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China's Regional Competition of Attracting FDI from Taiwan: Shanghai Economic Zone versus Other Economic Zones

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Abstract

The purpose of this paper is to analyze China's regional competition of attracting FDI from Taiwan, particularly focusing on the Shanghai Economic Zone versus other zones. This study adopts China's official data provided by various years of *China Statistical Yearbook*, *China Foreign Economic Statistical Yearbook*, and statistical yearbooks for each province and a survey conducted by Chiu-Chen and Kuo (2003) to analyze this issue. The primary finding of this study is that the coastal area is the primary destination of FDI in China, especially the provinces located in the Zhujiang River Delta, Changjiang River Delta, and Greater Bohai Sea Area. Since the Changjiang River Delta has a large market size and an inland traffic transportation system, investment from Taiwanese high-technology enterprises in this area has increased sharply recently. Finally, the Changjiang River Delta has a very low investment risk and the highest assessment of investment environment based upon the viewpoint of Taiwanese enterprises. Without a doubt, the Changjiang River Delta, especially Shanghai, has become the most popular region for attracting FDI in China.

Keywords: China, economic zone, FDI, Shanghai, Taiwanese enterprises

JEL Classifications: F21; O24; O53; R58

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I. INTRODUCTION

Ever since 1979, China has adopted an open-door policy, resulting in an abundant amount of foreign-funded enterprises having invested there. According to *China Statistical Yearbook*, approximate 568.41 billion US dollars of foreign capital flowed into China from 1979 to 2001. Before 1992, foreign loans shared most of the foreign capital including foreign loans and foreign direct investment (FDI), but the amount of and share of FDI in foreign capital started to grow beginning in 1992. The accumulative amount of FDI in China was 393.51 billion USD during 1979 to 2001, while the amount of FDI inflow has exceeded 40 billion USD per year during 1996 to 2000, and has maintained a similar level since 2000. Therefore, China has become the world's second largest FDI recipient country, only behind the U.S. since 1992.

FDI has played a significant role in China's double-digit economic growth rate for the last two decades. China has absorbed a massive amount of foreign capital from all over the world to boost its continued economic reforms, especially from its neighbor countries and regions. According to official data provided by *China Foreign Economic Statistical Yearbook*, Hong Kong, United States, Japan, and Taiwan are the primary capital sources of China's FDI. During 1978 to 2001, the percentages of their respect accumulated amount of realized investment to total amount are 48.89%, 8.62%, 7.98%, and 7.51%, respectively.

Although the importance of Taiwan in China FDI has declined gradually, Taiwan still plays a vital role so far. The investment amount of Taiwan's enterprises in China was not large until 1987, but in 1987, Taiwan's China policy changed. This

change led to a dramatically increase in Taiwanese enterprises' investment in China at that time. Most Taiwan's enterprises invested in Fujian during the 1980s and early 1990s, but moved to the Zhujiang River Delta during the mid-1990s to 2000. After 2000, the Changjiang River Delta has become the new popular location of Taiwan enterprises since 2000.

As mentioned earlier, FDI has a significant contribution to the economy's growth. In order to pursue a higher economic growth, not only the entire country, but also each region of China, has worked very hard to encourage more and more FDI since 1979. Therefore, China's regional competition of attracting FDI has been lifted up for a long time. The purpose of this study is thus to analyze China's regional competition of attracting FDI, particularly FDI from Taiwan. In addition, a comparison of investment environment and risk among three economic zones in China is conducted in this study to further understand the advantages and disadvantages of each economic zone based upon Taiwanese enterprises' subjective opinions.

This study adopts China's official data provided by various years of *China Statistical Yearbook*, *China Foreign Economic Statistical Yearbook*, and statistical yearbooks for each province and a survey conducted by Chiu-Chen and Kuo (2003) to analyze above issues. The primary finding is that the coastal area is the primary destination of FDI in China, especially those provinces located in the Zhujiang River Delta, Changjiang River Delta, and Greater Bohai Sea Area. Since the Changjiang River Delta has a large market size, convenient inland traffic transportation system, very low investment risk, and the highest assessment of investment environment,[1] investment from Taiwanese high-technology enterprises in this area has increased

[1] The first two advantages are based upon the objective indicators and the last two are based upon the subjective viewpoint of Taiwanese enterprises.

sharply during recent years. Without a doubt, the Changjiang River Delta, especially Shanghai, has become the most popular region for attracting FDI in China.

The remainder of this paper is organized as follows. Section 2 reviews previous literature regarding the FDI theory and the determinants of FDI regional choice in China. Section 3 describes the retrospect of Taiwan's investment toward China followed by an introduction to the region choices of Taiwan's enterprises, and the change in investment location during different periods in Section 4. Section 5 compares the investment environment and risk among three economic zones including the Zhujiang River Delta, Changjiang River Delta, and Greater Bohai Sea Area. Section 6 concludes this study.

II. LITERATURE REVIEW

While studying the regional competition of attracting FDI among several economic zones in China, it is necessary to understand the reasons why enterprises decide to invest in foreign countries. The theory of FDI explaining these reasons is thus reviewed firstly in this section. In addition, it is also necessary to understand the determinants of foreign enterprises' regional choice. Therefore, the last part of this section reviews previous related studies investigating the issue of foreign enterprises' decision on their regional choice of outward investment in China.

2.1 Theory of FDI

Neoclassic international economic theory asserts that capital will flow from a capital-abundant country to a labor-abundant country until the capital-labor ratio of those two countries becomes equalized. Mundell (1957) suggested that capital will flow between two countries to make the price ratio return to equilibrium before the

tariff is levied,[2] and FDI is negatively related to trade. Horst (1972) showed a positive relationship between a tariff imposed by Canada and inflow of FDI from United States. However, Grosse and Trevino (1996) found that the relationship between trade and FDI is complementary in the United States.[3]

In order to maximize profit, multinational enterprises (MNEs) are likely to invest in low wage rate countries, because labor wage is an important part of total cost in labor-intensive industries. Coughlin et al. (1991) and Moore (1993) confirmed that labor wage in a host country is negatively related to FDI inflow. Haaparanta (1996) modeled international competition for FDI as a common agency problem to show that a high-wage country may be able to attract investment even though all countries use subsidies.

The exchange rate can also affect FDI by changing the labor wage and MNEs' wealth in the host country. Culem (1988) indicated that a host country's currency depreciating could make the labor wage ratio of the host to home countries decrease, and further attract more FDI. Froot and Stein (1991) asserted that a depreciation of a host country's currency would increase MNEs' assets in the host country. This wealth effect will lead to more investment in the host country from MNEs.

The size of a host country's market is another factor affecting FDI. The larger the market of the host (home) country is, the more FDI inflow to the host (outflow from home) country there will be. Grosse and Trevino (1996) pointed out that larger home economies are expected to contain more large firms attempting to expand in the

[2] Mundell (1957) extended Heckscher-Ohlin's general equilibrium model to explain that capital flows and commodity trade are substitutes. As some policies are imposed to impede commodity trading, such as tariffs, the marginal product of the two factors of the two countries will change, and so does the price ratio.

[3] Grosse and Trevino (1996) argued that exports to the host country may be used to supply an affiliate with a full or partial product line from the home country, and imports from an affiliate may be used to supply the parent company with inputs and the home country market with a product.

foreign market. On the other hand, Pitelis (1996) argued that deficient home country's demand would push home capital to outflow into foreign countries. Therefore, home market size is negative related to a host country's FDI inflow. Liu et al. (1997) proposed that FDI inflow from a home country will increase as the ratio of host to home market size expends.

There are many other factors that may affect the movement of international capital. Chakrabarti (2003) concluded that a host country with a situation of political stability implies a high probability of more revenue, further encouraging more FDI in this country.[4] Wheeler and Mody (1992) illustrated that agglomeration benefits measured by infrastructure quality, degree of industrialization, and level of foreign investment are important factors of attracting FDI.[5] Mody and Srinivasan (1998) further supported that U.S. and Japan enterprises are attracted by good infrastructure of the host countries. Institutions and government behaviors are also important factors. Hsiao et al. (2001) found that corruption and bureaucratic delay will dissuade the inflow of FDI, and that good contract enforcement will encourage FDI inflow.

In addition to those factors outside the MNEs, some of their conditions may also explain the reason why they are able and willing to invest in foreign countries. Dunning (1977) proposed a framework to describe that MNEs directly investing in foreign countries have to hold three advantages including ownership advantage, location advantage, and internalization advantage.[6] Another important dynamic

[4] Chakrabarti (2003) argued that a vast amount of empirical literature has developed without explicit consideration of an underlying theoretical model. Therefore, he developed a structure model to assess the role of various potential determinants (market size, wage, tariff, political stability, exchange rate, and transportation cost) of the spatial distribution of FDI.

[5] Among three kinds of agglomeration benefits, Wheeler and Mody (1992) suggested that infrastructure quality is the most important determinant of FDI for developing countries.

[6] Ownership advantage means that the MNEs possess some production abilities, patent, or brand that

theory to explain why FDI happens is the product cycle hypothesis first proposed by Vernon (1966). The product cycle suggests that the process from product development of the innovation stage to the standardized stage will make plants move to labor-abundant/cheap-labor countries, which are always developing countries.[7]

2.2 The Determinants of FDIs' Regional Choice in China

Since China has become the most popular host country of FDI in the world and the inequality of FDI distribution in China in turn has become a serious problem, a number of studies have paid more much attention to the issue regarding determinants of FDI location in China. Naughton (1996) asserted that in the 1980s and early 1990s, Taiwan and Hong Kong played a crucial role of FDI in Guangdong and Fujian, respectively, probably due to the linguistic and cultural ties. However, Sun et al. (2002) did not find that culture is a determinant of FDI regional choice,[8] but found that market size and labor qualities are positively related to FDI inflow, and the effect of labor wage on FDI is negative.

Broadman and Sun (1997) concluded that market size, human capital, infrastructure, and geographical location of the coast are important determinants of the regional distribution of FDI in China,[9] but not labor cost. In addition, Tung and

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other enterprises do not possess. Location advantage means a multinational enterprise investing in a host country can get more profits than exporting a product to the host country. Internalization advantage means that the MNEs has to sell products in the host country rather than authorize the right of production to another firm.

[7] In the innovation stage, only a high-income country can afford the technology and price of a new product. In the maturing stage, the production technology is quite stable and demand from other countries increases. The production enterprises consider that they can invest directly in these countries, because these countries provide markets and cheaper labor force. In the standardized stage, the technology product in previous stages becomes a labor-extensive product, which can be produced in a routine procedure.

[8] Sun et al. (2002) analyzed spatial and temporal variation in FDI among China's 30 provinces from 1986 to 1998 by estimating a fixed effect model.

[9] Broadman and Sun (1997) explained that the geographical location dummy is significant, because coastal provinces are close to major shipping ports and have been granted special investment incentives that set the coastal regions apart from others.

Cho (2001) supported the following two hypotheses:[10] (1) Zones and cities in China with lower tax rates and greater tax incentives are expected to attract more FDI than those with higher tax rates and fewer tax incentives. (2) The amount of FDI attracted into the zones and cities in the post-1991 period is expected to be greater than that in the pre-1991 period. Therefore, it is concluded that a tax policy is an important determinant of FDI inflow in China.

Similar to the results of other literature, Cheng and Kwan (2000) concluded that market size and infrastructure have a positive, but wage cost has a negative effect on FDI.[11] However, different from the results suggested by Sun et al. (2002), the positive effect of education is not statistically significant. A tax incentive policy is also proved to be effective in attracting FDI, because both the special economic zones and the other key designations have a positive effect on FDI. Hsiao and Gastñaga (2001) applied eclectic theory to explore FDI determinants and found that under the assumption that the experience of China is no different from that of other developing countries, market size, infrastructure, skilled, and bureaucracy differences are primary factors that make the regional disparity of FDI between coastal and inland regions.[12]

To sum up the above empirical studies, it is concluded that tax policy, labor wage, market size, and infrastructure are primary determinants of FDI regional choice in China.

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[10] Tung and Cho (2001) adopted data of 43 zones and cities for the period 1988-1994. According to different tax incentive policies, the whole period is divided into two sub-periods: 1988-1991 and 1992-1994. The tax policy in the second period provides a better investment incentive than it was in first period.

[11] Cheng and Kwan (2000) used a first-differenced GMM (Generalized Method of Moments) framework to estimate the determinants of the location of FDI in China. This panel data includes 29 regions over an 11-year period from 1985 to 1995.

[12] Hsiao and Gastñaga (2001) also suggested that while the ownership advantage depends rather strictly on the characteristics of the firm and its business, host country policies and institutions can play a prominent role in the location and internalization.

III. RETROSPECTIVE OF TAIWNA'S INVESTMENT TOWARD CHINA

Taiwanese enterprises have started to invest China since the early 1980s. However, official statistical data about Taiwan's investment toward China was not available until 1991. Kao and Huang (1995) pointed out that because Taiwan's government prohibited enterprises to invest in China in the early 1980s, most enterprises moved their capital to China via Hong Kong, but the amount of investment was small at that time. In 1987, Taiwan's government released its controls on holding foreign exchange and allowed people to visit their relatives in China, leading to a significant increase in investment toward China.

Kao and Huang (1995) indicated that Taiwan's investment environment has deteriorated, such as lacking a labor force and an increasing wage rate, and therefore have encouraged Taiwanese enterprises to outflow their capital in the 1980s.[13] At the same time, China's open-door policies have provided favorable tax rates in special economic zones to attract foreign capital,[14] and its cheap labor has become a great incentive for attracting MNEs to invest in labor-intensive industry. Therefore, many Taiwanese enterprises in traditional industries, most being labor-intensive, decided to invest toward China in order to save production costs.

Although the amount of Taiwan's investment forward China has increased significantly after 1987, Taiwan's official statistical data of the total amount of investment in China was still not available until the early 1990s. Kao (1997) indicated that the total amount of Taiwan's capital outflow to China recorded in

[13] Kao and Huang (1995) generalized a few possible reasons: (1) large amount of surplus capital; (2) lacking a labor force and increasing the wage rate; (3) The New Taiwan Dollar appreciated dramatically and Taiwan lost its competitive advantage of exports in the international market; (4) An emergence of a consciousness towards environmental protection; (5) deterioration of public order; and (6) lacking land for industrial-use.

[14] The Special Economic Zones include Shenzhen, Zhuhai, Shantou, and Xiamen.

Taiwan's statistics and in China's statistics is underestimated.[15] Since the underestimation of the total amount of Taiwan's investment in China is less in China's official statistics than that in Taiwan's, this study adopts China's statistical data to analyze the trend of Taiwanese investment in China from 1992 to 2002.

The amount of FDI from Taiwan to China during 1992~2002 is shown in Table 1.[16] It is found that 1992 is a turning point of Taiwanese investment in China. Kao (1997) asserted that the post-1992 period is a new phase of Taiwanese investment in China. In 1992, Deng Xiaoping's southern China trip reconfirmed China's open-door policy, which encouraged FDI from all over the world to flow into China. In addition, in both 1990 and 1993, Taiwan's government made a new law, providing that Taiwanese enterprises wanting to invest in China have to register and obtain permission from Taiwan's government.

Taiwan's new law replaced the prohibitive policy in 1980s and caused an increase in Taiwanese enterprises' investment in China.[17] In 1993 the realized amount of Taiwanese investment in China was approximately 3.1 billion USD, which was triple the amount it was in 1992. In 1996, the total amount of FDI from Taiwan to China reached a record high, 3.5 billion USD. It is because of this that former President Lee Teng-Hui initiated a new policy of "No Haste, Be Patient" for the purpose of trying to avoid deindustrialization in Taiwan resulting from huge

[15] Many Taiwanese enterprises have invested in China without getting permission from Taiwan's government, which leads to an underestimation of the total real amount of Taiwan's capital outflow in Taiwan's statistics. On the other hand, some Taiwanese enterprises have invested in China with the nominal name of a third country, which also underestimates the total amount of Taiwan's capital outflow in China's official statistics.

[16] Since data in 1991 represents accumulated numbers from the preceding years up to 1991, it is not proper to compare the numbers in 1991 with those in other years.

[17] Although Taiwan's government released its control on investment in China, some industries and a large amount of investment were still prohibited to invest in China. Many Taiwanese enterprises tend to use some ways in avoiding their government's regulation. Therefore, statistical data in Taiwan are still an underestimation.

Taiwanese FDI in China. After this policy began to be carried out, the political relationship between the two sides of Taiwan Strait deteriorated even more so.

Table 1: Taiwan's Investment toward China during 1992-2002

Unit: USD 10,000

Year	Contracted FDI			Realized FDI	
	Projects	Amount		Amount	
1992	6,430	554,335	(9.53)	105,050	(9.54)
1993	10,984	996,487	(8.94)	313,859	(11.41)
1994	6,247	539,488	(6.52)	339,104	(10.04)
1995	4,847	584,907	(6.41)	316,155	(8.43)
1996	3,184	514,098	(7.02)	347,484	(8.33)
1997	3,014	281,400	(5.44)	328.939	(7.26)
1998	2,970	298,200	(5.72)	291,521	(6.41)
1999	2,499	337,400	(8.19)	259,870	(6.45)
2000	3,108	404,200	(6.48)	229,628	(5.64)
2001	4,214	691,419	(9.99)	297,994	(6.36)
2002	4,853	674,100	(13.57)	397,700	(7.22)

Sources: *China Foreign Economic Statistical Yearbook* and *Cross-Strait Economic Statistics Monthly.*

Note: 1. Since data in 1991 represents accumulated numbers from the preceding years up to 1991, it is not shown in the table.

2. Numbers in parentheses are share of FDI from Taiwan to total FDI in China.

However, it seems that Taiwanese enterprises' investment was not affected by this policy and any political factors. As a result of the Asia financial crisis happening in 1997 and the bearish trend of Taiwan's stock market, Taiwanese enterprises did not have enough financial ability to invest China. Since 1997, Taiwan's investment in China has shown a downward trend.

In 2000 the amount of realized investment declined to 2.3 billion USD. The new President, Chen Shui-Bian, started his presidency in May 2000, and a new policy regarding investing toward China was proposed by the "National Economic

Development Conference" held in January 6-7, 2001.[18] This policy of "Active Liberalization and Effective Management" seems to be more feasible in managing the behavior of Taiwanese enterprises' investment in China,[19] and the amount of realized investment in China increased to 30 billion USD in 2001.

Table 1 also reveals the share of realized FDI amount from Taiwan to total amount of FDI in China. It is found that this share declines over time and implies that Taiwan has gradually lost its importance in China's FDI.[20] According to China's official data provided by *China Foreign Economic Statistical Yearbook*, the United States, Japan, and European countries have increased their direct investment in China since the mid-1990s. The United States replaced Taiwan and Japan and became the second largest investor in China since 1998.[21]

Because China's official information regarding FDI from Taiwan by industry is not available in any statistical yearbooks, the underestimated amount provided by the Taiwan Investment Commission is adopted in this study and is presented in Table 2. It is shown that Taiwanese enterprisers have invested primarily in China's six industries, including food and beverage products, chemicals, plastic products, basic metals and metal products, electronics and electrical appliances, and precision instruments. The industry with the largest share of total Taiwanese FDI in China is

[18] This conference aimed to stimulate Taiwan's sluggish economy and focused on 10 major topics including infrastructure construction, taxation, the workforce shortage in the high-tech sector, environmental protection, land acquisition for industrial needs, funding, small and medium-sized enterprises, government efficiency, overseas investment, and cooperation as well as domestic investment.

[19] The primary regulations of investing toward China in this new policy are as follows: (1) Release the limitation of investment amount and industry categories, and set up a risk management mechanism. (2) Improve the review mechanism of financial statements to increase information transparency. (3) Allow enterprises to make a report on investing in China that was previously not reported, etc.

[20] Since1995, capital from the Virgin Islands shared a large percentage of China's FDI. Tung (2003) postulated that the original source of this capital is Taiwan. If the capital percentages of the Virgin Islands and Taiwan are added, then the total percentage will exceed the United States' share.

[21] The largest investor is still Hong Kong with a share of 35.66% in China's total FDI in 2001.

the electronics and electrical appliances industry. Up to 1997, its accumulated amount of investment in China was 2.03 billion USD and further increased to 86.7 billion USD in 2002 and shared 32.58% of Taiwan's total accumulated amount of FDI in China. It is worth noting that the amount of Taiwan's FDI in China's electronics and electrical appliances industry has exceeded 1.25 billion USD since 2000. In 2002, it was as high as 2.6 billion USD and shared 39% of Taiwan's total FDI in China.

Table 2: Approved Cases and Amount of Taiwan's Investment in China by Industry

Unit: 10,000 USD

Industries		~1997	1998	1999	2000	2001	2002	Total
Food and Beverage Products	Case	2,123	57	19	10	26	93	2,328
	Amount	110,835 (9.17)	7,005 (3.44)	5,825 (4.65)	4,325 (1.66)	5,842 (2.10)	15,294 (2.27)	149,125 (5.6)
Chemicals	Case	1,320	91	33	37	45	199	1,725
	Amount	71,589 (6.39)	14,681 (7.22)	14,302 (11.42)	11,078 (4.25)	16,378 (5.88)	47,436 (7.06)	175,464 (6.59)
Plastic Products	Case	1,930	69	25	48	63	197	2,332
	Amount	99,217 (8.85)	6,418 (3.15)	9,007 (7.91)	18,478 (7.09)	15,607 (5.61)	99,882 (14.86)	169,809 (7.12)
Basic Metals and Metal Products	Case	1,730	118	28	97	120	257	2,350
	Amount	100,771 (8.99)	12,685 (6.23)	10,450 (8.34)	18,385 (7.05)	19,380 (6.96)	63,146 (9.39)	224,816 (8.45)
Electronics & Electrical Appliances	Case	2,778	300	190	343	383	789	4,783
	Amount	203,484 (18.16)	75,898 (37.30)	53,775 (42.92)	146,478 (56.18)	125,483 (45.07)	261,868 (38.95)	866,986 (32.58)
Precision Instruments	Case	2,043	94	30	41	31	267	2,506
	Amount	66,925 (5.97)	7,462 (5.96)	2,807 (2.24)	8,480 (3.25)	12,600 (4.53)	43,335 (6.45)	141,608 (5.32)

Sources: *Statistics on Overseas Chinese & Foreign Investment, Technology Cooperation Outward Technical Cooperation, Indirect Mainland China Guide of Mainland Industry Technology* (2002).

Note: Number in the parentheses is the percentage of investment amount of an industry to the amount of total investment.

According to Kao (1997), some features of Taiwan's investment toward China can be characterized. First of all, recent Taiwanese enterprises have invested more in

capital- and technology-intensive industries than they have done before. Their investment in China's labor-intensive industries has been reduced and moved to the inland areas of China. Secondly, since China released the limitation of sales' share in its domestic market,[22] Taiwanese enterprises have been encouraged to increase their investment dramatically in many industries to supply China's huge domestic demand. For example, the growth rate of Taiwanese investment in China's service and trade industry increased sharply after 2000.[23] Finally, while small and medium size enterprises (SMEs) were the primary Taiwanese investors in China in the early phase, investment from large Taiwanese enterprises has increased. The average investment amount from Taiwanese enterprises in China has increased as well.

IV. FDI FROM TAIWAN IN CHINA'S ECONOMIC ZONES

As mentioned in Huang et al. (2003), most FDI in China is located in the coastal areas, particularly in the four economic zones including the eastern region of Fujian Province, Zhujiang River Delta, Changjiang River Delta, and the Greater Bohai Sea Area. However, most Taiwan enterprisers have invested in the former three zones. This section illustrates the distribution of Taiwanese FDI among these economic zones. Furthermore, an analysis of changes in each economic zone's importance in the location of Taiwan's FDI is also provided in this section.

At the early phase of China's economic reforms, Fujian Province was built as an economic zone for the purpose of attracting FDI from Taiwan, and as the result,

[22] To cope with its WTO entry and globalization, China's government further abandoned sales regulations in April 2001 as the Communist Party modified the "Law of the People's Republic of China on Foreign-Capital Enterprises" and "Detailed Rules on the Implementation of the Law of People's Republic of China on Foreign-Capital Enterprises" in The Standing Committee of the 9th National People's Congress.

[23] For more details, please refer to *Statistics on Overseas Chinese & Foreign Investment, Technology Cooperation Outward Technical Cooperation, Indirect Mainland China Guide of Mainland Industry Technology* (2002).

Fujian indeed has effectively attracted Taiwan's FDI. In the late 1980s and early 1990s, Taiwanese enterprises invested more in Fujian than in Guangdong and Jiangsu provinces probably due to its geographic and cultural advantages. According to Lin and Hu (2002), until 2000, 6,296 Taiwanese enterprises (most of them being SMEs) were approved to invest in Fujian, with an accumulated contracted amount of investment at about 11.7 billion USD, of which approximately 8.38 billion has been realized.[24] However, Fujian has lost its attractiveness to Taiwanese enterprises since mid-1990 based upon the data shown in Table 3.

Table 3 indicates that the realized amount of Taiwanese FDI in Fujian has declined since 1996. It was as high as 1.2 billion USD in 1996, with the largest amount in regions listed in Table 3. In 1999, it was less than 1 billion USD and further reduced to only 0.49 billion in 2000, which was just half the amount in 1999. As a matter of fact, Fujian has some disadvantages blocking its ability to attract more Taiwanese investment. One of its disadvantages is that Fujian faces extremely strong competition from other economic zones, such as Guangdong and Jiangsu. These two competitors rather than Fujian provide foreign enterprises with a larger economic hinterland, more convenient traffic transportation, and more favorable policies. In addition, the insufficient human capital and incomplete market of Fujian Province make it very hard to attract more investment from large Taiwanese enterprises.

Guangdong, the first province allowed to attract FDI from foreign enterprises, has three special economic zones, including Shenzhen, Zhuhai, and Shantou. Therefore, the accumulated amount of Taiwanese investment is about 6.17 billion US

[24] During this period, most Taiwanese enterprises in Fujian were primarily in labor-intensive light industries, such as clothes, food, and plastic products.

dollars during 1979 to 2002 based upon China's official data provided by *Guangdong Statistical Yearbook*. Table 3 indicates that the amount of realized investment from enterprises. Taiwan in Guangdong has increased since 1996 and has exceeded the amount in Fujian since 2000. Guangdong's FDI from Taiwan continued to grow in mid-1990, with most of Taiwan's FDI in Guangdong located in the Zhujiang River Delta.[25]

Table 3: Realized Amount of Taiwanese Investment in China's Primary Provinces

Unit: 100 million USD

Regions	1996	1997	1998	1999	2000	2001	2002
Fujian	12.04	13.33	11.24	9.29	4.89	---	---
Guangdong	4.74	4.86	4.83	6.26	7.34	8.82	10.8
Shanghai	3.28	1.62	1.28	1.22	1.82	2.94	4.2
Zhejiang	2.23	0.81	1.05	0.84	1.45	2.77	2.94
Shandong	2.31	1.48	1.54	1.15	1.87	2.46	---
Liaoning	0.94	0.47	0.85	1.05	0.74	1.47	---
Beijing	0.49	0.37	0.71	0.37	0.33	0.21	0.25
Tianjin	1.05	0.55	0.86	0.74	0.22	0.4	2.06

Sources: Various years of *Guangdong Statistical Yearbook, Shanghai Statistical Yearbook, Zhejiang Statistical Yearbook, Shandong Statistical Yearbook, Liaoning Statistical Yearbook, Beijing Statistical Yearbook,* and *Tianjin Statistical Yearbook.*

Note: Jiangsu and Hebei's data is not available and data on Fujian is provided by Lin and Hu (2002).

Similar to Hong Kong enterprises, Taiwanese enterprises have invested primarily in manufacturing and real estate trade in Guangdong. Since the Zhujiang River Delta is an export-oriented economic area, Taiwanese enterprises in this area import material from and export finished products via Hong Kong to the global world. In fact, although Guangdong opened earlier than other economic zones and absorbed a large amount of FDI from Taiwan and Hong Kong to build an integrated industrial structure, its industrial structure still belongs to low technical and labor-extensive

[25] The Zhujiang River Delta includes 14 cities and counties: Guangzhou, Shenzhen, Zhuhai, Foshan, Jiangmen, Zhongshan, Dongguan, Huizhou (Urban District), Huiyang City, Huidong County, Boluo County, Zhaoqing (Urban District), Gaoyao City, and Sihui City. Superficial measurements of this zone are about 42000 square kilometers.

manufacturing.

The Changjiang River Delta includes Shanghai, the southern part of Jiangsu, and the northern part of Zhejiang.[26] This economic zone has been open since the mid-1980s, a little bit later than the Zhujiang River Delta and Fujian. Table 3 shows that the amount of Taiwanese FDI in Shanghai and Zhejiang is smaller than that of Guangdong and Fujian, but it has had a greater growth rate than the other two areas since 2000. The real amount of investment from Taiwan had a growth rate of 42.86% in Shanghai in 2002 and 91.03% in Zhejiang in 2001. Data provided by Taiwan's government also reveals that Jiangsu has replaced Guangdong as having the largest share of FDI from Taiwan since 2000.[27]

Different from labor-intensive Taiwanese enterprises in Fujian and Guangdong, those investing in Jiangsu are advanced electronics enterprises which are technology- and capital-intensive. The Changjiang River Delta is able to provide more human capital and technology than the Zhujiang River Delta, and therefore many Taiwanese information technology (IT) enterprises choose to invest in this region.[28] Taiwan's enterprises not only want to export their products from China, but also attempt to sell products in China's market. In addition, the Changjiang River Delta has a large market size and inland traffic transportation system, which can transport products to inland China. This provides a better opportunity than other economic zones for

[26] The Changjiang River Delta includes 15 municipalities: Shanghai, the eastern and northern regions of Zhejiang (Hangzhou, Ningbo, Jiaxing, Huzhou, Shaoxing and Zhoushan), and the southern regions of Jiangsu (Nanjing, Wuxi, Changzhou, Suzhou, Nantong, Zhenjiang and Taizhou). Superficial measurements of this zone are about 99000 square kilometers.

[27] Because detailed data of Taiwanese investment in Jiangsu is not available in China's statistical yearbook, this section has to cite the data provided by Taiwan's economic ministry. The data source is *Statistic on Overseas Chinese & Foreign Investment, Technology Cooperation Outward Technical Cooperation, Indirect Mainland China Guide of Mainland Industry Technology* 2002. In 2000 Jiangsu and Guangdong absorbed 1.25 billion and 1.02 billion USD, respectively. The gaps continued to increase in 2001 and 2002.

[28] Many famous Taiwanese enterprises, such as Acer and Asus, have established their branches in technology zones located in Jiangsu.

Taiwanese enterprises to sell commodities in China. Therefore, some Taiwanese enterprises that have invested in the Zhujiang River Delta have also established their plants in the Changjiang River Delta. As a result, Taiwanese investment in the Changjiang River Delta has increased sharply recently.

Another economic zone attracting Taiwanese enterprises to invest is the Greater Bohai Sea Area.[29] It is found in Table 4 that the amount of FDI from Taiwan is not large in this economic zone. Shandong is the region with the largest amount of Taiwanese investment other than other regions in this economic zone. In order to attract more foreign investment and high technology, Beijing and Tianjin have built several new high-technology development parks. Therefore, it is expected that more and more Taiwanese advanced electronic enterprises will increase their investment in this area in the foreseeable future.

V. A COMPARISON OF INVESTMENT ENVIRONMENT AMONG CHINA'S ECONOMIC ZONES

The Zhujiang River Delta, Changjiang River Delta, and Greater Bohai Sea Area are three of the most important economic zones in China. These three zones attract about 72.78% of China's total FDI. Table 4 presents the importance of these economic zones in attracting FDI from foreign countries/regions. The variation of each economic zone's importance in total FDI is similar to FDI from Taiwan. Up to 2001, the Zhujiang River Delta has the highest share of China's realized FDI, 27.86%. Although the Zhujiang River Delta absorbs the largest amount of realized FDI than other zones, its growth rate of FDI inflow seems to have a downward trend. The Changjiang River Delta has 24.44% and the Greater Bohai Sea Area has 21.1% of

[29] The Greater Bohai Sea Area includes five provinces and municipalities: Shandong, Hebei, Liaoning, Beijing, and Tianjin. Superficial measurements of this zone are about 515000 square kilometers.

realized FDI in China. More and more MNEs have chosen to invest in the Changjiang River Delta and have also paid more attention to the Greater Bohai Sea Area.

Table 4: China's Accumulated FDI Amount and Primary Economic Zones up to 2001

Unit: 100 million USD

Province	Case		Contracted FDI		Realized FDI	
	Number	%	Amount	%	Amount	%
China	390,005	100	7,453	100	3,952	100
A. Changjiang River Delta						
Shanghai	24,490	6.28	721	9.67	326	8.25
Jiangsu	44,152	11.32	1,004	13.47	506	12.80
Zhejiang	20,679	5.30	292	3.92	134	3.39
B. Zhujiang River Delta						
Guangdong	89,752	23.01	1,830	24.55	1101	27.86
C. Greater Bohai Sea Area						
Shandong	31,774	8.15	483	6.48	246	6.85
Liaoning	22,878	5.87	419	5.61	173	4.38
Hebei	10,120	2.59	149	2.00	75	1.90
Tianjin	14,272	3.66	297	3.98	153	3.87
Beijing	17,016	4.36	334	4.48	162	4.10
D. Other Economic Zone						
Fujian	29,436	7.55	691	9.27	374	9.46
Total	304,569	78.09	6,220	83.46	3,250	82.24

Source: *China Foreign Economic Statistical Yearbook.*

5.1 Comparison by Objective Indicators

These economic zones play roles with different consequences in attracting FDI and their importance have changed due to their different characteristics. According to official data provided by *China Statistical Yearbook* and statistical yearbooks of each province, the population size is 75.3 million in the Changjiang River Delta, 23.4 million in the Zhujiang River Delta, and 223.2 million in the Greater Bohai Sea

Area.[30] Nominal GDPs of the Changjiang River Delta, Zhujiang River Delta, and Greater Bohai Sea Area in 2001 were 169.8 billion, 840.1 billion, and 2473.4 billion RMB, respectively. It is found that the Greater Bohai Sea Area has the highest GDP and largest market size, but its population density and per capita GDP therein are both lower than those in the other two economic zones. Those enterprises that want to sell their products in the Greater Bohai Sea Area have to consider people's purchasing power and transportation cost carefully in this area.

Rather than the Greater Bohai Sea Area, both the Changjiang River Delta and Zhujiang River Delta provide better market conditions. The Zhujiang River Delta has a high per capita GDP, but a small and limited market size. The high purchasing power encourages FDI, however, its limited market discourages FDI. The Changjiang River Delta has a high per capita GDP, a large hinterland, and convenient transportation. These advantages make foreign enterprises easily sell as much of their products as possible to cities with a huge population along the Changjiang River. Compared to the hinterland of the Zhujiang River Delta (covering several poor provinces in China, such as Guangxi and Yunnan), the hinterland of the Changjiang River Delta contains several medium income provinces.

After entering the World Trade Organization (WTO), China is now expected to further open up its domestic market more widely. All MNEs will be allowed to invest in tertiary industries and sell their products in China's domestic market gradually. The size of the domestic market should become one of the most important factors affecting MNEs' decisions on investment location. Under this consideration,

[30] The Changjiang River Delta includes Shanghai, the eastern and northern regions of Zhejiang (Hangzhou, Ningbo, Jiaxing, Huzhou, Shaoxing and Zhoushan), and the southern regions of Jiangsu (Nanjing, Wuxi, Changzhou, Suzhou, Nantong, Zhenjiang and Taizhou) as a calculation of its population size.

based upon subjective indicators of market size and purchasing power of people, it is no doubt that the Changjiang River Delta, especially Shanghai, will become the most popular region for attracting FDI.

5.2 Comparison by Subjective Indicators

In order to further understand the viewpoint of Taiwanese enterprises on these economic zones, Chiu-Chen and Kuo (2003) conducted a research project with a questionnaire to obtain the subjective opinions of Taiwanese enterprises on their investment environment satisfaction and risk among these economic zones.[31] They further compared investment environment satisfaction and risk among these economic zones. The investment environment assessment includes seven items and the investment risk assessment includes four items. Each item has five choices with values of 1~5. The higher the level of satisfaction and risk is, the greater the value will be. The average value of each item and average weighted value of the two assessments among these economic zones are presented in Table 5.

Table 5 shows that the Changjiang River Delta has the best investment environment; its average weighted satisfaction level is 3.35 in Taiwanese enterprises' point of view. The worst is the Zhujiang River Delta with the lowest average weighted satisfaction level of 3.06. According to previous studies as reviewed in section 2, several determinants affecting MNEs' regional choice of investment are included in items of infrastructure, economic conditions, and management conditions. Table 5 also shows that Taiwan's enterprises consider the Changjiang River Delta to have the best infrastructure among these economic zones and that the Greater Bohai

[31] Each Taiwanese firm is designed to choose at most two cities in China to answer questions listed on the questionnaire. For detail of the questionnaire, cities, and total number of firms answering the questionnaire, please refer Chiu-Chen and Kuo (2003).

Sea Area also provides a better infrastructure than the Zhujiang River Delta.[32]

Regarding the economic conditions,[33] the Changjiang River Delta still has the best investment environment, while the Zhujiang River Delta still maintains the worst environment among economic zones. As indicated by Chiu-Chen and Kuo (2003), the Changjiang River Delta, especially Shanghai, is the banking center of China.[34]

Table 5: Investment Environment and Risk Assessment of China

Items	Changjiang	Zhujiang	Greater Bohai	Other Cities
A. Investment Environment Assessment				
Natural Environment	3.73	3.55	3.47	3.55
Infrastructure	3.56	3.31	3.47	3.40
Public Facilities	3.44	3.11	3.27	3.2
Social Environment	3.54	2.99	3.46	3.32
Legal Environment	3.07	2.77	3.16	3.09
Economic Conditions	3.34	3.07	3.22	3.26
Management Conditions	3.39	3.21	3.39	3.32
Weighted Satisfaction	3.35	3.06	3.31	3.25
B. Investment Risk Assessment				
Social Risk	2.48	2.79	2.43	2.56
Legal Risk	2.66	2.84	2.62	2.66
Economic Risk	2.67	2.94	2.66	2.72
Management Risk	2.59	2.85	2.61	2.67
Weighted Risk	2.62	2.86	2.61	2.67
Samples	920	787	153	562

Source: Chen and Kuo (2003).

Notes: 1. Greater Bohai does not include Liaoning.

2. All items are represented by a rank of 1~5. The levels of satisfaction and risk are positively related with the number.

3. Weighted Satisfaction = Natural Environment*5% + Infrastructure*15% + Public Facilities*10% + Social Environment*10% + Legal Environment*30% + Economic Environment*15% + Management Environment*15%.

4. Weighted Risk = Social Risk*10% + Legal Risk* 35% + Economic Risk*20% + Management Risk*35%.

[32] This item includes questions concerning the level of a sufficient supply of electricity, water, and energy in each area.

[33] The item of economic condition includes questions concerning economic growth, efficiency and internationalization level of banking institutions, etc.

[34] Taiwanese banks, such as United World Chinese Commercial Bank and Chang Hwa Bank, have chosen to establish their branches in Shanghai.

However, banking institutions in the Zhujiang River Delta cannot satisfy Taiwanese enterprises' demand.[35] Table 5 also finds that the Changjiang River Delta has the best management conditions, while the Zhujiang River Delta owns the worst management conditions among these economic zones.[36] Chiu-Chen and Kuo (2003) further explained that capital and land costs are lowest in the Changjiang River Delta, but highest in the Zhujiang River Delta.[37] This means that production costs in Guangdong and the Zhujiang River Delta are higher than the other two zones. However, the agglomeration level in the Zhujiang River Delta is the best among economic zones, because it has built an integrated supply chain.

Management conditions also consider the sufficiency of human capital and technology level in these economic zones. The Greater Bohai Sea Area owns the advantage in research technology.[38] For example, in 2001 the percentage of scientific and technical people to total population was 3.13 in the Great Bohai Sea Area, but only 2.42 in the Zhujiang River Delta. Therefore, Taiwanese enterprises regard the number and qualities of technical personnel to be more sufficient in the Bohai Sea Area relative to others. This condition could affect the investment decision of advanced Taiwanese electronic enterprises concerning location choice.

With respect to investment risk in these economic zones,[39] risks other than

[35] In addition, the lack of an exchangeable RMB and high loan costs are the primary problems in China.

[36] The item of management condition includes questions concerning local production cost (labor, capital, and land cost), agglomeration level, technology and research level, potential market development level, etc.

[37] According to *China Statistical Yearbook*, the ratio of profits to production cost of foreign-funded industrial enterprises is lowest in Guangdong. It is 4.99 in Guangdong, but 8.15 and 7.09 in Tianjin and Shanghai, respectively.

[38] There are more than 200 high educational institutions in the Bohai Sea Area. However, in the Zhujiang River Delta and Changjiang River Delta, the numbers are about 160 and 60, respectively.

[39] As a matter of fact, political risk should be the most important concern of Taiwanese enterprises than other risks. However, political risk between different regions within an individual country is hard to compare.

political risk affecting enterprises' willingness to invest are discussed. Table 5 compares the risk levels of four items among these economic zones. The weighted risk shows that the Great Bohai Sea Area has the lowest investment risk and the second lowest one is the Changjiang River Delta. However, their values of weighted risk are very close. For the four components of investment risk, the Changjiang River Delta has the lowest risk in management,[40] but the Great Bohai Sea Area has the lowest values in the other three risks. The economic zone with the highest weighted investment risk is the Zhujiang River Delta. The most serious risk in the Zhujiang River Delta is deteriorating social order, because of the inflow of illegal workers coming from inland provinces and that personal and/or property safety are not able to be protected completely.

Chiu-Chen and Kuo (2003) strongly recommended 10 cities worthy of investment for Taiwanese enterprises. Seven of the ten cities are located in the Changjiang River Delta,[41] one in the Great Bohai Sea Area (Dalian), one in Guangdong, and one in the Zhujiang River Delta (Shantou). From the viewpoint of Taiwanese enterprises, the Changjiang River Delta is the best area to invest among these three zones.

VI. CONCLUDING REMARKS

The purpose of this paper is to analyze China's regional competition of attracting FDI from Taiwan, particularly focusing on the Shanghai Economic Zone versus other economic zones. This study adopts China's official data provided by various years of *China Statistical Yearbook*, *China Foreign Economic Statistical Yearbook*, and

[40] Economic and management risks include custom barriers and local governments' unduly behaviors of levying heavy taxes and fines, and not realizing or frequently changing preference policies.
[41] These seven cities include Hangzhou, Wuxi, Shanghai Urban, Suzhou Urban, Changzhou, Yangzhou, and Shanghai.

statistical yearbooks for each province to describe the trend of Taiwanese FDI in these economic zones and compare their advantages and disadvantages of attracting Taiwanese FDI. In addition, a survey conducted by Chiu-Chen and Kuo (2003) is also employed to provide subjective opinions of Taiwanese enterprises on the satisfaction and risk of investment environment in these zones.

The primary finding of this study is that coastal areas are the primary destinations of FDI in China, especially the provinces located in the Zhujiang River Delta, Changjiang River Delta, and Greater Bohai Sea Area. These three economic zones accumulated more than 70 percent of China's FDI inflow from 1979 to 2001. Since the Changjiang River Delta has a large market size and inland traffic transportation system, prompting investment from Taiwanese high-technology enterprises in this area to increase sharply recently. Moreover, the Changjiang River Delta has a very low investment risk and the highest assessment of investment environment based upon the viewpoint of Taiwanese enterprises. Without a doubt, the Changjiang River Delta, especially Shanghai, has become the most popular region for attracting FDI not only from Taiwan, but also from all over the world.

Previous studies have concluded that coastal regions provide a larger market size, more human capital, and more convenient infrastructure. Furthermore, coastal provincial governments have been authorized to employ preferential policies to attract FDI. These reasons have led to a severe inequality of FDI inflow between coastal and inland areas. This disparity of regional distribution of FDI could lead to a disparity in development between the coastal and inland regions, because FDI will increase capital formation and further help economic growth. Zhang and Kristensen (2001) illustrated that the economic growth rate depends upon the level of foreign

investment.[42] They also found that the investment multiplier declines as income increases and that the benefit of a given investment is greater in poor regions than that in rich regions. However, official data still shows that more and more MNEs still invest in coastal regions, making the unequal distribution of FDI among regions in China become more severe. This will further increase the inequality of economic development among regions. As pointed out by Huang, Kuo, and Kao (2003), regional economic disparity could cause social instability in China.

China's government has noticed the danger of regional disparity and therefore, launched its plan for the "Great Development of Western China" in 2000.[43] This plan is designed to provide favorable policies in the western area to encourage more FDI. However, previous studies show that the institution or policy is just one of many factors affecting FDI's regional choice. China's government has to improve other investment environments in the western area; for example, implementing a predictable legal framework, investment in infrastructure there, and increasing education expense in the inland regions. These efforts can be expected to be more efficient than just providing favorable policies. While this study concludes that the Changjiang River Delta has become the most popular region for attracting FDI, it is worth noting that this could lead to a wider disparity of regional economic development and growth. The exacerbating disparity of economic development is potentially harmful to the growing society there and its overall economy.

[42] Huang (2003) also asserted the existence of technical spillovers resulting from FDI in China. The difference between Huang's study and other studies is that the former further investigates the different spillovers from different sources of FDI in different regions of China.

[43] This plan was first proposed in the fourth commission of the fifteen National Congress of China Communist Party in 1999.

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