

## **CHAPTER 2. LITERATURE REVIEW**

As mentioned before, the purpose of this study is to understand how region's political power in the central government influences regional distribution of FDI in China. Thus, this paper firstly reviews the literature relative to FDI. This paper separates the literature into two parts. First of all, this study discusses about the FDI theory. Second, this paper refers to the determinants of FDI distribution in China.

### **2.1 Foreign Direct Investment Theory**

In order to understand the determinants of FDI distribution, this paper chiefly knows the motivation on what induces FDI from the perspective of a multinational corporation. FDI means that a national takes command over a full range of operations,<sup>4</sup> and is often defined as the acquisition of 10% or more of the assets of a foreign enterprise. Such investment is an important form for multinational corporations operating economical activities across nations.

Investment across national borders takes two forms: foreign portfolio investment and foreign direct investment (FDI). Foreign portfolio investment usually accompanies investment of foreign nationals via bank accounts, securities, treasury bills, and so on. Such investment takes indirect control of firms or existing assets. On the other hand, FDI takes direct command over a full range of manipulations. Since there are many scholars arguing about FDI theory, this paper points out four main theories to be a foundation of an empirical research.

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<sup>4</sup> Cheng and Gastañaga (2001), "Factors Affecting Foreign Direct Investment--With Analysis of the Disparity between the Costal and Western Regions of China." *Review of Pacific Basin Financial Markets and Policies*, 4(4), 479-493.

### **2.1.1 Neoclassical Theory**

In light of the traditional view, neoclassical scholars regard the presence of FDI as the different return on capital between different nations. Such viewpoint encourages multinational corporations to invest their capital assets from low-return to high-return countries for acquiring more profits. Subsequently, the capital inflow persists until all nations have the same return on capital. However, neoclassical theory is controversial on the empirical research so far.

### **2.1.2 Location Theory**

Location theory mainly thinks that multinational corporations would choose a location, which is close to markets or raw materials, to construct the investment position so FDI comes into existence. Once an investment location attracts more and more FDI and becomes an agglomeration location. In fact, the agglomeration effect is associated with externalities. Concentration of production and urbanization facilitate quick spillovers of knowledge and the use of joint networks of suppliers and distributors. This helps firms enhance their levels of technology and acquire economies of scale and scope. Investment in a region with substantial clustering of industrial activities is likely to involve relatively lower costs than in a region with a dispersed manufacturing sector. Krugman (1991) also gave a complement about the agglomeration effect. He considered a clustering of economical activities as a form resulting from contingency of history. Because of contingency, some locations became a clustering site of specific industries. Manufacturing firms would save transportation cost in consideration of attaining economies of scale. Thus, they tended to make a choice to construct a location which could aggregate industries.

### **2.1.3 Product Life Cycle Theory**

Vernon (1966) used product life cycle theory (PLC) to explain why FDI exists. He regarded that different PLC results in different production regions. FDI is the consequential result of production process or the transfer of production region movement. Actually, there are three stages discussing about PLC. First, there is a lead-in period, new products exist to fulfill markets belonging high-income countries. Since they lie in a growth period, new products are usually close to markets, which are high-income countries in order to get information from markets to improve their properties. Second, there is a mature period. The price of maturing products progressively declines. Other developed or developing countries enlarge the demand of maturing products. It is because the labor cost in developed countries is higher and they subsequently move the production stronghold to the country whose labor cost is lower. As for stage 3, the competition of standardized products depends on the advantage of price. For labor-intensive products, developed countries do not own the core competence. Thus, they transfer the products to undeveloped countries. FDI comes forth by these transformations.

### **2.1.4 Eclectic Theory**

Under the above-mentioned theory, all of them considered a single view to explain the behavior of FDI. To make up for this defect, Dunning (1993) referred to the eclectic theory which are ownership advantage, location advantage and internalization advantage. In the integrated analysis of these advantages, firms would process direct investments across nations so that FDI existed.

The eclectic theory asserts the existence of three necessary conditions for FDI.

First, multinational corporations own firm-specific assets which is called ownership. Second, because of location, production processes that employ the firm-specific assets are efficiently dispersed among several national markets. Third, internalization, since the decentralized use of a firm-specific asset is more efficiently managed within the owning firm than by renting it at arm's length to another firm. These three features of FDI which are ownership, location, and internalization comprise the basis of the so-called eclectic theory of FDI due to Dunning (1993).

## **2.2 The Determinants of Foreign Direct Investment**

Basically, as referred to the determinants of FDI, there are two directions of empirical studies on the overall FDI situation in China. One is the cross-country analysis which studies in why different nations want to invest in China instead of their own countries. However, the interwoven relationships between social, cultural, economical, and political factors are difficult to delineate. By focusing on only one country, a more distinct study could be examined on the determinative economic factors that attract FDI. Thus, the other direction is one-country analysis, which studies in the determinants of regional FDI distribution in China.

### **2.2.1 Cross-country Analysis**

In order to investigate clearly, this paper discriminates literatures by sorting the form of data. First of all, Wang and Swain (1995) and Zhang (2000) used time series data analysis. Wang and Swain (1995) adopted one-equation model to examine the host country determinants of FDI in China. They found that the FDI in manufacturing sector is positively related to China's GDP, GDP growth, wages, and trade barriers,

but negatively related to interest rate and exchange rate for the period of 1978 to 1992.<sup>5</sup> Zhang (2000) explained why the FDI in China is attractive to United State of America by using relative-demand model for the period of 1979 to 1997. He found that factors of investing in China which attract U.S.A and Hong Kong are varied. American capitalists invest in China because they want to be closer to markets. On the other hand, Hong Kong investors pour funds into China for the purpose of export. In addition, since the relationship between U.S.A and China is not so good and the politics in China is not stable, American capitalists do not invest in China as much as Hong Kong.

In addition, Liu et al. (1997), Dees (1998) and Wei and Liu (2001) researched the FDI in China by panel data analysis. Liu et al. (1997) discriminated China's FDI into pledged FDI and realized FDI. This comparative study is based on pooled cross-section and time-series data for 22 home countries during the period of 1983-1994 in the case of pledged FDI, and for 17 home countries during the period of 1984-1994 in the case of realized FDI. The results from estimation of the model support the hypotheses that realized FDI is determined by relative real wage rates, relative exchange rates, and economic integration represented by real exports and imports. In the case of pledged FDI in China, relative market size and total cultural differences are also two significant determinants. Subsequently, Wei and Liu (2001) stood on Liu et al. (1997) and updated the data to 1998 for advanced examinations. The result was a little different to previous study. It appeared that relative market size and economic integration represented by real exports and imports have a positive impact on FDI whether it is pledged FDI or realized FDI. On the other hand, relative real wage rates, country risks and total cultural differences are negative to FDI. Dees

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<sup>5</sup> The study of Wang and Swain (1995) was controvertible. They were questioned by the lack of degree of freedom. See Matyas and Korosi(1996).

(1998) also adopted panel data analysis with the error correction model to see the determinants of FDI in China and its effects on the whole economy from 1983 to 1995. By investigating 11 countries, he found that domestic market sizes, real exchange rates, relative wages and openness to the rest of the world are important determinants of FDI.

Finally, Hong and Chen (2001) used time-series and panel data simultaneously to analyze the determinants of FDI in China based on Dunning's eclectic theory (1993) and empirical models corresponding to location-specific advantages, ownership-specific advantages and internalization advantage. It is concluded that monopolistic advantages of technology and management experience of foreign investors along with China's low labor cost and great market potential might be important factors attracting FDI in China. In addition, using an internal market to establish a network of international production might also be an important determinant for foreigners to directly invest in China. Others might include searching for attractive yields available in equity investment, devaluation of the Chinese currency, distance, culture and global business strategies.

Table 2 : Cross-country Analysis Literature

Author	Sample Period	Methodology	Conclusions
Wang and Swain (1995)	1978-1992	Ordinary least square	China's FDI in manufacturing sector is positively related to China's GDP, GDP growth, wages, and trade barriers, but negatively related to interest rate and exchange rate.
Liu et al. (1997)	1. Pledged FDI: 1983-1994 2. Realized FDI: 1984-1994	Random effects model	In the case of pledged FDI in China, relative market size and total cultural do impact on FDI. In addition, realized FDI is determined by relative real wage rates, relative exchange rates, and economic integration.
Dees (1998)	1983-1995	Panel data analysis with error correction model	Domestic market sizes, real exchange rates, relative wages and openness to the rest of the world are important determinants of FDI.
Zhang (2000)	1979-1997	Time series data analysis with relative-demand model	Factors of investing in China which attract U.S.A and Hong Kong are varied. American capitalists do not invest in China as much as Hong Kong.
Hong and Chen (2001)	1985-1997	1. Time-series and panel data analysis 2. Eclectic theory of Dunning	China's low labor cost, a network of international production and great market potential might be important factors attracting FDI in China.
Wei and Liu (2001)	1. Pledged FDI: 1983-1998 2. Realized FDI: 1984-1998	Random effects model	Relative market size and economic integration have a positive impact on FDI. Conversely, relative real wage rates, country risks and total cultural differences are negative to FDI.

Note: the list of the literatures order according to the publish year.

### **2.2.2 One-country Analysis**

As mentioned before, this paper mainly examines how region's political power in the central government affects regional FDI in China. Thus, by focusing on only one country, this paper lays stress on what difference between these provinces that multinational corporations would invest in them.

In fact, there are many empirical studies remarking on the determinants of regional FDI distribution in China. This paper sorts literatures by what model they chose. First, Cheng and Kwan (1999) looked at data from 29 provinces from 1985 to 1995 and observe agglomeration effects of foreign capital stock. By using the dynamic panel regression model, this study found that larger market sizes, perfect infrastructures, preferential policies and lower wages have a positive impact on FDI. In addition, education also influences FDI positively but not significantly. Second, Coughlin and Segev (2000) adopted ordinary least square analysis by the hypothesis of spatial dependence. This study used a data of regional provinces in China from 1990 to 1997 to examine the mode of the determinants of FDI in China. They found that market sizes, labor productivities, and the location which is coastal or non-coastal have a positive impact on FDI. Conversely, higher wages and higher rate of illiteracy have a negative influence on FDI. In addition, Cheng and Gastañaga (2001) also used ordinary least square regression model to test the factor which impacts on FDI between coastal regions and western areas in China.<sup>6</sup> Third, Wei and Liu (1999) adopted panel data analysis to separate the determinants of pledged FDI. They found that lower wage rates and higher GDP growth rates attract FDI positively. Also, the higher level of international trade has a positive impact on FDI. If other things remain

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<sup>6</sup> The result of this paper mainly pointed that GDP per capita, GDP growth rate, infrastructures, the rate of capable labors and administrative efficiency of government are factors which cause the amount of FDI in western areas lower than in coastal regions in China.

unchanged, the more R&D manpower a region has, the more attractive a region will be to foreign investors. Most of all, there is a positive relationship between infrastructures, preferential policies and FDI. In addition, areas which are geographically closer to the main sources of FDI have a positive impact on pledged FDI.

In general, the determinant of FDI in China is an inducement to earn more profits. However, Sun et al. (2002) distinguished their study from similar studies by examining changes in importance of FDI determinants through time. By using fixed effects panel data model with a data of FDI among China's 30 provinces from 1986 to 1998,<sup>7</sup> they concluded that the *Income Tax Law for Enterprises with Foreign Capital and Foreign Enterprises* was passed in 1991. FDI situation was improved and resumed double-digit growth in 1991. Thus, there are different determinants of FDI attracting foreign investors. Wage has positive relationship with FDI before 1991 but has a negative relationship after then. Similarly, provincial GDP bears no significant relationship with GDP before 1991 but becomes highly positive after 1991. In addition, labor quality and infrastructure are also important determinants of the distribution of FDI. High labor quality and good infrastructure attract foreign investors. For the country as a whole, its political stability and its openness to the foreign world add another important dimensions to drawing in foreign capital. In addition, Kuo and Huang (2003) also used fixed effect dynamic panel data model to explain the determinant of FDI in China's 28 provinces from 1996 to 2000. They separated China into the coastal and inland areas and found that wage has a negative and significant effect on FDI in the coastal regions. On the other hand, accumulated FDI and the degree of openness have a positive and significant effect on FDI in the

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<sup>7</sup> Furthermore, Huang and Kuo (2003) also used fixed effect dynamic panel data model to explain the determinant of FDI in China's 28 provinces from 1996 to 2000.

inland provinces.<sup>8</sup>

Last, Heid and Ries (1996) study 931 joint ventures in 54 cities from 1984 to 1991. They intentionally exclude investments by overseas Chinese (Hong Kong, Macau, Singapore) which probably have a different set of location determinants due to familial, linguistic, and cultural ties. Their conditional logit regression shows that cities with good infrastructure, established industrial base and foreign investment presence are more attractive to investors.<sup>9</sup>

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<sup>8</sup> Huang and Kuo (2003) measured the degree of openness by the ratio of exports to GDP.

<sup>9</sup> Chen (1996) also used a conditional logit model to study cross-section and time-series data in China from 1987 to 1991 and examined which factor would influence foreign investors to choose investment locations.

Table 3 : One-country Analysis Literature

Author	Sample Period	Methodology	Conclusions
Heid and Ries (1996)	1984-1991	Conditional logit regression model	Cities with good infrastructure, established industrial base and foreign investment presence are more attractive to investors.
Cheng and Kwan (1999)	1985-1995	Dynamic panel regression model	Market sizes, perfect infrastructures, preferential policies and lower wages have a positive impact on FDI.
Wei and Liu (1999)	1. Pledged FDI: 1985-1995 2. Realized FDI: 1986-1995	Panel data analysis	Lower wage rates, R&D manpower, preferential policies and higher GDP growth rates attract FDI positively.
Coughlin and Segev (2000)	1990-1997	Ordinary least square	Market sizes, labor productivities, and the location have a positive impact on FDI. Conversely, higher wages and higher rate of illiteracy have a negative influence on FDI.
Cheng and Gastañaga (2001)	1970-1995	Ordinary least square	GDP per capita, GDP growth rate, infrastructures, and the rate of capable labors are factors which cause the amount of FDI in western areas lower than in coastal regions in China.
Sun et al. (2002)	1986-1998	Fixed effects model	FDI situation was improved in 1991. By 1991, there are different determinants of FDI attracting foreign investors. Labor quality, infrastructure, political stability and its openness to the foreign world are important dimensions to drawing in foreign capital.
Kuo and Huang (2003)	1996-2000	Fixed effect dynamic panel data model	Costal and inland areas have different results of FDI. Wage has a negative and significant effect on FDI in costal regions. On the other hand, accumulated FDI and the degree of openness have a positive and significant effect on FDI in inland provinces.

Note: the list of the literatures order according to the publish year.