriptive spatial statistics, e.g. Moran's I, local Moran's I,

Moran scatterplot, and LISA clusters, are employed to detect the geography and spatial

differences between overseas Chinese and non-Chinese investments. Global Moran's I is

used to examine spatial autocorrelation and LISA is used to show where the spatial

clusters are. In addition, this research not only concerns with the spatial dependence of

dependent variables, but also the spatial autocorrelation in regression residuals. In order

to figure out what location-specific variables have influenced the spatial differences

between overseas Chinese and non-Chinese FDI, a spatial model is constructed based on

600 cities with a FDI presence. In the current FDI literature on China, there has been a

paucity of the empirical application of these spatial analysis and spatial modeling

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techniques in FDI studies. This research makes this contribution and fills this gap in the literature.

4.3 Spatial Pattern of Total Foreign Direct Investment

Spatially, foreign direct investment is unevenly distributed in China. It is highly concentrated in the east coastal region for over two decades, particularly in large cities such as Beijing, Tianjin, Shanghai, and Guangzhou, and the special economic zones. There are few studies on urban-scale FDI patterns in Mainland China in the literature. Gong (1995) selects 174 Chinese cities with a nonagricultural population of more than 200,000 in 1989 to construct a regression model, and she concludes that FDI in China's cities experienced a northeastward movement from southern coast to the central coast, and began to penetrate into inland cities. Most of the research points out the uneven distribution of FDI due to the location advantage of the eastern coastal region which has well-established industrial and commercial infrastructure.

The uneven distribution of FDI in the coastal provinces will persist for a longer time because of the accessibility of eastern coastal region (Fan and Lu 2001). Especially the increasing FDI in service sectors of banking and insurance will further enhance this uneven distribution pattern. From the geography distribution we find that FDI is mainly located in three major metropolitan regions of China, namely, the Pearl River Delta, the Yangtze River Delta, and the Bohai Bay Area (see figure 4.1).

In addition, a majority of FDI studies have indicated that there has been an imbalance of FDI distribution in three economic belts of China (east, central, and west

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regions). A few reasons can account for this: the spatial influence of China's open-door

policy which has a special temporal and spatial sequence; and the location-specific

advantages of coastal region; east coastal region has more connections with the overseas

Chinese than central and western regions (Hu 1996). Namely, the spatial patterns are

contributed by institutional factors, market factors and other factors (e.g. *guanxi* or social

networks) which will be discussed later. The state as well as market has played an

important role in directing and attracting FDI. Other non-economic factors, e.g. historical

ties, cultural ties, colonial ties, ethnic Chinese business connections, and *guanxi* or social

networks also endow the east coastal region with more competitive advantages.

Figure 4.1 Spatial Pattern of Total FDI in Chinese Cities

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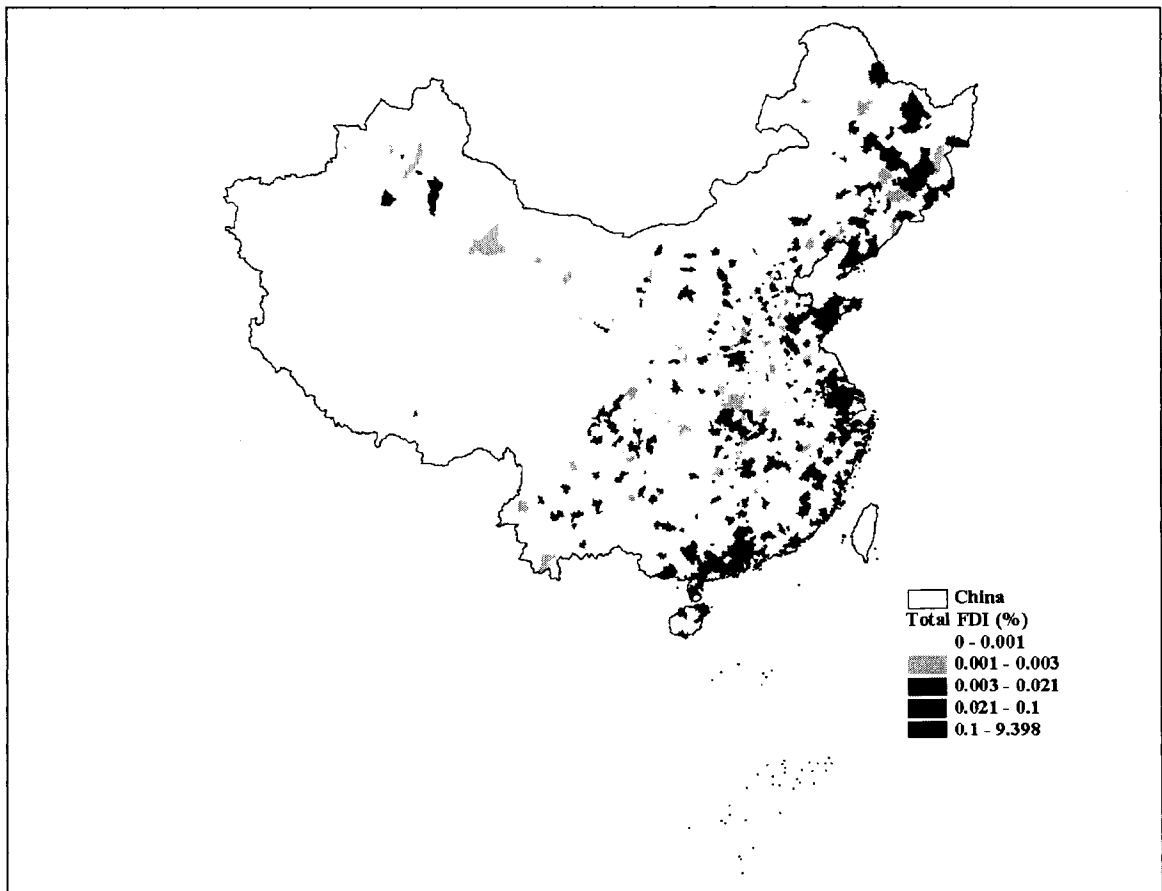
Compared with the spatial patterns at the provincial scale, the spatial distribution of FDI in China's urban system is worthy of more scholarly attention. Figure 4.1 shows the spatial pattern of total FDI in urban China. In most developing countries, FDI tends to locate in urban areas instead of rural areas. In the FDI literature, it is argued that FDI tends to locate in major third world cities and core regions, as these places have advantages in investment returns, infrastructure facilities, well-educated labor, convenient access to domestic and overseas market, and access to political power (Taylor and Thrift 1982; Leung 1990). The distribution of FDI in China's urban system is also highly uneven, however, it is different from other developing countries. In most developing countries, FDI is mainly located in a few major cities and core regions, particularly the primate cities and major economic centers. Although FDI in China is mainly concentrated in eastern coastal region, it is still more dispersed than FDI in other developing countries. For example, FDI from the overseas Chinese in Hong Kong, Macao, and Taiwan is more likely to locate in small- and medium-sized cities instead of major economic centers. In addition to the location-specific advantage, there is also the so-called advantage of human connections (*renwen lianxi*) or social networks (*shehui guanxi*) between the overseas Chinese and southern China as that will be described in the next chapter. The fact that overseas non-Chinese investment is mainly concentrated in the extra-large cities and major economic centers is consistent with the FDI literature.

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Table 4.1 FDI's Distribution in China's Urban System 1984

Cities	FDI (%)
Super-large city (> 2million; 6 cities)	36.76
Mega-city (1-2 million; 8 cities)	2.43
Large-city (0.5-1 million; 19 cities)	4.60
Medium-city (0.2-0.5 million; 27 cities)	15.72
Small city (< 0.2 million; 32 cities)	40.49
Eastern City (63 cities)	96.23
Central City (21 cities)	2.38
West City (8 cities)	1.39

Source: Chinese Urban Statistical Yearbook 1985. Calculated by the author using the earliest available urban FDI data. Of all the 295 cities, only 92 cities had a foreign presence in 1984.

Table 4.1 shows the spatial distribution of FDI in China's urban system in 1984. In the late 1970s, four special economic zones were purely rural border towns. A large portion of FDI was attracted in these border towns endowed with special state policies during the early 1980s. Small-sized cities attracted 40.49% of total FDI in 1984 (see table 4.1). In 1984, Shenzhen was only a small town with a population of only 150,000, however, it attracted a high proportion of FDI, 26.77% of the national share (Chinese Urban Statistical Yearbook 1985). In this sense, a large proportion of FDI (mainly overseas Chinese capital) was not originally attracted to major economic centers. For example, small- and medium-sized cities (urban population less than half million) attracted 56.21% of total FDI in 1984, while super-large cities (urban population more than two million) had only a share of 36.76%.

Following Anselin's (1995) work, I use global Moran'I, local Moran's I, Moran scatterplot, and LISA clusters to examine the spatial patterns of total FDI, overseas Chinese FDI, non-Chinese FDI, and the spatial differences between the two types of investors. These spatial statistics test the significance of spatial dependence in spatial patterns and their local spatial association.

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Table 4.2 Global Moran's I Statistics (Tests for Global Spatial Autocorrelation)

Variables	Moran's I	Expected Value	Standard Deviation	Z-score	P-value
Total FDI	0.0970	-0.0003	0.0097	10.03	0.002
Chinese FDI	0.1909	-0.0003	0.0101	18.93	0.001
Non-Chinese FDI	0.0211	-0.0003	0.0070	3.06	0.020
Spatial difference	0.0598	-0.0003	0.0105	5.98	0.004

Note: Global Moran's I, expected value, P-value, and standard deviation are generated from spatial analysis software geoda 0.9.

Table 4.2 reports the global Moran's I statistics of spatial autocorrelation, the standard deviation of Moran's I, Z-score, and the probability level at which the null hypothesis of no significant autocorrelation could be rejected. Global Moran's I for total FDI is 0.097; and Z-score is 10.03 > (Z = 1.96); p-value is 0.002. This means that the spatial dependence of total FDI is statistically significant. The positive sign of Moran's I suggests that there is a positive spatial autocorrelation in which similar values of total FDI tend to be similar to neighboring values.

Figure 4.2 Moran Scatterplot of Total FDI

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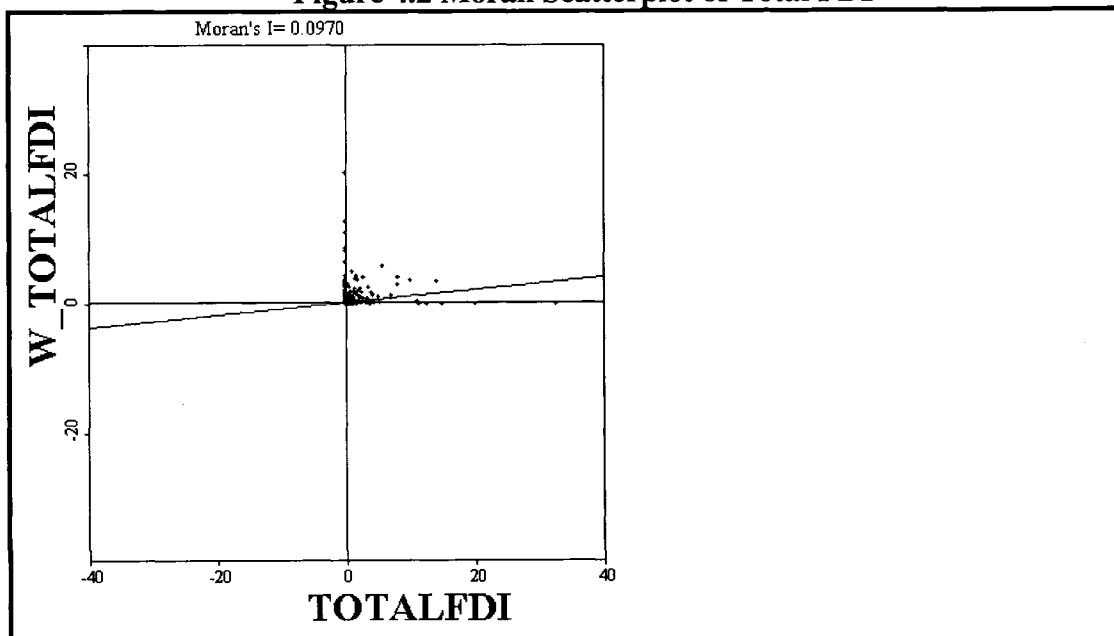
The Moran scatterplot for total FDI is shown as figure 4.2. Global Moran's I

(0.0970) is in fact the slope of local Moran's Ii. Moran's I may be visualized as the slope

of a linear regression of Wx on x, namely Moran's I is a regression coefficient. The four

quadrants in figure 4.2 correspond to the four types of spatial association. The lower left

and upper right quadrants indicate spatial clustering of similar values: low values (that is,

less than the mean) in the lower left and high values in the upper right. With the Ii

statistics, no distinction is possible between the two forms of association since both result

in a positive sign. The upper left and the lower right quadrants indicate spatial

association of dissimilar values: low values surrounded by high neighboring values for

the former, and high values surrounded by low values for the latter. These correspond to

Ii statistics with a negative sign.

Global Moran's I serves as a tool to examine spatial dependence, and LISA (local

indicators of spatial association) clusters which are based on the local Moran's Ii of

individual observation then serve as a powerful technique to show where the spatial

clusters or hot spots are. In this sense, LISA clusters are perfect for examining the spatial

patterns of foreign direct investment which are more likely to cluster together due to

agglomeration economy and other factors. LISA clusters describe the spatial association

of spatial objects, while GIS is only a useful tool for mapping and representation. On

figure 4.3, dark-red color refers to high-value FDI regions surrounded by high-value FDI

regions; dark-blue color refers to low-value FDI regions surrounded by low-value FDI

regions (there is no this type of region on figure 4.3); light-red color refers to high-value

FDI regions surrounded by low-value FDI regions; light-blue color refers to low-value

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FDI regions surrounded by high-value FDI regions; other colorless regions- refer to

insignificant pattern. The high-high value FDI regions are mainly the southern China

(the Pearl River Delta), the Yangtze River Delta Region, and Shandong Peninsula, which

have well-developed urban system. The low-high value regions and high-low value

regions are mainly on the edge of these high-high value regions due to agglomeration and

spatial dependence, such as the south Fujian region and Liaoning Province in Northeast

China, because these regions are adjacent to China's major economic centers –the high-

high value FDI regions.

Figure 4.3 LISA (Local Indicators of Spatial Association) Cluster Map of Total FDI

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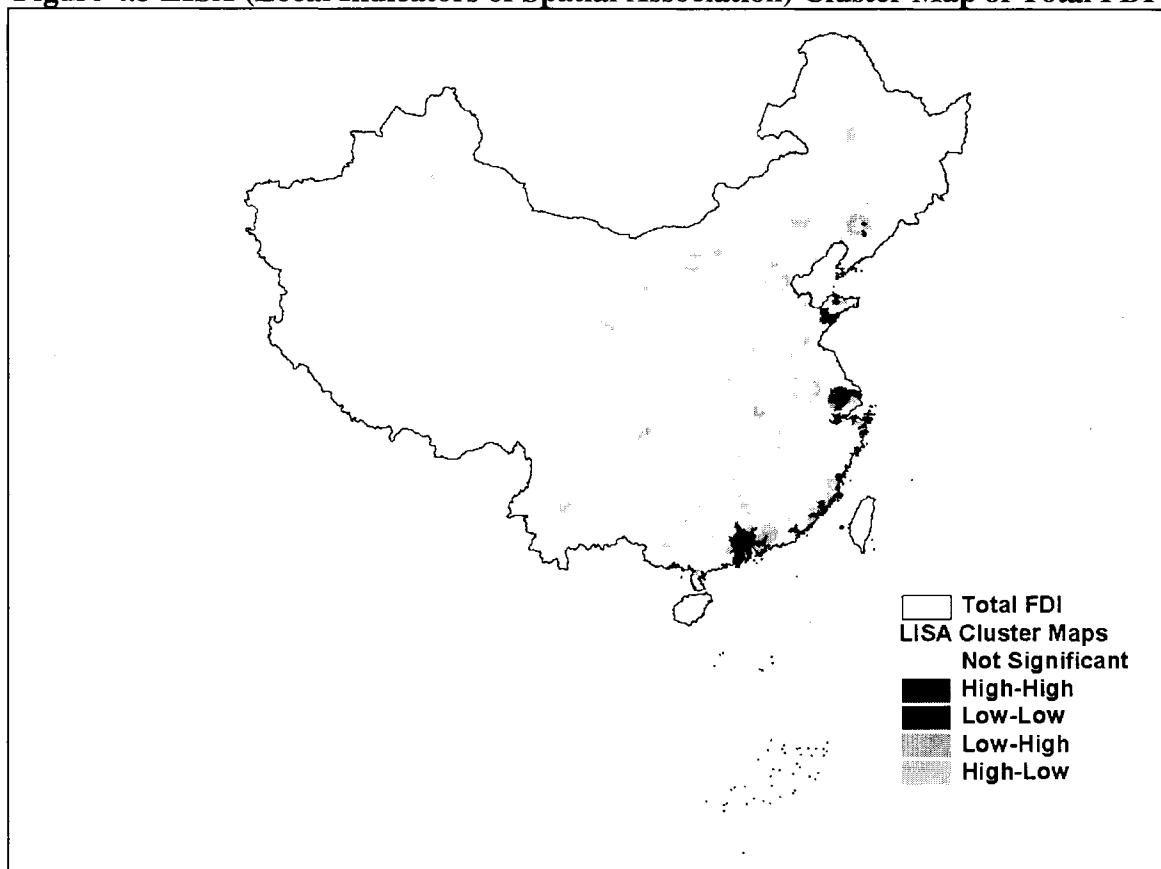
4.4 Spatial Patterns of Overseas Chinese and Overseas Non-Chinese Investments

The geography of overseas Chinese and non-Chinese investments is examined at the city scale. In 1995, China had 640 cities, of which 600 cities had a foreign investment presence. The geography of overseas Chinese FDI and non-Chinese FDI is presented at China's urban system (see table 4.3). About 23.67% of overseas Chinese FDI was located in cities with a population of over one million, while 76.33% was located in cities with a population of less than one million in 1995. This means that Chinese FDI is more dispersed to small- and medium-sized cities.

Table 4.3 Spatial Distribution of Chinese and Non-Chinese FDI in 1995

Urban System	Population	Overseas Chinese FDI (%)	Non-Chinese FDI (%)
Super-Large Cities (10 cities)	> 2 million	17.78	36.81
Mega-Cities (22 cities)	1-2 million	5.89	16.39
Large Cities (43 cities)	0.5-1 million	18.27	14.35
Medium Cities (192 cities)	0.2-0.5 million	36.51	18.29
Small Cities (373 cities)	< 0.2 million	21.55	14.16
East Coastal Region (290 cities)	N/A	90.74	85.70
Central Region (234 cities)	N/A	6.25	10.80
Western Region (116 cities)	N/A	2.99	3.49
Total (640 cities)	N/A	100.00	100.00

Source: The Third Industrial Census, China. 1995. Chi-square Value = 51.55 or 39.64 > 9.49 (table value = 9.49, significant at 0.05 level).

4.4.1 Overseas Chinese Investment

Figure 4.4 (the spatial pattern of overseas Chinese investment at the city scale) indicates the geography of overseas Chinese investment in China. Overseas Chinese investment is highly concentrated in east coastal region, especially in southern China –the Pearl River Delta region due to border effect and strong overseas Chinese networks with Guangdong and Fujian provinces. As I have mentioned above, at the city scale, the

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distribution of overseas Chinese FDI is very different from FDI in other developing

countries.

Figure 4.4 Overseas Chinese Investment in Chinese Cities
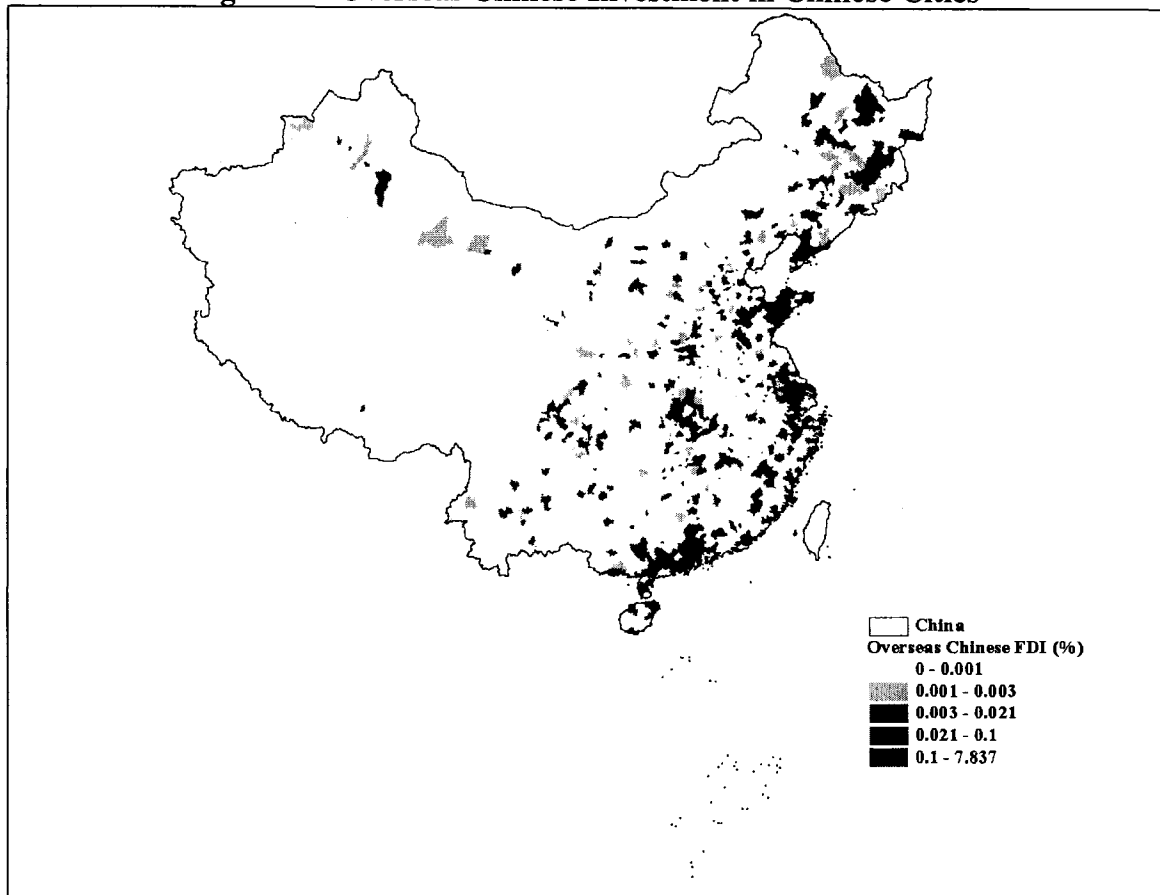
Figure 4.5 indicates that global Moran's I has a positive value of 0.1909, which

indicates a positive spatial autocorrelation. Z-score is 18.93, and p-value is 0.001. This

means that the spatial dependence of overseas Chinese FDI is statistically significant.

Moran scatterplot suggests that most of the observations are clustered in the upper right

quadrant: high-high value FDI regions, which means that the spatial dependence of

Chinese FDI is more significant due to the adjacency of small- and medium-sized cities.

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Figure 4.5 Moran Scatterplot of Overseas Chinese Investment

Moran's I= 0.1909
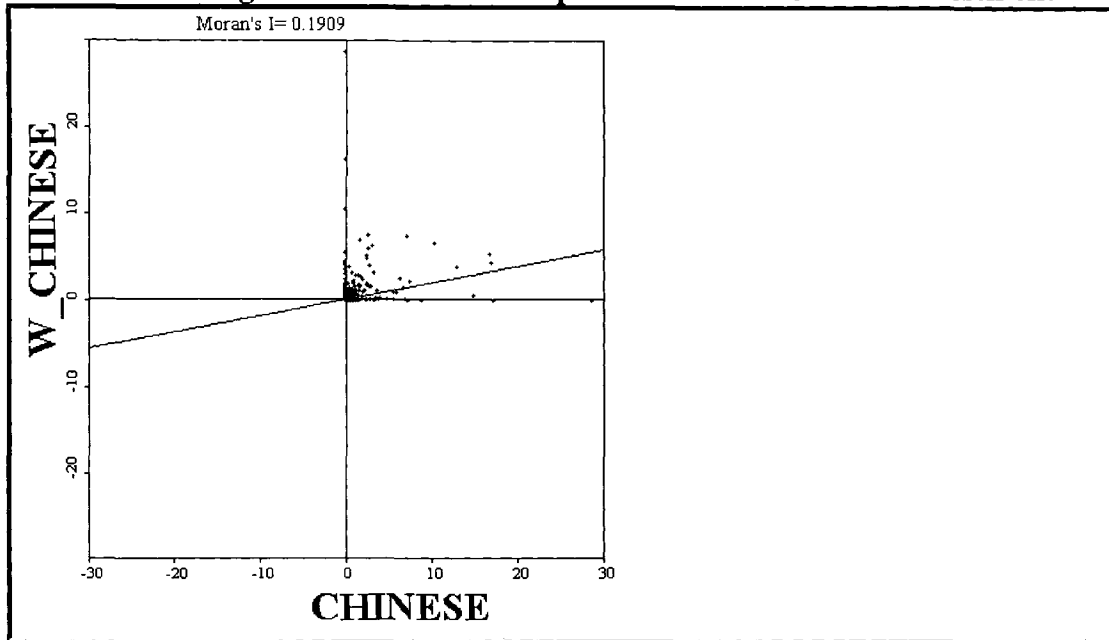
Based on local Moran's Ii for every observation, LISA cluster map for overseas

Chinese FDI is generated (see figure 4.6). The high-high value regions for overseas

Chinese investment include the Pearl River Delta which is the hometown of the overseas

Chinese in Hong Kong and Macao; the Jiangsu Province-the Yangtze River Delta which

is the hometown of many Taiwanese. The obvious low-low value overseas Chinese

investment regions include a place (Hejing) of Xinjiang Autonomous Region, and

southern Fujian province. These low-low value regions have potential for attracting more

overseas Chinese FDI in the future due to agglomeration effect and following the leader

effect (or snowball effect). The low-high value regions (light blue color) and high-low

value regions (light-red color) are mainly located next to the high-high value FDI regions,

or in the Liaoning Province of Northeast China, and the Shandong Peninsula area which

are usually adjacent to those national major economic centers. In short, Chinese FDI is

mainly located in small- and medium-sized cities that are on the edge of major economic

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centers or mega-cities. Indeed, small- and medium-sized cities, such as Dongguan,

Kunshan, Suzhou and other cities with Taiwan Investors Development Zones, have some

migrant settlements of Taiwan investors and have dense Chinese FDI (the summer-2002

and 2004 fieldwork).

Figure 4.6 LISA Cluster Map of Overseas Chinese FDI
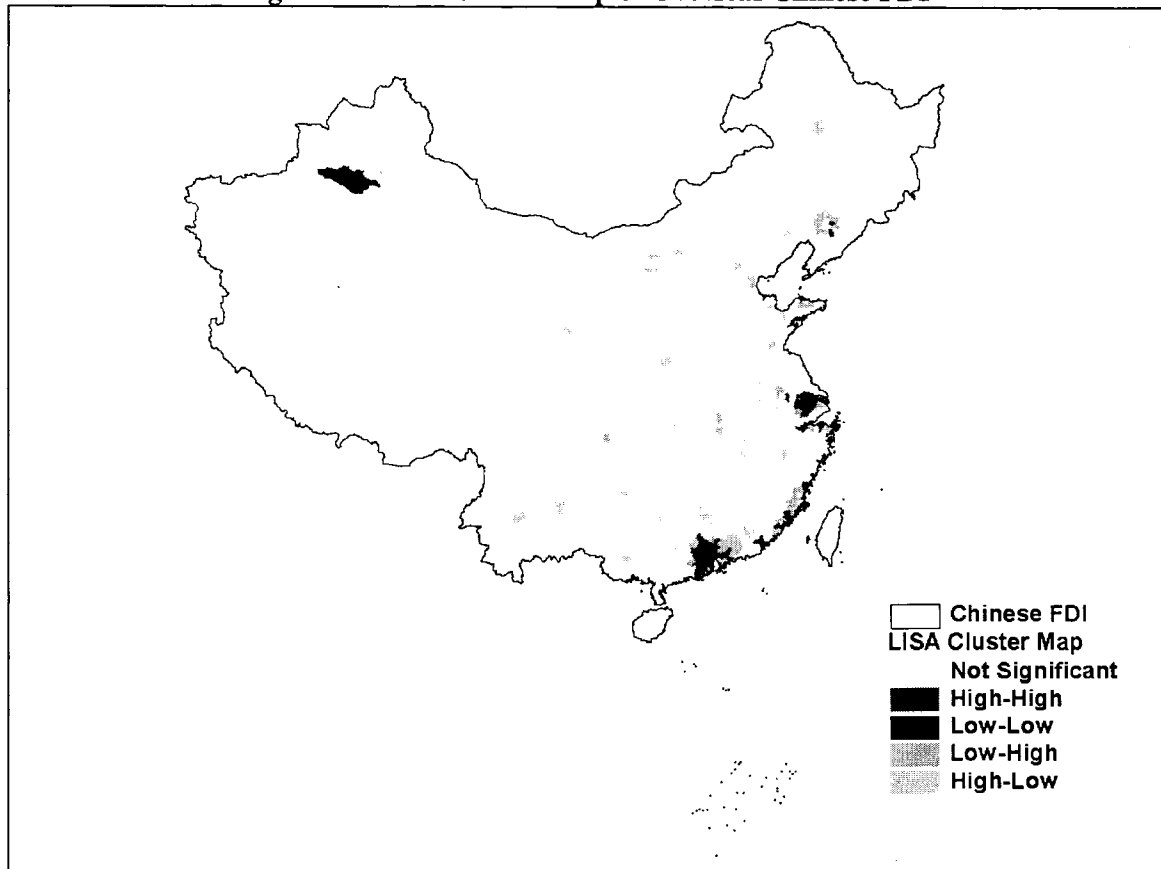
4.4.2 Overseas Non-Chinese Investment

Figure 4.7 (the spatial pattern of overseas non-Chinese investment at the city

scale) shows the geography of overseas non-Chinese investment. In general, overseas

non-Chinese investment is mainly located in China's major economic centers and core

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regions. More specifically, non-Chinese investment is mainly located in the Bay Area

(including Beijing, Tianjin, Dalian, Qingdao, etc. major economic centers), the Yangtze

River Delta (Shanghai municipality, etc.).

Figure 4.7 Overseas Non-Chinese Investment in Chinese Cities

China
Overseas Non-Chinese FDI (%)
0 - 0.001
0.001 - 0.003
0.003 - 0.021
0.021 - 0.1
0.1 - 15.705
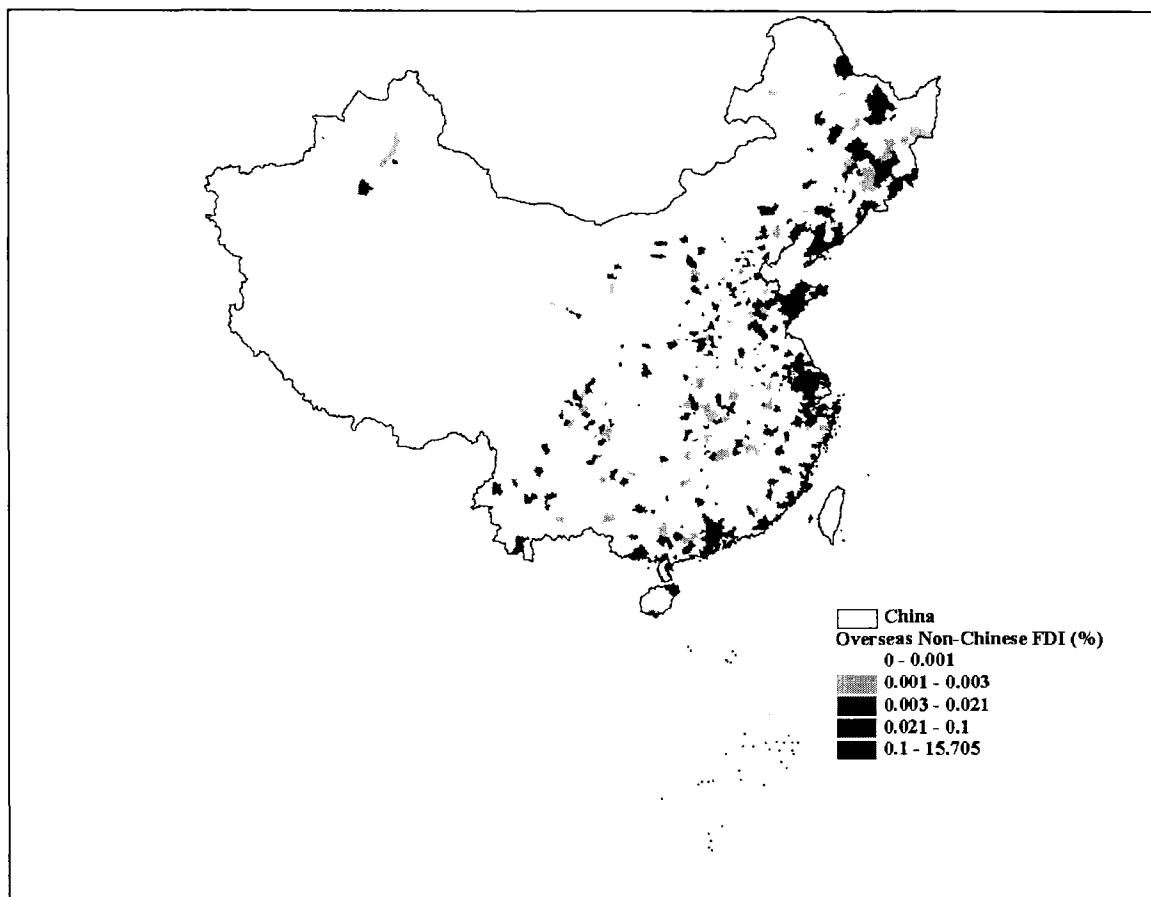
In 1995, about 85.7% of overseas non-Chinese investment was concentrated in

east coastal region (20.72% was located in south China, 32.26% was in the Yangtze

River Delta, and 32.72% was in the Bay Area), 10.80% was located in the central region

and only 3.49% was in the western region of China (calculated from city-scale

aggregated data by the author). This means that there is a highly uneven distribution for

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overseas non-Chinese investment in China's geographic regions, especially among the different regions of east coastal region. First of all, this is due to the local industrial structure. North coastal China has a lot of old traditional industrial bases with heavy industry, e.g. Shanghai, Beijing, Tianjin municipalities, Liaoning and Shandong provinces. These provinces and municipalities are the industry cores of the nation and have a large proportion of state-owned industries, especially heavy industries (Hu 1996). Second, these regions are the national major economic centers and core regions. Shanghai, Qingdao, and Tianjin were the old traditional commercial centers in history. Beijing is the national capital. Dalian City is the new economic center of Northeast China and one of the most important traditional industrial bases of China. Third, compared with overseas Chinese investment, overseas non-Chinese investment is more capital- and technology-intensive as evidenced in chapter three. Major transnational corporations with larger investment sizes are more likely to locate in these regions due to the local industrial structure (according to the Summer-2002 fieldwork).

In sum, the distribution of overseas non-Chinese investment at the urban scale is highly uneven. In 1995, about 53.20% of FDI from overseas non-Chinese was located in super large-cities and mega cities with a population of over one million. In comparison, 46.80% of non-Chinese FDI was in medium- and small-sized cities with a population of less than one million in 1995.

Global Moran's I for non-Chinese investment is 0.0211, which suggests a positive spatial dependence. The Z-score (3.06) and P-value(0.02) also indicate that there is a significant spatial dependence in the spatial pattern of non-Chinese investment. Moran

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scatterplot shows that most of the observations are located in the upper right quadrant, which means that high-high value FDI regions have clustered together (see figure 4.8). The scatterplot of local Moran's I generates a low slope of the regression line, which means that the spatial dependence of non-Chinese investment is less significant than overseas Chinese investment. Since non-Chinese investors are mainly located in major economic centers and super-large cities which are usually not adjacent to one another, they are more independent to each other compared with overseas Chinese investors.

Figure 4.8 Moran Scatterplot of Overseas Non-Chinese Investment
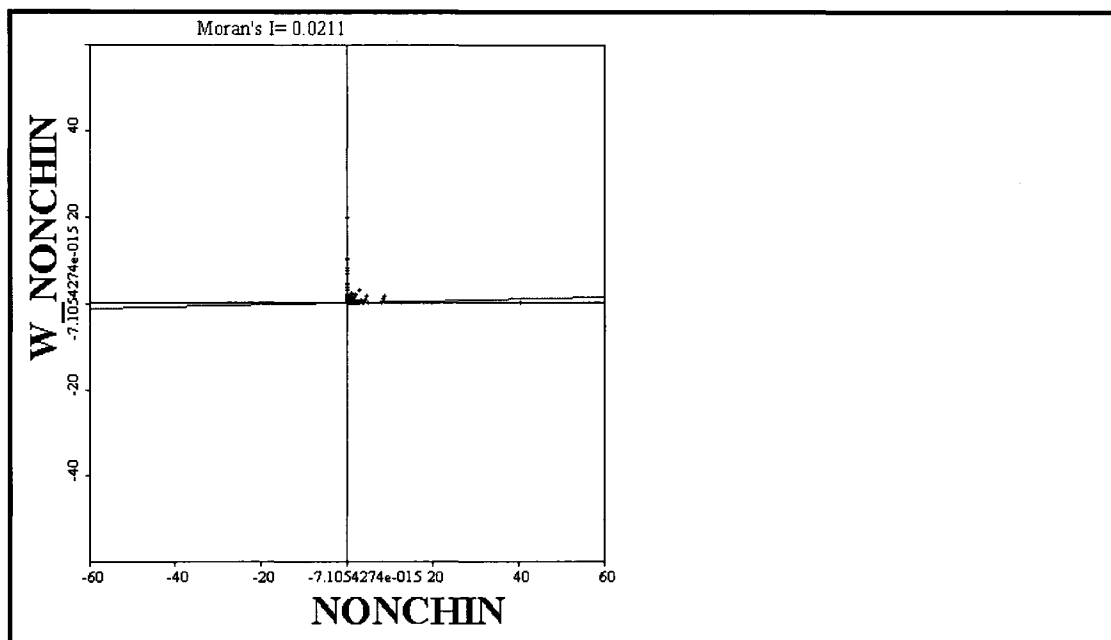
LISA clusters for overseas non-Chinese FDI can be identified from figure 4.9. The high-high (dark red color) value non-Chinese FDI regions include Shanghai metropolitan area, the Yangtze River Delta, and the west Pearl River Delta. The low-high (light-blue color) value regions include Northeast China, Sichuan Province (Chongqing and Chengdu areas), and regions next to the high-high value regions. This

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means that these regions have potential for attracting more overseas non-Chinese FDI in

the future due to following the leader effect. The high-low (light red color) value FDI

regions are less clustered in some remote areas.

Figure 4.9 LISA Cluster Map of Overseas Non-Chinese FDI

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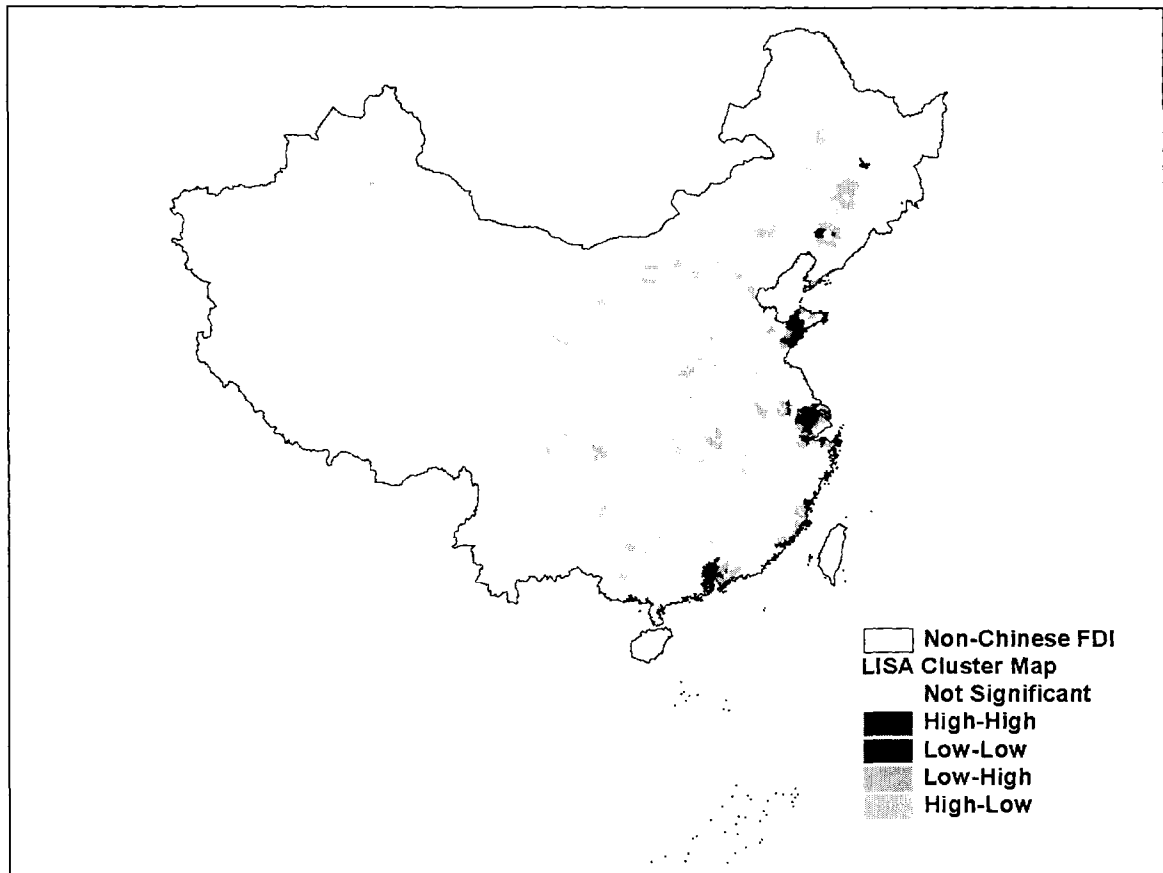
4.5 The Spatial Difference

Figure 4.10 Spatial Difference between Overseas Chinese and Non-Chinese FDI in Chinese Cities
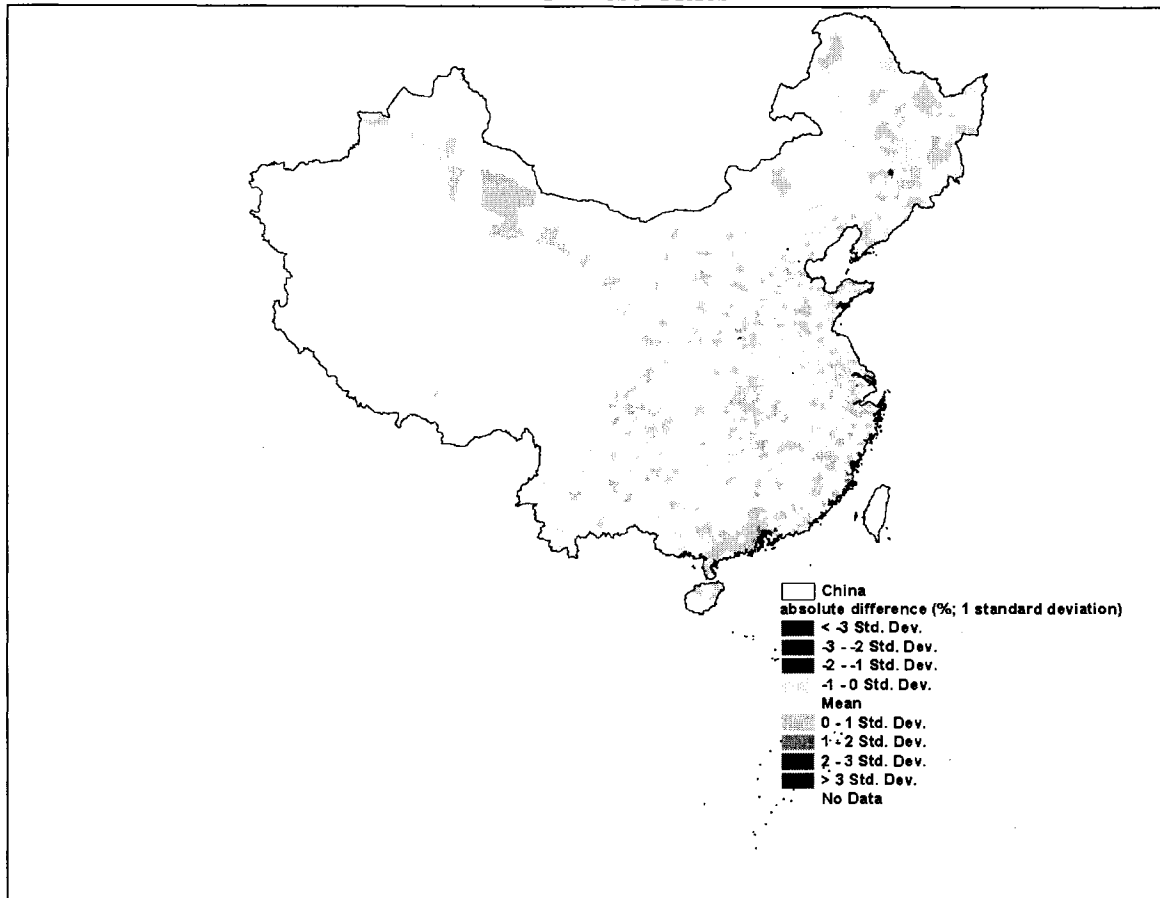
Figure 4.10 shows the spatial difference between overseas Chinese investment and overseas non-Chinese investment. The most distinguished difference is that overseas Chinese investment is more likely to locate in south China especially cities in Guangdong and Fujian provinces, while overseas non-Chinese investment is more concentrated in the major economic centers of China, namely, the Bohai Bay Area and the Yangtze River Delta regions which are the old traditional industrial bases with heavy industries, especially state-owned enterprises.

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Data of table 4.3 show that a majority of overseas Chinese enterprises are more dispersed to medium- and small-sized cities, whereas a majority of overseas non-Chinese enterprises are more concentrated in super-large and mega-cities. Chi-square value is significant at 0.05 level, which means that, spatially there is a significant difference between overseas Chinese and non-Chinese investments. This is the basis for constructing a spatial model on overseas Chinese and overseas non-Chinese investments. This research mainly targets the city-scale difference, namely, the distribution of the two types of investors in China's urban system.

By locating in medium- and small-sized cities, overseas Chinese enterprises can gain competitive advantage and reduce transaction costs. In comparison, a majority of overseas non-Chinese enterprises are more likely to locate in national economic centers (e.g., Beijing, Shanghai, Tianjin), the super-large and mega-cities of China. This is due to different firm-specific characteristics, location-specific factors, and other non-economic factors. Overseas Chinese enterprises are mostly small- and medium-sized firms and usually have no regional headquarters. But overseas non-Chinese enterprises, especially global TNCs from developed countries, have stronger bargaining power with the Chinese government. And their headquarters are usually the regional and national economic centers.

Similar to the analyses on total FDI, overseas Chinese FDI, and overseas non-Chinese FDI, I use global Moran's I, local Moran's Ii, Moran scatterplot, and LISA cluster to detect the spatial differences between overseas Chinese and non-Chinese investments. Global Moran's I value is 0.0598, which also indicates a positive spatial

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autocorrelation. Z-score (5.98) and P-value (0.004) suggest that the spatial dependence

for the spatial difference pattern is also significant.

Moran scatterplot shows that most of the observations are clustered in the upper

right and lower left quadrants (see figure 4.11). The upper-right quadrant has clustered

observations with high & positive FDI difference and the lower-left quadrant has

clustered observations with low & negative FDI difference. Local Moran's I for both

upper-right and lower-left quadrants are all positive. However, if they are measured by

Geary's c statistics, the lower-left quadrant observations will have negative values.

Figure 4.11 Moran Scatterplot of the Spatial Difference
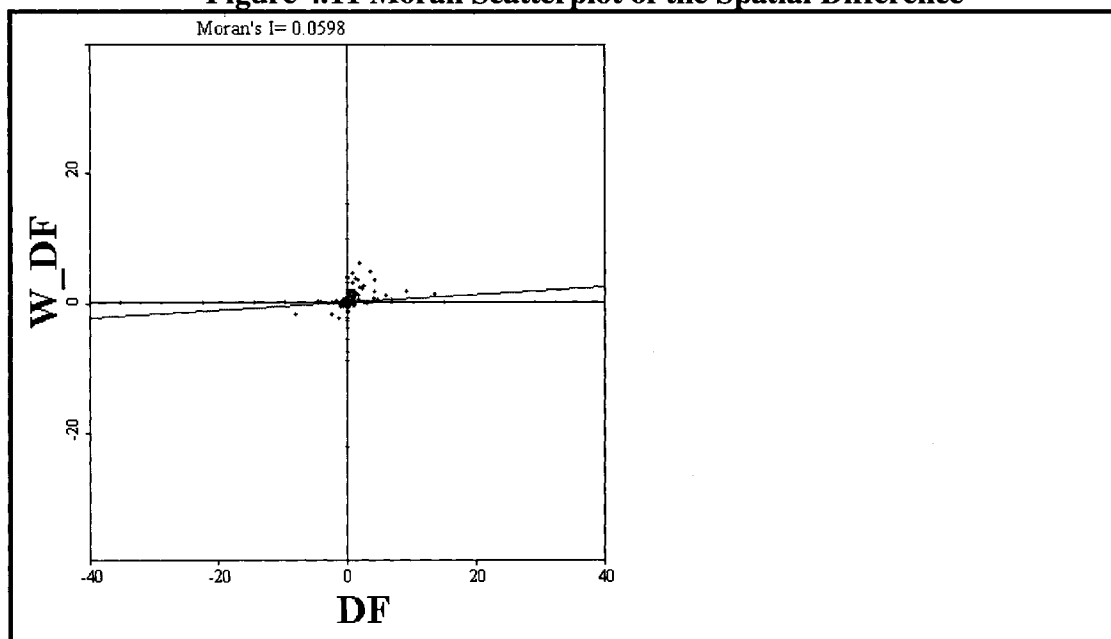
The LISA cluster for the spatial difference shows very striking features on the two

types of investors (see figure 4.12). High-high value (dark-red color) FDI-difference

regions include southern China –the Pearl River Delta, and a few areas of south coastal

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Fujian province. These regions are the clusters of high-proportion Chinese FDI regions

surrounded by regions with high-proportion Chinese FDI.

Figure 4.12 LISA Cluster on Spatial Difference between Overseas Chinese and Non-Chinese Investments
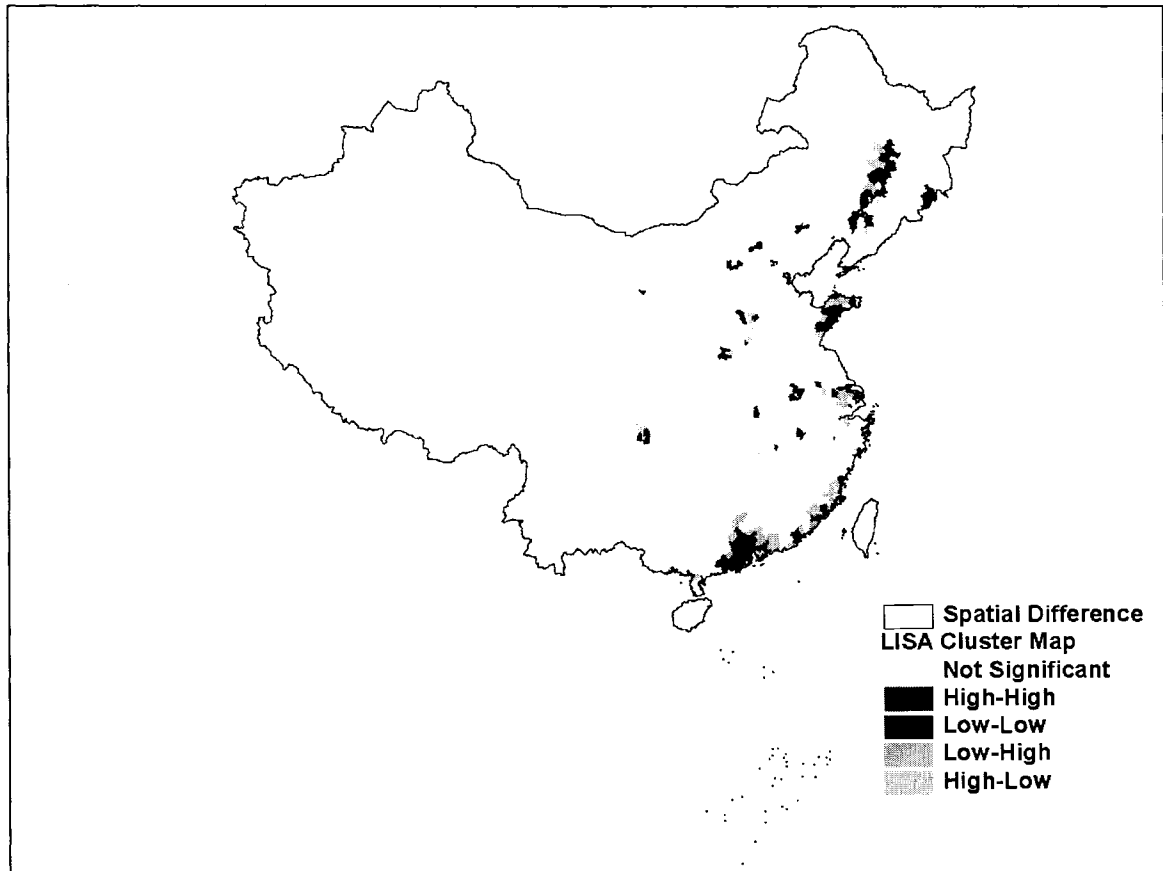
Low-low value (dark-blue color) FDI-difference regions include Shanghai

Metropolitan region, the Yangtze River Delta, cities along the Yangtze River (Chengdu,

Chongqing, Nanjing, Wuhan, etc), Shandong Peninsula (clustered around Qingdao City),

Beijing and Tianjin Metropolitan area, Dalian City which is located in south Liaoning

Peninsula, Northeast China –the axis of Shenyang-Changchun-Harbin metropolitan areas,

and the border region (Longjing City, Helong, and areas around the Tumen River, etc.)

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between Jilin Province and North Korea. These regions have more overseas non-Chinese FDI than Chinese FDI. And these regions are the clusters of high proportion non-Chinese FDI regions surrounded by regions with high proportion non-Chinese FDI regions. Interestingly, the light-red color regions (high-low) are mainly located next to the dark-blue area, the Yangtze River Delta, Shandong Peninsula and the axis of Shenyang-Changchun-Harbin metropolitan area. These high-low value regions have potential for further attracting more overseas non-Chinese investment. Similarly, the light-blue-color regions (low-high) are mainly located near the dark-red regions, e.g. the Pearl River Delta, and south Fujian coastal triangle region. These regions have relatively higher proportion of non-Chinese FDI than Chinese FDI and have potential for attracting more overseas Chinese FDI (see figure 4.12).

4.6 Theoretical Explanations for the Spatial Patterns and Spatial Differences

Spatially, the distribution of the two types of investors is complementary because different types of investors have different niche environments –location-specific variables. The niche or niche space concept derives from biogeography and its competitive exclusion principle, namely, complete competitors cannot coexist (MacDonald 2003). Within the natural environment, in theory, no two species should have completely overlapping niches. That is, if two species have absolutely identical requirements and relationships to the environment, the high degree of competition between them will drive one species to extinction. However, some species can coexist due to comparable environmental tolerances and resource demands. For example,

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biogeographer Clements in 1916 argued that because of interactions between species during the climax phase of succession and because of facilitation during several stages, plants and animals are bound together into tight communities that behave like superorganisms. In this view, all of the species in a community are like the different organs of a larger organism (MacDonald 2003). Clements was much influenced by the evolutionary theory propounded by Charles Darwin, and implicit in Clements' theory is the assumption that the species in these communities coexisted and evolved together over very long periods of time.

The niche concept and superorganism model are very helpful to understand the spatial patterns of different foreign investors in China. In recent years, after some global large TNCs have located in major metropolitan areas of China, their upstream and downstream small- and medium-sized firms will also immediately follow and locate in the suburban areas of these metropolitan areas (according to my fieldwork in Shanghai metropolitan region including Kunshan city in Summer 2002). For example, after some large IT firms have located in Shanghai metropolitan region, their related small- and medium-sized Taiwan firms have also located in nearby Suzhou City or Kunshan City in order to provide parts for these large corporations (Almanac of China's Foreign Economic Relations and Trade, 2001-2003). The spatial similarity and the spatial concentration of the more diversified FDI sources from major developed countries or other regions (e.g. the U.S.A., Japan, Germany and other European Union Countries, and overseas Chinese large firms from Hong Kong and Taiwan) in Shanghai metropolitan region can be explained by this superorganism model. On the other hand, the spatial

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concentration of overseas Chinese capital in south China, and the spatial concentration of

overseas non-Chinese capital in north China (e.g. the Bohai Bay Area, Beijing, Tianjin),

in particular, the concentration of Japan and Korea's investments (both are China's

adjacent neighbors) in Shandong and Liaoning provinces, can be explained by the niche

concept. Overseas Chinese capital from Hong Kong, Taiwan and Macao first landed in

south China in the 1980s, then expanded to the Yangtze River Delta and the Bohai Bay

Area gradually, finally moved to the central and western China. Although a small

proportion of overseas non-Chinese investment was channeled through Hong Kong, most

overseas non-Chinese investors, e.g. Japan and Korea investors, have a reverse trajectory

of expansion compared with Chinese FDI.

From 1979 to 2004, four major foreign investors can be identified: Hong Kong &

Macao, Taiwan, Japan, and the U. S. A. In terms of spatial patterns and sectoral

distribution, due to country of origin effect, these major foreign investors are strongly

complementary to one another. For example, Hong Kong and Macao investment was

mainly concentrated in Guangdong Province; Taiwan investment was mainly located in

Fujian and Jiangsu provinces; Japanese investment was mainly clustered in Liaoning and

Jiangsu provinces; American investment was mainly located in Jiangsu, Shanghai, and

Shandong provinces (Data from China's Foreign Economic Statistical Yearbook 1994).

Korean investment (data from almanac of China's foreign economic relations and trade

1984) was mainly concentrated in Shandong and Liaoning provinces.

After examining the spatial patterns of different investors in China, some

interesting conclusions can be drawn. In terms of the locational choice, every foreign

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investor or every foreign country will choose the best environmental niche to survive. Every country may be regarded as an individual species competing for the suitable environmental niche. The assumption here is that investors from the same country have similar niche environment or niche market. Due to country of origin effect, overseas Chinese and overseas non-Chinese investments have different locational choices. Each of them needs to find a niche space to take advantage of location-specific advantage and to gain competitive advantage. Namely, overseas Chinese investment and non-Chinese investment have different sphere of influence in China. Non-Chinese investment is mainly located in northern coastal China, while overseas Chinese investment is mainly located in southern coastal China. North China has the traditional old industrial bases with heavy industries, like car, steel, chemical materials, and shipbuilding industries. Therefore, overseas non-Chinese investment has filled a technological, industrial and spatial gap left by overseas Chinese investment.

In addition, there are also other perspectives that can explain why Chinese FDI is more dispersed to small- and medium-sized cities and non-Chinese FDI is more likely to concentrate in mega-cities and major economic centers. First of all, the sectoral differences determine the spatial differences. As I have elaborated in chapter three, four industry-specific factors are the control variables explaining the sectoral differences. They are export, R&D fees, human capital stock, and sales tax. This means that non-Chinese FDI has higher requirements on R&D intensity, human capital stock, and institutional environment. In addition, non-Chinese FDI is mainly market-oriented compared with Chinese FDI. Thus, non-Chinese investors usually have regional

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headquarters in order to possess more markets. However, these industry-specific requirements can only be met in mega-cities and national economic centers which have convenient market access. Therefore, capital- and technology-intensive non-Chinese FDI tends to locate in cities with a population of over one million. The spatial concentration of non-Chinese FDI in these major economic centers has caused the globalization of some mega-cities, e.g. Beijing, Shanghai, Guangzhou, Tianjin, Qingdao and Dalian, etc. On the other hand, labor-intensive Chinese FDI is more likely to be export-oriented as I have indicated in the sectoral model. Therefore, Chinese FDI tends to locate in small- and medium-sized cities, in particular the small places in the Pearl River Delta that are close to Hong Kong and Macao. The concentration of Chinese FDI in small- and medium-sized cities has the triggered the industrialization in these small towns.

From the bargaining power perspective, Chinese FDI and non-Chinese FDI have different bargaining power due to different ownership advantage, internalization advantage and industry-specific advantage. In general, non-Chinese investors have larger bargaining power than overseas Chinese investors. Therefore, non-Chinese investors have more connections with the central government or the higher-level local governments. On the other hand, Chinese FDI has more connections with lower-level local governments and county- or town-level governments. As I have indicated in chapter three, Chinese FDI is more likely to form ventures with township-village enterprises (*xiang zhen qi ye*) and local enterprises (*di fang qi ye*). Large-sized state-owned enterprises (*guo you dazongxing qi ye*) or enterprises belonging to the central government (*zhong yang qi ye*) tend to form ventures with large-sized non-Chinese FDI

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which usually should be approved by the central government and the State Council

(almanac of China's foreign economic relations and trade 1996). Namely, joint-ventures

with the super-large and large state-owned enterprises and joint-ventures with the local

enterprises (di fang qi ye) have different approval procedures and usually face with

different levels of state controls. Therefore, the bargaining power theory may also shed

lights on the spatial differences between Chinese FDI and non-Chinese FDI.

From an institutional perspective, transitional China has frequent policy shifts

which imply some hidden institutional costs for foreign investors. China is a well-known

country with centralized state power (centralization of authority –zhong yang ji quan guo

jia). However, its economic transition and open-door policies have created some regions

with different levels of economic and political autonomy in this centralized country since

1979. Special economic zones, coastal open cities, coastal open economic zones (the

Yangtze River Delta, the Pearl River Delta, southern Fujian Delta, Shandong and

Liaoning Penisulas), economic and technology development zones, open cities along the

Yangtze River and the land border, and hinterland open provincial capital cities, had

different preferential policies and approval power for FDI projects in the 1980s and

1990s, although these preferential policies and economic autonomy have been gradually

granted to other regions and the central and western China since the late 1990s. In

general, the larger a city is, the better the institutional environment is. Larger cities have

more state power and better legal environment, but a tighter state-control on FDI. These

are vital concerns for non-Chinese investors. Non-Chinese investment has higher

requirements for institutional support, therefore, these non-Chinese investors are more

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likely to concentrate in major economic centers in order to reduce policy risk. Chinese

FDI may reduce institutional costs by locating in small- and medium-sized cities.

The Chinese government has an approval system for FDI projects. Different

levels of governments and government departments are involved for approving a FDI

project, like the central government and the State Council, provincial governments,

municipal governments, and centrally-planned-city governments, prefecture-level city

governments, county- or county-level-city governments, township governments and

villages. Decentralization in China has created a spatial and administrative hierarchy at

different spatial scales, that is, national, regional, municipal or provincial, prefecture-

level, county or county-level city, township and village, district or subdistrict level, etc.

Investment size and industry category (encouraged sectors, allowed sectors, restricted

sectors, and forbidden sectors) in the Directory of FDI Industry Guide are the basis for

determining whether a FDI project should be approved by the central government or local

governments.

In the 1990s, for non-restricted industries, a FDI project that is no less than US$

30 million should be approved by the State Planning Committee, the State Foreign

Economic and Trade Department, and the State Council. A FDI project that is lower than

US$30 million and no less than US$10 million should be directly approved by the

provincial governments or municipal governments or the governments of centrally

planned cities. FDI projects that are less than US$10 million and no less than US$3

million should be approved by the prefecture-level governments. For FDI projects under

US$3 million, the county- or county-level city governments have the authority to approve

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these small-sized FDI projects (the Commerce Department of China 2004; the Almanac of China's foreign economic relations and trade 1990-2003). FDI projects with different investment sizes are subject to different required minimum registered capital (a scale of registered capital to total investment) and a deadline to pay off the total investment. Originally the approval and verification power was only granted to east coastal open regions in the 1980s and early 1990s. In 1996 this FDI verification and approval power was extended to hinterland provinces, autonomous regions and centrally planned cities (almanac of China's foreign economic relations and trade 1997). In the new century, the maximum amount of FDI projects for local governments to verify and approve has been increased and more autonomies have been granted to different spatial scales of local governments (Gazette of the State Council of the P.R. China, 2004).

In short, decentralization has endowed local governments with more local autonomy and flexibility in bureaucracy, e.g. flexible interpretation and implementation of laws. For example, the ability to make flexible deals with low-level Chinese officials has been a major attraction for small- and medium-sized investors from Taiwan (Hsing 1997). Some medium- and large-sized Taiwan investors would even split their investment into a number of smaller projects to avoid the involvement of higher-level governments (Hsing 1997). Sometimes local governments tend to decompose a large FDI project into a few smaller projects so that these local governments could have the authority to approve these projects and finally attract foreign investors to locate in their governed cities. The amount of FDI attracted by a city is an indicator of the achievements (*zheng ji* or *ye ji*) of that local government. The decentralization of the

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approval power for FDI projects has once caused chaos due to the competition for FDI projects among local governments. In this sense, Chinese FDI can avoid institutional costs and barriers by signing contract directly with local governments and locating in these smaller cities, and can further gain competitive advantage.

As I will point out in chapter five, Chinese FDI has the advantage superior to non-Chinese FDI in terms of *guanxi* and social networks. As the hidden potential game rules of the Chinese society, *guanxi* and other social norms have effects on FDI. In China, rural areas and smaller places have stronger *guanxi* and traditional cultural forces, while larger cities and major economic centers have stronger institutional forces. By locating in small- and medium-sized cities, overseas Chinese investors can take advantage of their *guanxi* and social networks and avoid both hidden transaction costs and institutional costs. Due to cultural distance, non-Chinese investment tends to concentrate in major economic centers to avoid investment risks and hidden transaction costs in the transitional Chinese economy.

In short, these different perspectives and theories provide different angles and explanations to the spatial differences between Chinese FDI and non-Chinese FDI. In order to further verify these arguments, I construct a spatial model to provide a statistical basis and explanation to the spatial differences between the two types of investors.

4.7 Spatial Analysis and Spatial Modeling

After detecting the spatial patterns and geography of total FDI, overseas Chinese FDI, non-Chinese FDI, and their spatial differences, I explain why overseas Chinese and

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overseas non-Chinese investors have different locational choices using spatial modeling techniques. A multiple regression model is constructed. Since the presence of overseas Chinese and non-Chinese investments in a city might affect its neighboring cities or cities within a defined distance, this research tests for the presence of spatial autocorrelation and determines whether geographical data are spatially autocorrelated. Lagrange Multiplier tests are employed for diagnostics of spatial autocorrelation in the regression model. From the World Atlas, I have collected the geographic coordinates of all the 600 cities. These data are the basis for detecting spatial autocorrelation or spatial dependence of the regression model.

In order to provide theoretical explanations, I first explore those location-specific variables used for modeling and explaining the spatial differences. After the spatial modeling results are reported, some modeling issues are also addressed, e.g. spatial autocorrelation, multicollinearity, etc.

The selection of independent variables is based on a large body of literature on FDI studies over the past few decades. There are many factors or variables explaining the differences between overseas Chinese and non-Chinese investments. All these location-specific factors or host-country-specific variables that are exogenous to foreign firms, including both market factors and institutional factors, are the main components of the macro-investment climate or milieu for foreign direct investment.

The investment climate or milieu can be broken down into three layers: hard environment or physical environment, soft environment (Hu 1999), and corporate eco-environment which is newly defined by this research. Hard environment or physical

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environment includes geographical advantage, transport and infrastructure conditions, regional environment, location, tourism resources, physical condition and resources, industry/agriculture/mining bases, culture/education/scientific research, labor quality and quantity, telecommunication, power/water/gas/heat supply, other service infrastructure, land, capital, raw materials, market size, and urbanization economy, etc (Hu 1999). Soft environment includes laws, government regulations, investment policies, political stability, political climate, policy transparency and consistency, management efficiency and flexibility, administrative efficiency and market order, political administration, legal system, tariff barrier and trade barrier, investment incentives, tax/tariff/land preferential policies, enterprise management policy, market environment and system, market capacity, and capital/foreign exchange market, etc. (Hu 1999). Investment soft environment is an indicator of a city's international competition power. Corporate eco-environment is defined in this research as industrial chains, local industrial mix, industrial cluster, regional entities, and other factors.

The main investment environment in general includes macro-policy environment, institutional environment, firm's micro-environment, and infrastructure quality, etc. The World Bank's standards on evaluating the investment environment of Chinese cities are based on these aspects: infrastructure; market entry and exit barriers; labor skills and technology level; the flexibility of labor market; the degree of internationalization; the participation or share of private enterprises; the burden of tax and fees; the burden of government's informal fees; finance environment; and judicial efficiency, etc. (World Bank 2003, Beijing Morning Paper, November 12, 2003). In short, as a large country,

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China's different regions and cities have different investment environments. In particular, the gap of finance channels among Chinese cities is obvious. Due to the improvement of investment soft environment, the reform of investment approval system, the establishment of intellectual property right system and other attempts, China has become one of the most attractive regions to FDI.

In addition to these factors, there are also some other economic or non-economic factors that might affect the location choices of the two types of investors. For example, the management-specific variables and firm-specific variables or company factors, and other internal variables, can also affect the locational choices of foreign firms. Cross-country ideological, language, cultural, business, and political differences are also important location-specific variables (Dunning 1993). The non-economic factors may include social networks, kinship, historical and social ties, cultural distance, host/home country distance, and social/institutional/language differences, etc.

Spatial modeling (dependent and independent variables):

$Yi = f(X1, X2, \ldots X17)$

Dependent variable Yi is the proportional difference between overseas Chinese investment and non-Chinese investment in each city, namely, proportional overseas Chinese FDI data---- proportional overseas non-Chinese FDI data.

Independent variables (X1, X2...X17) are location-specific variables and can be classified as institutional factors and market factors. Due to the number of independent variables, multicollinearity of the multiple regression models should be addressed when dealing with the data. Based on existing theoretical and empirical FDI literature, this

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spatial model suggests how host country/home country- and industry-specific factors affect the location of overseas Chinese FDI and non-Chinese FDI. The FDI literature is replete with attempts to identify the specific and critical location advantages that affect the locational choice of FDI. In this research, location-specific variables (country-specific variables) which include market factors and institutional factors are suggested by trade and location theory (see table 4.4).

Table 4.4 Independent Variables (location-specific variables)

Variable	Name	Expected Sign
Urban System		
X1	City size (urban population) (10,000 people)	negative: -
X2	Urban hierarchical power (dummy variable)	positive: +
Market Potentiality and Economic Factors		
X3	Market size/market potential and economic growth (GDP) (10,000 yuan)	negative: -
X4	Total retail sales (10,000 yuan)	negative: -
Economic Base and Industry Condition		
X5	Industrial output; or manufacturing/GDP; extent of industrialization (10,000 yuan)	negative: -
Agglomeration Economies and Other Supply Factors		
X6	Agglomeration economies (number of total enterprises)	negative: -
X7	Availability and quality of urban/market infrastructure (10,000 tons)	negative: -
X8	Level of urbanization (urban construction area) (KM square)	negative: -
X9	Former FDI stock; former foreign investment presence (10,000 US$)	negative: -
Labor Condition		
X10	Human capital; education work force; education level; labor quality (people)	negative: -
Openness		
X11	Foreign trade (export and import); degree of economy openness (10,000 US$)	negative: -
X12	Landscape attractiveness (number of non-Chinese tourists);tourism/culture resources(people)	negative: -
X13	Overall image of attractiveness (number of tourists from Hong Kong, Macao, and Taiwan) (people)	positive: +
Institutional Forces		
X14	Urban fixed-asset investment (10,000 yuan)	negative: -
X15	Interaction with local economies (number of state-owned enterprises)	negative: -
X16	State policies; preferential policies; political stability	negative: -
Geographic Factor		
X17	Geopolitics and Geographical proximity	positive: +

Note: x14-x16 are institutional context factors; others are market factors.

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Urban System (X1, X2). In socialist China, urban system means not only city size, but also the hierarchical power distribution and administrative system of cities. This is one of the most important locational factors affecting FDI in China.

X1 -City size. City size is a measure of urban rank size and population size. All Chinese cities can be classified into five groups: super-large cities (population >2 million), mega-cities (1-2 million), large cities (0.5-1 million), medium cities (0.2-0.5 million), and small cities (<0.2 million). Bagchi-Sen and Wheeler (1989) find that population size and population growth are important determinants of the spatial distribution of FDI in US metropolitan area. Empirical studies have also shown that city size is one of the most important location-factors affecting FDI's spatial patterns (Gong 1995; Leung 1990; Qu and Green 1997). Large cities have stronger competitive power, better economic infrastructure, talents, and finance, and are the targets of non-Chinese FDI. Overseas Chinese investment is more likely than non-Chinese investment to locate in small- and medium-sized cities due to their smaller bargaining power. Non-Chinese firms are more capital- and technology-intensive and are mainly concentrated in major economic centers of China. It is hypothesized that non-Chinese investment is more likely to invest in cities with a larger population size.

X2 -Urban hierarchical power. Some dummy variables can be used to measure a city's position in the urban system. Based on extensive and intensive knowledge about the Chinese market and the trend of its economic policies, overseas Chinese investment has more connections and interactions with local governments of small cities and towns and non-Chinese investment is more connected with higher-level governments with

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higher political power. Urban hierarchical power is a dummy variable used to measure cities with different political power. Cities with more hierarchical power have more finance channels, better legal system and more market information. The dummy variable for political power is defined as: 0=province-level cities; 1=vice-province level cities; 2=prefecture-level cities; 3=other cities including county-level cities. Higher-level cities are closer to international rules and systems. The top-level cities have these freedoms: trade, investment, enterprise management, finance, labor mobility and migration, tax, exports and imports. Higher-level cities have more foreign and domestic banks, which are vital to FDI. The hypothesis here is that overseas non-Chinese investment is more likely than overseas Chinese investment to locate in cities with stronger political power.

Market Potentiality and Other Economic Factors (X3, X4). Host country's market condition or potentiality is a key determinant of FDI. This might include GDP size and growth, competitive intensity, and marketing infrastructure.

X3 -Market size/market potential (GDP volume). FDI is usually located in well-known, accessible regions with well-developed infrastructure, large markets, and agglomeration economies (Vernon 1974; Blackbourn 1982). Tatoglu and Glaister (1998) find that market size is a location-specific factor of western TNCs' FDI in Turkey. Overseas non-Chinese investment prefers larger market to get marketing efficiency compared with overseas Chinese investment. The hypothesis is that non-Chinese investment is more likely to invest in cities with a lager market size or market potential.

X4 -Total retail sales. As a measure of service threshold and purchasing power of customers, retail sales is a factor attracting FDI (Bagchisen and Wheeler 1989). Larger

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economic centers have larger values of total retail sales and can attract more overseas non-Chinese investment than overseas Chinese investment. Total retail sales is also a measure of urban economic vigor and its service industry (including producer services), which are very important to non-Chinese FDI. Attractive commercial centers are generally the targets of non-Chinese FDI. By contrast, Chinese FDI is more export-oriented and is less connected with total retail sales. The hypothesis here is that overseas non-Chinese investment is more likely than overseas Chinese investment to locate in cities with larger values of total retail sales.

Economic Base and Industry Condition (X5). Economic base including the local industrial structure (industry/agriculture/mining bases) and manufacturing specialization of the host country may be a factor affecting the locational choices of overseas Chinese and non-Chinese investors. This is also a measure of local economic forces and power.

X5 -Industrial output or manufacturing output/GDP. Gross value of industrial output is a good measure of gross regional production and industrialization. Empirical studies find that a higher density of manufacturing activities attracts more FDI in the U.S.A. (Coughlin 1991). Industrial output is also a measure of a city's economic base which is more important for overseas non-Chinese investment. Strong economic base is important for large non-Chinese firms to take advantage of scale economy, while small- and medium-sized Chinese FDI is export-oriented and less connected with local industry base. Cities with a higher density of manufacturing activities tend to attract more non-Chinese investment than overseas Chinese investment. The hypothesis is that non-

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Chinese investment is more likely to invest in cities with more manufacturing activities and stronger economic base.

Agglomeration Economies and Other Supply Factors (X6, X7, X8, X9).
Agglomeration economies and other factors are among the most important market factors that affect the locational choices of overseas Chinese and non-Chinese investors. As the eco-environment of firms, these factors including industrial chains, industrial cluster, regional economic entities and other supply factors, are vital to the survival and growth of a business.

$X6$ -*Agglomeration economies/level of industry competition.* The measure of this variable can be the location quotient of FDI or the number of total firms at the same location. This is also a measure of the effect of competition among foreign investors themselves and following the leader effect (Vernon 1974; Blackbourn 1982; Coughlin 1991; Braunerhjelm and Svensson 1996). Agglomeration economies have more effects on overseas non-Chinese investment since overseas Chinese investment is more spatially dispersed to small- and medium-sized cities (disagglomeration). The hypothesis is that overseas non-Chinese investment is more likely to invest in cities with the agglomeration of more enterprises.

$X7$ -*Availability and quality of urban infrastructure-freight transportation.* This measure includes transportation and telecommunication facilities, transport cost, market infrastructure, railroad, power consumption, freight-handling capacity by seaport and water, etc. Urban infrastructure is an important indicator of a city's economic power and attractiveness, and competitive power. Societal and infrastructure provisions

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(commercial, legal, educational, transport and communication) are all important location-specific factors (Dunning 1993). The freight-handling capacity is employed as the most effective measure of urban infrastructure, transport and infrastructure conditions. Overseas non-Chinese investment pays more attention to a city's urban infrastructure and institutional framework compared with overseas Chinese investment. The hypothesis here is that overseas non-Chinese investment is more likely to invest in cities with better urban infrastructure.

X8 -Level of Urbanization. Studies have shown that FDI mainly concentrates in urban areas (Leung 1990; Lu 1997). Overseas non-Chinese investment is attracted to urbanized areas to take advantage of agglomeration, while overseas Chinese investment prefers smaller cities and even rural areas. Some overseas Chinese investment is even an important factor driving the rural urbanization and industrialization in southern China, e.g. Dongguan City in the 1980s. Higher levels of urbanization tend to attract more overseas non-Chinese investment. The hypothesis is that overseas non-Chinese investment is more likely to invest in cities with a higher level of urbanization.

X9 -Former FDI stock/foreign investment presence. Former FDI stock can measure the experience/learning effect of investors and also predict a city's economic future and economic stability. Sun and Tong (2002) find that cumulative FDI has a significant impact on new FDI at the provincial scale. Chinese FDI is more familiar with mainland China, while non-Chinese FDI is more likely to be influenced by the pioneering investors –namely following the leader effect. The hypothesis is that overseas non-

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Chinese investment may prefer cities with a higher level of FDI presence compared with overseas Chinese investment.

Labor condition (X10): Like the sectoral distribution of FDI, the spatial distribution of FDI is also affected by the labor condition of each city in China. Labor factors include human capital, the availability of labor –labor quantity, labor productivity, demographic factor (e.g. age), human resources and technology level, the flexibility of labor market, and worker discipline.

X10 -Human capital. Human capital is a measure of regional innovation, educational work force, educational level, culture/education/scientific research, and labor quality. As I have indicated in the sectoral model of the previous chapter, overseas non-Chinese investment is more capital- and technology-intensive than overseas Chinese investment. Therefore, non-Chinese investment needs the support of more local human resources to gain marketing efficiency compared with overseas Chinese investment. The hypothesis is that non-Chinese FDI is more likely to invest in cities with more human capital stock.

Openness (X11, X12, X13). The degree of openness of a city can affect the locational choices of foreign direct investment in transitional China.

X11 -Foreign trade (export/import)/degree of economy openness. This is a measure of a city's ability to produce particular goods. International trade is a measure of the degree of internationalization or globalization. Artificial barrier to trade in goods and services is an important location-specific factor. A decreasing export/import ratio may be an indicator of import-substitution process, while an increasing export/import ratio might

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be a result of an export-promotion program. Braunerhjelm and Svensson (1996) find that export is a factor affecting Swedish MNC's location. Cities with a higher degree of openness tend to attract more overseas non-Chinese investment. Cities with more foreign trade usually have stronger state support and other foreign economic policies, and are closer to international economic environment. These cities will become the targets of non-Chinese investors. The hypothesis is that overseas non-Chinese investment is more likely than overseas Chinese investment to locate in cities with more foreign trade.

X12 –Landscape Attractiveness. The measure is the number of foreign tourists. The number of tourists is an important indicator of a city's openness and landscape attractiveness, tourism and cultural resources, overall human & physical environment. Tourists from different countries or regions in China have different travel purposes, e.g. business trip, and landscape attraction, etc. The number of foreigner tourists in a city is a proxy of the city's landscape attractiveness, tourism resources, and also an indicator or proxy of foreign business networks. International tourist centers are the favorite sites of non-Chinese FDI due to its higher degree of internationalization or globalization. The hypothesis is that overseas non-Chinese investment is more likely to be attracted to those attractive and open cities with more foreign tourists compared with overseas Chinese investment.

X13 -another measure of tourist attraction and general image of a city –the number of overseas Chinese tourists from Hong Kong, Macao, and Taiwan. Tourist connections can be regarded as a proxy of special social networks for overseas Chinese investors. The hypothesis is that overseas Chinese investment is more likely to be

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attracted to cities with more overseas Chinese tourists from Hong Kong, Macao, and

Taiwan.

Institutional forces (X14, X15, X16). Similar to the sectoral determinants of FDI,

spatial determinants of FDI also include institutional factors, that is, political factors

(government stability and political risk, political stability, policy transparency and

consistency), legal factors (restrictions on foreign ownership, other laws and regulations),

investment policies, administrative efficiency and market order, market environment

(market capacity, market system, and capital/foreign exchange market), and tax factors

(tax rates, tax regulations, and joint tax treaties).

X14 -Urban fixed-asset investment. This is a measure of domestic capital and

government support, or a measure of industrialization degree. Empirical studies show

that private FDI is positively related to domestic capital formation (O'Sullivan 1985).

Local financing and investment incentives are important capital sources attracting FDI.

Due to cultural distance, non-Chinese FDI is more sensitive to state support and state

fixed asset investment. Chinese FDI tends to contact with smaller places with less state

involvement. The hypothesis is that, compared with overseas Chinese investment,

overseas non-Chinese investment is more likely to be attracted to highly urbanized

regions with more urban fixed asset investment.

X15 -Interaction with local economies. Domestic economies are an important

factor attracting FDI (Lu 1997). Dunning (1993) argues that economic system,

government policies, and the institutional framework for resource allocation are all

important location-bond factors for FDI. Chinese domestic economies can be classified

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into different ownership (e.g. state-owned economies, TVEs -township-village enterprises, etc). Due to different ownership-advantage and internalization advantage, overseas Chinese investment has more interactions with local economies (e.g. TVEs), while overseas non-Chinese investment has more connections with state-owned enterprises. The hypothesis is that overseas non-Chinese investment is more likely to locate in cities with more state-owned economies due to their stronger bargaining power and larger firm size.

X16 -State preferential policies. Tatoglu and Glaister (1998) find that government policy towards FDI is an important factor for western MNC's FDI in Turkey. State policy toward FDI has become increasingly important as developing countries have turned more to private sectors as a means of promoting industrialization (Bass, McGregor, and Walters 1977; Root and Ahmed 1978). Schollhammer (1983) suggests that FDI opts to invest in locations known to be politically stable and favorably disposed toward private capital. Rahman (1983) contends some factors related to FDI: tax and tariff policies; import and export policies, investment policies, other economic policies of the government, general economic conditions and general exchange rates, general political and investment climate, and recruitment policy. In China, interpretation of some tax rules even varies between tax bureaus (Hsing 1997). Overseas non-Chinese investment is more likely to take advantage of preferential policies and looks for more operating efficiency compared with overseas Chinese investment. Overseas non-Chinese investment is more concentrated in regions with strong state support, e.g. major capital cities and coastal open cities. Namely, institutional environment is more important for

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non-Chinese investment. The dummy variable for policy is defined as: 1=coastal open cities, cities in coastal open regions, four special economic zones; and province capital cities; 0=other cities. The hypothesis is that non-Chinese investment is more likely to locate in cities with stronger state support and more state preferential policies.

Geographic factor (X17). Geographic factor including geographical advantages, location, transportation factor and accessibility of a city, is an important determinant of FDI's locational choice.

X17 –Geopolitics and Geographical proximity. Empirical FDI studies in China tend to use a dummy variable for geographical proximity (Doodnow and Hansz 1972; Davidson and McFetridge 1985; Broadman and Sun 1997; He and Chen 1997). In order to measure geopolitics, I use a dummy variable for cities that locate in Guangdong and Fujian provinces. The dummy variable for geopolitics is defined as: 1=cities located in Guangdong and Fujian Provinces; 0=other cities. The hypothesis is that overseas Chinese investment is more likely to locate in cities of south China due to its unique geopolitics and social connections with the overseas Chinese from Hong Kong, Macao, and Taiwan.

There are a few other factors that are not taken into account in the regression model, e.g. the ratio of tertiary industry product to GDP, the growth rate of GDP, profitability, labor cost/wage level, and a dummy variable for a seaport or international airport (transport cost). These five factors are not significantly correlated with the spatial differences and this means that they are not the explanatory variables for the spatial differences.

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4.8 Model Results and Discussion

Based on the 17 individual variables, I construct a multiple regression model. First, I run correlation analyses between the dependent variable and all the 17 independent variables. All the correlation results (the coefficients and p-values) are reported in table 4.5 and table 4.6. As I have described in the theoretical analysis of each location-specific variable, the correlation coefficients are all correctly signed, p-values are all significant at 0.000 level.

The correlation analyses suggest that dependent variable (spatial difference) has the closest and significant positive relations with geopolitics (0.27), city power rank (0.22), and the number of overseas Chinese tourists (0.21), indicating that cities which are located close to Hong Kong, Macao, and Taiwan, cities with lower political power, and cities with more overseas Chinese tourists or overseas social connections, are more likely to attract more overseas Chinese FDI than non-Chinese FDI. Dependent variable (spatial difference) has the closest negative relations with the number of state-owned enterprises (-0.63), urban fixed-asset investment (-0.60), industry sales (-0.57), city size-population (-0.57), GDP (-0.50), the number of total enterprises (-0.48), retail sales (-0.48), urban freight capability (-0.46), foreign capital of previous year (-0.44), the area of constructed urban regions (-0.43), human capital-stock of college teachers (-0.42), the number of foreign tourists (-0.42), and state preferential policies (-0.18) (see table 4.5). Dependent variable is significantly correlated with all these 17 independent variables as indicated by p-values reported in table 4.6. This means that all these 17 variables are the candidate variables to be selected in the final regression model.

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Table 4.5 Correlation Matrix of Coefficients

	Differ	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	x16
X1	-0.57																
X2	0.22	-0.67															
X3	-0.50	0.91	-0.57														
X4	-0.48	0.94	-0.61	0.97													
X5	-0.57	0.87	-0.54	0.96	0.92												
X6	-0.48	0.88	-0.58	0.85	0.88	0.82											
X7	-0.46	0.85	-0.59	0.83	0.85	0.75	0.72										
X8	-0.43	0.86	-0.62	0.79	0.82	0.73	0.74	0.80									
X9	-0.44	0.76	-0.47	0.87	0.85	0.91	0.77	0.68	0.63								
X10	-0.42	0.89	-0.59	0.78	0.86	0.69	0.71	0.80	0.78	0.57							
X11	-0.19	0.52	-0.37	0.70	0.70	0.72	0.59	0.52	0.45	0.79	0.55						
X12	-0.42	0.73	-0.42	0.77	0.81	0.73	0.57	0.72	0.64	0.65	0.78	0.51					
X13	0.21	0.32	-0.32	0.51	0.54	0.46	0.38	0.41	0.32	0.54	0.30	0.85	0.46				
X14	-0.60	0.87	-0.55	0.91	0.89	0.95	0.81	0.72	0.70	0.87	0.69	0.68	0.67	0.40			
X15	-0.63	0.90	-0.56	0.87	0.87	0.92	0.87	0.71	0.71	0.84	0.71	0.63	0.64	0.33	0.94		
X16	-0.18	0.57	-0.53	0.53	0.58	0.45	0.55	0.51	0.56	0.47	0.61	0.38	0.37	0.30	0.47	0.48	
X17	0.27	-0.04	-0.02	0.05	0.05	0.04	-0.01	0.03	0.07	0.18	-0.05	0.14	0.02	0.24	0.03	-0.03	0.01

Table 4.6 Correlation Matrix of P-values

	Df	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16
X1	0																
X2	0	0															
X3	0	0	0														
X4	0	0	0	0													
X5	0	0	0	0	0												
X6	0	0	0	0	0	0											
X7	0	0	0	0	0	0	0										
X8	0	0	0	0	0	0	0	0									
X9	0	0	0	0	0	0	0	0	0								
X10	0	0	0	0	0	0	0	0	0	0							
X11	0	0	0	0	0	0	0	0	0	0	0						
X12	0	0	0	0	0	0	0	0	0	0	0	0					
X13	0	0	0	0	0	0	0	0	0	0	0	0	0				
X14	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
X15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
X16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
X17	0	0.34	0.60	0.23	0.21	0.35	0.87	0.44	0.07	0.20	0	0.63	0	0	0.50	0.44	0.80

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Table 4.7 indicates the results of running a multiple regression model with all the 17 independent variables. It yields a R-square of 76.17%, which indicates a reasonable goodness of fit of the OLS regression model. Namely, these 17 independent variables can explain 76.17% of the spatial differences between the two types of investors. However, multicollinearity is a serious problem in the model. Table 4.8 reports the VIF values for testing multicollinearity.

Table 4.7 OLS Multiple Regression Model with All the 17 Independent Variables

Variables	Regression Coefficient	Standard Error	T-value	P>|t|
City Size	-0.0004857	0.001449	-0.34	0.738
Urban hierarchical power	-0.0652447	0.0373303	-1.75	0.081
Market Size	9.85e-08	8.84e-08	1.11	0.266
Retail Sales	-6.19e-07	1.96e-07	-3.16	0.002
Industry sales	5.26e-08	4.59e-08	1.15	0.251
Agglomeration economy	0.0000777	0.0000606	1.28	0.200
Urban Infrastructure	-0.0000678	0.0000123	-5.53	0.000
Urbanization level	-0.0003558	0.0007011	0.51	0.612
Former FDI stock	7.18e-06	1.85e-06	3.88	0.000
Human capital	0.0000847	0.0000215	3.94	0.000
Foreign trade	-1.71e-06	1.59e-07	-10.75	0.000
Foreigners	-2.76e-06	3.77e-07	-7.33	0.000
Tourists from HK-Macao-Taiwan	8.48e-06	4.33e-07	19.58	0.000
Urban fixed-asset investment	-4.33e-07	1.34e-07	-3.22	0.001
State-owned enterprises	-0.000851	0.00041	-2.08	0.038
State policies	0.0864653	0.0749133	1.15	0.249
Geopolitics	0.211735	0.0494861	4.28	0.000
Constant	0.2901441	0.1099679	2.64	0.009

R-square=0.7617; adjusted R-square=0.7548; F(17, 580) = 109.08; Prob > F= 0.0000

Due to multicollinearity, seven independent variables are not correctly signed in the multiple regression model as reported in table 4.7. And seven independent variables have insignificant P-values and lower t-values. These are typical signs of serious multicollinearity in the model. VIF (variance inflation factor) multicollinearity test shows that eight independent variables have VIF values of over 10 (VIF over ten is

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considered to be a serious problem, see table 4.8). In this case, the problem of

multicollinearity needs to be addressed first.

Table 4.8 Test for Collinearity (VIF)

Variables	Ri –square	Tolerance (1-R2)	Variance inflation factor
State policy	0.5460	0.4540	2.203
Geopolitics	0.2684	0.7316	1.367
Former FDI stock	0.8946	0.1054	9.488
Foreign trade	0.9209	0.0791	12.642
Foreigners	0.8065	0.1935	5.168
Urban hierarchical power	0.5519	0.4481	2.232
City size	0.9739	0.0261	38.314
Urbanization level	0.7887	0.2113	4.733
Market size	0.9740	0.0260	38.462
Industry sales	0.9746	0.0254	39.370
Urban infrastructure	0.7930	0.2070	4.831
Urban fixed-asset invest	0.9468	0.0532	18.797
Retail sales	0.9823	0.0177	56.497
Human capital	0.9304	0.0696	14.368
Agglomeration	0.8868	0.1132	8.834
State-owned enterprises	0.9554	0.0446	22.422
Tourists from HK-Macao-Taiwan	0.8760	0.1240	8.065

Based on the statistical results reported in table 4.5, 4.6, 4.7, 4.8, I removed

eleven variables from the model: city size, urban hierarchical power, market size, retail

sales, industry sales, agglomeration economy, urbanization level, former FDI stock,

human capital, state-owned enterprises, and state policy. Finally, a multiple regression

model with just six independent variables is constructed: geopolitics, tourists from Hong

Kong-Macao-Taiwan, urban infrastructure, fixed-asset investment, foreign trade, and

foreigners (see table 4.9).

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Table 4.9 Final OLS Multiple Regression Model

Independent Variables	Coefficients	Standard errors	T-value	P>|t|
Geopolitics	0.2562583	0.0458747	5.59	0.000
Tourists from HK-Macao-Taiwan	8.52e-06	3.79e-07	22.45	0.000
Urban Infrastructure	-0.000043	9.43e-06	-4.55	0.000
Urban Fixed-asset investment	-3.23e-07	6.80e-08	-4.75	0.000
Foreign Trade	-1.74e-06	1.31e-07	-13.26	0.000
Foreigners	-2.41e-06	2.79e-07	-8.62	0.000
Constant	0.0637194	0.018376	3.47	0.001

R-square=0.7388; adjusted R-square=0.7362; $F_{(6, 591)}$ = 278.61; Prob > F= 0.0000

The final OLS multiple regression model has a R-square of 73.88%, which suggests a goodness of fit of the regression model (table 4.9). Namely, 73.88% of the spatial differences between overseas Chinese and non-Chinese investments can be explained by these six independent variables. The six independent variables are geopolitics, the number of overseas Chinese tourists from Hong Kong, Macao, and Taiwan (a proxy of overseas social network connections), freight transportation handling capacity (urban infrastructure), urban fixed-asset investment (institutional forces), foreign trade (openness degree of the economy), and the number of foreign tourists (urban landscape attraction and business network). All of the regression coefficients are significant (p-values< 0.000).

Table 4.10 Test for Collinearity (VIF)

Variables	Ri –square	Tolerance (1-Ri2)	Variance inflation factor
Geopolitics	0.0841	0.9159	1.092
Tourists from HK-Macao-Taiwan	0.8262	0.1738	5.754
Urban infrastructure	0.6244	0.3756	2.662
Urban Fixed-asset investment	0.7765	0.2235	4.474
Foreign Trade	0.8750	0.1250	8.000
Foreigners	0.6204	0.3796	2.634

Since all of the six independent variables are correctly signed, and P-values are all significant at 0.00 level, there is no sign of serious multicollinearity. This is verified by

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the VIF test reported in table 4.10. The VIF values of all the six variables are less than

10, which suggest that multicollinearity is not a serious problem in the final multiple

regression model. This result is consistent with the condition number test reported in the

diagnostics section.

Table 4.11 Correlation Matrix of Coefficients

	Difference	Geopolitics	Gangaotai-tourist	Urban-infrastructure	Fixed-investment	Foreign trade
Geopolitics	0.2692					
Gangaotai-tourist	0.2082	0.2413				
Urbaninfrastructure	-0.4594	0.0315	0.4123			
Fixed-investment	-0.6011	0.0254	0.4013	0.7154		
Foreign-trade	-0.1863	0.1405	0.8478	0.5202	0.6829	
Foreigner	-0.4232	0.0197	0.4632	0.7232	0.6708	0.5091

Table 4.12 Correlation Matrix of P-values

	Difference	Geopolitics	Gangaotai-tourist	Urban infrastructure	Fixed-investment	Foreign trade
Geopolitics	0.0000					
Gangaotai-tourist	0.0000	0.0000				
Urban infrastructure	0.0000	0.4409	0.0000			
Fixed investment	0.0000	0.5349	0.0000	0.0000		
Foreign trade	0.0000	0.0006	0.0000	0.0000	0.0000	
Foreigner	0.0000	0.6299	0.0000	0.0000	0.0000	0.0000

In order to further illuminate the relation between dependent variable and the six

independent variables in the final model, I conduct correlation analyses and report

correlation coefficients and correlation p-values in table 4.11 and table 4.12. Correlation

analyses show that spatial difference has the closest positive relations with geopolitics

(0.2692) and the number of overseas Chinese tourists (0.2082), indicating that cities close

to Hong Kong, Macao, and Taiwan and cities with overseas Chinese tourists tend to have

positive spatial difference. Spatial difference has the closest negative relations with

urban fixed-asset investment (-0.6011), urban freight handling capacity (-0.4594),

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foreigner (-0.4232), and international trade (-0.1863), indicating that cities with more institutional support, better urban infrastructure and transportation capacity, more foreign tourists and landscape attraction, and a higher degree of economic openness, are more likely to have negative spatial difference. P-values of these correlation analyses between dependent variable and the independent variables are all significant (see table 4.12). These statistical analysis results support the theoretical hypotheses and arguments mentioned above (table 4.4).

The final regression model can also be expressed in the following equation:

Spatial-difference = 0.0637194 + 0.2562583*Geopolitics + 8.52e-06*gangaotai – 0.000043*urbaninfrastructure – 3.23e-07*fixinvest –1.74e-06*trade –2.41e-06*foreigner

In conclusion, final multiple regression analysis shows that spatial difference is positively related to geopolitics and the number of overseas Chinese tourists, indicating that cities that are located in Guangdong and Fujian provinces and cities with more overseas Chinese tourists (strong overseas Chinese social networks), are more likely to attract more overseas Chinese investment than overseas non-Chinese investment. Spatial difference is negatively related to urban freight handing capacity, urban fixed-asset investment, international trade, and the number of foreign tourists, indicating that cities with better urban infrastructure, more institutional support, a higher degree of economic openness, and better overall tourist image and landscape attractiveness, tend to attract more overseas non-Chinese investment than overseas Chinese investment. Regression analysis results strongly support my theoretical hypotheses on the independent variables (location-specific variables).

4.9 Diagnostics of Spatial Dependence in the Multiple Regression Model

Since the multiple regression model is based on spatial data of 600 Chinese cities, spatial dependence might affect the explanation of OLS regression results. If spatial dependence is significant in the model, then inferential tests (F and t) will no longer be valid and parameter estimates will be inefficient. As I have explained earlier in this chapter, there is a statistically significant spatial dependence in the dependent variable – spatial difference. The spatial dependence of both dependent variable and independent variables, and sometimes regression analysis residuals may all contribute to the serious problem of the OLS regression explanation (Clark and Hosking 1986). My work is dependent on the work of Cliff and Ord (1973, 1981) and Anselin (1988, 1995) for much of our understanding of spatial autocorrelation –including the most recent progress made in this critical area of spatial analysis.

The development of the methodology in spatial econometrics and spatial statistics is largely based on the maximum likelihood principle. Following Luc Anselin (1988)'s work, I use Lagrange Multiplier tests which incorporate spatially lagged dependent variable, spatial residual autocorrelation and heteroskedasticity to test spatial dependence in the final regression model.

Table 4.13 Diagnostics for Spatial Dependence in the Final Multiple Regression Model (row-standardized weights)

TEST	MI/DF	VALUE	PROB
Moran's I (error)	-0.007392	-0.665146	0.505957
Lagrange Multiplier (error)	1	0.723017	0.395156
Lagrange Multiplier (lag)	1	1.435102	0.230934

Note: Diagnostic test results are from Spatial Analysis Software –SpaceStat 1.9.

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I use a standardized inverse distance method for the spatial diagnostics. The spatial weights matrix is based on inverse distances between each city. Spatial Analysis software (SpaceStat 1.9) produces a series of diagnostics which test for spatial dependence in the regression model and the form of the spatial dependence (see table 4.13). There are several different testing methods, e.g. Lagrange Multiplier (error), Lagrange Multiplier (lag), Lagrange Multiplier (SARMA), Robust Lagrange Multiplier (error), Robust Lagrange Multiplier (lag), and Kelejian-Robinson (error). The most reliable tests are the two forms of the Lagrange Multiplier tests, one for error and one for lag, namely LM (error) and LM (lag). Anselin (1992) indicates that the significance of either test indicates the presence of spatial dependence. In my diagnostic test, neither of the Lagrange Multiplier tests for spatial error and spatial lag is significant at all (see table 4.13). The Lagrange Multiplier test for spatial error (probability) is 0.395156, and the Lagrange Multiplier test for spatial lag (probability) is 0.230934. Neither indicator is significant at $p < 0.05$ level. Moran's I of the regression residuals is -0.007392, which is not significant at all (pr $= 0.505957$). This means that spatial dependence is not a serious problem for OLS regression because LM test shows no evidence of spatial dependence in the residuals.

Regression diagnostics for multicollinearity yields a condition number of 7.665873, which is less than 20 (only values larger than 20 are considered to be suspect). This means that multicollinearity for the final regression model is not a serious problem. The result of calculating condition number is consistent with the VIF collinearity test method used earlier in this paper.

4.10 Conclusion

This paper examines the spatial differences between overseas Chinese and non-Chinese investments at the urban scale. I use global Moran's I and LISA (local indicators of spatial association) clusters to detect the spatial patterns of total FDI, overseas Chinese FDI, non-Chinese FDI, and the spatial differences. This research is very different from the majority FDI literature on China due to the empirical application of these spatial analysis techniques in the critical areas of FDI studies. I find that overseas Chinese investment is more dispersed to small and medium-sized cities and overseas non-Chinese investment is more likely to locate in mega-cities and super-large cities. Major economic centers have more transparent policies and open market, more formal and efficient administration environment, more banking and finance channels, higher judicial efficiency, and are closer to international rules and regulations. Therefore, these cities are the favorite locations of non-Chinese FDI. In addition, this research finds that overseas Chinese investment is more concentrated in southeast coastal China – Guangdong and Fujian provinces, while overseas non-Chinese investment is more concentrated in northern coastal China. Spatially, the distribution of the two types of investors is complementary though they have different niche space. In short, spatially, overseas Chinese investment is significantly different from non-Chinese investment.

Spatial analysis and spatial modeling techniques have been incorporated into FDI studies and are the focus of this research. Moran's I, Moran scatterplot and LISA cluster maps suggest that there are significant and positive spatial autocorrelations for urban-scale patterns of total FDI, overseas Chinese FDI, overseas non-Chinese FDI, and the

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spatial differences between the two types of investors. These techniques remind economic geographers the theoretical and methodological importance of Moran' I statistics in the analysis of geographically distributed data, for example, the spatial patterns of foreign direct investment, which tend to cluster in host countries especially in developing countries like China. GIS mapping shows the geography and distribution of total FDI, overseas Chinese and non-Chinese investments. LISA cluster maps reveal the most interesting spatial association and spatial clusters of total FDI, overseas Chinese investment, overseas non-Chinese investment, and the spatial differences between the two types of investments. This suggests the potential power of LISA for analyzing FDI.

Theoretical explanations are provided for the spatial differences between Chinese FDI and non-Chinese FDI using different perspectives, like bargaining power theory, institutional cost perspective, transaction cost, and social networks, etc.

Spatial modeling techniques are also performed in this FDI research. First, ordinary least square (OLS) techniques were employed to obtain regression coefficients and model parameters. I use the absolute spatial difference between overseas Chinese and non-Chinese investments as the dependent variable. Seventeen independent variables are constructed based on some location-specific variables. Six independent variables are included in the final OLS regression model. They are geopolitics, overseas Chinese tourists from Hong Kong, Macao, and Taiwan, freight transportation handling capacity, urban fixed-asset investment, foreign trade, and the number of foreign tourists from other countries. Geopolitical factor has a significant positive relation with the spatial difference. The regression coefficient of the number of Chinese tourists from

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Hong Kong, Macao, and Taiwan is also positive. Urban infrastructure (measured by freight transportation handling capacity), institutional factors (measured by urban fixed-asset investment), foreign trade, and the number of foreign tourists in a city, are all significant factors affecting the spatial differences between overseas Chinese and non-Chinese FDI. However, the signs of these four independent variables are all negative, indicating that the dependent variable (spatial difference) has negative relations with these four independent variables.

Lagrange multiplier (both error and lag forms) tests for the spatial dependence and determines the second stage of the analysis (Anselin 1988). Estimation was performed using spatial analysis software (spacestat 1.9). Regression diagnostics has indicated that there is no significant spatial dependence in the regression residuals and OLS regression model is still consistent.

In conclusion, the empirical application of spatial analysis techniques with Moran's I statistics yields important and encouraging findings and information in this chapter. Spatial autocorrelation is detected in patterns of total FDI, Chinese FDI, non-Chinese FDI, and the spatial differences between the two types of investments. Spatial autocorrelation is not detected from the regression residuals of OLS model. Moran's I statistics and its derivatives, e.g. local Moran's I, Moran scatterplot, and LISA clusters, are critical techniques for examining the degree of spatial autocorrelation in the dependent variable, independent variables, and the multiple regression model.

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Chapter 5 The Social Networks of Overseas Chinese Investment in China

5.1 Introduction

For foreign firms, one of the most important issues facing managers and decision-makers is how to conquer the culture distance in a host country. According to Dunning's eclectic paradigm, a firm will engage in international production if, and only if, three conditions are present: ownership-specific advantage, internalization advantage, and location-specific advantage (Dunning 1981). However, this theory omits several other important factors, like agglomeration, interfirm networking, and cultural issues (*guanxi* or social networks, and ethnic or kinship factors) that influence performance. Compared with small- and medium-sized overseas Chinese firms, non-Chinese firms have ownership advantage and internalization advantage, which are superior to overseas Chinese firms. For example, large non-Chinese corporations and their internal organization can be indicated by their hierarchical integration of business functions, high R&D costs and capital intensity. Non-Chinese large firms are able to expand because of their integrative capacity and the exclusion of competitors from their technological know-how. How can overseas Chinese investors gain competitive advantage within China? In this chapter, I will examine how *guanxi* or social networks provide competitive advantage to overseas Chinese investors in mainland China. Overseas non-Chinese firms have competitive advantage in terms of visible and invisible assets, intellectual property, sales networks, brand name, good credit, customer information and management advantage. However, overseas Chinese firms exploit *guanxi* and cultural advantage to gain competitive advantage.

Today's Chinese society is controlled by the coexistence of modern market economic rules, administration and political rules, and the potential game rules of

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guanxi and traditional culture. There are many variables that may affect a FDI firm's activities in China, for example, firm size, economic factors, institutional involvement, and personal contacts (*guanxi*). *Guanxi* is a universal game rule in modern Chinese society. As a non-economic and cultural factor, *guanxi* cannot easily be incorporated into the sectoral and spatial models, although it is assumed to be a significant culture factor that affects the difference in patterns of investment between overseas Chinese and non-Chinese investors.

In this chapter, I first review the literature on *guanxi* and social networks in China. Then I emphasize two-stage analyses on social networks. Namely, two methods are adopted in this chapter to indicate the significance of *guanxi* and its role in the sectoral and spatial choices of Chinese FDI. The first uses statistical methods to show evidence of an ethnic Chinese network by comparing investors from four areas –the U. S. A., Japan, Taiwan, and Hong Kong. The second method employs a questionnaire survey conducted in Dongguan City, south China. After providing an overview of the fieldwork site and the questionnaire survey, I summarize the data from the questionnaire. Finally, I conclude this chapter by reemphasizing the importance of *guanxi* for Chinese FDI firms' competitive advantage in China.

5.2 Introduction to Social Networks and Literature Review

Social networks are a notable and prominent difference between patterns of overseas Chinese and non-Chinese investments in China. Social networks might represent a significant factor that influences foreign direct investment. The purpose of this chapter is to explore and compare the *guanxi* networks of overseas Chinese and non-Chinese investors. After the literature review on *guanxi* networks, I also briefly

introduce the Chinese transnationalism, and the Chinese government policies towards

the overseas Chinese after 1979, which are very important for understanding the

special development pattern-the regional integration driven by Chinese FDI. The

major forms of economic connections between the overseas Chinese and their

hometown (*qiaoxiang*) are also introduced in this section.

5.2.1 Overview of Studies on Social Networks

A major advantage for China in attracting FDI is its strong historical ties,

cultural affinities, kinship and extensive social networks with the overseas Chinese.

Over 70% of FDI in China originated from Hong Kong, Macao, and Taiwan in 1992.

The overseas Chinese culture focuses on kinship connections, and serving homeland

and hometown. All these factors have caused the large amount of overseas Chinese

capital in China. The *guanxi*-network advantage in attracting Chinese FDI is unique

in the world.

Guanxi (personal connection or relation) or social network is a certain type of

social exchange relationship in the everyday social practice and discourse of

contemporary Chinese society (Yang 1994, 2002). It is culturally rooted in traditional

Chinese ethics and etiquette of interpersonal relations (e.g. the Confucian kinship-

oriented society) and can be shown from several angles: as extensions of kinship and

friendship into economic and political sphere; as a modern form of gift economy in

socialist society; or as a field of personalistic and relational ethics whose principles

are in opposition to the rationality of the dominant mode of structuring power

relationships (Yang 1994). Trust-based personal relations among family members

and friends often substitute for written contracts and, in an even wider sense, replace

impersonal bureaucratic and legal controls -often used by western businessmen as

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safeguards (Yang 1994). Many people believe that relationships are important all over the world. Nevertheless, *guanxi* networks have a special status in the Chinese context since they are so ubiquitous and play such a crucial role in everyday life. Studies on *guanxi* networks bridge cultural anthropology, political science, economics, management, psychology, sociology, and geography.

Guanxi has played an important role in the success of doing business in China (Abramson and Ai 1999; Lovert and Simmons 1999). As a special type of ethnic business networks, *guanxi* and social networks can facilitate international trade and investment (Rauch 1999; Rauch and Trindade 2002; Rauch and Casella 2003). *Guanxi* networks indicate the difference between Chinese and western management techniques. In order to conduct business successfully in China, western companies have to understand the key success factors in the Chinese context. Social networks can be business ties, family ties (kinship), neighbors and native-place ties, complex human-nature relationship, non-kin superior-subordinate relations, friendship ties (interpersonal networks), a common hometown or dialect, cuisine, surnames, commonalties, even work places and social clubs, etc., which can provide platforms for building trust (Yang 1994). These special networks might involve the exchange of gifts, favors and banquets. It is critical for foreign investors to understand the importance of *guanxi* in China in order to reduce transaction costs and improve efficiency. Cultural and social ties, especially the common language and culture, can help the overseas Chinese from Hong Kong, Macao, and Taiwan avoid a lot of investment risks and uncertainties in transitional China, e.g. bank loans, favorable tax incentives, access to valuable market information and influential persons, exemptions from troublesome laws and regulations (Schlevogt 2002).

In China's reality, when dealing with business issues, *guanxi* system based on reputation and trust is more flexible than legal system and regulations. However, *guanxi* cannot be considered as simple corruption or nepotism. Building or spinning strong interorganizational webs doesn't mean bribing officials (Yang 1994). In the Eastern culture, *guanxi* is a source to rely on and reduce risk, while in the Western society, the legal system is the main source of reliance to reduce risk. Since the market system or legal regulation in China is not well developed, *guanxi* is a good access to resources, convenience and profits. In the context of China's business environment, it is widely believed that social relations (*guanxi, or reciprocal relationships*) are an important factor of business success (Tan and Snell 2002; Wong and Ellis 2002). *Guanxi* system and legal system are special dual systems in China. In some sense, *guanxi* means unfair competition in a market economy. Under complete legal system, bargaining power is an essential and probably the most important factor for attracting FDI. Due to the lack of a free market and fair competition in China, overseas Chinese investors can of course gain competitive advantage compared with non-Chinese investors.

The extensive overseas Chinese business networks or *guanxi* networks are different from the networks of the third Italy and Silicon Valley. Studies on East and Southeast Asian business networks have shown that the Chinese business networks are largely personal networks and are organized through kinship circles and ties of common origins (Hamilton 1991). Personal trust instead of system trust is essential to the success of overseas Chinese business. In some sense, the difference between overseas Chinese investment and non-Chinese investment is the difference between the Chinese tradition and western modernism. The overseas Chinese from Hong

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Kong, Macao, Taiwan, and their business firms have emerged as one of the most important economic forces in Mainland China and many Southeast Asia countries (Yeung 1994, 1998, 1999, 2002; Yeung and Olds 2000). The fundamental organizational feature of overseas Chinese family business is the strength of network ties -weak organizations and strong linkages (Hamilton 1992; Redding 1990). Scholars have contended this special development as local capitalism, network capitalism, Confucian capitalism or Chinese capitalism, which is highly personal-trust-based and family-oriented (Redding 1990; Hamilton 1992, 1999; Do Rosario 1993; Doebele 1999; Deliusin 1994; Weidenbaum and Hughes 1996; Brook and Luong 1997; Dirlik 1997; Hsing 1998; Yao 2002). This local capitalism or network capitalism (Smart 1991) is due to personal connections which can facilitate the investment activities of ethnic Chinese living abroad and such connections can help one circumvent the often troublesome legal system within China. However, kinship and social networks cannot be simply summarized as the loyalty to their ancestral homeland. For the overseas Chinese from Hong Kong, Macao, and Taiwan, the cultural and linguistic link helps to reduce informational and contractual costs (Smart and Smart 1991; Smart 2000; Luo 1997, 1998).

Chinese social networks can be dated back to the Chinese Confucian culture. Compared with Western Culture's individualism, the Chinese culture-Confucian culture is characterized by its focus on family hierarchy and loyalty (Hu 1996; Weidenbaum and Hughes 1996; Yao 2002). Authority, social hierarchy system, patriarchal clan system, and social order are the common values of the Confucian tradition. The core of the Chinese culture first is benevolence, ethics and morality (*ren*), which means loyalty to family, hometown, society, and nation; *ren* focuses on

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inter-personal relationships, father and son, brothers and sisters, friends, senior and junior relationships. This is similar to today's public relations, personal relations and emotional quotient (Hu 1996). Due to the larger size of China, different regions have different local characteristics, languages, and customs. Therefore, the concept of hometown (*jia xiang*) is very special to the Chinese. The same hometown, the same ancestor, and the same classmates (*tong xiang, tong zong, tong xue*) are important social links. In addition, the common tradition of the Chinese society is focusing on human feelings instead of the legal system. Human feeling or humanized obligation (e.g. father-son relationships, family and kin relationship, and friendship) is from the Confucian tradition.

The Confucian culture has controlled the Chinese social order since ancient civilization. After 1949 and especially under the impact of the Cultural Revolution, China's social order was distorted by communist state power. During the period of China's transition to a market economy, *guanxi* has become more influential than ever. Namely, communist China which attempted to exterminate tradition including the Confucian culture, and the subsequent economic and social transitions to a market economy system have provided fertile soil to *guanxi* development which represents the current interpersonal relationships and social order in transitional China. No matter the limitations of this *guanxi* system, Chinese society is still dominated by the coexistence of the two systems –the gradually developing legal system, and the so-called *guanxi* system (Wang 2001). During the era with a weak and incomplete legal system, personal and *guanxi* trust can also keep the society in order.

As a Chinese proverb says, an official seal is not as good as a fellow from the same hometown (*gongzhang bu ru laoxiang*). Distant relatives are not as dear as

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close neighbors (*yuanqin bu ru jin lin*). *Guanxi* has formed a people's realm as oppositional to the state power (Yang 1994). People's realm is a social realm separate from the state power. This people's realm has its origins in rural China. As Yang (1994) observes a renewal of peasant gift exchange in rural southeastern China in the Wenzhou area. In many rural areas, there exist both the art of *guanxi* and an elaborate ritual gift-economy. While in big city life, *guanxi* is more important than the gift-giving associated with births, wedding and promotions. In countryside, personal relationship is more based on human feelings.

In short, the emerging *guanxi* scholarship is built up by a series of studies (Yang 1994; 2002; Kao 1993; Hamilton 1991, 1992, 1999; Bun 2000; Chan, Cheng and Szeto 2002; etc.). Social networks are based in geographical factors (*di yuan*) and are place-based, including networks formed through consanguineous causes (*xue yuan*), which continue to remain strong in contemporary China, Taiwan, Hong Kong, and overseas Chinese communities. The competitive advantage of the overseas Chinese is embedded in both cultural traditions and political-economic practices. Social networks are different from economic networks because social networks are a special type of social capital or cultural capital according to the sociological perspective. For overseas Chinese FDI, the networks are informal social ties based on regional ties, kinship ties and friends, colleagues, namely *guanxi* networks. For non-Chinese investment, the networks are more likely to be the interactions between enterprises and market and government, contract relationship, and institutional connections, namely formal social networks or work relationships. *Guanxi* or social networks are the basis for understanding Chinese capitalism, the overseas Chinese

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entrepreneurship and family business, new regionalism in greater China or East Asia, and the Chinese transnationalism.

5.2.2 Overseas Chinese Transnationalism

Due to the increasing international migration of the overseas Chinese, there are studies on Chinese transnationalism that is a new approach to studying overseas Chinese and their investment (Ong and Nonini 1997; Hamilton 1999; Ma and Cartier 2002; Cai 2002; Chen 2003; Djao 2003; Gomez 2004). Compared with non-Chinese investors, some overseas Chinese investors or their ancestors were originally emigrants from China in history. International migration is usually a bidirectional process, namely, a strong migration wave usually is followed by a weak return migration. Reverse return migration might involve economic connections (e.g. trade, investment, donation, remittances, etc), cultural exchange, tourism, information exchange, and seeking for original root due to homesickness or nostalgia (Hu 1996). For the overseas Chinese, in addition to short-term visits to China, there is also a long-term return migration. Due to the differences of economic levels and the changes of economic potential between the host and home countries, the reverse migration can be very strong and may have high potential energy. Returning migrants to their home country often bring back capital, technology, information, and management (Hu 1996). A typical example is Chinese FDI from compatriots in Hong Kong, Macao, and Taiwan, and from the overseas Chinese in other developed countries with the Chinese Diaspora. In particular, the transnationalism of the overseas Chinese at the global scale has created a unique economic and social space due to its unique ethnic business networks and social networks.

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The dynamic overseas Chinese transnational groups have formed its unique Chinese world system –different types of overseas Chinese Diaspora at the global scale, "where there is sea water, there are the overseas Chinese" (Long 2004). Before 1979, Southeast Asia countries and Hong Kong, Macao, Taiwan were the main destinations of old Chinese immigrants. Since China's reform and open-door policy in 1979, there has been unprecedented international migration from China. In this "New Chinese emigration", Europe, North America, and Australia have witnessed the fastest growth rates of its ethnic Chinese population (Benton 1998; Wang 2001; Zhang 2001; Ma and Cartier 2002; Tong 2003). The new Chinese migrants come from different social backgrounds and geographic areas in China, establishing a rich pattern of transnational communities that are truly global in nature.

In the past few decades, the outcomes of new immigrants were inevitably of two types. One is to assimilate into the host country and become important members of that society like the dropping leaves generating new roots in new soil (*luo ye sheng gen*). Another one is to return to their hometown after getting old due to nostalgia, which is like the dropping leaves falling nearby the roots of the tree (*luo ye gui gen*) (Zhuang 2001; Wang 2001). However, due to globalization and transnationalism, a new type of transnational overseas Chinese group has come into being, namely, a number of well-educated middle-class Chinese immigrants have played an active economic role across the Pacific Rim between North America and East Asia (Hong Kong, Macao, Taiwan, Mainland China, and other southeast Asia countries). These new groups of transnational overseas Chinese are called "astronauts" or "spaceman" across the Asia-Pacific Region (Ma and Cartier 2002). In short, the trajectory of the overseas Chinese has shifted as time went by in the past one century, that is, from

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huaqiao (deciduous leaves belong to roots) to *huaren* (deciduous leaves can have or sprout new roots) –integrating into the host society (neutralized as local citizen), then to today's middleman, spaceman, or astronauts flying across the Pacific Rim. In conclusion, the overseas Chinese Diaspora has created a huge interconnected *guanxi* and social network. This link is now regarded as an invaluable wealth in those countries seeking to establish business ties with the booming Chinese market (Rauch 1999; Rauch and Trindade 2002).

5.2.3 Chinese Government Preferential Policies towards the Overseas Chinese

During the period of 1949-1979, socialist China had shifted its policy towards the overseas Chinese (*qiao wu zheng ce*). In particular, during the Cultural Revolution, having connections with the overseas Chinese may be considered as a betrayal to socialist China at that time due to class struggle (Zhuang 2001). Even though, from 1949 to the 1980s, the contributions of the overseas Chinese to their homeland were never completely disconnected. The relatives of the overseas Chinese can still receive overseas remittances (Lin 1983).

After 1979, family reunion, visiting friends and studying abroad are the main reasons for international migration of Chinese (Zhuang 2001). China's policy has shifted again to center on economic development and reform. Some regions in China offer explicit or implicit preferential policies to the overseas Chinese with their ancestries in those regions. In addition to enjoying the same policies as other foreign enterprises, overseas Chinese investment from Hong Kong, Macao, and Taiwan also enjoys some other special regulations and laws. For example:

(1) Regulations of the state council of the P. R. China for encouraging Taiwan Compatriots to invest in the mainland (July 1988).

(2) Regulations of the state council of the P. R. China for encouraging the overseas Chinese and Compatriots from Hong Kong and Macao to invest in the mainland (August 1990);

(3) People's congress (the sixth meeting of the eighth committee): Law of the P. R. China for protecting Taiwan Compatriots' investment (March 1994).

(4) Detailed Implementation Regulations of the Law for Protecting Taiwan Compatriots' Investment 1999 (*Taiwan tong bao touzi bao hu fa shishi xi ze*).

According to the four regulations, the overseas Chinese and Hong Kong-Macao-Taiwan compatriots can enjoy more preferential policies than general foreigners, as explained by the Chinese authority, "the same treatment (equally treated), but a little bit relaxed for the overseas Chinese" (Almanac of Foreign Economic Relations and Trade, 2000). During the implementation process, for overseas Chinese investors, the local governments have additional preferential policies and local regulations to attract more overseas Chinese capital. For example, in 1988 Fujian local government had Fujian's complementary regulation on State Council's FDI laws and regulations (Lin 1983; Zhuang 2001). The special policy arrangements towards Chinese FDI sometimes may affect the fairness of market competition.

Due to the political considerations of the Chinese government (e.g. unification and the united front policy-*tong zhan zheng ce*), overseas Chinese investors and their relatives can enjoy some special treatment from the government. In the 21st century, the Chinese government (the state council's overseas Chinese bureau) has carried out its "helping the overseas Chinese action" plan, (*hai wai zhu qiao ji hua*), which attempts to support and help *huaqiao* and *huaren*, and promote the economic

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cooperation between the overseas Chinese and Chinese enterprises. Almost every province has its own overseas Chinese council, the major ones are in these provinces, like Beijing, Shanghai, Tianjin, Zhejiang, Fujian, Jiangxi, Guangdong, Hainan, Sichuan, and Yunnan, which have a large number of the overseas Chinese. In some cities, there are also industry-innovation parks for overseas Chinese intellectuals: Beijing Haidian District, Changchun, Changshu, Harbin, Jiangsu Kunshan, Nanning, Shanghai Jiading, Shanghai Pudong, Xiamen, Suzhou, and Tianjin, etc (according to the author's fieldwork in 2002, 2003 and 2004). In general, cities with over 50 Taiwan investors are eligible to form the Association of Taiwan Investors (*tai shang xie hui*) and this is a strategy to attract more Taiwan investors using the current Taiwan investors and their connections (*yi tai yin tai, or yi qiao yin tai*). In addition to government policies, the state council has formed several branches dealing with the overseas Chinese affairs:

(1) Office on Taiwanese Affairs (*tai ban*): to communicate with Taiwan investors and improve the relationship between investors and the state. This is a form of emotion investment (*ganqing touzi*).

(2) Association of Taiwan Compatriots (*tai lian*).

(3) Office of Hong Kong and Macao Affairs (*gang ao shiwu ban gong shi*).

(4) Office of the overseas Chinese Affairs, etc.

In addition to the State Council, the People's Congress also has *huaqiao* affairs council (*huaqiao shiqu wei yuan hui*). Every province has overseas Chinese affairs offices. The Chinese People's Political Consultative Conference (C. P. P. C. C) (*zhong guo ren min zhengzhi xie shang hui yi* or *zhengxie*) has also established Hong Kong-Macao-Taiwan and the overseas Chinese communication council

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(*gangaoqiaotai lianluo wei yuan hui*) (Lin 2002). Overseas Chinese affairs have been strongly connected with the economic development and the unification of China.

In the late 1970s and early 1980s, the Chinese government set up four special economic zones in the hometown of the overseas Chinese –Guangdong and Fujian provinces. State preferential policies in special economic zones have attracted a lot of domestic capital and FDI from overseas Chinese investors. Of the four special economic zones, Shenzhen is near the border of the British colony –Hong Kong; Zhuhai is close to the Portuguese colony –Macao; Xiamen is close to Taiwan island across the Taiwan strait; and Shantou is the hometown of the overseas *chaozhou* Chinese all over the world. Special economic zones have served as windows for foreign investors, and testing fields or demonstration models for domestic reforms. This has caused a unique development pattern in south China due to the border effect, geopolitics, common culture and social networks. This research concludes that this development pattern is mainly driven by the economic integration and interdependence in greater China. The Chinese government's preferential policies towards the overseas Chinese and the establishment of four special economic zones are the critical factors for the development pattern in south China.

The Chinese government sees Mainland China as the core state of a Chinese civilization toward which all other Chinese communities should orient themselves (Huntington 1996). The Chinese treated Chinese foreigners and non-Chinese foreigners in separate ways. The overseas Chinese are much more able than either Westerners or Japanese to do business due to the special social networks with China. In China, trust and commitment depend on personal contacts, not contracts or laws and other legal documents. Western businessmen find it easier to do business in India

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than in China where the sanctity of an agreement rests on the personal relationship between the parties (Huntington 1996). China benefits from a borderless network of Chinese merchants in Hong Kong, Taiwan and Southeast Asia. The overseas Chinese have the entrepreneurial skills and combine the bamboo network from family relations to contacts. That is an enormous advantage superior to non-Chinese. The advantages of nonmainland Chinese dealing with the mainland were elaborated by some studies (Kao 1993; Suryadinata 1995; Weidenbaum 1996; Saxenian 1999; Bolt 2000; Bun 2000; Long 2002; Menkhoff and Gerke 2002; Wong and Ellis 2002; Charney and Yeoh and Kiong 2003; Chen 2003). The global overseas Chinese social and ethnic networks have promoted the annual overseas Chinese entrepreneurs meeting (*shi jie hua shang da hui*). Seven meetings had been held from 1991 to 2003 (August 10-12, 1991, Singapore; November 22-24, 1993, Hong Kong; December 2-5, 1995, Bankok; August 25-28, 1997, Vancouver; October 7-9, 1999, Sidney; September 17-19, 2001, Nanjing; 2003, Malaysia) (Economic Yearbook of World Chinese Entrepreneurs 1997-1998; 2001-2002).

5.2.4 The Cooperation Relationships between the Overseas Chinese and China

Chinese FDI is a special type of economic cooperation relation between the overseas Chinese and mainland China. The overseas Chinese and mainland China's economic connections, relationships, and attitudes have shifted a lot during the past two centuries and can be divided into several stages: (1) 19th century to 1949; (2) 1949-1979; (3) 1979-today (Lin 1983; Zhuang 2001). Since 1979 the policy has mainly focused on attracting FDI from the overseas Chinese. The increasingly strong cooperation between China and its overseas Chinese is a key to China's economic success (Toshio 1997; Zhuang 2001; Lin 2002; Long 2002; Nie 2002).

The integration trend of the overseas Chinese resources with Mainland China can be explained by the combination of geopolitics with *guanxi* or social networks. During different historical stages, the overseas Chinese have had different contributions to their homeland (Feng 1993; Xiao and Li 1996; Douw and Huang, Godley 1999; Zhuang 2001; Guo 2001; Han 2001; Wang 2001; Liang 2002; Xu and Situ 2004). In summary, the reciprocal economic cooperation and linkages between the overseas Chinese and Mainland China mainly include these types:

Remittances (*qiao hui*). The overseas Chinese directly mail back money to their family members and relatives in China (Zheng and Zhao 2001; Huang 2003; Zheng 2004).

International Direct Investment. Contributing to hometown was one of the major investment motivations (Wang 2001; Zhuang 2001; Peng 2002). Sometimes the overseas Chinese don't directly invest in China, instead they will provide capital to their relatives in China to set up new enterprises (Kang and Ke 2001; Long 2002).

Donation to hometown. Due to the deep hometown feelings, the donation of the overseas Chinese was usually used for the public services of homeland and hometown, like education, medical services, sports, and poverty alleviation. However, the overseas Chinese donation cannot be simply considered as altruism. In fact, donation activities can improve the social status and image of the overseas Chinese. Good social image means higher social and legal status, which will benefit their investment (Lin 1983; Huang 2001; Zhuang 2001; Zhou and Zeng 2001; Zhang 2002; Xu and Situ 2004). Due to their donation, they can get more preferential policies from the local governments, e.g. better land and simplified approval procedure for investment, etc.

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Qiaoshu enterprises. The overseas Chinese provide capital and equipment, and their relatives in China serve as their proxy. This is in fact a special type of donation or direct investment in hometown, which is sometimes called recessive or hidden investment (*yin xing tou zi*) (Zhuang 2001; Peng 2002). It means that overseas Chinese investors provide capital and their mainland relatives apply for the license of the investment project from the Chinese government. In name of domestic capital, this type of special investment has many benefits, like easier registration procedure, entering some restricted FDI sectors and avoiding government monitoring, using Chinese currency for investment, and avoiding sectoral restrictions and regulations.

Bilateral trading. Due to ethnic Chinese networks, the overseas Chinese have greatly promoted the bilateral trade between the host and home countries.

Tourism and visits to China. Different generations of the overseas Chinese have different degree of ties with their hometown and this will cause returning visits to their hometown (Guo 2001).

Cultural and information exchange. The cultural and information connections of the overseas Chinese with their hometown, namely the overseas ties (*hai wai guanxi*) are also a type of invisible asset and wealth for their homeland and hometown.

Human capital accumulation. Overseas Chinese intellectuals and those who have returned to their homeland are invaluable human capital to China's development.

In the past one century, close connections between the overseas Chinese and their homeland-mainland China are the mainstream relationships. Especially, the special linkages (common culture and kinship) of the overseas Chinese with mainland China have bridged China with East Asia, Southeast Asia, and furthermore the global world. In history, Italy, Poland, Spain, Germany, the U. K., and India also had a

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number of emigrants. However, few countries except for Jewish with Israel can be compared with the strong ethnic networks of the overseas Chinese with mainland China (close connection and reciprocal relationships). Compared with the European emigrants, the Chinese connections are based on kinship, language, common national and psychology feelings, common values, and orientation –(the Confucian culture circle) (Liang and Zheng 1989; Chen 1991; Zhuang 2001; Cai 2002; Zhu 2002; Li 2004). As the economic cooperation with China increases, the overseas Chinese have been considered as an important driving force of China's modernization.

5.3 Empirical Analysis of Ethnic Chinese Networks

After the literature review on social networks and overseas Chinese studies, I attempt to provide statistical evidence of social networks by conducting correlation analyses. Very few studies evaluate quantitatively the social networks of overseas Chinese investment. Using a correlation analysis method, I test the statistical relationship between social networks and foreign direct investment.

FDI in China is mainly from ten Asian countries, the U. S. A., and the European Union. The four major investors are Hong Kong, Taiwan, Japan, and the U.S.A. In order to indicate statistical evidence of the existence of social networks, I decompose overseas Chinese investment into Hong Kong and Taiwan investments, and overseas non-Chinese investment into Japan and the U. S. A investments. From the Foreign Economic and Trade Statistical Yearbook 1994, I have identified the spatial distribution of the four major investors at China's provincial scale from 1991 to 1993. These data are combined with the distribution of the overseas Chinese at the

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province scale and are used to run correlation analyses in order to indicate statistical evidence of *guanxi* and social networks.

The first round of correlation analyses is using the number of the overseas Chinese in the late 1980s from each province with the proportional difference of overseas Chinese and non-Chinese investments at the provincial scale for the year 1991, 1992, 1993, and the average year 1991-1993. The number of the overseas Chinese can be regarded as a proxy of social networks or ethnic Chinese business networks in the correlation analyses. The correlation results are reported in table 5.1.

Table 5.1 Correlation Analysis Results of Proportional Difference (%) with the Number of the Overseas Chinese at the Province Scale

Variable	Difference-91	Difference-92	Difference-93	Average Difference 91-93
Correlation coefficient	0.8692	0.8593	0.9026	0.9289
P-value	0.0000	0.0000	0.0000	0.0000

Table 5.1 summarizes the correlation results. The higher correlation coefficient values suggest that the number of the overseas Chinese as a whole has a significant relationship with the spatial differences at the province scale. The most notable finding is the consistently significant relationships between the number of the overseas Chinese and FDI difference for different years. The uniformly positive signs and high significant levels of P-values support the basic hypothesis of a strong relationship between the spatial differences of investments and the number of the overseas Chinese. Statistically, the number of the overseas Chinese at the provincial scale is a significant factor contributing to the spatial differences of the two types of investors.

The second round of correlation analyses is between the number of the overseas Chinese in 30 provinces with the proportional share of Hong Kong

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investment, Taiwan investment, Japan investment, the U. S. A. investment, total

Chinese FDI, and total non-Chinese FDI (the distribution in 30 provinces). The

correlation analyses are conducted for the most representative year –1992, when

China started to adopt a more open policy towards a market economy after Deng

Xiaoping's South Tour (table 5.2).

Table 5.2 Correlation Analysis Results of Four Major Investors (%) with the Number of the Overseas Chinese 1992

Variable	Hong Kong	Taiwan	Japan	U.S.A.	Chinese FDI	Non-Chinese FDI
Correlation Coefficient	0.9562	0.4204	0.0990	0.1339	0.9383	0.5927
P-value	0.000	0.0207	0.6027	0.4806	0.000	0.0006

Data in table 5.2 indicate statistical results for 1992. Among the four major

investors, the number of the overseas Chinese is a significant factor for Hong Kong

investment. The high significant level of P-value and very high correlation

coefficient value suggest that the number of the overseas Chinese is highly correlated

with Hong Kong investment. For Taiwan investment, the relatively high significant

level of P-value and correlation coefficient value also suggest that the number of the

overseas Chinese is also correlated with the spatial distribution of Taiwan investment.

Compared with Hong Kong and Taiwan investments, the insignificant P-values and

rather low correlation coefficients for Japanese investment and American investment

indicate that the number of the overseas Chinese is not significantly correlated with

the spatial patterns of Japanese and American investments. If regarding the number

of the overseas Chinese as a proxy of *guanxi* and social networks, this can further

verify that *guanxi* and social networks are a more significant factor affecting overseas

Chinese investors than non-Chinese investors. Data in table 5.2 also suggest that the

number of the overseas Chinese is highly correlated with overseas Chinese investment

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distribution, while for overseas non-Chinese investment, the correlation coefficient is relatively low −0.5927 (see table 5.2). This means that although *guanxi* and social networks also matter for overseas non-Chinese investors, in most cases this is due to the effect of following the leader (or learning effect). Namely, as pioneering investors in China, Chinese FDI's trajectory has effects on non-Chinese investment.

Guanxi and social networks are the potential game rules in China. Due to *guanxi* and social networks, there is a lack of fair competition for Chinese and non-Chinese investors. However, non-Chinese investment has brought the game rules of international society to China. In short, the art of *guanxi* and social networks is practiced more often by overseas Chinese investors than by non-Chinese investors.

5.4 Questionnaire Survey on Social Networks

The relationship between social networks and foreign investment is very complex and intricate, and cannot be fully represented by simple correlation analyses. To verify the liability of social networks, I have conducted fieldwork in mainland China. In short, the second-stage empirical analysis of social networks first outlines the purpose of this study –how *guanxi* and social networks influence the patterns of Chinese and non-Chinese FDI. Then I focus on the questionnaire design, the selection of field-site and industries, and the implementation of the survey. Finally, I discuss the results of survey data analysis.

5.4.1 Research Questions, Objectives and Hypotheses on Social Networks

An important goal of this chapter is to confirm the significance of *guanxi* and social networks. More importantly, I wish to address the following important issues on *guanxi* and social networks. (1) Do social networks matter for the sectoral

distribution of overseas Chinese investors? The hypothesis is that some personal

connections and other *guanxi* networks in some industries do affect the sectoral

distribution. (2) Are social networks significant in the spatial distribution of overseas

Chinese investment, compared with overseas non-Chinese investment, whose

locational distribution is based more on economic considerations? (3) Do social

networks matter for the competitive advantage of overseas Chinese investors in

Mainland China compared with non-Chinese investors? By examining the

importance of social networks in the locational and sectoral distribution of overseas

Chinese investors, this research expands the current *guanxi* scholarship.

5.4.2 Overview of the Methodology-Questionnaire Design and Administration

Some government publications and periodicals on overseas Chinese

investment are used for this research, e.g. *taisheng* (the voice of Taiwan investors).

Before I designed the questionnaire, I used these secondary data to explore the *guanxi*

and social network studies. From *taisheng* (the voice of Taiwan), a monthly Journal

of China Taiwan Compatriots Friendship Union (*zhonghua quanguo taiwan tongbao*

lianyihui), I collected some documents on Taiwan investors in the mainland, big

events across the Taiwan strait, the attitudes of Taiwan investors, and the response of

the Chinese government and Taiwan local authority for the period 1984-2004.

These journal articles have served as very important secondary materials summarizing

and analyzing Taiwan investment. Based on these investment cases and the attitudes

of Taiwan investors, I designed the questionnaire.

Fieldwork was conducted three times in order to improve the reliability of the

study. During the summer of 2002, the author conducted preliminary fieldwork and

pilot study in the Bohai Bay Area and the Yangtze River Delta: Beijing, Shanghai,

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Suzhou, Kunshan, Yantai, Weihai, Tsingdao, and Zhaoyuan City (hereafter referred to as summer 2002 fieldwork). Based on my social networks, I interviewed professors, government officials, Ph. D. students, Taiwanese investors, Hong Kong investors, local residents, and employees of FDI firms in Beijing, Shanghai, Kunshan, Yantai-Weihai-Tsingdao, and Zhaoyuan City. Network connections with the vice Chair of Beijing Taiwan Democratic Union in Beijing were established. The fieldwork basically covered two metropolitan regions of China –the Bohai Bay Area and the Yangtze River Delta. During this fieldwork, I collected some questionnaire survey data which were conducted by Taiwan Democratic Autonomous Union (*taiwan min zhu zi zhi tong meng*) in November 1999. The survey covered seven districts of Beijing (Dongcheng, Haidian, Chongwen, Chaoyang, Fengtai, Tongzhou, Shunyi) and included 25 Taiwan firms (hereafter referred to as Beijing Taiwan Survey). In addition, using my *guanxi* with Taiwan Democratic Autonomous Union Party, I collected important interior documents on Taiwan investors in China (Taiwan-Union Central Research Office, March 2002, Beijing), although these documents should not be open to the public. These are also very precious documents for studying Taiwan investment in China since they provide the major issues that overseas Chinese investors usually encounter in China.

Based on these preliminary fieldwork and documents, I designed a questionnaire to be used for fieldwork in south China. My sample survey design benefits a lot from these previous work. In order to further investigate the significance of *guanxi* networks, my own questionnaire survey was conducted in Dongguan City, the Pearl River Delta in Summer 2003 (hereafter referred to as Dongguan survey). Compared with the Bohai Bay area and the Yangtze River Delta,

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the Pearl River Delta is close the Hong Kong and Macao and is the hometown of the

overseas Chinese. After the field data were collected and the preliminary survey

analysis was conducted, the author traveled to the Pearl River Delta in Winter 2004.

These cities in the Pearl River Delta were visited: Hong Kong, Macao, Zhuhai,

Zhongshan, Panyu, Nanhai, Foshan, Guangzhou, Dongguan, and Shenzhen (hereafter

referred to as Winter-2004-fieldwork). These cities including the special economic

zones and cities close to special economic zones are the core manufacturing cities of

the Pearl River Delta and the well-known hometown of the overseas Chinese.

In short, the fieldwork in China helps to uncover the *guanxi* networks of

overseas Chinese investment in China, which are assumed to be a prominent

difference between overseas Chinese and non-Chinese manufacturing investments.

Based on the sectoral and spatial modeling experience and theoretical analyses, the

Summer-2002-Fieldwork, the collected Taiwan-Union Beijing survey and report, and

taisheng journal from 1984 to 2004, I designed this questionnaire survey.

5.4.3 Proposed Site for Fieldwork: *Dongguan* city, *Guangdong* Province

Sample creating is the key of this research. Namely, the key of the survey is

to select ideal fieldwork site and target industries. In this case, the best choice is to

adopt a probability sampling method which can also bring a high response rate and

expected results. During the summer-2002 fieldwork, I found that in different cities

there is a regional variation of investment environment and network connections.

Therefore, some cities in south China with a lot of overseas Chinese will be the ideal

places. In this research, I select Dongguan City in Guangdong Province as the

fieldwork site. The location of Dongguan and the criteria for selecting it are

discussed below. Some traditional labor-intensive manufacturing sectors, like toys,

garments, shoes, furniture, etc, are the target sectors for the survey.

Figure 5.1 The Location of Dongguan City in South China
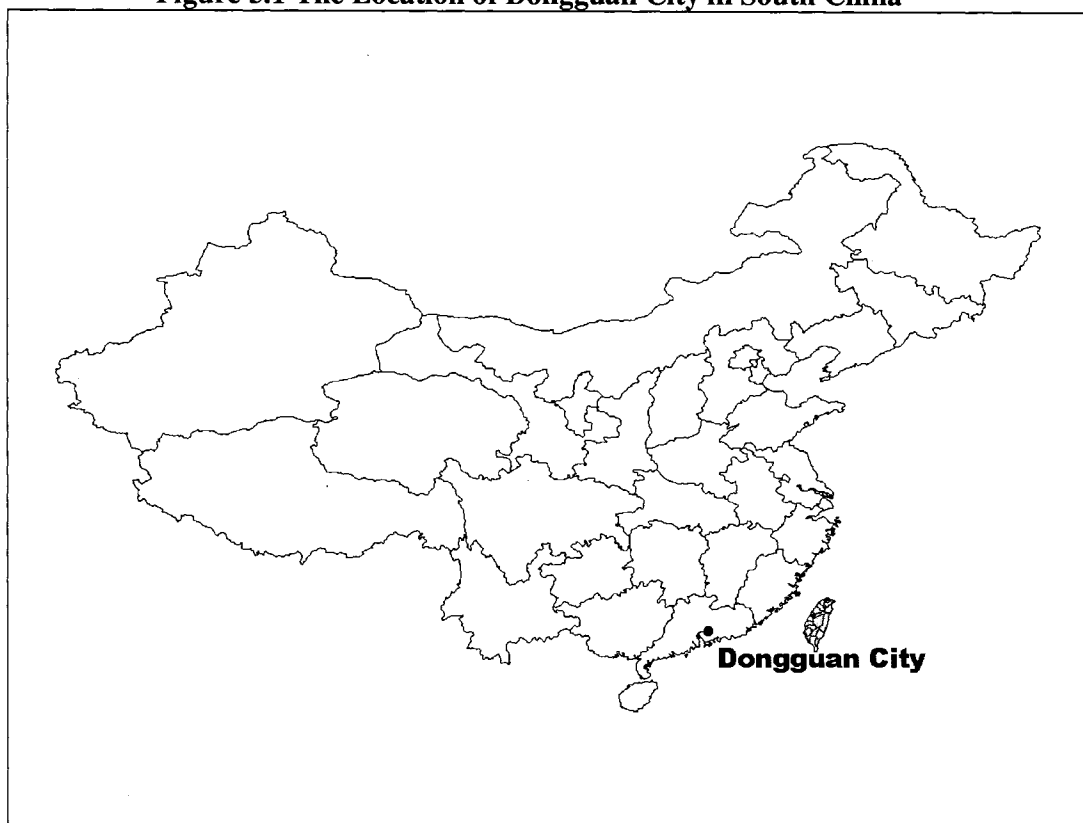
The location of Dongguan City in the Pearl River Delta. As a newly rising

industrial city after China's reform policy, Dongguan is situated in the mid-south of

Guangdong Province, along the east bank of the Pearl River (see figure 5.1). It is

about 50 km north to Guangzhou City, and about 90 km south to Shenzhen Special

Economic Zone. It is only about 47 nautical miles (sea miles) or 140km to Hong

Kong and 48 sea miles to Macao (SSB 2004). In September 1985, Dongguan became

a new city from a small agriculture county and in 1988 it was further promoted as a

prefecture-level city. As a new city situated in the Pearl River Delta, Dongguan

enjoys a series of preferential policies on FDI. It has 32 towns and districts, with a

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total area of about 2465 km-square. The floating population (non-permanent residents) were about 4.4045 million in 2003. Most of these floating population were attracted to work in FDI firms. In less than two decades, Dongguan has realized preliminary urbanization and rural industrialization and created a Dongguan model and economic miracle as an internationally well-known manufacturing base –world factory. It is also an IT industry center, and a world capital of the toy industry which was relocated from Hong Kong. Different towns have different products and advantages, e.g. Humen's garment, Houjie's furniture, Changping's goods flows, Dalang's textile, Qingxi's electronics, and Zhangmu's real estate. Houjie town is called the capital of furniture.

Dongguan City is an ideal place for my survey for the following reasons. In the 1980s, Hong Kong was the predominant source of FDI. And in 1990, 100% of FDI was from Hong Kong (see table 5.3). Taiwan investment has increased significantly since the 1990s, from 4.5% of total FDI in 1995 to 17.7% in 2001. A major portion of Taiwan's IT and electronics investment is concentrated in this medium-sized city. The migration of Taiwan's IT industry has promoted two high-tech industrial zones in China, that is, *Shanghai-Kunshan-Suzhou* and *Shenzhen-Dongguan-Guangzhou*. This cross-strait industrial division of labor is the extension of international production networks. These Taiwanese investors are mostly small- and medium-sized, independent manufacturing firms, which have been dealing with local governments instead of the central government. In addition, other labor-intensive manufacturing sectors, like toys, garments, shoes, furniture, labor-intensive IT (semi-conductor), are also the target sectors. *Dongguan*, a medium-sized city located in the Pearl River Delta, has dense overseas Chinese investment (see table

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5.3). *Dongguan* has a lot of overseas Chinese and a lot of Hong Kong and Taiwan

small- and medium-sized firms. In these years, non-Chinese firms from developed

countries have also been attracted to this area. *Dongguan-Shenzhen-Guangzhou* area

has become a well-known global production-base –a world factory or world workshop.

In 2000, *Dongguan* had an urban population of 396,100, while floating population

was 2,547,200; Hong Kong-Macao-Taiwan FDI was US$ 1.13 billion (68.4%), while

non-Chinese FDI was US$ 0.52 billion (31.6%). By the end of 2000, Dongguan had

around 13,825 FDI firms (accounting for about 3.8% of total FDI firms in mainland

China, about 363,885 FDI firms in China).

Table 5.3 FDI in *Dongguan* City 1990-2001 (US$ 10,000)

Country of Origin	1990	1990 (%)	1995	1995 (%)	1996	1996 (%)	1997	1997 (%)	1998	1998 (%)	1999	1999 (%)	2000	2000 (%)	2001	2001 (%)
H.K.	10167	100	58333	86.7	58164	83.7	68141	76.1	59839	63.5	57118	58.8	88950	54.0	89559	49.33
Macao	0	0	13	0.0	39	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0
Taiwan	0	0	3016	4.5	3213	4.6	3172	3.5	5381	5.7	8181	8.4	23722	14.4	32130	17.70
Chinese	10167	100	61362	91.2	61416	88.4	71313	79.6	65220	69.2	65299	67.2	112672	68.4	121689	67.02
Non-Chinese	0	0	5885	8.8	8087	11.6	18271	20.4	28989	30.8	31813	32.8	52040	31.6	59873	32.98
Total FDI	10167	100	67247	100	69503	100	89584	100	94209	100	97112	100	164712	100	181562	100

Source: Statistical Yearbook of *Dongguan* 2001, 2002, 2003, 2004. China Statistical Press.

Fast growing export-oriented economy. Dongguan's economy has greatly

integrated into the global economy due to a large amount of international investment.

In addition to Chinese FDI, non-Chinese FDI had a share of 40.55% to the total FDI

in 2003 (SSB 2004). Following the trajectory of overseas Chinese investors, many

well-known global top-500-TNCs have investment here since the mid-1990s

(Dongguan Statistical Bureau 2004). Its FDI sources are from twenty countries or

regions: Hong Kong, Macao, Taiwan, Japan, the U. S., the U. K., Netherlands,

Germany, Australia, Canada, France, Singapore, Korea, and British Virgin Islands,

etc. Total FDI of 2003 was US$2.56336 billion in Dongguan and it ranked the third

in Guangdong (behind Shenzhen and Guangzhou). Its GDP was among the top 20

Chinese cities and ranked only behind Shenzhen, Guangzhou and Foshan in Guangdong province (GDP 48.8 billion RMB and GDP per capita 32167 RMB in 2000). It has become an international manufacturing base, in particular a global important production base of computers and parts. Due to its export-oriented economy, Dongguan has become one of the fastest growing regions in China.

Industrialization driven by Chinese FDI. Dongguan City is an important part of the Guangdong-Hong Kong-Macao economic circle. Its industrialization was mainly driven by overseas Chinese FDI from Hong Kong, Macao, and Taiwan. The initial stage (1978 to the mid-1990s) of Dongguan's utilizing FDI was to attract *san-lai-yi-bu* (processing and assembly and subcontracting activities using imported raw materials and parts, and compensation trade) enterprises from the overseas Chinese. During the initial stage, although Dongguan had a weak industrial base, few capital and backward technology, it is close to Hong Kong and Macao and has convenient transportation, and has the regional ties and historical ties with a number of the overseas Chinese and Hong Kong and Macao Compatriots. Many rural and township enterprises have direct cooperation with overseas Chinese investors. In 1978, Taiping handbag factory, the first *san-lai-yi-bu* enterprise of Guangdong Province was located in Dongguan city. This has marked the start of utilizing *san-lai-yi-bu* enterprises in this city. The main industries are textile, garments, handbag, toys and other small-scale and labor-intensive industries. Most of the investors were Hong Kong small businessmen. In 1995, Chinese FDI was over 90% of total FDI and non-Chinese FDI was only 8.8% (table 5.3). Many of these investors' native places are Dongguan City. One of the motivations for investing in Dongguan is due to the native-place ties and kinship ties. On the other hand, these investments were a type of experiment

investment with smaller size. In short, Dongguan's development model and industrialization is a typical example and evidence of the spatial outcomes and impacts of Chinese FDI.

The hometown (qiao xiang) of the overseas Chinese. According to local state official data, Dongguan city is the hometown of 700,000 Hong Kong-Macao-Taiwan compatriots and over 200,000 overseas Chinese. Thus, Dongguan is a well-known hometown of the overseas Chinese in the Pearl River Delta. In addition, due to a number of Taiwan investors (about 5,700 firms) and their relatives, Dongguan has its own Middle School of Taiwan Children (about 2,000 students), a planning Taiwan Investors' Hospital, and the Taiwan Investors' Association (According the fieldwork of 2003 and winter-2004). As one of the main native places of the overseas Chinese in Guangdong Province, Dongguan has a number of *qiaoshu* enterprises, which were set up by relatives and families of the overseas Chinese.

The high density of Chinese FDI in Dongguan. Why did I choose Dongguan City as the field site among all the 640 cities of 1995? Table 5-4 indicates that among the top-ranked 20 cities with overseas Chinese investment in 1995, Dongguan City ranked the third (overseas Chinese investment was 4.69%, while non-Chinese investment was 0.43%). As a new prefecture-level city (initially it was only a rural county), Dongguan had an urban population of 0.3557 million (medium-sized Chinese cities) in 1995. However, of all the Chinese small- and medium-sized cities, Dongguan has the largest amount of Chinese FDI. Of all the 640 Chinese cities, only Shenzhen (a special economic zone near Hong Kong; 7.84%) and Shanghai (a municipality, 4.71%) have a higher proportion of Chinese FDI than Dongguan City. Due to the disproportionate volumes of floating population and overseas Chinese

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investment that Dongguan has received, I selected Dongguan as the field-site.

Table 5.4 Top-ranked 20 Cities with Overseas Chinese Investment (1995)

City	Chinese FDI (%)	Rank1	Non-Chinese FDI (%)	Rank2	Urban Population	City Level
Shenzhen	7.84	1	3.12	7	74.77	vice-province
Shanghai	4.71	2	15.70	1	833.80	province
Dongguan	**4.69**	**3**	**0.43**	**39**	**35.38**	**prefecture**
Guangzhou	4.64	4	3.27	6	316.67	vice-province
Xiamen	4.11	5	1.93	8	47.23	vice-province
Zhongshan	3.56	6	0.63	31	35.57	prefecture
Zhuhai	2.84	7	1.68	10	32.84	vice-province
Tianjin	2.42	8	6.92	3	474.25	province
Jinjiang	2.05	9	0.15	95	10.76	county
Panyu	1.98	10	1.19	15	31.78	county
Beijing	1.96	11	5.00	4	619.40	province
Fuzhou	1.88	12	1.06	18	98.29	prefecture
Huizhou	1.85	13	0.37	48	24.75	prefecture
Foshan	1.75	14	0.42	43	38.28	prefecture
Kunshan	1.64	15	1.25	14	13.96	county
Shantou	1.55	16	0.24	72	74.45	prefecture
Yantai	1.53	17	0.55	32	80.09	prefecture
Fuqing	1.33	18	0.44	37	10.99	county
Ningbo	1.09	19	1.17	16	63.21	vice-province
Shenyang	1.07	20	1.60	11	379.96	vice-province

Source: The Third Industrial Census 1995. Population Unit: 10,000 people.

The industry structure of FDI in Dongguan City. Table 5.5 indicates the

sectoral differences between the two types of investors –overseas Chinese and non-

Chinese investments. The distribution of Chinese and non-Chinese FDI in Dongguan

City is similar to the sectoral patterns at the national scale as I have discussed in

chapter-3. IT and electronics is a significant sector for both Chinese and non-Chinese

FDI (22.74% and 66.12% in 2001, respectively). The target sectors for this research

are food processing and manufacturing, beverage, textile, garments, leather, shoes,

furniture, toys, plastics, IT and electronics assembly and processing. These selected

industries basically reflect the FDI industry structure in Dongguan City and the

requirements of probability sampling.

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Table 5.5 Sectoral Distribution of Overseas Chinese and Non-Chinese Investments in Dongguan City 2001 (10,000 Yuan)

2-digit	Sector	Chinese FDI	Non-Chinese FDI	Chinese FDI %	Rank	Non-Chinese FDI %	Rank
41	Electronic &telecommunication equipment	1113550	2040440	22.74	1	66.12	1
17	Textile industry	734917	88689	15.00	2	2.87	4
40	Electric machinery and equipment	453723	195841	9.26	3	6.35	2
30	Plastic products	378724	34383	7.73	4	1.11	12
22	Papermaking and paper products	322624	21945	6.59	5	0.71	15
18	Garments and other fiber products	316350	32921	6.46	6	1.07	13
24	Culture, education and sports goods	294135	62434	6.01	7	2.02	8
26	Raw chemical materials and chemical products	277913	21389	5.67	8	0.69	16
34	Metal products	217265	79282	4.44	9	2.57	6
19	Leather, furs and related products	208142	48857	4.25	10	1.58	10
23	Printing and record-media reproduction	97980	15707	2.00	11	0.51	17
42	Instrument/meter/cultural/ office machinery	63203	76723	1.29	12	2.49	7
21	Furniture manufacturing	63046	44638	1.29	13	1.45	11
29	Rubber products	59488	6635	1.21	14	0.21	20
31	Nonmetal mineral products	55991	51766	1.14	15	1.68	9
36	Equipment for special purpose	41419	5495	0.85	16	0.18	21
14	Food production	39264	84801	0.80	17	2.75	5
35	General machinery	35142	10491	0.72	18	0.34	19
20	Timber processing, bamboo, grass product	23294	3234	0.48	19	0.10	22
37	Transport equipment	22800	24900	0.47	20	0.81	14
15	Beverage production	22670	114288	0.46	21	3.70	3
13	Food processing	17693	1987	0.36	22	0.06	24
27	Medicine and pharmaceutical products	12048	0	0.25	23	0.00	26
32	Smelting and processing of ferrous metals	10605	14241	0.22	24	0.46	18
28	Chemical fiber	9581	3070	0.20	25	0.10	23
33	Smelting and processing of nonferrous metals	6382	1907	0.13	26	0.06	25

Source: Dongguan Statistical Yearbook 2002. Chi-square value = 151.23 or 265.65 (> table value=38, df=25, significant at 0.05 level). Note: for tobacco processing (SIC16) and Petroleum processing and coking production (SIC 25) industries, there is no foreign presence at all.

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5.4.4 The Implementation of the Survey

The sample survey consisting of 100 FDI firms located in Dongguan City was conducted in summer 2003. The questionnaire and administrative procedures have been pilot-tested with an effective sample size of N=7. The pilot study enabled me to test and improve scale effectiveness and to examine the quality of the sample frame: possible inconsistencies in the survey, wording problems, privacy protection, etc. Interviews were conducted with one informant per company (CEO in most cases, otherwise the most senior vice president or senior manager).

Five people in Mainland China served as the personal interviewers to help the author. Everyone was given a task of 20 firms (10 for Chinese, 10 for non-Chinese). Non-Chinese firms should be the investment from developed or some developing countries, e.g. Japan, Western Europe, North America, Australia, and Korea, etc. Overseas Chinese firms were chosen from investors of Hong Kong, Taiwan, and Macao. Interviewers were told not to choose firms from Southeast Asia just in case some firms from these countries are overseas Chinese investment.

From the Statistical Yearbook of Dongguan (2000, 2001), I selected a list of overseas Chinese firms and overseas non-Chinese firms. For each firm, it has the contact information (telephone number, fax, post-code, contact person), location, and business scope (industries). I chose 100 firms (50 overseas Chinese firms, 50 non-Chinese firms) based on industry category and country of origin and the principles of probability sampling. The sample size is 100, which is around 1% of the total FDI firms in Dongguan City.

Every interviewer was given both the Chinese (simple and traditional character) and English versions of the survey, and a list of FDI firms for reference

when doing the survey (everyone got a list of 20 firms). The survey purposes, the reasons for choosing different labor-intensive sectors as the target industries, and which level of managers they should talk with were explained clearly to the interviewers. In total, I had 81 firms' survey done (38 non-Chinese firms; 43 overseas Chinese firms). The response rate is 81%.

5.4.5 Summarize Primary Survey Data from Questionnaire

The characteristics of the respondent firms are provided in the following table. Data in table 5.6 summarize the sectoral distribution of surveyed FDI firms, which basically reflects the industry structure of FDI in Dongguan City.

Table 5.6 Sectoral Distribution of Surveyed FDI Firms

Industry	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Electronics	14.0	13.2
Machinery, steel, and transportation equipment	11.6	5.3
Furniture	4.7	7.9
Chemistry	4.7	13.2
Tea processing	4.7	0
Pottery	2.3	2.6
Food	14.0	21.1
Medicine and Biology Technology	2.3	2.6
Leather	2.3	0
Textile and Garment	2.3	7.9
Jewelry	0	5.3
Other (including unanswered firms)	37.2	21.0

(1) The role of *guanxi* in investment process and decision making process

For overseas Chinese investors, the most important investment motivation is China's preferential policy (39.6%) and the second is China's huge market (30.2%). Cheap land and labor for reducing production cost is 18.6%, while the factor of kinship and ethnic networks is only 11.6% (see table 5.7). For non-Chinese firms, the

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rank of different investment motivations is: cheap labor and land (44.7%), penetrate

into China's huge market (42.1%), and preferential policy (7.9%).

Table 5.7 Investment Motivation

The Most Important Factor	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
China has cheap labor and land to reduce production cost	18.6	44.7
Our company can penetrate into China's huge market	30.2	42.1
My ancestors were born in China and I have relatives there, I would like to make contribution to my hometown; or Support the modernization of mainland	11.6	N/A
The preferential policy of China	39.6	7.9

Note: Two non-Chinese firms didn't answer this question.

For overseas Chinese investment, the most important locational determinant is

"It has stronger local government support and more preferential policies than other

cities" (39.5%) (see table 5.8) and the second is "my friends are successfully doing

business here" (30.2%), followed by "convenient transportation system" (27.9%) and

"it was ancestor's hometown" (18.6%), etc. Stronger government support (e.g.

simplified approval procedure) implies less institutional costs, less hidden transaction

costs, and looser control, which are vital concerns for Chinese FDI to locate in small-

and medium-sized cities. Therefore, state policy is the leading factor for Chinese FDI

in this survey. The smaller bargaining power of Chinese FDI firms which cannot

compete with larger firms in bigger cities, is another locational determinant of

Chinese FDI (16.3%). Geopolitics or location (the location is near Hong Kong and

Taiwan) is also a factor that affects the locational choice of Chinese FDI (11.6%).

For non-Chinese investment, the most important factor is "convenient transportation

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system" (60.5%), followed by "state policy and support" (55.3%), and "*guanxi*

networks" (23.7%). The survey results indicate that the institutional costs are also a

factor (55.3%) affecting non-Chinese FDI. In addition, interfirm networking is also a

significant factor (18.4%) for the locational choice of non-Chinese FDI.

Table 5.8 Location Choice Factors

Location Choice Factors	Overseas Chinese Firms (%)	Overseas Non-Chinese Firms (%)
It was my and my ancestor's hometown	18.6	N/A
It has stronger local government support and more preferential policies than other cities	39.5	55.3
My friends are successfully doing business here; and I have *guanxi* here in this city	30.2	23.7
It is near Hong Kong and Taiwan	11.6	7.9
It has convenient transportation system	27.9	60.5
Our company cannot compete with larger companies in larger cities	16.3	10.5
Our company's downstream and upstream firms are located here and we have to follow	0	18.4
Others	9.3	5.3

Note: Firms are allowed to choose several answers.

In short, institutional forces and market forces, and non-economic factors –

guanxi have influenced the locational choices of the two types of investors. This also

reflects the learning effect for non-Chinese FDI which has probably adopted the

guanxi tradition. However, compared with overseas non-Chinese investors, *guanxi*

networks are more significant for overseas Chinese investors (see table 5.8).

Compared with institutional and market factors, *guanxi* and social networks are a

minor factor for locational choices.

Table 5.9 Sectoral Choice Factors

Sectoral Choice Factors	Overseas Chinese Firms (%)	Overseas Non-Chinese Firms (%)
We have connections with some friends in this industry	25.6	13.2
Chinese government restricted other industries to enter, and the local government introduced this industry to us	18.6	2.6
This industry is one of the most profitable industries in China	23.3	39.5
This industry has large potential market in China	44.2	55.3
This industry has more preferential policies, e.g. lower tax rate	0.0	18.4
Others	11.6	13.2

Note: Firms are allowed to choose several factors.

Like the locational determinants, similar results are found in the sectoral choice factors (table 5.9). For overseas Chinese investors, potential market of the targeted industry is 44.2%; the factor of connections with business friends is 25.6%; sectoral profitability is 23.3%; and state industry policy is 18.6%. For non-Chinese investors, the factor of China's potential market is 55.3%; profitability is 39.5%; and preferential policy is 18.4%. As an important component of preferential policies, tax is an important factor affecting FDI in China. In particular, unreasonable tax policy will put foreign investors into a situation of "unfair competition". For non-Chinese investors, the factor of friends connection is only 13.2%. This has verified that the art of *guanxi* and social networks is more frequently practiced by overseas Chinese investors than non-Chinese investors. In short, institutional factor, market and economic factor, and potential game rules (including *guanxi* or social networks) all have influences on the sectoral patterns of the two types of investors. However,

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compared with institutional and market factors, *guanxi* and social networks are only a minor influential factor for sectoral choices of both Chinese and non-Chinese FDI.

Table 5.10 The Role of *guanxi* in Obtaining Information

How to Obtain Information	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Via relational networks and existing inter-personal networks	76.7	44.7
Systematically collected via market research (impersonal sources), advertisement, etc	27.9	52.6
Others	14.0	21.1

Note: Firms are allowed to choose several answers.

Table 5.10 indicates that overseas Chinese firms are more likely to use relational networks in obtaining information (76.7%), while for non-Chinese firms, market research, advertisement and other impersonal sources are more important channels (52.6%).

(2) General Survey about *guanxi*

In order to evaluate the general attitudes of foreign investors on *guanxi*, respondents were asked to rate some questions or claims on a five-point scale, ranging from strongly disagree to strongly agree. Interestingly, attitudes towards *guanxi* and social network advantage tend to be highly skewed, with most respondents either agreeing or strongly agreeing. Even overseas Chinese investors admit their own advantages of *guanxi* and social networks.

The first question asked for investors is, "Do you agree with the advantage of cultural and linguistic affinity of overseas Chinese in building up networks and exploit *guanxi* relations in China?" The summarizing results are presented in table 5.11. 79.1% of overseas Chinese investors agree or highly agree with the statement

that the cultural advantage is important. And 73.7% of non-Chinese investors agree

or highly agree with the statement.

Table 5.11 The Evaluation on Cultural Advantage and Cultural Ties

Five-Point-Scale Rating Options	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Highly disagree	0	2.6
Somewhat disagree	2.3	7.9
Neutral	18.6	15.8
Agree	44.2	71.1
Highly agree	34.9	2.6

A big challenge for FDI in China is the unfamiliarity with the Chinese

traditional culture. The cultural sensitivity, complex *guanxi* networks and personal

relationships, and going through the back door, are hurdles for doing business in

China. In foreign countries, there are also professional relationships based on mutual

trust. However, in China *guanxi* is usually connected with human feelings and

cultural sensitivity, and sometimes *guanxi* can go beyond the scope of human feelings

and involve bribing and corruption that is bad for society. This factor will make

overseas non-Chinese investors in disadvantageous competition situation compared

with overseas Chinese investors.

The second evaluation question is "overseas Chinese investment has more

advantages over overseas non-Chinese enterprises because of the special geopolitics

with China, kinship ties, common language and common customs. (on a five-point

scale)" (see table 5.12). The survey results are highly skewed towards "somewhat

agree" or "strongly agree". The special treatment or enthusiasm towards Chinese FDI

may sometimes in contradiction with regulations and will affect the fairness of

investment environment.

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Table 5.12 The Competitive Advantage of Overseas Chinese Investors Compared with Non-Chinese Investors

Five-Point-Scale Options	Overseas Chinese Firms (%)	Overseas Non-Chinese Firms (%)
Strongly disagree	2.3	0
Somewhat disagree	9.3	10.5
Neutral	7.0	21.1
Somewhat agree	53.5	52.6
Strongly agree	27.9	15.8

In order to evaluate the rewards and benefits for using *guanxi* networks, another question is asked, "Is *guanxi* with local government essential for cheap land, labor, and preferential policy?" Very consistent results have been found in table 5.13. Namely, the results support the argument that *guanxi* can improve efficiency and influence the performance of firms. Sometimes a good relationship with the local government can bring about very simplified approval procedure in a very short time.

Table 5.13 The Benefit of *Guanxi*

Five-Point-Scale Options	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Strongly disagree	4.6	7.9
Somewhat disagree	9.3	15.8
Neutral	9.3	28.9
Somewhat agree	69.8	42.1
Highly agree	7.0	5.3

In Europe and America, the relationships with customers are important too, but they emphasize more on product features, e.g. a more competitive price and reliable delivery. In China, *guanxi* in business mainly is related to non-economic factors instead of economic size, and non-economic factors have become the main consideration of transaction. Humanized social network transaction and nonhumanized institutional transaction are the most interesting difference between the two types of investors. A firm's cultural advantage is a firm's competitive advantage. The Western society has a high-paperwork culture, while the Confucian society has a

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low-paperwork culture. Namely, in the Confucian society, information exchange is going through a common sense under the same culture.

Compared with the legal system, *guanxi* system is the potential rules of the game in the Chinese society. In order to evaluate the relationship between the two systems, I asked a question here, "Do you think that a gradually developed legal system is now replacing the overwhelming *guanxi* system in China?" Results are reported in table 5.14. Over half of overseas Chinese (about 74.4%) and non-Chinese investors (about 57.9%) either somewhat agree or highly agree that a gradually developed legal system is going to replace the current *guanxi* system in China. In fact, the enforcement of legal system is still often constrained by traditional thinking, the lack of education, local protectionism, and disparities in income and knowledge. These problems are significant obstacles in rural areas and interior provinces where the government's policy has been trying to attract investment there. There is a Chinese proverb, "The sky is high and the emperor is far away" (*tian gao huang di yuan*). It is often interpreted in modern parlance as "there are policies above and counter-measures below" (*shang you zheng ce, xia you dui ce*). In some isolated hinterland places, contract is a mere scrap of paper (*yi zhi kong wen*) due to the lack of system trust. Under this situation, *guanxi* and social networks will still consistently affect China's political and market systems. Although China joined the WTO in 2001, foreign investors don't expect everything will change overnight.

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Table 5.14 The Resilience of *Guanxi* System (the convergence trend)

Five-Point-Scale Evaluation Options	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Strongly disagree	0	0
Somewhat disagree	7.0	10.5
Neutral	18.6	31.6
Somewhat agree	67.4	23.7
Highly agree	7.0	34.2

Another question is asked to evaluate the general importance of social networks in China, " Please rate the importance of social networks (*guanxi*) for doing business in China on a scale of one to five?" (see results in table 5.15). Very consistent results are found in table 5.15.

Table 5.15 The Importance of *Guanxi* Networks in Marketing

Five-Point-Scale Options	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Not important	0	7.9
Somewhat important	7.0	18.4
Important	27.9	18.4
Very important	48.8	42.1
Extremely important	16.3	13.2

In summary, an overwhelming majority of respondents consider *guanxi* as either important or very important in marketing. This is another evidence that *guanxi* can influence firms' performance in China. Not surprisingly some respondents have negative attitudes on *guanxi* networks. Indeed, *guanxi* is very important for doing business in China and a good *guanxi* can help a firm to enter a new industry and region. But *guanxi* system is slightly changing after the 1990s since the legal system is evolving though enforcement varies widely from place to place, e.g. the establishment of intellectual property right system and other attempts. China is shifting from *ren zhi* "rule of man" to *fa zhi* "rule of law". *Guanxi* is a human factor instead of a piece of paper like the western law and legal practice. The effect of international rules and the commitments to the WTO will improve China's legal system and policies towards FDI.

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(3) Specific *guanxi* relationships in firms

Table 5.16 The Advantage of Ethnic Chinese as Managers

Options	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
I am an overseas Chinese and different from mainland Chinese	4.7	7.9
As a Chinese, I am familiar with Chinese culture and customs	9.3	23.6
It is due to my outstanding management ability	20.9	63.2
I have good personal relations and other connections in China	11.6	36.8
The parent company directly sent me here to organize this business	11.6	7.9
Others	51.2	5.3

Note: Firms are allowed to choose several answers.

Hiring an ethnic Chinese manager is a strategy for foreign investors, especially for non-Chinese investors. This is an important localization strategy. Hiring an ethnic Chinese as a manager in a FDI firm can take advantage of *guanxi* networks (see table 5.16).

Table 5.17 The Employee Localization of the Two Types of Investors

Options-answers	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
below 10%	62.8	65.8
11%-30%	27.9	23.7
31-70%	4.7	5.3
over 71%	4.6	2.6

Note: the percentage indicates how many personnel and employees are from overseas. One non-Chinese firm didn't answer this question.

Table 5.17 shows that interestingly, both overseas Chinese firms and non-Chinese firms have the same localization strategy. Over half of the firms surveyed have less than 10% of overseas employees. There are usually three types of management personnel and professionals: (1) Westerners who have experience of working in big companies and have enough management experience. (2) Asians, e.g.

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Hong Kong, Taiwan, Singaporean. Many of them are familiar with China and can even speak Mandarin; (3) local Chinese. These three types of employees have played different roles in foreign firms. Localization can reduce production costs. Foreigners sometimes are not effective in penetrating into China's market, especially for establishing government relations, marketing and sales, etc. These have become the motivations for localization because local Chinese are familiar with local policies and regulations, and other enterprises in the same industry (according to the author's fieldwork). In short, there are different types of staff in foreign companies:

1. overseas non-Chinese directly from headquarters of TNCs;

2. overseas non-Chinese from the regional headquarters in the third country;

3. overseas Chinese from Hong Kong, Macao, and Taiwan, etc.;

4. mainland Chinese that received education from developed countries;

5. local Chinese.

In overseas non-Chinese firms, more and more managers' positions have been taken by the overseas Chinese from Southeast Asia, Hong Kong, Macao, and Taiwan. In history, the first generation overseas Chinese entrepreneurs were mainly from Southeast Asian countries; the second generation included Hong Kong and Taiwan Chinese who had created economic miracles; and the third generation will be those mainland Chinese entrepreneurs with the high-speed development of the Chinese economy in the 1990s. As the data in table 5.18 indicate, both Hong Kong-Macao-Taiwan Chinese and foreigners are the two common types of foreign employees in any FDI firm with different entry modes. These foreign employees bridge mainland China and their home countries.

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Table 5.18 The Composition of Foreign Employees in FDI Firms (1995)

Entry Mode	Hong Kong-Macao-Taiwan Chinese	Foreigners
Non-Chinese FDI	**3356**	**10836**
#EJV (equity joint venture)	1873	5701
#CJV(cooperative joint venture)	509	501
#WFOE (wholly foreign owned enterprises)	974	4634
Chinese FDI	**15753**	**2047**
#EJV	6118	1338
#CJV	1965	113
#WFOE	7670	596
Total	**19109**	**12883**

Source: The Third Industrial Census of China 1995, SSB.

In addition to the localization strategy, establishing EJV(equity joint ventures) can take advantage of the *guanxi* networks of Chinese partners in order to penetrate into China's market. Indeed, whether depending on *guanxi* or real power to do business is a key difference between overseas Chinese and non-Chinese investors. *Guanxi* culture can be compared with the invisible tariff barriers for foreign investors. This is obviously a competitive advantage of the overseas Chinese. After joining the WTO, game rules will be changing, namely, transparent and standardization of the system and other international game rules will challenge the old *guanxi* system.

Doing business successfully in China is determined by a lot of factors, like the difficulties caused by culture distance, local legal system, institutional framework, and other non-economic factors. In fact, due to cultural distance, many foreign firms in China initially are unaccustomed to the climate of a new place. As a Chinese proverb describes, "on entering a country or place, inquire and follow about its customs, then you will fee just like fish in water". Being familiar with China's policy, culture, national feelings, and economic trend is very important for foreign investors. In order to evaluate their effects on both overseas Chinese and overseas non-Chinese investors, a question on evaluating these factors is designed (see table 5.19).

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For overseas Chinese investors, effective sales networks and employee loyalty

are the most important factor for business success (44.2%); the second is the factor of

guanxi networks (18.6%) as well as the factor of good trust and legal regulation and

system (18.6%). The selection of a capable local Chinese manager or partner is

16.3%. Setting up representative office and conquering culture difference or distance,

which are very important for non-Chinese investment, however, are not so important

to overseas Chinese firms at all (see table 5.19). For overseas non-Chinese firms, the

most important factor is effective sales networks and employee loyalty (26.3%); the

second is the factor of good trust and legal system (21.1%). Setting up representative

office ahead (18.4%) is the same important as finding a capable local Chinese

manager or partner (18.4%). Conquering the culture difference and distance (7.9%) is

the same important as spinning and using *guanxi* networks (7.9%)

Table 5.19 The Most Important Factors that Determine Business Success

The Most Important Factors	Overseas Chinese Firms (%)	Non-Chinese Firms (%)
Set up representative office ahead to ensure success	0	18.4
Conquer the cultural difference and distance	0	7.9
Effective sales networks and employee loyalty	44.2	26.3
Spin and use extensive *guanxi* networks	18.6	7.9
Good trust and legal regulation of the society	18.6	21.1
A capable local Chinese manager or partner	16.3	18.4
Others	0	0

Note: one Chinese firm didn't answer this question.

Overseas non-Chinese firms from a western society with a good legal and

economic system will experience culture shock in China. A big hurdle is the

language distance which is a measure of cultural difference or distance (West and

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Graham 2004). In order to gain competitive advantage, they need to learn the culture of *guanxi*, which is similar to the concept of social capital. It means that the winner will be those that can successfully establish *guanxi* with the governments. Due to the weak Chinese legal system and institutions, foreign investors tended to select capable local partners to set up EJVs or CJVs in order to increase the probability of success and get more benefits and advantages, like the cheapest land, special policy treatment, lower tax burden (e.g. no tax for the first two years and half tax rates for the next three years), and flexible tariff, etc.

After joining the WTO in the new century, China's investment environment has changed and China's market is getting closer to the world standards. Stable banking and finance systems, the protection of intellectual property right, and the commitments of free trade and investment to the WTO, have become the major concerns for foreign investors. Since 2002, WFOEs (wholly foreign owned enterprises) have gradually overtaken EJVs and CJVs and become the dominant entry mode (SSB 2003). In 2001, the proportion of WFOEs to total FDI was 48.06%, while this proportion shifted to 57.67% and 59.47% in 2002 and 2003, respectively. By setting up WFOEs, foreign investors could avoid the conflicts of management, business cultures and value opinions between Chinese partners and foreign investors. Foreign investors have become more familiar with China's market and potential game rules in the past 25 years. EJVs and CJVs have become the handcuffs for foreign investors. For example, a few global well-known TNCs shifted their entry modes from EJVs and CJVs to WFOEs in 2004, such as Siemens, P&G, PANASONIC, NOKIA, LUCENT, etc. (SSB 2004, 2005).

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5.5 Summary and Conclusion: Research Significance

This chapter aims at examining the effect of *guanxi* system of the Chinese culture on FDI. Social networks, which represent an ethnic dimension of China's FDI sources, are a notable and prominent difference between Chinese FDI and non-Chinese FDI. By showing the significance of social networks in the locational choices of overseas Chinese investment, this research contributes to modern location theory. Furthermore, I challenge the eclectic paradigm as it applies to China by pointing out a significant blind spot of it –the neglect of the social-network factor.

Extensive literature review on social networks is provided in this chapter. Related studies on Chinese transnationalism, the government policies towards the overseas Chinese investment, and the economic coordination between the overseas Chinese and mainland China are also highlighted in this research.

Correlation analyses between the number of the overseas Chinese and four major investors have indicated that the number of the overseas Chinese as a proxy of social and ethnic networks is significantly related to the spatial differences between the four major investors, Hong Kong, Taiwan, Japan, and the U. S. A. In addition, fieldwork was conducted in China and a probability sampling of questionnaire survey was done in Dongguan City. Survey analysis results indicate that *guanxi* networks have played a significant role in the locational and sectoral choices of Chinese FDI compared with non-Chinese FDI. Survey analysis also shows that the art of *guanxi* is more often practiced by overseas Chinese investors than non-Chinese investors. Fieldwork also shows that localization has become a strategy for foreign investors in China, e.g. hiring ethnic Chinese managers and more local Chinese as employees.

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This research expands the existing *guanxi* scholarship and challenges the classical FDI studies. Future research should further investigate the relationship between geography and networks, management-specific variables, and overseas Chinese return investment and remittances.

Guanxi networks are the hidden cultural norms and traditions between the state power and the market in socialist transitional China. However, *guanxi* and social networks have embedded into the state power and the market system, and have formed the people's realm –the non-governmental social space. As I have indicated in the survey analysis, social networks are only a minor factor compared with institutional and market factors. Therefore, the development pattern driven by Chinese FDI should not be overexaggerated as the kinship-based development or blood-is thicker-than-water development which overemphasizes the kinship factor. On the other side, the development pattern driven by the overseas Chinese from Hong Kong, Macao, and Taiwan should not be simply summarized as regionally-based development which ignores the culture factor, kinship and *guanxi* networks in facilitating overseas Chinese investment. Indeed, the combination of geography with *guanxi* and social networks provides a more reliable explanation framework.

Appendix: The *guanxi* or Social Networks of Overseas Chinese Investment in Mainland China (Survey Instrument)

Place of interview: _____; Date of Survey: _____;

This survey is to be conducted as an instrument for a research project, which intended to know about the *guanxi or* social networks of overseas Chinese investment. Please answer all questions completely and to the best of your ability. I greatly appreciate your participation for this project and effort to answer these questions honestly. Your answer will remain confidential. Company and personal names will be disguised in order to protect their confidentiality.

I Background
1. Company starting year in China: ____; Country of origin: _____; Sector _____.

2. Entry mode:
a. Equity joint venture;
b. Cooperative joint venture;
c. Wholly foreign owned enterprises;
d. Processing and assembly;
e. Others.

3. Firm size (number of employees): _____.

4. As the respondent of this questionnaire, your position in this company is:
a. CEO;
b. General manager;
c. Department Manager;
d. Senior manager;
e. Others (please state)_____.

II The Role of *guanxi* in Investment Process and Decision Making Process
1. Does your company have business connections with other foreign firms including upstream and downstream firms in this city? (please check all that apply)
a. Share information and experience;
b. Provide parts for them;
c. Obtain crude materials from them;
d. No connection at all;
e. Others.

2. Please choose the most important factors that your company considered as important to set up your factory in this city of mainland China? The most important factors _____;
a. China has cheap labor and land to reduce production cost;
b. Our company can penetrate into China's huge market;
c. My ancestors were born in China and I have relatives there, I would like to make contribution to my hometown; or Support the modernization of mainland;
d. The preferential policy of China.

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3. Compared with other cities, why did your company choose the current city? Please check all that apply.

a. It was my and my ancestor's hometown;

b. It has strong local government support (e.g. simplified approval procedure) and more preferential policies than other cities;

c. My friends are successful doing business here; and I have *guanxi* here in this city;

d. It is near Hong Kong and Taiwan;

e. It has convenient transportation system;

f. Our company cannot compete with larger companies in larger cities;

g. Our company's downstream and upstream firms are located here and we have to follow;

h. Others.

4. Why did your company choose this industry to invest in China instead of other industries? (please check all that apply).

a. We have connections with some friends in this industry;

b. Chinese government restricted other industries to enter, and the local government introduced this industry to us;

c. This industry is one of the most profitable industries in China;

d. This industry has large potential market in China;

e. This industry has more preferential policies, e.g. lower tax rate;

f. Others.

5. How did your company get knowledge and seek information of foreign market opportunities in China?

a. Via relational networks and existing inter-personal networks;

b. Systematically collected via market research (impersonal sources), advertisement, etc;

c. Others.

III General Survey about *guanxi*

1. Do you agree with the advantage of cultural and linguistic affinity of the overseas Chinese in building up networks and exploit *guanxi* relations in China? (on a five-point scale)

1=highly disagree, 2=somewhat disagree, 3=neutral, 4=agree, 5=highly agree

2. Overseas Chinese investment has more advantages over overseas non-Chinese enterprises because of the special geopolitics with China, kinship ties, common language and common customs. (on a five-point scale)

1=strongly disagree; 2=somewhat disagree; 3=neutral; 4=somewhat agree; 5=strongly agree

3. Is *guanxi* with local government essential for cheap land, labor, and preferential policy?

1=strongly disagree; 2=somewhat disagree; 3=neutral; 4=somewhat agree; 5=highly agree

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4. Do you think that a gradually developed legal system is now replacing the *guanxi* system in China?
1=strongly disagree; 2=somewhat disagree; 3=neutral; 4=somewhat agree; 5=highly agree

5. Please rate the importance of *guanxi* or social networks for doing business in China on a scale of one to five? (one being the lowest, five being the highest).

1	2	3	4	5
not important	somewhat important	important	very important	extremely important

6. Which of the following government departments or agency do you have friends? (check all that apply)

a. Planning bureau;   b. Construction committee;
c. Land management bureau;   d. Real property management bureau;
e. Industrial and commercial bureau;   f. Tax bureau;
g. Tariff bureau;   h. Export/import management bureau;
i. Planning committee;   j. Environmental & hygienic department;
k. Foreign economic and trade bureau;   l. others.

7. If you have friends in these government departments, how did you make friends with government officials? (please check all that apply)
a. Professional ties or business connections;
b. Friend's recommendation;
c. Invite them for dinner often;
d. Drinking and dining at various banquets and socializing activities;
e. Gift giving on special occasions and holidays;
f. Others.

8. Assume that your company is in trouble with legal issues, what would you do next? (check all that apply)
a. Use friendship, talk with friends in local government;
b. Invite local official for a dinner talk;
c. Use contract and law to defend;
d. Others.

9. Does your company have any of the following donations locally? (please check all that apply)
a. Build a school in poor region; and support poor children to enter school;
b. Support disabled person;
c. Donate to people in natural disaster;
d. Build a hospital;
e. Set up foundation in universities;
f. Poverty alleviation in northwest China;
g. Construct roads and bridge;
h. Others.

IV Explore Specific *guanxi* Relationship in the Firm
1. How did you establish the current *guanxi* relationships with the China investor or intermediary here?

a. Introduced by mutual friends, colleagues, relatives, and neighbors;
b. We were previous indirect customer, close acquaintance or friends;
c. We have prior business relationship and have built some trust between each other;
d. We met at investment fair or trade fair;
e. We saw advertisement from TV, newspapers, and internet;
f. No prior relation, we made cold calls to local officials;
g. others.

2. If you are hired as a Chinese partner by a foreign company, why did this company hire you?
a. I am an overseas Chinese and different from mainland Chinese;
b. As a Chinese, I am familiar with Chinese culture and customs;
c. It is due to my outstanding management ability;
d. I have good personal relations and other connections in China;
e. The parent company directly sent me here to organize this business;
f. Others.

3. In China, how many management personnel in your company are from abroad?
a. below 10%;
b. 11%-30%;
c. 31-70%;
d. over 71%.

4. If you have any family members or friends working in your company, please indicate the exact relation with the person.
a. Direct relatives (including brothers and sisters, parents, husband or wife's relatives);
b. Close associates, acquaintance, and neighbors;
c. Colleagues or old classmates;
d. Personal or private friends, and friends' friends;
e. Others.

5. Please choose the most successful factors for doing business in China: _____;
a. Set up representative office ahead to ensure success;
b. Conquer the cultural difference and distance;
c. Effective sales network and employee loyalty;
d. Spin and use extensive *guanxi* networks;
e. Good trust and legal regulation of the society;
f. A capable local Chinese manager or partner;
g. Others.

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Chapter 6 Conclusion

This dissertation focuses on the differences between Chinese FDI, which

originates from Hong Kong, Macao, and Taiwan, and non-Chinese FDI. The main

finding of the research is that overseas Chinese FDI and non-Chinese FDI exhibit

different sectoral and spatial patterns. One of the primary reasons for these

differences is that the overseas Chinese use social networks to gain competitive

advantage. Consequently, the two types of investors have brought about two different

development patterns in mainland China. This concluding chapter presents a brief

review of how these results were established. The major research findings are first

presented and in particular, I reemphasize the theoretical framework and two different

development patterns caused by the two different types of investors. Then, the

research significance, theoretical implications and empirical contributions to the

literature are highlighted. Finally, I conclude this chapter by sketching a future

research agenda.

6.1 Major Findings

Due to its special geopolitics in East Asia, China's FDI sources are mainly

from ten Asian countries/regions, which include the overseas Chinese regions (Hong

Kong, Macao, Taiwan), and other East Asian countries (Japan, Korea, Singapore,

Malaysia, Indonesia, Thailand, Philippines). In fact, FDI in China is mainly the

intraregional FDI of East Asian countries, especially the intraregional FDI flows in

the Chinese regions (mainland China, Hong Kong, Macao, and Taiwan). Non-

Chinese FDI is a global phenomenon, while Chinese FDI is merely a regional

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phenomenon. This dissertation emphasizes an ethnic and cultural dimension of China's FDI sources and intensively explores the differences between Chinese FDI and non-Chinese FDI. In short, the spatial dimension, sectoral dimension, and ethnic dimension of Chinese FDI and non-Chinese FDI are the focuses of this dissertation.

FDI in China has a history of over 25 years since the first EJV project between the Chinese government and a Hong Kong investor was established in 1980. Due to economic reform and market imperfection, transitional China implies higher institutional costs and transaction costs for foreign investors. In particular, there are some hidden costs for FDI because of the frequent policy shifts. As I have discussed previously, China's transition has been dominated by the state and its institutions, market factors, and the traditional cultural norms (e.g. *guanxi* and social networks).

The theoretical lens that apply to my research come from the mainstream FDI theories which are based on industry organization theory, transaction cost theory, trade theory, and location theory. In the past few decades, the mainstream FDI theories have centered on the experiences of developed countries and other market economies. These conventional theories or paradigms include Kojima's flying geese model, Hymer's industrial organization approach, Vernon's product life-cycle theory, Buckley's internalization theory, Dunning's eclectic paradigm, Williamson's transaction cost approach, the bargaining power theory and the organizational capability analysis approach, and Caves' horizontal-and-vertical FDI theory, etc. The review of the FDI theories suggests that the mainstream FDI theories are inadequate to the understanding of FDI in China, which has a strong state, an imperfect market, and hidden social game rules (e.g. *guanxi* and social networks). In particular, the ethnic component of China's FDI sources has challenged the conventional theories.

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In this dissertation, the synthesis of these theories and concepts with the network approach and other concepts (e.g. transnationalism) has provided an effective explanatory framework.

Overseas Chinese and non-Chinese investments have different spatial impacts on China's development. Driven by globalization forces, many non-Chinese firms from developed countries have geographically concentrated in China's mega-cities and major economic centers. In contrast, a majority of overseas Chinese investment tends to locate in small- and medium-sized cities, e.g. south China including the Pearl River Delta. In this dissertation, I argue that overseas Chinese investment from Hong Kong, Macao and Taiwan has brought about a special development pattern in China, that is, the regional and economic integration in the Greater China circle. The relocation of foreign enterprises from Hong Kong, Macao, and Taiwan into China has triggered a rapid industrialization in south China including Guangdong and Fujian provinces due to the export-oriented nature of Chinese FDI. This can be seen from the fast development of Dongguan City (the fieldwork site) in the Pearl River Delta. The spatial impacts of Chinese FDI on mainland China conform to the principle of distance decay. Namely, from the Pearl River Delta to the Yangtze River Delta (Shanghai area), and to the Bohai Bay Area, its spatial influence becomes weaker due to the decrease of investment amounts. Non-Chinese FDI, which mainly concentrates in important city regions and major economic centers, has a better quality and more important industrial and spatial impacts on China. A few mega-cities have been globalizing due to the concentration of non-Chinese FDI, such as Beijing and Shanghai, etc. In a nutshell, Chinese FDI and non-Chinese FDI have different spatial outcomes and impacts on China's economy.

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Overseas Chinese investment is sectorally as well as spatially uneven from non-Chinese investment. At the sectoral level, I find that Chinese FDI is more concentrated in labor-intensive industries, and non-Chinese investment is more likely in capital- and technology-intensive sectors. During the transitional period, the Chinese government has carried out a directory of industry guide for FDI and there is limited sectoral openness to foreign investors. In short, Chinese FDI and non-Chinese FDI tend to invest in different niche industries in order to exploit industry-specific advantage and gain competitive advantage in the Chinese industry economy.

A sectoral model is constructed based on three-digit SIC level industry data in order to figure out what kinds of industry-specific variables have influenced the sectoral distribution of investments from the two types of investors. Using regression analysis, results suggest that more export-oriented industries are more likely to attract more overseas Chinese investment than non-Chinese investment, and industries that have higher R&D intensity, more human capital accumulation, and more sales tax, are more likely to attract more overseas non-Chinese investment than overseas Chinese investment. The regression model also suggests that both institutional factors (e.g. sales tax) and market factors have influenced the sectoral distribution of the two types of investors. Durbin-Wu-Hausman test (augmented regression test –DWH test) and IV (instrumental variable method) regression are performed to detect and address endogeneity problems. However, no significant endogeneity problems are detected in the four independent variables, which means that OLS regression is still consistent in the final regression model.

The geography of overseas Chinese and overseas non-Chinese investments is another focus and is also elaborated in this dissertation. Instead of examining the

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spatial differences between the two investor groups at the province scale, I present the spatial patterns and spatial differences at a finer resolution -city scale. This is a significant contribution to the FDI literature by conducting FDI studies at an urban scale. Spatially, a majority of non-Chinese investment is more likely to occur in super-large and mega-cities of China's urban system, while a majority of overseas Chinese investment is concentrated in small- and medium-sized cities. Overseas Chinese and overseas non-Chinese investments have different economic niche space. Interestingly, I find that there is a spatially mutual complementarity between overseas Chinese and overseas non-Chinese investments. Namely, non-Chinese FDI is mainly located in northern coastal China and Chinese FDI is mainly concentrated in southern coastal China. More specifically, Hong Kong and Macao investment was mainly concentrated in Guangdong Province and Taiwan investment was mainly located in Fujian and Jiangsu provinces. Japanese investment was mainly clustered in Liaoning and Jiangsu provinces and American investment was mainly located in Jiangsu, Shanghai, and Shandong provinces. Korean investment was mainly concentrated in Shandong and Liaoning provinces.

Theoretical explanations for the spatial differences are provided from different perspectives, like the niche concept and superorganism model, transaction cost theory, bargaining power theory, and institutional perspective, etc. Due to the smaller bargaining power, small- and medium-sized labor-intensive Chinese FDI is more likely to locate in smaller cities in order to take advantage of their *guanxi* and social networks and avoid both hidden transaction costs and institutional costs. In comparison, capital- and technology-intensive non-Chinese investment tends to concentrate in major economic centers to avoid investment risks and hidden

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transaction costs in the transitional Chinese economy. Major economic centers have a higher degree of internationalization and are closer to world standards and international rules and regulations. In general, the larger a city is, the better the institutional environment is. Larger cities have more state power and producer services, and better legal environment, but a tighter state-control on FDI. These are vital concerns for non-Chinese investors. Chinese FDI might reduce institutional costs by locating in small- and medium-sized cities. Decentralization in China has created a spatial and administrative hierarchy at different spatial scales. This means that larger investment projects can only be approved by higher-level local governments or the central government. All these factors have contributed to the spatial patterns and differences of Chinese and non-Chinese FDI.

A spatial analysis approach is employed to detect the spatial patterns of Chinese and non-Chinese FDI and yields significant and encouraging findings. Global Moran's I, local Moran's Ii, Moran scatterplot, GIS mapping, and LISA (local indicators of spatial association) techniques are employed to study the spatial patterns of total FDI, Chinese FDI, non-Chinese FDI, and the spatial differences. Spatial clusters (LISA clusters) in these spatial patterns are identified.

In order to explain the spatial differences between overseas Chinese and overseas non-Chinese investments, a spatial model is constructed to explain why overseas Chinese and overseas non-Chinese investments have a different geography. The individual observation is every single Chinese city (600 cities totally). Using OLS regression methods, a multiple regression model based on location-specific variables is constructed. Due to multicollinearity, most variables are removed from the model and a final OLS regression model with six independent variables is

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constructed. The independent variables are geopolitics, the number of tourists from Hong Kong, Macao, and Taiwan, urban freight handling ability, urban fixed-asset investment, foreign trade, and the number of foreign travelers. The model indicates that cities that are located in Guangdong and Fujian provinces and cities with more overseas Chinese tourists (strong overseas Chinese social networks) are more likely to attract more overseas Chinese investment than overseas non-Chinese investment. And cities with better urban infrastructure, more urban fixed-asset investment (institutional support), a higher degree of openness and internationalization of the economy, and a better overall tourist image and landscape attractiveness tend to attract more overseas non-Chinese investment than overseas Chinese investment. The model also suggests that both institutional factors (e.g. urban fixed-asset investment) and market factors (e.g. foreign trade) have affected the spatial patterns and differences of Chinese and non-Chinese FDI.

Diagnostics of spatial dependence in the final regression model is conducted using spatial analysis software. According to Luc Anselin (1995)'s work, Lagrange Multiplier (error) test and Lagrange Multiplier (lag) test are used to detect spatial autocorrelation in the spatial regression model. The insignificance of both Lagrange multiplier test (error) and Lagrange multiplier test (lag) suggests that spatial dependence is not a serious problem in the final regression model. This means that final OLS multiple regression model is still consistent.

As I have previously discussed, *guanxi* and social networks are the potential game rules and cultural norms in the Chinese society. *Guanxi* networks are a notable and prominent ethnic and cultural dimension of Chinese FDI and non-Chinese FDI. This means that *guanxi* and social networks are important cultural factors that can

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affect the industrial and spatial distribution of both overseas Chinese and non-Chinese investors as well as institutional forces and market factors. Since *guanxi* and social networks cannot be easily measured in the sectoral and spatial models, I use two methods to verify the significance of *guanxi* and social networks.

First, I decompose overseas Chinese investment into Hong Kong investment and Taiwan investment, and also decompose overseas non-Chinese investment into American investment and Japanese investment. Of all the four major investors, each has different economic niche space and sphere of influence. At the province level, I use the number of the overseas Chinese as a proxy of social networks and run correlation analyses with the four major investment groups. Correlation analyses indicate that the number of the overseas ethnic Chinese is a significant factor that contributes to the spatial distribution of Hong Kong and Taiwan investments, while it is an insignificant factor for the distribution of American and Japanese investments.

Second, fieldwork and questionnaire surveys were conducted in Dongguan City, Guangdong Province. The survey analysis results have shown that *guanxi* and social networks have played a role in the sectoral and locational choices of overseas Chinese investors. Compared with overseas non-Chinese investment, overseas Chinese investors have the competitive advantage of building the *guanxi* and social networks. *Guanxi* and social networks have created competitive advantage for overseas Chinese investment. The explanation of overseas Chinese investment highlights the importance of the social network approach in the theoretical realm.

Due to the increasing international migration of the overseas Chinese and the formation of the Chinese world system, transnationalism has become a new approach to studying the overseas Chinese and their investment. The reciprocal economic

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connections and cooperation relationships between the overseas Chinese and mainland China include bilateral trade, foreign direct investment, donation, remittances, cultural exchange, tourism, information exchange, and the accumulation of human capital, etc. The Chinese government has treated Chinese foreigners and non-Chinese foreigners in different ways. For example, due to the political considerations of the Chinese government, overseas Chinese investors from Hong Kong, Macao, and Taiwan can enjoy some special treatment from the government. Cultural and social networks of the overseas Chinese can transcend political boundaries and this is evidenced by the experiences of investors from Hong Kong, Macao, and Taiwan. The current cross-strait relationships can be characterized by hot economic cooperation while cold political relations. The special treatment from the Chinese government towards the overseas Chinese and the establishment of four special economic zones which are the hometown of the overseas Chinese, are important factors for the special development pattern driven by Chinese FDI.

Structural transformations and industrial shifts in Hong Kong, Macao, and Taiwan have caused several waves of investment in China, such as Hong Kong's labor-intensive sectors in the 1980s & 1990s and the service industries in the new century, Taiwan's traditional export-oriented and labor-intensive sectors (garments, shoes, umbrella) in the late 1980s, consumer electronics, food and beverages in the late 1990s, and high-tech IT industries in the new century. The direct spatial outcomes are the fast industrialization of small- & medium-sized cities in south China and the strong regional integration in greater China circle.

The cross-strait economic interactions and exchanges have become a historic trend. In 2002, China overtook the U. S. and became the biggest export destination of

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Taiwan. In 2003, China became Taiwan's biggest trade partner. Although there have been no direct air links for a few decades, six Taiwan airlines with 16 flights from Taipei and Kaohsiung to Shanghai picked up many Taiwan investors during the Spring Festival of 2003. Another significant step happened in January 2005, when the two sides across the Taiwan strait achieved a short-term bidirectional and non-stop flights during the Rooster Lunar New Year. Nevertheless, in order to prevent the independence of Taiwan, mainland China carried out the Anti-secession Law in March 2005 and the cross-strait relations were in tension until the historical visit of Taiwan's Nationalist Party leaders to China in April 2005. As a reward, China has promised to import Taiwan agricultural products including many types of fruits without tariff. Moreover, China will allow mainland Chinese to plan personal trips to Taiwan and reduce fees for Taiwan students in China. Some agricultural development zones for Taiwan farmers and investors have been under construction in Fujian Province. The focuses of the cross-strait future economic cooperation include direct flights, direct shipping, direct trade and telecommunication, bidirectional direct investment, facilitating free trade and a free trade zone across the strait.

In the early 1980s, the former Chinese leader Deng Xiaoping first expressed the framework of "one country, two systems" as a solution to the outstanding issues of Hong Kong, Macao, and Taiwan left over by history. These overseas Chinese communities have been claimed as inseparable territories of mainland China. The peaceful unification purpose is one of the primary reasons for the establishment of four special economic zones in the 1980s. In 1985, the Chinese and British leaders announced the China-UK Joint-Statement on the Hong Kong issue, which affirmed that Hong Kong would be handed over to China on July 1, 1997. In 1987, the

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Chinese and Portuguese leaders announced the China-Portugal Joint-Statement on the Macao issue, which restated that Macao would return to China on December 20, 1999. A number of state policies and economic activities were put into effect in the South China economic zone, which includes Guangdong and Fujian provinces. As early as the 1980s, scholars expressed the idea and term of greater China circle. According to the Dictionary of Human geography (2000), regionalism is a political or cultural movement which seeks to politicize the territorial predicaments of its regions with the aim of protecting or furthering regional interests. Greater China has its spontaneous regional awareness and cultural identity associated with regional ideologies or slogans. In fact, it has a strong regional integration and regional cohesion, regional identity, and spontaneous regional formation and cooperation.

China has become a magnet of all other Chinese communities. The emergence of the greater China sphere is greatly facilitated by a "bamboo network" of family and personal relationships and a common culture. Greater China is rooted in the cultural ties among East Asian Chinese communities, which give rise to "continuing informal integration" of a Chinese-based international economy. In short, from 1979 to 2003, there was a strong and spontaneous process of the regional cooperation and integration between China, Hong Kong, Macao, and Taiwan. The implementation of CEPA in 2004 and the subsequent measures and institutional arrangements have opened up a new prospect in south China.

The implementation of CEPA is a turning point for the regional cooperation between mainland China and Hong Kong, Macao. On one hand, this means that the spontaneous, informal, and non-government dominant regional integration between China, Hong Kong and Macao in the past 25 years had come to an end. On the other

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hand, a new regionalism in south China based on institutional arrangement has formally come into being. Greater China including Taiwan is likely to gradually form a free trade area or a customs union, a common market, and an economic union in the future. Moreover, CEPA will reinforce the Pan-Pearl River Delta cooperation model (the 9+2 framework), which will facilitate the regional integration and a possible common market between the nine Chinese provinces and Hong Kong, Macao. Regional integration in the Pan-Pearl River Delta can take advantage of scale economy, lower entry barriers and transaction costs, free mobility of production factors, free trade, the proximity to market, resource relocation, comparative advantage, and industrial linkages. This has important implications for the service industries of Hong Kong and Macao, and the manufacturing industries of the nine Chinese provinces. Furthermore, it may promote the integration of China with ASEAN, namely, linking up with the projected China-ASEAN Free Trade Agreement by 2010 (CAFTA, the 10+1 framework, *Yearbook of China's Foreign Economic Relations and Trade*, 2002). This has tremendous implications for China's regional integration and spatial economy after joining the WTO.

6.2 Research Significance: Empirical and Theoretical Contributions

(1) Micro-level Studies of FDI

Using firm-level industry census data, this dissertation seeks to make empirical contributions to FDI studies. This research is based on statistical analyses of around 50,000 FDI firms in China. The current FDI literature on China has only limited studies on sectoral patterns of FDI. And, there are very few studies on sectoral FDI inflows, sectoral determinants, and sectoral distribution at four-digit,

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three-digit, and two-digit industry-levels. This dissertation makes this contribution by using the industrial census data. Although there are many studies on the spatial patterns of FDI in China, most of them are conducted at the provincial scale. This research is conducted at the urban-scale, examining the spatial determinants and spatial differences between overseas Chinese investment and overseas non-Chinese investment. In particular, the spatial model is constructed using data of 600 Chinese cities with a foreign presence.

(2) The Application of Mainstream FDI Theories and Modeling FDI in China

In addition to the empirical contributions, my dissertation also has made theoretical contributions to the literature. In this research, I contribute to China's FDI literature by constructing sectoral and spatial models on overseas Chinese and overseas non-Chinese investments using firm-specific variables, industry-specific variables, and location-specific variables. This has also established an organic linkage between the international business literature and geographical studies and has implications for current FDI studies. The framework of ownership advantage, internalization advantage, and location-specific advantage is the basic guideline for modeling FDI in China.

On the other hand, the application of mainstream FDI theories (e.g. Dunning's eclectic paradigm) in transitional China has encountered some challenges. First, transitional economies such as China have an important impact on the sectoral and spatial patterns of FDI. Second, compared with non-Chinese investment, kinship and *guanxi* networks and social ties can greatly facilitate overseas Chinese investment in China. Overseas Chinese investment from Hong Kong, Macao, and Taiwan, especially the entrepreneurship and ethnic business networks of the overseas Chinese,

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cannot be totally and effectively explained by Dunning's OIL framework. By examining the importance of social network advantage for overseas Chinese enterprises, this research makes a contribution to modern FDI theories.

(3) Globalization, Social Networks, Transnationalism, and Chinese Capitalism

Another result of this dissertation is using a theoretical framework which combines globalization and geography with social networks to illuminate the differences between overseas Chinese and non-Chinese investments. The development pattern based on geography and *guanxi* or social networks is a theoretical contribution to the current literature. In addition, the Chinese business networks (including the social networks) are the key for understanding Chinese transnationalism, new regionalism, and Chinese capitalism.

(4) FDI Theories and Institutional Context of Transitional China

My dissertation examines FDI in transitional China and indicates the effects of institutional factors, market factors, and other non-economic factors (potential rules of the game, e.g. *guanxi* networks) on the sectoral and spatial distribution of overseas Chinese and overseas non-Chinese investments. China's transition implies some hidden costs (e.g. institutional costs and transaction costs) for foreign investors. By examining how institutional forces in transitional economies, especially the impact of institutional factors on TNCs in host countries and how FDI is embedded into China's institutional framework, this research fills a gap in the literature. From the initial presentation, it has become apparent that the institutionalist perspective on FDI deserves more attention, and that institutional reform is a crucial factor explaining FDI's embeddedness in China.

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(5) The Empirical Application of Spatial Analysis and other Modeling Techniques in FDI Studies

By constructing the sectoral and spatial models, this research has other empirical contributions to the literature. First, endogeneity test is conducted in the sectoral model using Durbin-Wu-Hausman test (augmented regression test –DWH test) and IV (instrumental variable) methods. Second, the empirical application of spatial analysis techniques in FDI studies is helpful to detect the spatial patterns and spatial relationships of Chinese and non-Chinese FDI.

6.3 Concluding Remarks and Future Research Agenda

Since 1997 and 1999, the status of Hong Kong and Macao has shifted from western colonies to the special administration regions of China. The integration of Hong Kong and Macao with mainland China and the consequent spatial outcomes deserve more scholarly attention. Especially, under CEPA (closer economic partnership arrangement), how will the sectoral and spatial patterns of Hong Kong and Macao investment evolve in the future? Hong Kong and Macao investment will become the quasi-FDI in China or the intraregional special domestic capital flows in the future. What are the implications of CEPA and the pan-Pearl River Delta cooperation on China's regional development in the near future? Similarly, what will be the future of Taiwan investment which has roots in Taiwan and stems across the strait? What will be the new sectoral and spatial patterns of overseas Chinese and non-Chinese investments in the future?

The intraregional FDI flows in East Asia have been a striking feature of this fast growing region. More attention should be paid to the role of East Asia in the

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international division of labor. After the Second World War, in particular, in the 1960s and 1970s when the Japanese economy was dominant in this region, the development model of East Asia was characterized by the well-known flying geese model. However, with the rise of China and other newly industrializing countries, an emerging new type of industrial division of labor in East Asia needs to be deeply investigated. For example, in the 1960s and 1970s, the flying geese model dominated the IT industry of Taiwan. However, in the 1990s, Taiwan's IT industry was no longer dependent on Japanese technology and capital. And its industry upgrade has followed the fast train of the US IT and new economies. The rapid change in the space of new geopolitics due to the industrialization of latecomers in East Asia, its dynamic regionalisms, internal industrial shift and restructuring, and the Asian cultural ties and networks, warrant more studies.

Due to the complex nature and composition of the overseas Chinese, future studies should also pay attention to other groups of overseas Chinese investors, in particular, investors from the overseas Chinese Diaspora in North America.

In addition, minority Chinese and their ethnic and cultural ties with their kin-countries at border regions will become more and more important due to the economic interaction and integration of border regions. Namely, the ethnic and cultural networks will also exist in other regions, e.g. the border between North Korea and South Korea in the future.

In-depth studies on Chinese transnationalism are urgently needed. Under CEPA, a new regionalism in south China based on geopolitics and social networks has come into being. This new regionalism of south China is different from the more institutionalized European Union and NAFTA (North American Free Trade

Agreement). In particular, the implications of new regionalism on FDI flows and regional development in south China need further investigations. What are the roles of the state and its institutional arrangements, market, foreign investors, social organizations and civil society, common cultural norms and social networks in shaping the new regionalism in south China?

This research has highlighted the importance of social networks in the theoretical realm of FDI studies. In addition to the mainstream classic FDI theories and conventional paradigms based on European capitalism, American capitalism, Japanese capitalism and other developed countries, like the flying geese model, internalization theory, transaction cost approach, and Dunning's eclectic paradigm, the network argument provides another effective angle that explains international production. In addition to the social networks as I have previously discussed in this dissertation, the inter-firm and other professional business and economic networks also deserve more attention.

What will be the trend of *guanxi* networks as the legal system and institutional environments of China have become more and more internationalized? More empirical evidence needs to be provided for the relationship between firm's performance and social networks. Attention should also be paid to the role of social networks in Chinese FDI in other countries. The current literature pays attention to the social-capital perspective of social networks, however, under the context of globalization, the culture-capital perspective of *guanxi* networks in non-western societies warrants more research.

Appendix to the Dissertation: Data Sources on FDI in China

China Statistical Yearbook (*Zhongguo tongji nianjian*): 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993/1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004 (provincial aggregated data).

Chinese Urban Statistical Yearbook (*Zhongguo chengshi tongji nianjian*): 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004 (urban-scale aggregated data).

Chinese Industrial Statistical Yearbook (*zhongguo gongye jingji tongji nianjian*): 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1998, 1999, 2000, 2001, 2002, 2003, 2004 (provincial level aggregated data).

Chinese Statistical Yearbook of Science and Technology (*zhongguo keji nianjian*): 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1999, 2000, 2001, 2002, 2003 (provincial-level aggregated data).

China Foreign Economic Statistical Yearbook (*zhongguo duiwai jingji tongji nianjian*): 1994, 1996, 1998, 1999, 2000, 2001, 2002, 2003 (provincial-level aggregated data).

Almanac of Foreign Economic Relations and Trade (*zhongguo duiwai jingji maoyi nianjian*): 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992/1993, 1994/1995, 1995/1996, 1996/1997, 1997/1998, 1998/1999, 1999/2000, 2001, 2002, 2003 (firm-level disaggregated data and provincial level aggregated data).

The China Investment Guide/China international economic consultants Inc.: 1984, 1985, 1986. London, New York: Longman (firm-level data).

The Third National Industrial Census of the P. R. China in 1995 (*zhongguo 1995 nian gongye pucha ziliao*): disaggregated firm-level data.

The Third National Industrial Census of the P. R. China in 1995: (a). volume of general sectors (*zonghe hangye juan*); (b) volume of regions (*diqu juan*); (c) volume of state enterprises, foreign enterprises, and rural enterprises (*guoqi, sanzi, he xiangcun gongye juan*) (aggregated provincial level data).

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The Second National Industrial Census of P. R. China in 1985 (*zhongguo 1985 nian gongye pucha ziliao*): disaggregated firm-level data.

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Statistical Yearbook of China's Regional Economy 2000, 2001, 2002 (aggregated provincial-level data).

China Economic and Trade Statistical Yearbook 2000, 2001, 2002, 2003 (*zhongguo jingji maoyi nian jian*, aggregated provincial-level data).

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Yearbook of World Chinese Entrepreneurs (*she jie hua shang jing ji nian jian*), 1995, 1996/1997, 1997/1998, 1998/1999, 1999/2000, 2000/2001, and 2001/2002. *Shijie hua shang jing ji nian jian bian ji wei yuan hui*. Beijing: *Qi ye guan li chu ban she*. (this yearbook is sponsored by the Overseas Chinese Study Center of Chinese Academy of Social Sciences (CASS) and assisted by China National Committee for Pacific Economic Cooperation Business Forum (PECC), in collaboration with the Institute of World Economics and Politics(CASS), the Institute of Southeast Asian Studies of Xiamen University, the Institute of Southeast Asian Studies of Jinan University, the Center of Chinese Overseas Studies and the Research Center for Overseas Chinese Economy of Peking University.)

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