Master's Research Report

Research on How to Attract Foreign Direct Investment Flowing into China

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Certification Page

I, ZHU Pan (Student ID 51220620) hereby declare that the contents of this Master's research report original and genuine, and have not been submitted at any other university or educational institution for the award of degree or diploma. All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

ZHU Pan
15th June 2021

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Abstract

Recently, China encounters many problems of attracting foreign direct investment (FDI). Increasing labor cost in China, manufacturing revival strategy implemented by developed countries, fierce competition for FDI from emerging developing countries such as countries in Southeast Asia, and Sino-US trade war made the average annual growth rate of FDI inflow in China decreased rapidly after 2012.

Under this situation, researching on how to attract FDI flowing into China in the complicated situation is full of practical significance. This study analyzes the features of FDI in China, tests the correlation between FDI inflows and location factors, evaluate the competitive advantage and disadvantage of location factors in China, and finds that, manufacturing FDI with efficiency-seeking motivation and service FDI with market-seeking motivation have different cointegration relationship with location factors. China is attractive to the service FDI, but to the manufacturing FDI, not. On the whole, location factors in China still have competitive advantage compared with those in emerging developing countries though labor cost in China is the highest.

Keywords: FDI, location factors, principal component analysis, competitive advantage, China

Chapter 1 Introduction

1.1 Background

Since 1978, China has implemented the opening up policy. Foreign direct investment (FDI) has been one of the most significant features of China's opening up to the outside world (Chen, 2018). FDI was an effective way to acquire advanced technology and equipment from developed countries quickly and with minimal cost. FDI provides valuable experience of modern economic management skills (Ibid). Utilizing FDI is an important method for emerging industrialized countries to catch up with developed countries in the world. FDI contributes to accelerate domestic technological progress, which promotes the frontier of production technology efficiency (Yao *et al*., 2006). Foreign invested enterprises also significantly help Chine to engage with the global economy (Kraemer *et al*., 2011; Brooks and Wohlforth, 2016). By the end of 2019, China remained the second largest FDI receipt country in the world.

However, recently China is under complicated situation and encounters many problems of attracting FDI. Firstly, the labor cost increased rapidly. The average wage in 2019 was nearly three times that of 2009, and twelve times that of 1999. According to the Boston Consulting Group's research, the average wage in China was 36% of that in United States in 2000. However this ratio had reached 69% in 2015. The narrowing cost gap pushed multinational enterprises back to their home country (Krawczyński *et al*., 2016). Secondly, the global competition for FDI is fierce. Since 2002, more and

more countries have not only liberalized foreign investment and introduced facilitation measures but also implemented more targeted and selective investment target strategies and investment promotion strategies (UNCTAD, 2003). Emerging developing economies such as countries in Southeast Asia have expanded the level of openness, improved the business environment, and relied on cheaper labor costs to attract FDI inflows, thereby diverting China's labor-intensive FDI inflows (Zou, 2020). Thirdly, some developed countries put forward the manufacturing revival strategy by means of tax cuts to revive the manufacturing system in order to get rid of the financial crisis since 2009, which led to an increase in divestment in China. From 2005 to 2017, China has been the country with the highest foreign investment outflows, accounting for 55. 6% of global manufacturing FDI outflows (Li *et al*., 2020). Driven by changes in manufacturing global competition conditions and government stimulus measures in developed countries, back-shoring will be a long-existing method of international production transfer in the process of economic globalization (Kinkel, 2012; Ellram *et al*., 2013; Li *et al*., 2020). Fourth, Sino-US trade war has become the primary external risk and the biggest uncertain factor for China's economic development since 2018. Some foreign-invested enterprises held a wait-and-see attitude, and some multinational companies were forced to adjust the global layout of their supply chains. According to a survey conducted by the American Chamber of Commerce in China in February 2019, 32% of the 314 U.S. companies interviewed said that they had no plans to expand investment in China in 2019 or were prepared to slow down their expansion speed (He, 2019).

Under the pressure of various internal and external issues, the annual growth rate of FDI inflows in China has decreased recent years. Before 2000 the average annual growth rate of FDI inflow was 39.05%, from 2001 to 2011 this rate was 10.25%, however from 2012 to 2019 this rate was only 2.25%.

1.2 Overall Research Question

The overall aim of this research is to analyze under complicated circumstances (increasing labor cost, manufacturing revival strategy implemented by developed countries, fierce competition for FDI from emerging developing countries, Sino-US trade war), what should be done to attract FDI flowing into China.

1.3 Individual Research Objective

In order to answer the overall research question, this study will disclose and answer the following individual questions:

1) What are the features of FDI in China,
2) What location factors affect FDI flowing into China,
3) What is the new correlation between FDI inflows to China and location factors in the current complicated phase,
4) Do location factors in China have competitive advantage in contrast with that in emerging developing countries, and
5) Propose implication of what should do to attract FDI flowing into China.

1.4 Research Methods

Research methods will contain literature review, empirical analysis and comparative analysis.

1) Literature review: this study will review lots of literatures about the international investment theory, the motivation of FDI in China and location factors in China.
2) Empirical analysis: this study will establish an econometric model to test the correlation between FDI inflows and location factors in the current complicated phase.
3) Comparative analysis: this study will conduct comparative study to evaluate the competitive advantage and weakness of location factors in China with that in other emerging developing countries which are in the rank of top 20 of FDI inflows in the World Investment Report 2019.

1.5 Contribution and Significance

Chinese government has always regarded attracting FDI as an important part of China's basic national policy. However China is under a complicated situation and encounters many problems of attracting FDI. This study analyzes the features of FDI in China from the perspective of source and sectorial distribution. In the empirical analysis this study focuses on complicated phase from 2001 to 2019, divides FDI inflows into FDI in manufacturing and in service, and analyzes the correlation between

FDI in different sector with location factors. Considering the fierce competition for global investment, comparative analysis is conducted to evaluate the competitive advantage and weakness of location factors in China with that in other emerging developing countries. This study analyzes FDI in China and location factors from multiple perspectives and expects to provide practical guidance on what should be done to attract FDI flowing into China.

1.6 Framework

This research report consists of six chapters. Chapter 1 will mainly introduce the background and research question, and provide an overview of this research report. Chapter 2 will analyze the history of FDI flowing into China and discuss the features of FDI from the perspective of source and sectorial distribution. Chapter 3 will review the literature of FDI theory basis, the motivation of FDI and location factors in China. Chapter 4 will examine the correlation between location factors which were concluded by literature review and FDI inflows in China in different sector in the way of quantitative analysis. Chapter 5 will evaluate the competitive advantage and weakness of the location factors in China with that in emerging developing countries. Chapter 6 will summarize the research conclusions and propose the implications of what should be done to attract FDI flowing into China.

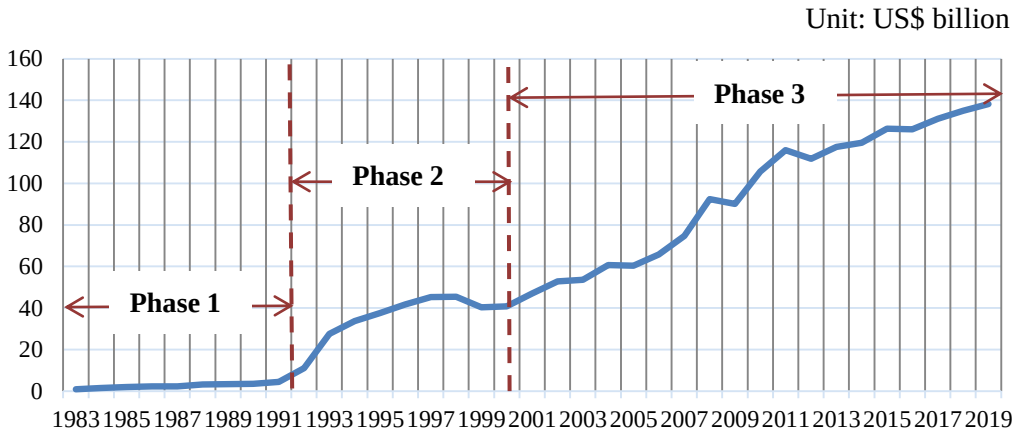
Chapter 2 History and Features of FDI Flowing into China

This chapter provides an analysis of the history of FDI flowing into China from 1979 to 2019 and discusses the main features of FDI in China from the perspective of source and sectorial distribution.

2.1 History of FDI Flowing into China

Chinese government has implemented the opening up policy since 1978. Foreign direct investment (FDI) has been one of the most significant features of China's opening up to the outside world (Chen, 2018). By the end of 2019, China remained the second-largest recipient of foreign direct investment (FDI) in the world, and FDI flowing into China accounted for 9.2% of total global capital flows (Statistical Bulletin of FDI in China, 2020). Chen (2018) and Li *et al*. (2019a) argued that the history of Chinese government's attracting FDI can be divided into 3 phases. The Figure 2.1 shows FDI inflowing into China from 1979 to 2019 in three phases: 1979–1991, 1992–2000, and 2000–2019. In each phase, FDI inflows are closely related to the liberalization and development of legal framework and FDI policies in China (Chen, 2018).

Figure 2.1 FDI flowing into China From 1979 - 2019



Data source: China Statistical Yearbook 2020[1]

2.1.1 The First Phase (1979-1991)

"Law of the People's Republic of China on Chinese-Foreign Joint Ventures" was published in July 1979, which granted FDI legal status in China. In this phase, approval of special economic zones and opening up coastal cities were the main measures of attracting FDI. Four special economic zones (SEZs) — Shenzhen, Zhuhai, Xiamen and Shantou — were approved in 1980. 14 coastal port cities were opened to FDI in 1984. Considering that if there was no domestic hinterland as support, the effect of opening port cities to promote domestic economic development will not be obvious (Lu, 1985). Yangtze River Delta, the Pearl River Delta and the Minnan Delta were opened in 1985. In 1990, Shanghai Pudong New Development Zone was opened. Deng Xiaoping argued that opening up Shanghai is helpful in promoting the development of the Yangtze River Delta and it is also a shortcut for China to open up to the world

[1] From 1979 to 1982, FDI flowing into China totaled 1.769 billion US dollars.

(Huang, 2018).

In this phase, special tax incentives were offered to foreign investors. Chinese government published the “Instructions on Strengthening the Utilization of Foreign Capital” in 1983. Newly established Sino-foreign joint ventures can enjoy two years of exemption from the profit-making year and a three-year reduction of corporate income tax treatment. Existing Sino-foreign joint ventures can extend the tax reduction and exemption period. In 1986, the State Council issued the “Regulations on Encouraging Foreign Investment”. Foreign-invested enterprises can enjoy further preferential taxation policies after the expiration of the exemption period. Local governments even have extra rights to issue policies for tax competition. In 1991, the “Income Tax Law of the People’s Republic of China on Foreign Investment Enterprises and Foreign Enterprises” was promulgated. China has realized the unification of the income tax law and preferential tax policies for foreign-invested enterprises for the first time.

In this phase, opening up has just started. Most of the open cities are located in the eastern coastal areas. The Chinese government was prudent in introducing FDI into its domestic economy, and foreign investors were also concerned about the safety of investment in China (Chen, 2018). During the period of 1979–1991, average annual FDI inflowing into China was US$1.9 billion.

2.1.2 The Second Phase (1992-2000)

The second phase started from 1992. That year Deng Xiaoping toured the southern coastal cities and delivered an important speech on speeding up opening up,

and the Chinese government decided to establish a socialist market economic system. Since then the pace of opening up in the perspective of industry and region has accelerated (Li, 2019). Some services industries which were prohibited to FDI previously — such as aviation, telecommunications, banking and retail trade — were opened to FDI in a limited and experimental fashion (Chen, 2018). Industries that once restricted foreign investment, such as real estate and information consulting, were gradually liberalized and foreign investors were allowed to invest. At the same time, the open areas expanded from the coastal areas to the riverside, inland and border areas. 52 cities were opened to foreign investors and many duty-free zones were established. There was a large difference in the level of economic development between the eastern and western regions, and to ameliorate this problem, the Chinese government put forward the "Western Development Strategy" in 1999. Foreign-invested enterprises can enjoy more preferential policies in the central and western regions. However, sometimes local governments pursue economic growth excessively. In order to attract FDI, they provide foreign-invested enterprises with "super-national" treatment, and use resources or even sacrifice the environment in exchange for FDI (Wu, 2012).

In the second phase, FDI inflowing into China averaged US$3.6 billion annually, almost twice that in the first phase. In 1992 and 1993, FDI inflows doubled year-on-year. From 1994 to 1997, the average annual growth rate of FDI inflows was as high as 13.4%. Affected by the 1997 international financial crisis, FDI inflows declined slightly from 1998 to 2000.

2.1.3 The Third Phase (2001-present)

The third phase started from 2001 when China joined World Trade Organization (WTO). China has transformed from a unilateral independent opening up to mutual opening up with WTO members under international economic and trade rules (Li, 2019).

Chinese government has carried out a large-scale clean-up and revision of foreign-related economic and trade laws and regulations. According to WTO requirements, China gradually abolished the superior tax policy enjoyed by foreign-invested enterprises. The "Enterprise Income Tax Law of the People's Republic of China" came into effect in 2008, and domestic and foreign invested companies were required to pay a uniform corporate income tax at a tax rate of 25%. Original differential treatment of domestic and foreign companies was removed.

More industries were opened to foreign investors, such as finance, telecommunications, construction, distribution, tourism, transportation and many other service industries. Since 2013, China has started to approve pilot free trade zones, and implement the pre-foreign investment pre-access national treatment plus negative list management model in the pilot zones. In 2018, the market access negative list system was promoted nationwide. In 2019, the Chinese government promulgated the "Foreign Investment Law", which officially guaranteed the pre-access national treatment plus negative list management system at the legal and regulatory level. Foreign investors can enjoy national treatment for industrial investments outside the negative list. The Chinese government keeps revising and narrowing the negative list to open more

industries. For example, the number of restricted measures items in “Special Administrative Measures for Foreign Investment Access (Negative List)” in 2017 was 93, and this number was reduced to 33 by the end of 2020.

In this phase, preferential policies for foreign investors were cancelled, and a more consistent and systematic regulatory framework was created. The Chinese government expanded the industries of foreign investment and introduced relevant policies to improve the facilitation of foreign investment. FDI inflow was in an increase trend in this phase. From 2001 to 2011 the average annual growth rate was as high as 10.25%. However after 2012, this growth rate dropped significantly. The average annual growth rate of FDI inflows from 2012 to 2019 was only 2.25%. In 2012 and 2016, FDI inflows even decreased year-on-year. Increasing labor cost in China, manufacturing revival strategies implemented by developed countries, fierce competition for FDI from emerging developing countries and Sino-US trade war are regarded as the reasons for the decline (He, 2019; Krawczyński *et al*., 2016; Li *et al*., 2020; UNCTAD, 2003; Zou, 2020).

2.2 Features of FDI Flowing into China

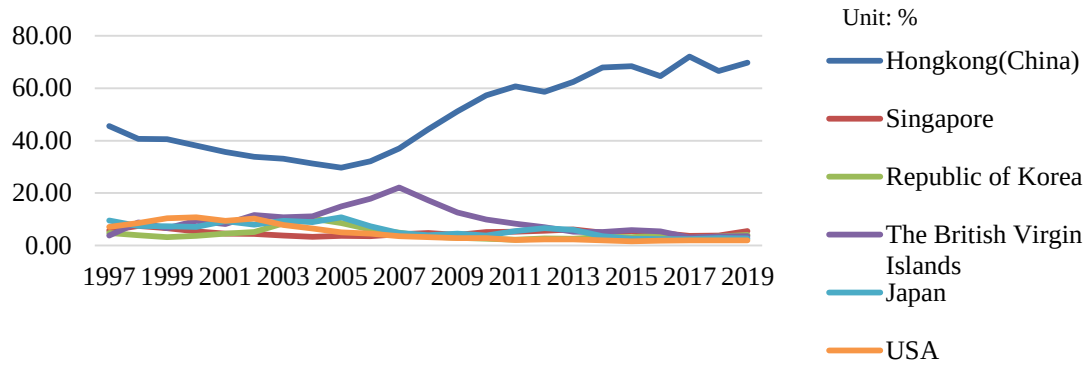
The features of FDI in China will be discussed in the perspective of sources and sectorial distribution.

2.2.1 Source of FDI Flowing into China

The sources of FDI in China are mainly concentrated in Asia, especially Hong Kong. The sources of FDI over the years are shown in Figure 2.2. In 2005, the share of FDI from Hong Kong dropped to 30% which is an all-time low and gradually increased since then. In 2019, FDI from Hong Kong took the percentage of 69.7% of total FDI inflows. As of 2019, FDI from Hong Kong took the percentage of 52.2%. The main reason is that Hong Kong has unique links with China with geographical advantage and similar cultural background to mainland China (Zhang, 2005). In addition to that, Hong Kong also has the characteristics of an offshore financial center. Large number of foreign direct investment funds inflow and outflow are transited through Hong Kong (Pan, 2019). In addition to Hong Kong, other important source countries and regions of FDI include: Japan, Singapore, South Korea, the United States and free ports such as British Virgin Islands and Cayman Islands. As of 2019, the top 10 countries (regions) of China's FDI sources are shown in Table 2.1. However, there is a phenomenon that needs to be mentioned that the share of FDI from some traditional developed countries has declined. For example, FDI from Japan accounted for as high as 10.8% in 2005 and only 2.7% in 2019. FDI from the United States accounted for as high as 10.77% in 2000 and only 1.94% in 2019. The reasons for this phenomenon include political factors in addition to economic factors such as China's increasing production factor costs. In recent years, Sino-US relations have deteriorated seriously (Liu, 2021) because of trade war and some sensitive issues such as Hong Kong issue, Taiwan issue, Tibet issue and South China Sea issue. From 2017 to 2020,

the conflicts between China and the United States have expanded from the trade field to the ideological field, and become increasingly fierce (Qiu, 2021). These inevitably affect the confidence of American investors on China. As to Japanese FDI, the revival of the Japanese economy by Abenomics would account for decline of Japanese FDI in China and accelerating Japanese FDI flowing to other countries (Latorre and Hosoe, 2016) such as Southeast Asia.

Figure 2.2 Source of FDI in China



Data source: China Statistical Yearbook 2020

Table 2.1 Top 10 Investors of China as of 2019

Country/Region	Number of Foreign Invested Enterprise	Share (%)	Realized FDI Value (US$ billion)	Share (%)
Hong Kong (SAR, China)	474,773	47.4	1,195.51	52.2
British Virgin Islands	24,782	2.5	169.58	7.4
Japan	52,834	5.3	115.70	5.1
Singapore	26,111	2.6	102.83	4.5
United States	71,914	7.2	87.88	3.8
South Korea	67,375	6.7	82.57	3.6
Taiwan (Province of China)	112,442	11.2	69.40	3.0
Cayman Islands	3,666	0.4	44.13	1.9
Germany	10,834	1.1	35.05	1.5
Samoa	9,104	0.9	30.19	1.3

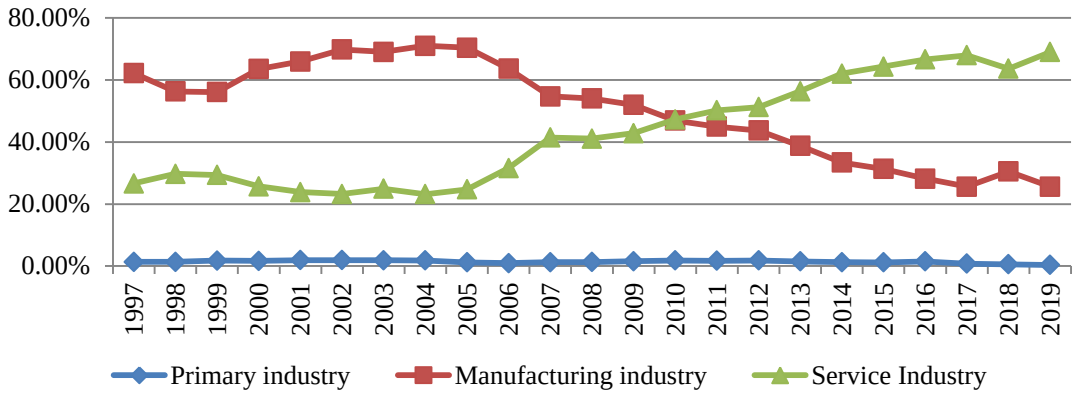
Data source: Statistical Bulletin of FDI in China 2020

2.2.2 Sectorial Distribution of FDI in China

Due to the small profit margins of agricultural products and the long investment cycle, the amount and share of FDI flowing into the primary industry[2] is always low (Kan, 2014). FDI in China mainly distributed in manufacturing and service industries, and their cumulative use of foreign capital accounts for up to 90% (Figure 2.3).

[2] The primary industry includes agriculture, forestry, animal husbandry, and fishery.

Figure 2.3 Sectorial distribution of FDI in China



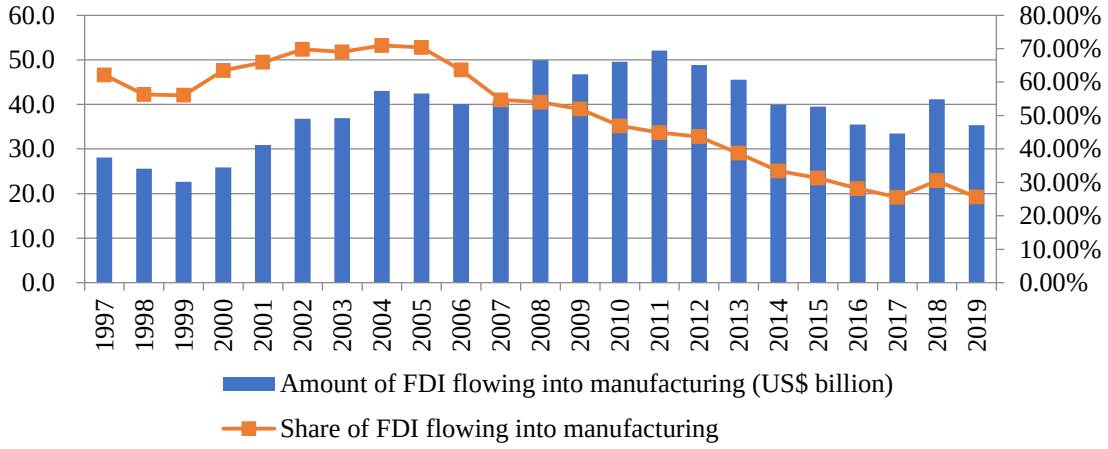
Data source: China Statistical Yearbook 2020

1) FDI in Manufacturing Industry

The amount and share of FDI flowing into the manufacturing industry was in an upward trend and then a downward trend. In the first and second phases, the manufacturing industry absorbed nearly 60% of FDI. From 2001 to 2005, the share of FDI flowing into the manufacturing industry rose steadily. In 2005, the share of FDI flowing into the manufacturing industry was as high as 70%. From 2005 to 2010, the amount of FDI flowing into the manufacturing industry still fluctuated and increased, but its share gradually declined. From 2011 to 2019, the amount and share of FDI flowing into the manufacturing industry were both in a downward trend. The share of FDI flowing into the manufacturing industry in 2019 was only 25.6% (Figure 2.4). The increase in labor costs is an important reason for that (Cui, 2019). From 2002 to 2016, the growth rate of hourly labor cost obviously exceeds the growth rate of hourly labor productivity in China. Unit labor cost in China has been greater than that of neighboring countries such as the Philippines and Malaysia and its labor cost advantage over Mexico, Russia, Colombia, Chile and Turkey has also basically

disappeared (Guo, 2021).

Figure 2.4 Amount and share of FDI flowing into manufacturing



Data source：China Statistical Yearbook 2020

The share of FDI flowing into the high-tech manufacturing industry is always low. Just as Porter (1998) argued that multinational companies in developed countries master the high-end links of the global value chain in order to obtain higher profits and become the leader of the global value chain, developing countries mainly embed labor-intensive industries in the production links of the global value chain. For example, in the early 1990s, FDI from Japan mainly flowed into labor-intensive processing and assembly manufacturing, and gradually shifted to technology and capital-intensive manufacturing from the late 1990s (Du, 2009). However on the whole, the share of FDI flowing into high-end manufacturing is not high. FDI flowing into high-tech manufacturing in 2015 was US$9.4 billion, accounting for 7.2% of FDI in China. FDI flowing into high-tech manufacturing in 2019 was US$13.4 billion, accounting for 9.5% of FDI in China. Especially after the Sino-US trade war in 2018, the proportion of FDI flowing to high-end manufacturing from Europe, America and

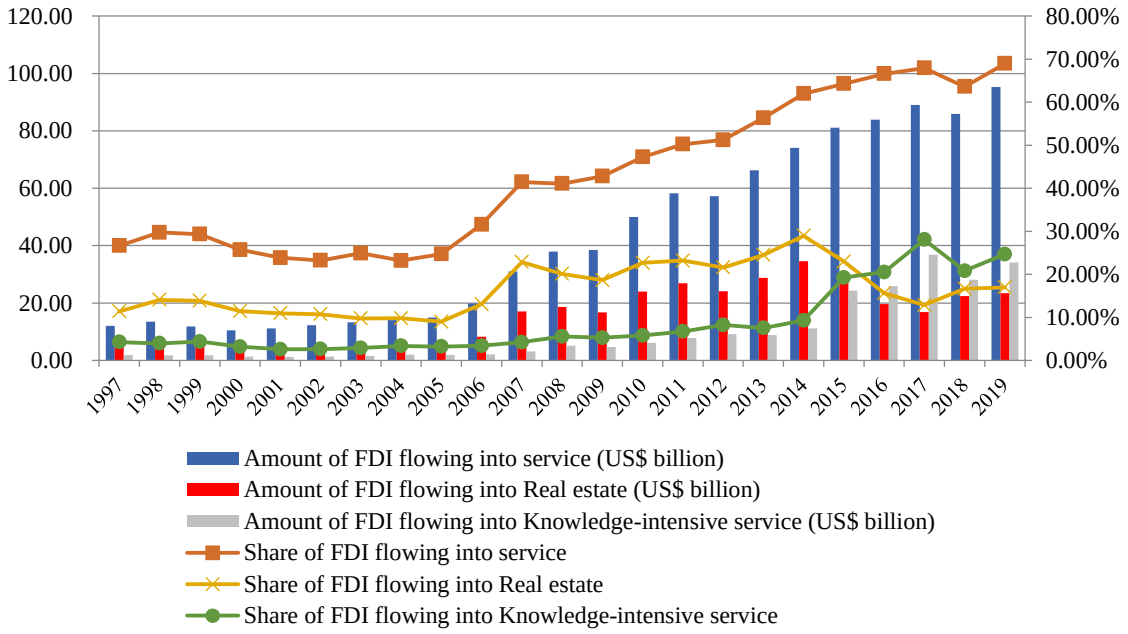
Japan has been declining. For example, in 2019, the capital inflows to high-end manufacturing from the aforementioned countries fell by 24.9% year-on-year (Qin, 2020). FDI's concentration in low-end manufacturing sector is regarded as evidence that Chinese manufacturing is at the low end of the global value chain and has formed a certain degree of "low-end lock-in" (Ding and Liu, 2013). This phenomenon is not only related to the restructuring of the global value chain caused by the manufacturing revival strategy of developed countries (Chen and Ji, 2019) but also related to the USA's strategy of comprehensive pressure against China particularly in the economic and technological domains under which USA slowed the flow of advanced U.S. technology to China (Schreer, 2019).

2) FDI in Service Industry

Now, the service industry receipts the most FDI (Figure 2.5). From the 1980s to the mid-1990s, the share of FDI in the service industry gradually increased. The intangibility and non-storability of service require that its production and consumption must be carried out at the same place, and investment in the host country is the most convenient way to realize that (Wu, 1997). However, before 2000, the share of FDI in service industry was not high, mainly because of the restrictive opening-up policy of the service industry. In China, the service industry is sensitive and difficult to open. The opening up of many service industries in China began in the 1990s, such as finance, distribution, shipping, and professional services (Fu, 2001). From 1997 to 2000, the FDI flowing into the service industry averaged US$12.0 billion annually, accounting for 28% of the FDI in China. After China joined WTO, the Chinese

government gradually loosened investment restrictions on the service industry. FDI inflow to the service industry had gradually increased and exceeded that to the manufacturing in 2010. This situation had continued to present. In 2019, the amount of FDI flowing into the service industry was US$95.3 billion, accounting for 69% of the FDI in China. From 2001 to 2019, the annual FDI flowing into the service industry was US$49.1 billion, and took the percentage of 51% of the FDI in China.

Figure 2.5 Amount and share of FDI flowing into service



Data source：China Statistical Yearbook 2020

Among the service industries, real estate and knowledge-intensive service industries[3] receipted a large amount of FDI. From 1997 to 2014, the FDI flowing into the real estate industry accounted for 45% of the FDI flowing into the service industry. Large amount of FDI flows to the real estate industry with the expectation of China Yuan (CNY) appreciation and acquiring the high profit of real estate (Liu, 2008), and

[3] Knowledge-intensive service industries include software and information technology services, finance, culture, sports and entertainment, scientific research and technical services, education, health and social work.

this phenomenon has also been criticized. The real estate industry is a capital-intensive industry. The large flow of FDI to the real estate industry is not conducive to the technology spillover effect of FDI, nor is it conducive to upgrading the tertiary industry (Fang and Qiu, 2006). Large amount of international hot money has brought a lot of risks to China's real estate market (Nie, 2011). In 2008, the Chinese government issued a macro-control policy aimed at restricting foreign capital flowing to the Chinese real estate market for the first time. After 2014, this share has gradually declined. In 2019, FDI flowing into the real estate industry accounted for 25% of the FDI flowing into the service industry. In contrast, the Chinese government has issued many policies to guide FDI to flow into the production service industry and knowledge-intensive service industry by amending "Catalogue for the Guidance of Foreign Investment Industries" in 2004, 2007, 2011, 2015, 2017, 2019 and 2020. Since 2014, FDI flowing to knowledge-intensive service industries has increased rapidly. In 2015, FDI flowing to this industry was twice that of 2014. In 2019, the share of FDI in knowledge-intensive service industries accounted for 25%. From 2015 to 2019, this average share was 23%. This indicates that the attractiveness of China's service industry to FDI continues to increase, and more and more FDI is concentrated in knowledge-intensive industries. What needs to be mentioned is that information technology service industry is the knowledge-intensive service industry that receipts the most FDI. This is due to the prosperity of the international service outsourcing market. Multinational companies pursue a "re-cored" strategy. They spin off processing and production operations and other non-core businesses or business

processes, and subcontract them to other companies through original equipment manufacturer (OEM), original design manufacturer (ODM) and service outsourcing. Service outsourcing is the inevitable result of the continuous refinement of the international industrial division of labor. The main subcontractors in China are foreign-invested enterprises. For example, among Shanghai's US$700 million in software exports in 2005, most of the offshore outsourcing business came from the branches of multinational companies in China (Wu, 2008).

2.3 Summary

The history of FDI flowing into China can be divided into 3 phases according to political and economic event since 1979 when Chinese government implemented opening up policy. In the first phase, Chinese government approved special economic zones (SEZs), opened entire coastal areas and provided tax incentives. But both Chinese government and foreign investors were prudent. In the second phase, Chinese government encouraged FDI flow into central and western regions and opened some services industries. The preferential policies for FDI were shifted to local and national industrial development priorities but still existed. Average annual FDI flowing into China almost twice that in the first phase. In third phase, Chinese government cancelled preferential policies for foreign investors, and put high emphasis on creating consistent and systematic regulatory framework. Also, the Chinese government opened more industries and introduced relevant policies to improve the facilitation of foreign

investment. FDI inflow was in an increasing trend. From 2001 to 2011, FDI inflow to China grew rapidly. However after 2012, because of the increasing labor cost, manufacturing revival policies implemented by developed countries fierce competition for FDI from emerging developing countries and Sino-US trade war, the growth rate of FDI inflows dropped significantly. The third phase can be considered to be the most complicated phase for China to attract FDI.

From the perspective of source, the sources of FDI in China mainly come from Asia. Hong Kong is the dominant source. Other sources contain Japan, Singapore, South Korea and the United States. However, the share of FDI from traditional developed countries such as Japan and the United States has declined. Not only the economic reasons of increasing production costs in China, but also the considerations of foreign investors on avoiding political risks would account for that. From the perspective of sectorial distribution, manufacturing and service industries are the two main industries that receipt FDI inflows. In the first two phases, FDI flowing into the manufacturing industry took a relatively high percentage. But in the third phase, FDI flowing into the service industry exceeded the FDI flowing into the manufacturing industry. In 2019, the FDI flowing into the service industry even accounted for nearly 70%. Among the manufacturing industries, the share of FDI in high-tech manufacturing industries has never been high and lower than 10%. Among the service industries, the share of FDI in knowledge-intensive service industry has gradually increased and the share of FDI in real estate industry decreased due to restricted policies published by Chinese government.

Chapter 3 Literature Review

3.1 Introduction

This chapter firstly reviews the foreign direct investment theory basis such as monopoly advantage theory, internalization theory, product life cycle theory and the eclectic paradigm of international production. Secondly it reviews the FDI motivation and location factor theory. Thirdly it reviews the research of FDI motivation and location factors in China.

3.2 Definition of FDI

The United Nations Conference on Trade and Development (UNCTAD) issued the “World Investment Report”, which defines FDI as: investors in one country invest capital in the production or operation of another country and have certain investment control rights. In other words, an investor in one country has a long-term development relationship between a foreign direct investor or parent company in another country (region) and a foreign branch company, with lasting interest relationships and investment control rights. Multinational companies are the most important international investment entities and the main undertakers of international direct investment activities. More than 90% of global FDI flows come from multinational enterprises (Cai, 2009).

3.3 FDI Theory Basis

After 1960s, international direct investment with multinational corporations increased rapidly and became the main form of international capital flow (Yan, 2010). Scholars have put forward different theories to analyze this phenomenon. Foreign direct investment theories mainly contain five theories.

1) Monopoly Advantage Theory

Hymer (1960) argued that foreign investors can obtain the market of the host country through monopoly advantage and differentiated production. Foreign investors took advantage of the differences in production factors of various countries to obtain the advantages of internal economies of scale through horizontal integration and the advantages of external economies of scale through vertical integration. Johnson (1970) put forward the theory of core assets, Caves (1971) put forward the product specific theory, and Knickerbocker (1973) put forward the theory of oligopolistic reaction. The above three scholars have supplemented Hymer's theory. Johnson argued that knowledge capital is the core of monopoly advantage, and the transfer process of knowledge capital is the process of multinational companies going overseas. The country where companies with research and development capabilities are located is often the exporter of international direct investment, while the country where companies without research and development capabilities are located is the recipient country. This type of theory emphasizes the incompleteness of the market, pays attention to the analysis of micro-level corporate behavior and the analysis of industry organizational structure characteristics, and highlights the important role of intellectual

capital and technological advantages in the formation of foreign direct investment.

2) Product Cycle Theory

Vernon (1966) put forward the product cycle theory. Vernon argued that products present periodic characteristics in the market, and the cycle can be roughly divided into three stages, namely the development stage, the mature stage and the standard stage. Vernon argued that at the development stage of new products, the production location is required to be close to the market due to the high degree of product differentiation and design uncertainty. Producers mainly invest and produce in domestic market. At the mature stage, the market share of developed countries will expand. In order to avoid various trade protection policies, the production location will transferred to other developed countries. At the standardization stage, in order to minimize production costs, enterprises will shift their production locations to China and other countries with lower cost. The international product life cycle theory combines the monopoly advantage of the enterprise with the location advantage, and dynamically explains the location choice motives and reasons for the foreign direct investment of investors in the United States and other developed countries in a certain period of time.

3) Internalization Theory

Buckley and Casson (1976) and Rugman (1981) put forward the internalization theory based on transaction cost theory raised by Coase (1937) and Williamson (1971). This theory argued that companies will face various market obstacles in their business activities. In order to overcome market obstacles or make up for the inherent

shortcomings of market mechanisms and protect their own economic interests, the parent company will change the transaction subject to its subsidiaries. The subsidiaries form an internalized market. When the internalized market surpasses the boundaries of a country, multinational companies are created. The internalization theory partly explains the causes of the foreign direct investment of multinational companies. It has not formed a more comprehensive and systematic theory. The interaction between the internalization decision-making of multinational companies and the structural defects of the market must be considered (Buckley, 1990).

4) Marginal Industrial Expansion Theory

Kojima (1977) put forward the theory of marginal industrial expansion based on the practice of Japanese foreign direct investment and comparative research on foreign direct investment of the United States and Japan. This theory argued that foreign direct investment should follow the principle of the division of comparative advantages, starting from the marginal industries of the investing country, that is, the industries that are already or will be in a relatively disadvantaged position. Marginal industry expansion theory analyzes foreign direct investment from the principles of international division of labor and comparative cost. Its analysis methods, theoretical starting points and conclusions are quite different from those of the mainstream western schools.

5) The Eclectic Paradigm of International Production Theory

Dunning (1977) integrated enterprise advantages, location advantages and internalization advantages on the basis of industrial location theory, and argued that

multinational companies will invest if they have the ownership of specific advantage, internalization advantage and location specific advantage at the same time. Ownership advantages mainly include the unique production know-how and research and development (R&D) capabilities of multinational companies, such as technological advantages and the advantages of enterprise scale economies. Internalization advantage means the enterprise with ownership specific advantage has the ability to keep its advantage within the enterprise in order to avoid the influence of the external market. Location specific advantage means some other country has a comparable advantage in terms of investment environment over multinational company's home country. Therefore, the advantage of location factor is a sufficient condition for a host country to attract FDI.

3.4 FDI Motivation and Location Factor

The above theories explained why FDI happened. The multinational enterprise with ownership advantage usually want to obtain the advantages of internal economies of scale, to overcome market obstacles, to transfer marginal industries which are disadvantages in the local countries, to utilize other countries' location factors with comparative advantage. Based on the above theories, many scholars conducted further research of FDI from the perspective of investment motivation. Kojima (1987) divided motivations of multinational companies into natural resource-oriented, market-oriented and production factor-oriented. Almeida (1996) divided the investment motives of

multinational companies into technology development and technology seeking. Dunning (1998) divided motivation of FDI into four types: efficiency seeking, market seeking, resource seeking and strategic asset seeking. Kuemmerle (1999) divided the motives of multinational companies' overseas investment into development motivation and expansion motivation. The development motivation is mainly based on their own comparative advantages in seeking to obtain the local market of the host country, and the expansion motivation is to obtain low-cost raw materials, labor or scarce resources in the host country. Dunning made a comprehensive summary of FDI investment motives, because the motives proposed by Kojima, Almeida and Kuemmerle can all be summarized in Dunning's four investment motives. Hanson *et al*. (2005) proposed the export platform seeking motivation which multinational companies treat the host country as an export platform and sell the products which produced in the host countries to the home country or a third country. This motivation can be classified as efficiency-seeking, because the host country that is treated as an export platform usually has cheaper production factors.

At the same time, many scholars conduct research from the perspective of host countries which cares about the location factors. The location factor was put forward by Weber (1909) firstly. He argued that location factor refers to a factor that can obtain greater benefits from the same kind of activities in other areas than the same type of economic activity in a specific location. Dunning (1988) summarized the location factors as: natural and man-made resources and the spatial distribution of the market; price, quality and productivity of inputs such as labor, energy, raw materials and

international transportation and communication costs; investment stimulus and investment barriers; artificial obstacles to trade, such as import control; infrastructure conditions such as commerce, law, education, transportation and communication; psychological distance, such as differences in language, culture, habits; government policies and resource allocation. Dunning (1998) argued that the location factor advantage of the host country is an important determinant for multinational companies when making investment location decisions.

Investment motivation and location factors are closely correlated. Dunning (1998) summarized the relationships between multinational companies' investment motivation and host countries' location factors (Table 3.1). The motivations of foreign-invested enterprises are affected by many factors in the host country, which make the FDI motivations of different host countries quite different (Franco, 2013). When investors assess the location factors, not all location factors are given equal importance. The comparative advantage of location factors in host country is dynamically changing. Location selection of FDI will change over time. For example, Japanese FDI with efficiency seeking motivation initially invested in Hong Kong, Singapore, Taiwan, and South Korea. But since the 1980s, production costs had increased rapidly in above-mentioned countries or regions after industrialization, and Japanese companies shifted their investment focus, especially labor-intensive industries, to Thailand, Malaysia and mainland China (Yang and Haraguchi, 1994).

Table 3.1 Investment Motivation and Location Factors

Investment Motivation	Location Factors
market seeking	Large and growing domestic markets, Availability and price of skilled and professional workers, Quality of national and local infrastructures.
resource seeking	Availability, price and quality of natural resources, Infrastructure to enable resources to be exploited, Government restrictions on FDI and/or on capital dividend remittance, Infrastructure and transportation cost.
efficiency seeking	Mainly production cost related, Investment incentives, Specialized spatial clusters, Entrepreneurial environment, Knowledge intensive and integrated MNE activities.
strategic asset seeking	Knowledge based asset, Price and availability of synergistic asset, Ability to protect O advantages of investing firms.

Source: Dunning (1998)

3.5 Literatures on FDI Motivation and Location Factors in China

Most scholars research FDI motivation and location factors in China based on The Eclectic Paradigm of International Production Theory.

3.5.1 Literatures on FDI Motivation in China

Lin (1997) conducted a questionnaire survey on 40 Sino-foreign joint ventures in the Beijing New Technology Industry Development and Experimental Zone. The results showed that 90% of the surveyed companies regard profit maximization as their primary motivation. High-tech enterprises focused on expanding the Chinese market.

Electronic communication processing and manufacturing companies mainly focused on China's cheap labor, and export-oriented companies didn't care the Chinese market. Zhang (1999) analyzed the investment motivations of manufacturing companies in China invested by Japan and South Korea, the motivation could be divided into labor cost orientation, market orientation and resource orientation. Wei *et al.* (2001) investigated the investment motives of 135 multinational companies in Qinhuangdao in in Hebei province. The results indicated that FDI motivations can be summarized as market seeking, preferential policy seeking and export platform. Jiang (2003) analyzed the motives of multinational companies from Hong Kong, Macau, South Korea, the United States, and Germany, and he argued the strategies of FDI in China can be divided into geo-economic strategies, resource-oriented strategies, and market-oriented strategies and labor-oriented strategies. Fan and Han (2013) argued that foreign-invested enterprises regard China as their export platform. Since 2002, the export value of foreign-invested enterprises in China had taken the percentage of more than 30% of their total industrial output value. This indicated that foreign-invested enterprises are mainly export-oriented. From 2002 to 2010, export of foreign-invested manufacturing enterprises took the percentage of 70% of total manufacturing exports in China. Qian and Zhao (2003) classified FDI's investment motives in China into three types: market occupation, labor utilization and profit-seeking. Xu (2011) argued that the strategic motivation of FDI in China is ultimately to reduce costs and expand the market. Cost-oriented FDI pays most attention to China's cheap labor resources and raw materials. Market-oriented FDI focuses on the huge potential market in China.

They invested a lot of capital and gradually expanded their market share through price penetration and technology spillover. Li and Tanabe (2003) argued that FDI in different industry usually held different motivation. Generally speaking, motivation of agriculture FDI is resource-seeking, motivation of manufacturing FDI is compounded, which includes exploring the host country's market, establishing an international production and distribution network and seeking cheap labor, and motivation of business and service FDI is market-seeking. As mentioned earlier, investment motivations are changing. Liu (2017) argues that the investment motivation of multinational enterprises in China has gradually changed from the traditional resource-seeking type and cost saving type to market-oriented. Wang *et al*. (2020) employed the capacity coupling coefficient model to study the investment motives of Japanese companies in China from 1997 to 2016. They argued that Japanese investors' motivations are dynamically adjusted as China's location factors' change. The influence of traditional factors of production such as cheap resources and labor has gradually weakened, and the factors at the top of the value chain play a more and more important role in attracting FDI. Japanese investors' investment motives in China are adjusted to the construction of overseas production and sales networks, product design and R&D, and enhancing regional integration function. The structure of investment motives has begun to move closer to that of developed countries.

3.5.2 Literature on Location Factor in China

Scholars mainly research the location factor in China from the following

perspectives.

1）*Market*. Market-seeking is one of the important motives of FDI in China. Market scale has a significant positive impact on foreign direct investment (Lu, 2000; Guo *et al*., 2009). Investors from Japan and South Korea who are fancy China's cheap labor, while investors from Europe and America usually pay more attention on China's potential market size and economic openness (Wei, 2001; Liu and Wu, 2006). The market size has an increasing return to scale effect, and the ever-increasing market size can cause the multiplier effect of FDI inflow (Feng *et al*., 2011).

2）*Infrastructure.* Infrastructure is usually related to transportation costs and information costs. Chen (1996) collected the data of 30 provinces and regions in China from 1987 to 1991, employed the conditional logic model, and argued that the level of transportation infrastructure is positively correlated with FDI. Foreign investors valued China's excellent infrastructure and service environment, because these factors could effectively save the cost, thereby promoting the integration of foreign capital with local capital (Coughlin and Segev, 2000). Well-developed infrastructure would greatly reduce transaction costs. Sound infrastructure is important for the export of high-complexity products. Xu and Chen (2008) divided multinational companies into manufacturing, R&D and operation management, and argued that manufacturing multinational companies more cared about the convenience of transportation, and R&D multinational companies care about communication facilities. The more complete the communication infrastructure, the faster the transmission of information between various regions, and the lower the cost of obtaining information for

enterprises, thereby reducing transaction costs between enterprises (Min and Ye, 2020).

3）*Labor cost*. Labor cost is related to production cost. FDI from Japan, South Korea, and Hong Kong mainly focus on labor cost (Wei, 2001; Ma, 2006). Guo *et al*. (2009) collected panel data from 29 provinces in China from 1988 to 2006 for econometric analysis, and concluded that the labor cost factor has a significant negative impact on FDI. With the increase of labor costs in China, many multinational companies, especially those manufacturing companies, withdraw from China. They shifted their production bases to Southeast Asia where labor costs are cheaper (Li, 2012). There is a significant positive correlation between wage expenditures and divestments of multinational companies (Liu and Li, 2016). However, some scholars hold different arguments. Feng *et al*. (2011) argued that labor costs have a threshold effect on FDI inflow. The increase in labor costs has a positive incentive effect on FDI within a certain range and has a negative effect after crossing the inflection point. Lu (2000) argued that labor wages and foreign direct investment are positively correlated, because foreign investors prefer areas with large market capacity, good infrastructure, and high level of development, where workers are also highly paid. Xu and Chen (2008) argued that high-end multinational companies are not sensitive to the factor of low-cost labor when select the location.

4）*Labor quality*. Higher level of human capital can effectively reduce the time for workers to learn digestion technology, improve production efficiency, and place a comparative advantage in the production of human capital-intensive products (Dai, 2014). Large-scale and technology-intensive investment projects need to be combined

with high-quality human capital. In addition to factors such as market capacity, labor costs, and marketization levels, human capital is an important factor affecting FDI location selection and investment scale (Shen and Tian, 2002). The level of human capital has a positive influence on the location selection of FDI (Shen, 2007; Zhu and Zhu, 2020). R&D multinational companies are more sensitive to the technological foundation or human capital of the host country (Xu and Chen, 2008). Compared with underdeveloped western regions, human capital in eastern regions significantly positively affects foreign R&D investment (Huang, 2008). However, Zhang (2014) employed 31 provincial panel data from 2002 to 2010 and found that human capital has no significant impact on FDI inflows, and human capital is even significantly negatively correlated with FDI in the western region.

5）*Opening-up policies*. Chen and Yu (2011) argued that the when the trade gets much free, the difference of productivity and income between member and non-member become larger, the amount of FDI among Regional Trade Agreement will be greater. The signing of Bilateral Investment Treaties between investing countries and China can promote FDI flowing into China (Ding and Feng, 2007; Li *et al*., 2019b；Tao, 2019). And there is a significant substitution effect between the Bilateral Investment Treaties and the Regional Trade Agreement (Li *et al*., 2019b). Huang and Chen (2021) argued that trade openness has a promoting effect on the intensity of FDI.

6）*Institutional factor*. Institutional quality is an important comparative advantage of a country (Nunn, 2007). The improvement of the business environment can reduce business costs (Zhang, 2017a) and ensure that entrepreneurs can allocate more time

and energy to business activities (Wei *et al*., 2015). Li (2017), Si (2019) and Huang *et al*. (2019) separately verified that the market system, environmental system, intellectual property protection system and business system reform play a positive role in FDI inflows by means of establishing measurement models based on panel data of Chinese provinces and cities. A good institutional environment can improve the technology spillover capacity of FDI and promote economic growth (Huang and Chen, 2021; Song and Xiao, 2018; Yi *et al*., 2015; Zhang *et al*., 2014). Interaction between contract environment and foreign direct investment can significantly improve the quality of export products，and a good contract environment can positively regulate the relationship between foreign direct investment and export product quality (Cao and Sha, 2021). With the passage of time, the preferential policy issued by central government takes diminishing marginal effect in attracting FDI. Foreign investors pay more attention to the host country's political cleanliness, marketization level, property rights protection, legal environment and government efficiency (Pan and Pan, 2004). For example, tax transparency and tax convenience have a positive impact on FDI inflows, other than tax rates (Yu *et al*., 2019). General institutional quality would substitute tax evasion for FDI when making investment location decisions (Wang *et al*., 2014).

7）*Other factors*. Li (1999), Wang (2016) and Zhang (2005) argued that geographical and cultural factors are important factor attract FDI from Hong Kong, Macao, Taiwan and even South Korea. Sun (2002), Zhang and Chen (2006), Li and Chen (2007) and Feng *et al*. (2008) argued that cluster factor and industrial structure

are put high emphasis by investors when they select investment location in China. Foreign companies have a strong tendency to agglomerate in China to enjoy the positive externalities brought about by the agglomeration economy (Huang and Ren, 2017).

3.6 Summary and Emerging Issues

The motives of FDI in China can be mainly divided into market-seeking and efficiency-seeking. The market-seeking FDI values China's domestic market. The efficiency-seeking FDI favors cheap production factors and resources, and usually regard China as an export platform. Motivation is closely correlated to the location factor. FDI in different industry or in different end usually holds different motivation and values different location factors. Multinational enterprises would adjust their strategy as the changing location factors in China. Many scholars have conducted research on China's location factors. Markets, infrastructure, labor costs, labor quality, open policies, institutional factors are all factors that affect FDI inflows. However, as to the labor cost and labor quality, different scholars hold different opinions on these two location factors' correlation with FDI.

Considering the sectorial distribution of FDI in China, FDI inflows to manufacturing and service industries were in different trends. However, most previous studies basically regarded FDI as a whole without considering industry differences when study the correlation of location factors with FDI by means of establishing

econometric model. It is necessary to divide FDI into different industries to conduct further study. In addition, the global competition in attracting FDI is increasing, and whether China's location factor has a competitive advantage compared with emerging developing countries is also an important issue. Through the study of these issues, this study hopes to draw conclusions about how location factors should be used to attract foreign investment.

Chapter 4 Correlation Analysis of FDI and Location Factors in China

4.1 Analytical Framework

This study will analyze the correlation between FDI inflows into China and location factors in the third phase (2001-2019) by cointegration analysis. FDI inflows will be divided into two sets, which contain inflows into manufacturing and inflows into service. Multicollinearity test will be conducted, and principal component analysis will be employed to extract common factors from the original independent variables. The common factor will replace original independent variable and participate in correlation analysis with the dependent variables. The unit root test will be employed to test the stability of the new data set. Then cointegration analysis will be employed to test the long-term equilibrium relationship between the dependent variables and the independent variables.

4.2 Models and Data

From the literature review, it can be concluded that the market, infrastructure, labor costs, labor quality, institutional factors, and openness are important factors that affect the inflow of FDI into China. This study establishes a multiple linear correlation model to study the correlation between variables. Equation is set as follows:

$$FDI = \beta 0 + \beta 1 * market + \beta 2 * infrastructure + \beta 3 * laborc + \beta 4 * laborq + \beta 5 * institution + \beta 6 * open,$$

where a *FDI* means FDI inflows to China annually. Since manufacturing and service industries are the two main industries that receipt FDI inflows, and there is tremendous change in the sectorial distribution of FDI in third phase. FDI in different industries usually holds different motives and focus on different location factors. Therefore, our model divides FDI inflows into FDI inflows to manufacturing and FDI inflows to service industries, nominates these two dependent variables as FDI_m and FDI_s, and employs FDI inflows to manufacturing annually and FDI inflows to service annually to represent these variables. Data comes from China Statistical Yearbook.

A *market* means market scale. GDP is an important indicator to measure the economic performance of a country or region. Then our model uses the method of Du (2009), Guo *et al*. (2009), Jiang (2011), Liu and Shan (2018) and Si (2019), and employs GDP to represent this variable. Data comes from World Development Indicators database.

An *infrastructure* means situation of infrastructure. A well-developed transportation system is particularly important in a modern economic system, and the construction of transportation infrastructure can be regarded as a prerequisite for economic growth (Wen and Shen, 2008). Standard highway mileage is an important indicator to measure transportation infrastructure. However, the transportation capacity per mile of highways is not the same as that of railways and waterways. Yao and Wei (2008) and Dai (2014) argued that the conversion ratio of transportation capacity per

mile among highway, railway and waterway is 1.00 and 4.27 and 1.06. Then, our model uses method of the above-mentioned scholars and employs the aggregate values of corresponding standard highway mileage to represent this variable, where railway mileage and waterway mileage are converted into corresponding standard highway mileage according to the conversion ratio of transportation capacity. Data comes from China Statistical Yearbook.

A *laborc* means labor cost. Our model employs average annual salary to represent this variable. Data comes from China Statistical Yearbook.

A *laborq* means labor quality. The gross enrollment rate of higher education is one of the main indicators to measure the scale and development level of higher education (Liu, 2004). Our model uses the methods of Yue (2018) and Wei *et al*. (2020), and employs the gross enrollment rate of higher education to represent this variable. Data comes from China Education Bulletin.

An *institution* means institutional factors. Worldwide Governance Index (WGI) measures the effectiveness of government governance from six governance dimensions including voice and responsibility, political stability, government efficiency, supervision quality, rule of law, and corruption control. Our model uses the methods of Kaufmann *et al*. (2004), Wang *et al*. (2014) and Cao and Sha (2021), and employs the aggregate values of six dimensions of WGI to represent this variable. Data comes from World Development Indicators database. WGI in 2001 is missing, and the missing data is estimated based on the data of adjacent years.

An *open* means openness. The ratio of dependence on foreign trade (RDT)[4] reflects the degree of a country's dependence on the international market and is also an important indicator of openness (Cai, 2009). Our model uses the method of Dai (2014), Si (2019) and Li and Tang (2019), and employs RDT to represent this variable. Data comes from World Development Indicators database.

4.3 Methodology

Independent variables are tested for multicollinearity, and then principal component analysis is conducted to extract common factors to solve the problem of multicollinearity. Finally, co-integration test is conducted to verify the correlation between *FDI* (including FDI_m and FDI_s) and common factor. This study uses Statistical software – STATA for research.

4.3.1 Multicollinearity Test

Since there are multiple independent variables in the model, multicollinearity test is conducted. When multicollinearity exists, the overall coefficient of the model obtained by ordinary least squares (OLS) analysis is still the best unbiased estimate. However, the significance of each independent variable's coefficients will be affected (Zhang and Li, 2017). The results of the multicollinearity test are shown in Table 4.1.

[4] Ratio of dependence on foreign trade (RDT) = sum of goods' and service's import and export / GDP*100

Table 4.1 Collinear diagnosis

Variable	laborc	market	laborq	infrastructure	institution	open
VIF	1016.57	878.79	82.9	16.42	8.43	4.25
Mean VIF	334.56					

If variance inflation factor (VIF) is greater than 10, multicollinearity exists (Chen, 2010). VIF of laborc, market, laborq, and infrastructure are greater than 10. The mean VIF of variables is up to 334.56. It can be concluded that there is serious multicollinearity among independent variables.

4.3.2 Principal Component Analysis

Conducting principal component analysis to extract several common factors with weaker correlation and then performing regression analysis can effectively resolve multicollinearity and protect the integrity of the original variable information (Zhang and Li, 2017). The results of principal component analysis are shown in Tables 4.2, 4.3, 4.4 and 4.5.

Table 4.2 Kaiser-Myer-Olkin measure of sampling adequacy

Variable	market	infrastructure	laborc	laborq	institution	open
KMO	0.6910	0.7302	0.6709	0.7508	0.8274	0.7888
Overall KMO: 0.7329						
Prob: 0.0000						

Table 4.3 Orthogonal varimax (Kaiser off)

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor 1	5.11839	4.47542	0.8531	0.8531

Table 4.4 Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor 1	Uniqueness
market	0.9929	0.0141
infrastructure	0.8880	0.2114
laborc	0.9934	0.0132
laborq	0.9856	0.0286
institution	0.9363	0.1233
open	-0.7134	0.4911

Table 4.5 Scoring coefficients

Variable	market	infrastructure	laborc	laborq	institution	open
Factor 1	0.19399	0.17350	0.19408	0.19256	0.18293	-0.13938

KMO statistics=0.7329>0.5, and P=0.0<0.01 (Table 4.2), this indicates that these variables are suitable for principal component analysis. There is one common factor with eigenvalues greater than 1, and the cumulative contribution rate is 85.31% (Table 4.3). The higher the factor loading value (>0.5), the more information the common factor carries of the original variables. From Table 4.4, it can be concluded that *Factor 1* contains a higher proportion of information for each variable. From Table 4.5, *Factor 1* can be expressed as the following equation and will replace the original six dependent variables to participate in the correlation analysis with FDI_m and FDI_s:

$$Factor\ 1 = 0.19399*market + 0.1735*infrastructure + 0.19408*laborc$$

$$+ 0.19256*laborq + 0.18293*institution - 0.13938*open.$$

4.3.3 Cointegration Relationship Analysis

1) Unit Root Test

Since the variables are time series, the Augmented Dickey-Fuller (ADF) unit root test is conducted as a pre-estimation procedure to test stationarity. The non-stationarity of the series can lead to spurious regression (Zhang and Li, 2017). In order to reduce the magnitude difference between the independent variable and the dependent variable, standardization was carried out. From Table 4.6, it can be concluded that unit root issues exists. After the first-order difference, the data column accepts the null hypothesis that there is no unit root at the 1% significance level, and that means it is a stationary series.

Table 4.6 ADF Unit root test results

Variable	ADF test statistic	1% critical value	5% critical value	10% critical value	MacKinnon approximate p-value for Z(t)
FDI_m	-1.975	-4.380	-3.600	-3.240	0.6152
d. FDI_m	-4.534	-3.750	-3.000	-2.630	0.0002
FDI_s	-2.845	-4.380	-3.600	-3.240	0.1811
d. FDI_s	-4.111	-3.750	-3.000	-2.630	0.0009
Factor 1	-3.475	-4.380	-3.600	-3.240	0.0421
d. Factor 1	-3.487	-3.750	-3.000	-2.630	0.0083

2) Cointegration Relationship Test

The first-order difference series of all the series are stable, and the co-integration test can be carried out to detect the long-term stable equilibrium relationship between the variables. Johansen test results show that there is no cointegration relationship between FDI_m and *Factor 1*. However, there is one cointegration relationship between

FDI_s and *Factor 1*, and the cointegration equation can be expressed as:

$$FDI_s = 1.44 * Factor\ 1 + 0.049.$$

4.4 Empirical Results

In the third phase (from 2001 to 2019), there is no long-term equilibrium relationship between FDI inflows to the manufacturing industry and various location factors. This is because FDI in China is mostly concentrated in low-end manufacturing which focus on low labor costs, and the manufacturing revival strategies implemented by developed countries have a great impact on FDI inflows to manufacturing. Even though in the third phase, labor quality, infrastructure, market size, and institutional factors are all improving, it is still difficult for these advanced factors to offset the adverse effects of rising labor costs. So there is no co-integration relationship between FDI_m and *Factor 1* which is extracted from multiple dependent variables of location factors.

However for service industry, there is one long-term equilibrium relationship between FDI inflow and various location factors. In the long run, if the independent variables change by one unit, the FDI inflow to the service industry will change by 144%. Location factors of market, infrastructure, labor cost, labor quality, institutional factors are positively correlated with FDI, while openness is negatively correlated.

Positive correlation indicates that with the improvement of market size, infrastructure, and labor quality, the amount of FDI flowing into the service industry

are also increasing. This conclusion is roughly the same as the previous conclusion. But one thing needs to be mentioned that labor cost is also positively correlated with FDI. This is because FDI in the service industry prefers to choose regions with developed economy, complete infrastructure, and high-quality talents, although these regions usually have higher labor costs. This result is similar to the conclusion of Lu (2000) and Feng *et al*. (2011). Mason and Howell (1992) reached a similar conclusion earlier, who argued that FDI from Japan in the United States prefers to choose regions with higher human quality (Xu, 2011). High-salary human resources can bring advantages such as higher technology, management, R&D, and market development, which can offset the disadvantages of high wage.

The FDI inflow to the service industry is negatively correlated with openness. This is contrary to the many existing research findings. However this result is reasonable. This study uses RDT to represent the openness. Higher value of the RDT usually means an export-oriented economy and high share of processing and manufacturing industries (Liu, 2019). Investors regard the host country as an export platform rather than a final market. Previously, most scholars did not distinguish between industries to study FDI and location factors. FDI in manufacturing mainly with efficiency seeking motivation regards China as an export platform, but FDI in service does not. China's GDP has been maintaining a relatively high growth rate. The decline in the RDT means that domestic market has great effects on China's economic growth (Jiang and Meng, 2021). With the increasing demand in the domestic market, FDI inflow to the service industry has also increased. Therefore, the negative

correlation indicates that the FDI flowing into the service industry pays more attention to the Chinese domestic market and holds market seeking motivation.

Chapter 5 Competitive Advantage and Weakness of Location Factors in China

From the literature review and empirical analysis, it can be concluded that market, labor cost, labor quality, openness, infrastructure, institutional factor can affect the FDI inflow. The global competition for FDI is intensifying and developing countries have expanded their openness, improved their business environment, and relied on cheap factor costs to attract FDI inflows (Zou, 2020). This chapter evaluates the competitive advantage and weakness of location factor in China compared with that in emerging developing countries which are in the rank of top 20 of FDI inflows in the World Investment Report 2019 and answer the question of if China still has a competitive advantage in attracting FDI.

5.1 Comparative Analysis of Location Factors

5.1.1 Market Factor

This study mainly compares market factors based on three indexes (Table 5.1).

Table 5.1 Market Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
Market size score(rank)	100(1)	81.3(10)	93.7(3)	80.8(11)	82.4(82.4)	71.8(26)	84.2(6)
Average GDP growth rate from 2015 to 2019	6.57%	-4.63%	7.22%	-0.59%	4.78%	7.08%	-1.80%
Average GDP deflator from 2015 to 2019	2.08%	5.35%	3.35%	4.81%	3.23%	2.04%	6.07%

Source: The Global Competitiveness Report 2019 and World Bank Indicator

In terms of market size, China ranks first in the world in 2019, and the competitive advantage is obvious. India, Russia and Brazil are also among the top ten in the world, indicating that the market size of emerging countries is attractive. From the perspective of market growth, China's GDP average growth rate from 2015 to 2019 was 6.57%, slightly lower than that of India and Vietnam. Indonesia's growth rate was 4.78%. However non-Asian developing countries showed negative growth rates. From the perspective of market stability, average GDP deflator in China from 2015 to 2019 was 2.08%, slightly higher than that of Vietnam and lower than that of other developing countries.

On the whole, China has competitive advantage in terms of market size, market growth potential and market stability. Although China's GDP growth rate is lower than that of India and Vietnam, China's GDP annual growth value exceeds these two countries. China's huge market size and its growth potential are one of the main factors that continue to attract foreign investment. In addition, data from UNCTAD shows that the global service industry FDI stock and flow are in a rapid growth trend. However, some service is still of indivisibility of consumption and production and non-storability. These characteristics require that the location selection of the service is closer to the market. The huge market size and potential will undoubtedly attract more and more FDI flowing into service industry in China (Cui, 2019).

5.1.2 Infrastructure Factor

This study mainly compares infrastructure factors based on two indexes (Table

5.2). One is transport infrastructure index which mainly focuses on railway, highway, waterway, and air transportation. The other is information communication technology (ICT) adoption index which mainly focuses on mobile-cellular telephone and internet subscriptions.

Table 5.2 Infrastructure Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
Transport score (rank)	68.9(24)	45.6(85)	66.4(28)	57.4(51)	56.1(55)	52.2(66)	57.7(49)
ICT adoption score (rank)	78.5(18)	58.1(67)	32.1(120)	55.0(74)	55.4(72)	69.0(41)	77.0(22)

Source: The Global Competitiveness Report 2019

China ranks better in these two indicators than other developing countries. Complete infrastructure is also one of China's major advantages in attracting foreign direct investment. Especially for ICT, China not only scores higher than other developing countries, but also ranks high in the world. ICT is a driver of economic growth (Jin and Cho, 2015). ICT infrastructure can reduce the inefficiency of developing countries and has a significant positive impact on the total factor productivity that is dominated by technological progress (Thoppson and Garbacz, 2007; Wang and Li, 2019). There will be a shift from investment in large-scale industrial activity to distributed manufacturing, which relies on lean physical infrastructure and high-quality digital infrastructure (UNCTAD, 2020). Service is the backbone of the global economy, and digitalization is expected to further reduce the cost of services trade and make it possible to deliver services digitally (WTO, 2019). Therefore, ICT infrastructure will play a more and more important role to improve production

efficiency and promote economic development in the future.

5.1.3 Labor Factor

This study compares labor factors from two aspects: labor cost and labor quality.

1) Labor Cost

Labor cost in China is the highest among these developing countries (Table 5.3). From 2000 to 2017, the average annual growth rate of labor costs in China was 8.2%, much higher than that of the other six countries. In 2017, real wage in China was US$948, which was five times that in India and was four times that in Indonesia and Vietnam. Compared with Russia, which has the second highest wage, China's real wage was also nearly 50% higher. The average wage in China in 2019 was nearly three times that in 2009 and twelve times that of 1999 (China Statistical Yearbook, 2020). The labor cost gap between China and developed countries has been narrowing. According to the Boston Consulting Group's research, the average wage in China was 36% of that in United States in 2000, but this ration had reached to 69% in 2015. Therefore, compared with other developing countries, China's labor costs are at a disadvantage.

Table 5.3 Labor Cost Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
2000-2017 annual real wage growth (%)	8.2	2.2	5.5	-1.7	4.2	6	2.5
2017 real wage (US$)	948	640	182	361	203	236	680

Source: Global Wage Report 2018/19

2) Labor Quality

This study chooses three indexes to compare labor quality factors (Table 5.4).

Table 5.4 Labor Quality Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
Skills score (rank)	64.1(64)	56.4(96)	50.5(107)	58.3(89)	64(65)	57(93)	68.3(54)
R&D score (rank)	79.5(10)	54.3(29)	57.1(26)	38.3(45)	23.2(83)	24.9(72)	63.1(23)
Pay and productivity score (rank)	60.5(27)	40.4(116)	51.3(64)	46.4(82)	60.4(28)	53.1(56)	58.9(37)

Source: The Global Competitiveness Report 2019

In the skills index which mainly focuses on schooling, training and digital skills among active population, China ranks 64th globally, slightly behind Russia and ahead of other countries. In terms of labor skills, Russia, China and Indonesia are relatively competitive. In the research and development (R&D) index which focuses on the number of scientific research institutions, R&D expenditure, China scores the highest and ranks tenth in the world. Russia, India and Brazil also have a competitive advantage. Research and development index can be regarded as the sustainability of the country's long-term development (Gong and Yao, 2012). In the pay and productivity index which balances labor cost and labor productivity, China scores 60.5 points and ranks 27th in the world, which ahead of other developing countries.

From the perspective of industrial location selection, low-end labor intensive foreign invested enterprises prefer to invest in countries or regions with lower labor costs, while mid-to-high end technology-intensive foreign invested enterprises with higher requirements for scientific and technological skill of labor are more inclined to invest in regions where scientific and technological talents gather (Li and Chen, 2007).

In recent decades, the proportion of China's higher education population has increased significantly. For example, the gross enrollment rate of universities exceeded 50% in 2019 (China Education Statistics Bulletin, 2019). Many manufacturing companies in China have improved the quality of their workforce and accelerated machines to replace people to reduce employment (Qian, 2020). Comparing with Industry 4.0 proposed by Germany, the overall level of China's manufacturing industry is developing from Industry 2.0 to Industry 3.0 (China Manufacturing Informatization Index Report, 2016). Labor quality and labor cost can form a substitution effect (Dai, 2014), and high labor quality and automation can help to realize factor intensity reversal. As labor costs rise, many developed countries have continuously reduced their labor force through the application of automation technology. This helps developed countries to transform labor-intensive industries in developing countries into capital and technology-intensive industries (Jiang, 2008). In OECD countries, the expenditure on wages in manufacturing accounts for less than 13% of the total cost of enterprises, and this data has fallen to less than 7% in some large enterprises. Even the textile industry has become a capital-intensive and highly automated industry. For example, the employment level of a fully automated cotton textile factory in Germany has fallen below 22 million spindles, which is less than one-tenth of that of developing countries (Jiang, 2008). Automation and high-quality workforce have enabled developed countries to regain a competitive advantage in some traditional labor-intensive manufacturing industries although an increase in automation is associated with higher average wages (Kromann *et al*., 2019).

5.1.4 Openness Factor

This study chooses three indexes and one sub-index to compare openness location factors (Table 5.5).

Table 5.5 Openness Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
FDI Regulatory Restrictiveness Index	0.251	0.081	0.209	0.188	0.313	0.13	0.257
Trade openness	57.6(71)	46.7(125)	43.9(131)	64.8(27)	59.5(62)	54.3(91)	50.7(116)
*Trade tariffs % (rank)	11.12(123)	12.34(128)	14.43(134)	5.12(67)	5.58(73)	8.4(96)	70.8(57)
RDT in 2019	35.68%	28.98%	39.55%	77.92%	37.3%	210.4%	49.07%

Source: The Global Competitiveness Report 2019
World Development Indicators
https://www.oecd.org/investment/fdiindex.htm.

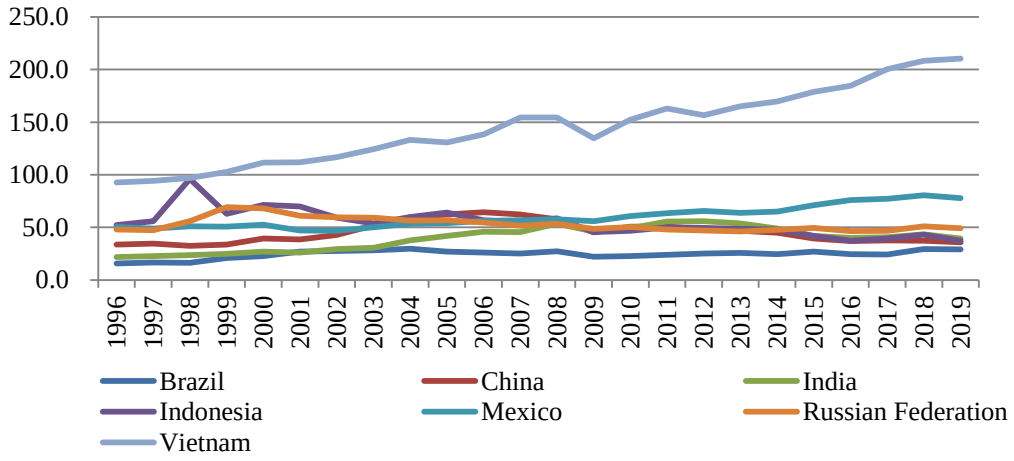
FDI Regulatory Restrictiveness Index concerns foreign equity limitations, screening or approval mechanisms, restrictions on the employment of foreigners as key personnel, and operational restrictions. This index in China is higher than that in Brazil, Vietnam, Mexico and India. This means that China has more regulatory restrictions on FDI.

China's trade openness index score ranks 71st in the world. This is behind of Mexico and Indonesia. In the tariff index, China's tariff rate is 11.12%, which is higher than that of other countries except India, and ranks relatively lowly in the world.

Ratio of dependence on foreign trade (RDT) is often used to measure the dependence of a country's economic development on foreign trade, and it is also an indicator of the country's openness. In 2019, Vietnam has the highest the RDT which is

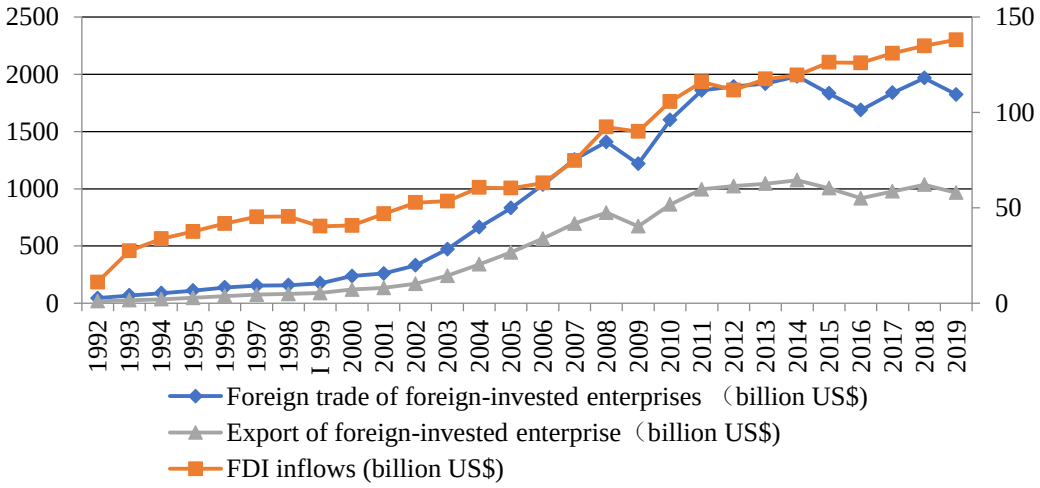
as high as 210%, followed by Mexico with RDT of 79%. RDT of China is 35.8% and in a relatively decreasing trend. Throughout 25 years of data, RDT of China shows a trend of increasing first and then decreasing. The RDT of India, Brazil, Russia, and Indonesia are in a similar trend to China. RDT of Mexico and Vietnam is on the rise, especially for Vietnam which is a typical export-oriented economy, whose dependence on foreign trade has always been at the forefront of the world (Figure 5.1). In 1999, RDT of China was 33.5% then it continued to increase after joining the WTO. In 2006, RDT of China reached a peak of 64.5%. Since then, this ratio has continued to decline. But value of foreign trade of China still has an absolute advantage. In 2019, value of foreign trade of China was 4.5 times that of India, 9.3 times that of Vietnam, and 6 times that of Russia (World Development Indicators, 2019). The General Administration of Customs of China made statistics on the foreign trade of foreign-invested enterprises. From 2000 to 2010, foreign trade of foreign-invested enterprises increased rapidly. However since 2011, this data has stopped to show a growth trend. In contrast, FDI inflow to China after 2011 is still increasing (Figure 5.2). This indicates that motivation of export-oriented is weaker and motivation of market-seeking is stronger. It is also the inevitable result of China's industrial structure adjustment with service industry becoming dominant. Usually the higher the share of the service industry is, the lower the RDT is (Liu, 2019).

Figure 5.1 the RDT of 7 developing countries



Data Source: World Development Indicators

Figure 5.2 FDI inflows and foreign trade of Foreign-invested enterprises in China



Data Source: China Statistical Yearbook 2020 and Statistical Bulletin of FDI in China 2020

5.1.5 Institutional Factor

This study chooses four indexes and one sub-index to compare the institutional factors (Table 5.6).

Table 5.6 Institutional factors Index Table

	China	Brazil	India	Mexico	Indonesia	Vietnam	Russia
Security score (rank)	79.2(56)	43(132)	56.4(124)	40.1(138)	77.2(62)	77.2(61)	68.6(99)
Transparency score (rank)	39(75)	35(91)	41(66)	28(116)	38(77)	33(101)	28(116)
Property rights score (rank)	65.6(43)	47.1(91)	47.8(87)	52.9(74)	56.4(60)	46.9(92)	59.6(56)
*Intellectual Property Index	21.45	18.25	16.22	23.94	12.87	13.81	19.46
Ease of doing business score (rank)	77.9(31)	59.1(124)	71(63)	72.4(60)	69.6(73)	69.8(70)	78.2(28)

Source: The Global Competitiveness Report 2019

2020 Eight Edition U.S. Chamber International IP Index

Doing Business 2020

In the index of security, transparency, property rights, China scores higher than other developing countries. Ease of doing business index of China ranks 31st in the world, which is slightly behind Russia. The Chinese government attached great importance to optimizing the business environment and issued the “Regulations on the Business Environment” in October 2019. China has become one of the 10 economies with the largest improvement in the global business environment for two consecutive years. On the whole, China has competitive advantages in terms of institutional factors.

However some institutional factors indexes in China still need to be improved. For example, China’s transparency index ranks 75th in the world, which needs to be improved. The protection of intellectual property rights also should be strengthened and this issue is the most important issue in the Sino-US trade dispute. Intellectual property protection is a comparative advantage for a country when the global industrial

structure adjusted (Chen and Qu, 2005) and is beneficial to promote outbound open innovation (Grimaldi *et al*., 2021). According to the 2020 Eight Edition US Chamber International IP Index, China scores 21.45, while the United States scores 42.66, the United Kingdom scores 42.22, Japan scores 39.48, Singapore scores 37.12, and South Korea scores 36.06. These indicate that there is still a large gap between developed countries in intellectual property protection although China has a competitive advantage compared with emerging developing countries.

5.2 Summary

On the whole, location factors in China have a competitive advantage among developing countries. China's market size ranks first globally, and China's inflation rate is low. This means China can provide investors with a large and stable market. China's transportation infrastructure and ICT infrastructure are better than other developing countries, and these rank among the top in the world. In particular, ICT infrastructure is not only an important production factor for high-end industries, but also a prerequisite for the country to increase total factor productivity by digital and information technology and make more services tradable. China has a competitive advantage in its institutional factor in terms of security, transparency, property rights and doing business, but transparency and intellectual property need to be improved compared with developed countries. As to the labor factor, both labor costs and labor quality in China are the highest among the emerging developing countries. Good labor

quality, infrastructure and institutional factors can improve productivity and reduce business costs. These positive effects can help to reduce the adverse effects of rising labor costs. In a ranking that comprehensively considers labor costs and production efficiency, China is still the most competitive one. However, openness of China is in the weakness. China still has more regulatory restrictions on FDI than Brazil, Vietnam, Mexico and India. Trade openness of China is also far behind Mexico and Indonesia, and China's tariff rate is high in the world.

Chapter 6 Conclusions and Implications

6.1 Conclusion

This study analyzes China's history of attracting FDI and divides this history into three phases based on political and economic events. It discusses the features of FDI in China from the perspective of source and sectorial distribution. As the third phase is the most complicated phase and sectorial distribution of FDI changed, this study employed an econometric model to test the correlation between the location factors and FDI inflows to different sector in the third phase. Then this study compares these location factors of China with that of emerging developing countries such as India, Indonesia, and Vietnam to evaluate the competitive advantages and weakness. By the above researches, this study draws the following conclusions.

1) In the first two stages (from 1979 to 1991, and from 1992 to 2000), the Chinese government attracted FDI mainly by establishing special economic zones, opening coastal cities and central and western cities, providing preferential policies to foreign investors, and gradually opening up the service industry. The attitude of foreign investors towards China shifted from being cautious to being positive. The average annual FDI inflow in the second phase is almost twice that of the first phase. The third phase (from 2001 to present) started from China's entry to the WTO. China changed from a unilateral independent opening up to mutual opening up with WTO members under international economic and trade rules (Li, 2019). According to the basic

principles of WTO, Chinese government abolished the superior tax policy enjoyed by foreign-invested enterprises, implemented more open policies for foreign investors by means of opening more industries, approving pilot free trade zones and implementing the pre-foreign investment pre-access national treatment plus negative list management model, and focused on creating a consistent and systematic regulatory framework. In the third phase, FDI inflow was in increasing trend. From 2001 to 2011 the average annual growth rate was as high as 10.25%. However after 2012, because of the manufacturing revival strategy implemented by developed countries, the surge in labor costs that caused divestment, intense competition for FDI among emerging developing countries, and Sino-US trade war, the growth rate of FDI inflows dropped significantly after 2012. The average annual growth rate of FDI inflows from 2012 to 2019 was only 2.25%. In 2012 and 2016, FDI inflows even decreased year-on-year.

2) As for the features of FDI in China, this study conducts research from the perspective of source and sectorial distribution. Hong Kong has always been an important source of FDI and become more dominant these years. In contrast, FDI from developed countries such as the United States and Japan has decreased in recent years. Manufacturing and service industries are the two main industries that receipt FDI inflows. In the first two phases, the share of FDI in manufacturing industry was relatively high. But in the third phase, FDI inflow to the service industry exceeds that to the manufacturing industry, and in 2019 the share of FDI inflows to the service industry is up to nearly 70%. Among the manufacturing industries, the proportion of high-tech manufacturing industries using FDI has never been high, never exceeding

10%. This means that FDI is mostly concentrated in low-end labor-intensive manufacturing. In contrast, FDI flowing into knowledge-intensive service industries has gradually increased, and in 2019 FDI in knowledge-intensive service industries accounts for 25%.

3) The motivation of FDI in China mainly contains market seeking and efficiency seeking. Location factors of market, infrastructure, labor quality, labor cost, openness, and institutional factor can affect FDI inflows. Motivation of FDI changes with location factors' changes. Many scholars reaches conclusion that the traditional locations such as cheap production factor become less attractive. Some multinational enterprises are shifting to market seeking from efficiency and resource seeking. As for correlation between FDI and location factors in the third phase, the result for manufacturing is different from service. There is no co-integration relationship between FDI flowing into the manufacturing industry and location factors. This is because FDI in China is mostly concentrated in low-end manufacturing which focus on low labor costs and manufacture revival strategy of developed countries really has a significant impact. Even though in the third phase, labor quality, infrastructure, market size, and institutional factors are all improving, these advanced factors are still difficult to offset the adverse effects of rising labor costs for FDI flowing into manufacturing. In contrast, there is one co-integration relationship between FDI flowing into the service industry and location factors. Market, infrastructure, labor cost, labor quality, institutional factors and FDI are positively correlated, while openness is negatively correlated. With the improvement of market size, infrastructure, institutional factor,

and labor quality, FDI flowing into the service industry are also increasing. Labor cost's positive correlation indicates that FDI in the service industry is more inclined to choose regions with developed economy, complete infrastructure, and high-quality talents, although labor costs in these regions are usually higher. Openness is negative correlated with FDI flow to service. This study uses RDT to represent openness. These years RDT in China decreases while the GDP in China still keep positive growth. This indicates China's domestic market plays a more and more important role and FDI flow to service holds obvious market-seeking motivation.

4) As for the competitive advantage of location factors, on the whole, China has advantages comparing with other emerging developing countries. China's market size ranks first globally and inflation rate is relatively low. China's transportation infrastructure and ICT infrastructure rank relatively among the top in the world. In particular, ICT infrastructure provides prerequisites for shift to distributed manufacturing and service trade development. Institutional factor in terms of security, transparency, property rights, and doing business index are better. But intellectual property protection which is a key issue in Sino-US trade war still far behind developed countries. China's labor costs and labor quality are both the highest among emerging developing countries. Good labor quality, infrastructure, and institutional factors can improve productivity and reduce business costs. These positive effects can help to reduce the adverse effects of rising labor costs. However openness of China is in the weakness. China has more FDI Regulatory Restrictiveness than Brazil, Vietnam, India, and Mexico. The trade openness in China is far behind that in Mexico and

Indonesia, and China's high tariff level also put negative effects on the openness.

6.2 Implication

It can be concluded that the situation is complicated for China. Attracting FDI flow to China is a tough task especially attracting manufacturing FDI. However, China is still attractive for service FDI with market-seeking motivation. Most location factors in China have competitive advantage though some are in the weakness. Based on the above analysis this study proposes some implications of attracting FDI.

1) Improve total factor productivity to offset the adverse effects of increasing labor costs. China seems loose attractiveness for efficiency-seeking FDI. No matter what kind of investment motivation FDI holds, it is ultimately for profit (Xu, 2011). Increased production efficiency could save costs and leave more room for profit. China should realize factor intensity reversal by promoting automation, and regain the competitive advantage of traditional labor-intensive industries by transforming labor-intensive industries into capital-intensive industries and technology-intensive industries (Jiang, 2008). Fortunately, China's ICT infrastructure provides the foundation for automation. At the same time, the Chinese government should also actively promote the construction of a service-oriented government and continue to improve the business environment in order to reduce the operating costs and time costs of enterprises. At present, China still has the problem of policy's instability and low transparency, unclear borders between government departments and mutual

prevarication, and some foreign invested companies argue that they do not enjoy the same treatment as domestic companies (Zhang, 2017b). These problems should be recognized and improved.

2) Take advantage of location factors such as labor quality and ICT infrastructure to guide FDI to flow into high-end industries. FDI in high-end manufacturing is less than 10%, FDI in knowledge-intensive service is 17.3%, and still nearly 20% of FDI flows into real estate (China Statistical Yearbook, 2020). In terms of manufacturing, China is facing the problem of overcapacity in low-end manufacturing supply, but insufficient supply in high-end manufacturing. The government should strengthen the structural guidance of foreign direct investment through taxation, industrial and regional policies (Chen and Ji, 2019) and guide FDI flowing to the high-end areas of "Made in China 2025 Plan"[5]. In addition, local governments should attract FDI from countries with developed manufacturing industries such as United States, Japan, Germany, France, Britain and Switzerland though in the stream of reshoring of manufacturing this will be difficult. In the service industry, China's human capital has been accumulated over a long period of time, which has provided necessary conditions for the development of China's high-end service industry, especially the producer service industry (Qin, 2020). The Chinese government should make use of this advantage and guide FDI to flow into knowledge-intensive service industries such as communication technology, encourage multinational companies to establish R&D centers in China.

[5] "Made in China 2025" plan is issued by the State Council on May 19 2015, and it is China's first ten-year action plan focusing on promoting manufacturing. Ten key sectors are listed as to be promoted breakthrough.

3) Further expand opening up and relax market access regulation. China has more regulation restriction on FDI. The government should abolish foreign investment restrictions in the general manufacturing sector, and expand the scope of foreign investment in high-end, smart, green and other advanced manufacturing industries as soon as possible, and relax the restrictions on the proportion of foreign investment in equity (Sang and Zhang, 2018). Compared with the opening up of the manufacturing industry, the service industry has more restrictions on FDI. In addition to wholesale and retail, other service industries in China have higher restriction indexes, especially in the fields of transportation, finance, telecommunications and media (Zou, 2020). The Chinese government should promote the opening up of the service industry. In particular, accelerated opening of the producer service industry has been one of the indispensable conditions for upgrading manufacturing industries in China (Chen and Wei, 2018). China is facing a “high-end blockade” under the Sino-US trade conflict, which may cause manufacturing to be locked in the low end of the value chain. Promoting the opening of the producer service industry and integrating the resulting advanced production service technology into the manufacturing industry is an important measure to break through the “low-end lock-in” of the manufacturing industry (Chen *et al*., 2020).

4) Establish a sustainable intellectual property system that is balanced with public interests. It is necessary to speed up the construction of the intellectual property law enforcement system, especially to crack down on various online infringements that are currently frequently occurring (Li, 2016). The government must actively promote

the comprehensive enforcement of intellectual property rights, and establish mechanisms for the transfer of inter-departmental and inter-regional intellectual property cases, information notification, and cooperation in investigations (Sang, 2019). However, it should also be noted that the intellectual property system is not a closed system, but a balanced system that combines economic, social, environmental, human rights and other public interests (Grosse and Khan, 2013; Li, 2016). In recent years, multilateral, regional and bilateral agreements have tended to one-sidedly emphasize the protection of intellectual property rights. Major developed countries are trying to export their high protection standards to other countries, but ignores the specific national conditions and actual needs of each country. There is a lack of attention to the public interest (Okediji, 2014; Li, 2016). Too much emphasis on the monopoly of knowledge products will affect a country's ability to sustain innovation in the long run (Rogers and Szamosszegi, 2007). China has a large population, unbalanced regional and industry development, and the overall technological level is still far from that of major developed countries (Reichman, 2014; Li, 2016). These actual national conditions indicate that China's intellectual property protection institution must be developed in a balanced manner and adhere to the path of sustainable development (Yuan *et al*., 2015).

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