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Contribution of FDI to Employment in FDI Firms and SOFI Firms in China

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Preface

The remarkable growth of FDI and its spillover effects on China's trade has contributed greatly to China's miraculous growth since the country opened its doors to foreign investors in 1978. To figure out the role of foreign direct investment (FDI) in China's economic progress, a considerable amount of research among economists has been carried out, and many show that FDI has benefited China's economy in various ways.

Rather than addressing the overall impact of FDI on China's economy, in this study, the authors pay particular attention to its effect on employment in China. FDI inflows influence employment of host country through not only direct effect but also indirectly affects that are associated with economic growth in host countries. Furthermore, FDI firms can also stimulate employment in other firms by influencing the demand for intermediate goods. Indirect effects on employment brought by FDI inflows should not be neglected in understanding the overall impact of FDI.

This research, which focuses on the effects of FDI on China's employment, is very timely, since increasing pressure

on domestic employment have usually accompanied FDI inflows. Although China is still endowed with abundant and low-cost labor, unemployment has become a critical issue as labor markets are being affected by the reorganization and reform of state-owned enterprises(SOEs), as well as being affected by industrial structure changes following China's accession to the WTO, which has further increased pressure on the domestic employment market. Labor resources in China have been described as superfluous, and this possibly threatens social stability and may act as a barrier hindering future economic growth. In this sense, whether FDI inflows into China can decrease pressure on domestic employment and in what manner it may do so have been an important concern of China's policy-makers; interestingly, it can also serve as an important rationale to absorbing further FDI.

This paper looks carefully at the issues raised above by constructing a model of FDI and labor demand in China. The basic framework is based on the analyses of the effects of FDI inflows on employment in primary, secondary, and tertiary industries. The paper also compares the effects of labor-intensive and capital-intensive FDI inflows on employment. The derived models are mainly based on the Hamiltonian function, and variables considered include capital stock, labor inputs, employment of FDI firms NICs(Newly Industrialized Countries) such as Hong Kong, Macao and Taiwan, as well as other developed countries, and investment of domestic firms. The empirical work utilizes data sets at the provincial level.

This study is undoubtedly an excellent contribution to existing literature. I would like to express my gratitude to the authors, Dr. Seung Rok Park, a senior research fellow here at KERI, and Dr. Xinzhong Lee, a visiting Chinese researcher to KERI for their enormous efforts in completing this study. However, the views expressed here are those of the authors and do not necessarily represent the views of the Korea Economic Research Institute as a whole.

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Contribution of FDI to Employment in
FDI Firms and SOFI Firms in China

Seung Rok PARK / Xinzhong LEE

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I . Introduction

It is commonly known that China is a developing country endowed with abundant and low-cost labor. China's economic transition to a market economy was sparked off when open-door policies were adopted, and along with the industrialization and urbanization in China, the agricultural population is moving rapidly from rural to urban areas. In the meantime, unemployment has become a critical issue as labor markets are being affected by the reorganizing and reforming of state-owned enterprises(SOEs), as well as industrial structure changes following China's accession to WTO, which has further increases pressure on the domestic employment market. Labor resources in China have been described as superfluous, and this possibly threatens social stability and may act as a barrier hindering future economic growth. Whether FDI inflows into China can decrease pressure on domestic employment and in what manner it may do so have been an important concern of China's policy-makers; it can also serve as an important rationale to absorbing FDI.

This paper looks carefully at the issues raised above by constructing a model of FDI and labor demand in China. The basic framework is based on the analyses of the effects of

FDI inflows on employment of the first industries, second industries, and third industries. The paper also compares the effects of labor-intensive FDI inflows and capital-intensive FDI inflows in China on employment. The derived model is mainly based on the Hamiltonian function, and variables considered include capital stock, labor inputs, employment of FDI firms NICs(Newly Industrialized Countries) such as Hong Kong, Macao and Taiwan, as well as other developed countries and investment of domestic firms. The data sets used is at the provincial level.

This paper has five sections. Following the introduction, Section two describes recent and previous studies on employment in China. Section three constructs a model and empirically examines the effects of FDI on employment, specifically measuring the contribution of FDI to employment in China. Section four presents the derived results, and the last section contains policy implications.

II. Literature Review of Previous Studies of Employment in China

The effect of FDI inflows on employment of host country has been an important issue among policy makers. The analytical work on studying the determinants of FDI inflows that affect employment has become an important subject of among economists. Beside the direct effects of FDI on employment of host country, FDI inflows also indirectly affect employment by prompting economic growth in host countries, and FDI firms can also stimulate employment in other firms by influencing the demand for intermediate goods in their producing chains. FDI inflows associated with higher technical-intensive industries can also indirectly improve the productivity of domestic firms by way of technological spillovers and imitation. Indirect effects on employment brought by FDI inflows are very important in understanding the overall impact of FDI(Li, Xinzhong, 2002).

K. C. Fung and Hitomi Iizaka(2002) examined the location choices of Hong Kong and United States direct investment in China by using a regional dataset. Their study indicates that FDI from NICs such as Hong Kong are mainly centered on export-oriented industries that have strongly labor-intensive

characteristics, and is therefore more sensitive to local labor costs. FDI from developed countries such as the United States, in contrast, aim at the local market and have capital-intensive and skilled-intensive characteristics, and is thus more sensitive to the level of human capital. This implies that export-oriented FDI is inclined to engage much more employment.

Chunlai Chen(2001) investigated employment and human capital development in China, and found that most of the employment in FDI firms was concentrated in the eastern provinces and coastal areas, while the employment of FDI firms in middle and western provinces was rather limited. The contribution of FDI firms in China's urban employment is uneven across eastern, middle and western regions. The difference in regional employment reflects the uneven regional distribution of FDI.

Sebastian Claro(2001) analyzed the effects of FDI liberalization and tariff on the employment after China's entry into the WTO, and constructed a model to show how the presence of FDI liberalization and tariff affects the allocation of employment in native and foreign firms. Modeling results indicated that employment levels and rental rates in state-owned firms are higher under technological convergence in all sectors, and there is a close association with(aggregate across firms) sectional employment changes with technological transfers. Besides, if technological transfers are present, state firms in China are expected to increase their employment level in the short run. Without technological transfers, the shrinkage in the employment of state-owned firms occurs in the short run.

Nigel Driffield and Karl Taylor(2001) examined whether inward flows of FDI have contributed to increasing trends in the employment of relatively higher skilled individuals. Modeling results showed that FDI plays an important role in influencing the employment trends through the spillovers from FDI and the skill structures of host-country firms. These effects are a function of the size of the foreign productivity advantage.

Philip R. Tomlinson(1999) constructed a standard model of both investment and labor demand function within five industries that comprise Japan's machinery sector. The modeling results indicated that the behavior of both investment and labor demand have become sensitive to foreign wage conditions. MNCs activity has had real effects on both investment and labor demand, and the growth of MNCs activity have had significant effects on Japan's domestic machinery sectors.

Erik Mellander(1999) examined the multi-dimensional nature of labor demand and skill-biased technical change. He indicated that effective labor is modeled as the product of quantity measure number of employees with a given level of education, and low-skilled labor is more disaggregated than in earlier studies. It is confirmed that the specification of effective labor is supported. However, substantial differences are found among low-skill labor.

Christian Ragacs(2002) investigated the effects of minimum wages on human capital accumulation and steady state employment and growth. He showed that the steady rate of growth is not affected by the minimum wage and that in the

steady state the system yields full employment. These effects depended on the relatively higher minimum wage and increasing skills accumulation.

G. Gamberlin and S. Hall(2001) at the Center for International Macroeconomics in Oxford presented a model to confront current macroeconomic policy issues of the G3 countries in developed countries(Euro area countries, United States and Japan) based on the modeling of process of wage-price-employment determination. They stressed the supply side using recent development in econometrics for handling non-stationary through co-integration and error correction methods. Their modeling results indicate the possibility of a more realistic assessment of both macro policy setting and its contribution to the emergence of improved macroeconomic performance on inflation and growth in the developed world.

P. S. Andersen and P. Hainaut(1998) examined the relationship between foreign direct investment and employment through analysis of FDI outflows and FDI inflows in OECD countries. Their model indicates that there is only limited evidence on FDI leading to job losses in the sources countries. But high labor costs in source countries also encourage FDI outflows and export jobs to low-wage countries, and domestic investment tends to decline in response to FDI outflow. Thus, FDI outflow complement rather than substitute for exports, and can be helpful to protect rather than destroy jobs in the source countries.

III. Contribution of FDI to Employment of China

Just as previous studies indicate, China has comparative advantage in labor-intensive manufacturing industries-capital resources are scarce, while labor resources are abundant. Especially, FDI firms from NICs such as Hong Kong, Singapore, Republic of Korea, and Taiwan are mainly concentrated in China's labor-intensive manufacturing industries, such as the newer and fast-growing export-oriented industries(Chunlai Chen, 2001). But, the MNCs from other developed countries relatively focus on the capital-intensive and technical-intensive industries.¹⁾ Thus, such characteristics of FDI inflows in China determine the different performance of employment in China's

1) Labor-intensive sectors include food processing; food manufacturing; textiles, clothing and other fiber products; leather and fur products; timber processing; furniture manufacturing; paper and paper products; printing and recording; cultural, educational and sports goods; rubber products; plastic products; non-metal mineral products; metal products; and other products. Capital-intensive sectors include beverage manufacturing; tobacco processing; petroleum refining and coking; chemical materials and products; chemical fibers; ferrous metal smelting and pressing; non-ferrous metal smelting and pressing; and transport equipment. Technology-intensive sectors include medical and pharmaceutical products; general machinery; special machinery; electrical machinery and equipment; electronics and telecommunications equipment; and instruments and meters.

labor market with respect to labor-intensive FDI and capital-intensive or technical-intensive FDI.

In international trade, trade shares of FDI firms over the shares of domestic firms have been greater than 50%(see Table 1). FDI trade has become the greatest contributor to international trade of China indicating that FDI inflows have become one of the important components in China's economy (Li, Xinzhong and Seung Rok Park, 2003). For example, in 2001, shares of exports of FDI trade in total exports of China have been over 50%, and shares of imports FDI trade in total imports have been over 51%, and shares of total trade of FDI trade in total trade of China also have been over 50%.

Many other economic indicators of FDI firms have also relatively exceeded those of domestic firms(see Table 2). The size of FDI firms among all manufacturing industries, labor-intensive industries, capital-intensive industries and technology-intensive has respectively exceeded their domestic counterparts in terms of total assets in 1995 and 2000. The size of firms is very important to obtain scale economies. This means that FDI firms are more efficient in their production than domestic firms. Besides, the physical capital intensity(measured by the capital to labor ratio), labor productivity(measured by the value-added per worker) and capital productivity(measured by the value-added per capita) of FDI firms are also relatively higher than domestic firms in the same industry. This means that FDI firms have a distinct ownership advantage, while productivity and technology are more advanced than in domestic firms. Especially, the differences in physical capital

<Table 1> Trade Performance of FDI Inflows in
China's International Trade

Year	Exports of FDI (100 Million Dollar)	Imports of FDI (100 Million Dollar)	Total Trade of FDI(100 Million Dollar)	Shares of FDI Exports in Total Exports(%)	Shares of FDI Trade in Total Imports(%)	Shares of FDI imports in Total Trade(%)	Balance of FDI Trade (100 Million)
1980	0.08	0.34	0.43	0.044	0.170	0.113	-0.260
1981	0.32	1.11	1.43	0.145	0.504	0.325	-0.790
1982	0.53	2.76	3.29	0.237	1.431	0.791	-2.230
1983	3.3	2.88	6.18	1.484	1.346	1.417	0.420
1984	0.69	3.99	4.68	0.264	1.456	0.874	-3.300
1985	2.97	20.64	23.61	1.086	4.885	3.392	-17.670
1986	5.82	24.03	29.85	1.881	5.600	4.042	-18.210
1987	12.1	33.74	45.84	3.068	7.808	5.546	-21.640
1988	24.61	58.82	83.43	5.179	10.642	8.117	-34.210
1989	49.14	87.96	137.1	9.353	14.873	12.276	-38.820
1990	78.13	123.02	201.15	12.583	23.059	17.425	-44.890
1991	120.47	169.08	289.55	16.769	26.506	21.349	-48.610
1992	173.6	263.87	437.47	20.438	32.742	26.428	-90.270
1993	252.37	418.33	670.7	27.509	40.240	34.272	-165.960
1994	347.13	529.34	876.47	28.686	45.787	37.041	-182.210
1995	468.76	629.43	1098.19	31.507	47.655	39.101	-160.670
1996	615.06	756.04	1371.1	40.719	54.458	47.299	-140.980
1997	749	777.2	1526.2	40.976	54.590	46.937	-28.200
1998	809.62	767.17	1576.79	44.047	54.704	48.659	42.450
1999	886.28	858.84	1745.12	45.467	51.831	48.391	27.440
2000	1194.44	1172.73	2367.17	47.931	52.098	49.909	21.710
2001	1332.35	1258.63	2590.98	50.051	51.668	50.823	73.720

Data Sources : China Statistic Yearbooks from 1995-2001 by national statistic bureau of China.

intensity between FDI firms and domestic firms are greater in capital-intensive industries, and are closely followed by technology-intensive industries. By comparing the ratio values of FDI firms over domestic firms between 1995 and 2000, the differences between FDI firms and domestic firms have been

decreasing over the years. In 1995, the ratio of FDI firms in terms of values was over 2, and in 2000, most have gone down around 1 in 2000. This implies that technology spillovers possibly have been generated by FDI firms, which have resulted in prompting technological progress and the overall productivity of domestic firms.

<Table 2> Comparing of Main Features between FDI Firms and Domestic Firms by 1995 and 2000

Main Indicators		All manu- facturing industries	Labor intensive industries	Capital intensive industries	Technology intensive industries
FDI Firms (2000)	Size (Million Yuan/unit)	86.09	56.4	157.34	122.83
	Capital to labor ratio(Yuan/person)	286.509	192350	595837	362236
	Labor productivity (Yuan/person, year)	67622	43435	123599	97116
	Capital productivity (Yuan/Yuan, year)	0.24	0.23	0.21	0.27
Domestic Firms (2000)	Size (Million Yuan/unit)	60.4	32.04	130.12	62.17
	Capital to labor ratio(Yuan/person)	194261	126849	289454	194758
	Labor productivity (Yuan/person, year)	38159	28924	51885	37292
	Capital productivity (Yuan/Yuan, year)	0.2	0.22	0.18	0.19
FDI Firms over Domestic Firms (1995)	Size	1.99	2.7	1.4	2.24
	Capital to labor ratio	2.41	2.65	2.8	3.01
	Labor productivity	2.49	2.54	2.55	4.13
FDI Firms over Domestic Firms (2000)	Size	1.43	1.76	1.21	1.98
	Capital to labor ratio	1.47	1.52	2.06	1.86
	Labor productivity	1.77	1.5	2.38	2.6
	Capital productivity	1.2	1.05	1.17	1.42

Data Sources :China Statistic Yearbook 1996–2002, as well as Chen, Chunlai, 2001, the Australian National University.

However, FDI firms have had limited effect on employment in China since 1991(see Table 3), and the shares of FDI firms in employment of China have been less than 3%, while shares of SOEs in employment of China have been greater than 30%. Currently, the employment of China is mainly focused in SOEs. That notwithstanding, FDI firms have contributed to increased employment in China's labor market, particularly, as FDI firms have been overwhelmingly concentrated in labor-intensive industries of eastern provinces, but engage rather limited employment in the middle and western provinces. For instance, shares of FDI firms in urban employment have gradually increased from 0.94% in 1991 to 2.8% in 2001, and shares of FDI firms in total employment have increased from 0.74% in 1991 to 3.06% in 2001. Thus, employment of FDI firms has had the increasingly tendency. However, shares of SOEs in urban employment have decreased from 61.06 % in 1991 to 31.91% in 2001, and have had a decreasingly tendency. This is due to the fact that the ratio of state owned economy has decreased along with the deeply marketing economy of China. As the indicators above describe, SOEs have had lower efficiency and productivity compared to FDI firms. Thus, China's government needs to reform and reorganize SOEs, which could mean large amounts of unemployment in China.

<Table 3> The Shares of Employment on FDI Firms
in China's Labor Market

Year	Total Employment (Million)	Total Employment in Urban (Million)	Total Employment of SOEs (Million)	Total Employment of FDI Firms (Million)	Urban Employment of FDI Firms (Million)	Shares of Employment of SOEs in Total Employment (%)	Shares of Employment of SOEs in Urban Employment (%)	Shares of FDI Firms in Total Employment (%)	Shares of Urban Employment of FDI Firms in Urban Employment (%)
1991	654.91	174.65	106.64	4.8	1.65	16.28	61.06	0.73	0.94
1992	661.52	178.61	108.89	6	2.21	16.46	60.97	0.91	1.24
1993	668.08	182.62	109.2	10	2.88	16.35	59.80	1.50	1.58
1994	674.55	186.53	112.14	14	4.06	16.62	60.12	2.08	2.18
1995	680.65	190.4	112.61	16	5.13	16.54	59.14	2.35	2.69
1996	689.5	199.22	112.44	16.92	5.4	16.31	56.44	2.45	2.71
1997	698.2	207.81	110.44	18.2	5.81	15.82	53.14	2.61	2.80
1998	706.37	216.16	90.58	18.39	5.87	12.82	41.90	2.60	2.72
1999	713.94	224.12	85.72	19.18	6.12	12.01	38.25	2.69	2.73
2000	720.85	231.51	81.02	20.12	6.42	11.24	35.00	2.79	2.77
2001	730.25	239.4	76.4	22.35	6.71	10.46	31.91	3.06	2.80

Data Sources: China Statistic Yearbook 2002, p.120.

In addition, because FDI firms are mainly focused in labor-intensive industries(see Table 4), the shares of employment of FDI firms in labor-intensive industries are the greatest in the three industrial groups, followed by technology-intensive industries such as service industries. The shares of employment of FDI of in the three industrial groups, labor-intensive, capital-intensive and technology-intensive industries reach 22.92%, 7.54% and 20.63%, respectively. However, shares of employment of FDI firms in all manufacturing industries and service industries are still less than 20%. This means that the share of employment of domestic firms in total employment is greater than 80%.

<Table 4> The Employment of FDI Firms in manufacturing and service sectors in China at end of 2000

Some main Industries	Total Employment (Million Person)	Employment of FDI Firms (Million Person)	Shares of FDI Firms in Total Employment (%)
Food Manufacturing	0.92	0.21	22.42
Clothing & Other Fiber Products	2.16	1.03	47.71
Leather & Fur Products	1.13	0.68	60.46
Timber Processing	0.5	0.11	21.40
Furniture	0.27	0.11	39.02
Cultural, Education & Sports Goods	0.65	0.4	61.09
Rubber Products	0.67	0.17	25.35
Plastic Products	1.11	0.4	35.51
Electrical machinery & Equipment	2.29	0.57	24.84
Electronics & Telecom. Equipment	1.96	1.00	50.55
Instruments & Meters	0.56	0.16	28.11
By Industrial Group			
Labor-intensive Industries	21.34	4.89	22.92
Capital-intensive Industries	12.55	0.95	7.54
Technology-intensive Industries	10.73	2.21	20.63
Total Employment	44.62	8.05	18.04

Data Sources: China Statistic Yearbook 2001, China Statistic Press, Beijing, and Chen, Chunlai, 2001, the Australian National University.

IV. Empirical Analysis of Effects of FDI inflows on Employment of China

Previous studies find that, although there are negative consequences, most of FDI firms tend to have positive influences on employment of host countries. Particularly, if FDI firms invest in a host country by building new enterprises, then this would increase employment. Also, if firms invest by taking over and by increasing shareholdings in enterprises of host countries, or by further expanding production capacity and enlarging the size of investment, increased employment often results. However, if FDI firms tend to introduce new technical information and advanced techniques, then this might result in capital substituting for labor and may decrease employment of host country. This kind of investment possibly aggravates competition in human capital markets of host country, thereby resulting in “crowding out” effects in enterprises of host country. On the other hand, FDI firms can produce “crowding in” effects on employment in host country. That is, while FDI firms might produce technological spill-overs in a host country so as to enhance competition and productivity of enterprises of host country,

domestic enterprises often expand production and enlarge the size of investment to benefit from scale economies. In this case, FDI firms will indirectly increase the employment of enterprises of host country. This paper constructs a model between FDI and labor demand to measure the effects of FDI on the employment of China.

1. Model and Assumptions of Labor Demand and FDI Firms' Activities in China

In this section, a model based on Hamiltonian dynamic optimality is used to explain the demand in the labor market of China. It is assumed that FDI firms employ employment in each industry of the amount L_i . There is also a fixed asset investment variable, capital stock K_i , which depreciates geometrically at a constant rate of δ . FDI firms are integrated into the global market and sell total output at a price of P_i . In addition, each industry has MNCs using the same basic technology and purchase investment goods I_i at a uniform price P_i . But each industry faces a different wage structure, which reflects different regional, social and economic conditions. The fixed asset investment has the discount rate δ . Meanwhile, r is the discount factor and τ is the effective tax rate. F is the representative firm's production function, which includes capital and labor input and an investment variable to account for internal non-separable adjustment costs for each industry. This net production function has returns to scale (1

$+ \Theta$), which is continuous and differentiable. Firm's aim to choose time paths for hiring workers and wage that maximize present value of investment; the FDI firms' net present value includes aggregated output and costs from all industries and is defined by the following objective function:

$$\max_{\{k(t), L(t), r \geq 0\}} \int_0^{\infty} e^{-rt} \sum_{i=1}^n (1 - \tau_i) \{P_i F[K_i, L_i, I_i] - W_i(K_1 \dots K_n) L_i - P^I I_i\} dt \quad (1)$$

$$K_{it} = I_{it} + (1 - \delta) K_{it-1} \quad \forall i = 1 \dots n. \quad (2)$$

Given (1) and (2), the optimal control problem is defined by the Hamiltonian function derived as follows:

$$H = e^{-rt} \sum_{i=1}^n (1 - \tau_i) \{P_i F[K_i, L_i, I_i] - W_i(K_1 \dots K_n) L_i - P^I I_i\} + \lambda_i (I_i - \delta K_i) \quad (3)$$

where, in optimal control terminology, the status variable is K_i , and the control variables are L_i and I_i . λ_i represents the marginal product variable, which measures the effects of FDI firms' net output for a small increase in K_i at time t . This optimization problem is solved using the maximum principle and the first-order Hamiltonian conditions as follows:

$$\frac{\partial H}{\partial L_i} = e^{-rt} (1 - \tau_i) \left\{ P_i \left(1 - \frac{1}{\epsilon} \right) F_{L_i} [K_i, L_i, I_i] - W_i \right\} = 0; \quad \forall i = 1 \dots n. \quad (4)$$

$$\frac{\partial H}{\partial I_i} = e^{-rt} (1 - \tau_i) \left\{ P_i \left(1 - \frac{1}{\epsilon} \right) F_{I_i} [K_i, L_i, I_i] - P^I \right\} = -\lambda_i; \quad \forall i = 1 \dots n \quad (5)$$

$$\frac{\partial H}{\partial K_i} = e^{-\pi} \{P_i(1-\tau_i)(1-\frac{1}{\varepsilon})F_{K_i}[K_i, L_i, I_i] - \sum_{i=1}^n (1-\tau_i)W_{K_i}L_i\} - \delta\lambda_i = -\dot{\lambda}_i, \quad \forall i=1\dots n. \quad (6)$$

The transversality condition ensures a robust solution and non-negativity of the capital stock as follows:

$$\lim_{t \rightarrow \infty} (\lambda_i K_i) e^{-\pi t} = 0; \quad \forall i=1\dots n. \quad (7)$$

In addition, the derivative of the value function with respect to the status variables are related with capital stock with marginal variables at each industry:

$$\text{Let } V = \int_{t=0}^{\infty} e^{-\pi t} \sum_{i=1}^n (1-\tau_i) \{P_i F[K_i, L_i, I_i] - W_i(K_1 \dots K_n) L_i - P^I I_i\} dt$$

$$\frac{\partial V}{\partial K_i} = \lambda_i; \quad \forall i=1\dots n. \quad (8)$$

That is, the marginal cost of investment must equal its present value. In equilibrium, FDI firms will equal the shadow prices at all plants such that marginal variables will be equal. The implicit function theorem implies the existence of both an investment equation and a labor demand equation for each industry:

$$I_i = \phi\left[\frac{w_i}{p}, \dots, \frac{w_n}{p}, q\right] K_i \quad \forall i=1\dots n. \quad (9)$$

$$L_i = \Omega\left[\frac{w_i}{p}, \dots, \frac{w_n}{p}, \frac{I_i}{K_i}\right] K_i \quad \forall i=1\dots n.$$

(10)

where $q = \frac{\lambda}{P}$. Equations (9) and (10) represent a system of simultaneous equations for China's domestic secondary industries and tertiary industries. This implies that gross investment in the investment equation (9) is a function of real average wages of domestic firms, the real average wages of FDI firms and Tobin's q .²⁾ The inclusion of Tobin's q captures FDI firms' optimal investment rule given in equation (5). Here, in order to simplify the solution, it is assumed that FDI outflows of China are not considered, and real wages of all firms are equal to the average wage of total firms in China. Thus, the model defined by equation (9) and (10) serves as a framework to assess the real effects of FDI firms' activity upon investment and employment within China's manufacturing industries or service industries. The data sets used are annual observations for years 1998-2001. The general relationship between FDI and labor demand is given in equations (11a) and (11b) for industry of China.³⁾

2) Tobin's q is the market value of a firm's assets divided by their replacement value. This ratio is named after Nobel economics Laureate James Tobin of Yale University, who hypothesized that the combined market value of all the companies in the stock market should be about equal to their replacement costs. In other words, the ratio of all the combined stock market valuations to the combined replacement costs should be around one.

3) For details of the derived equations, see Philip R. Tomlinson(1999) "The Real Effects of Transnational Activity upon Investment and Labor Demand within Japan's Machinery Industries," Manuel Wally(2002), "Dynamic Optimization: A tool kit," and Leonard(1992), *Optimal Control Theory and Static Optimization of Economics*, Cambridge University Press.

$$\Delta \ln\left(\frac{I_i}{K_i}\right)_t = \alpha_1 + \sum_{j=1}^2 \beta_j \Delta \ln q_{t-j} + \sum_k \sum_{j=1}^2 \vartheta_j \Delta \ln\left(\frac{W}{P}\right)_{t-j}^k + \delta_j D_t + \mu_{1t} \quad (11a)$$

$$\Delta \ln\left(\frac{L_i}{K_i}\right)_t = \alpha_2 + \sum_{j=1}^2 \eta_j \Delta \ln\left(\frac{L_i}{K_i}\right)_{t-j} + \sum_{j=1}^2 \varphi_j \Delta \ln\left(\frac{I_i}{K_i}\right)_{t-j} + \sum_k \sum_{j=0}^2 \phi_j \Delta \ln\left(\frac{W}{P}\right)_{t-1} + \sum_{j=0}^2 \varpi_j \Delta Y_{t-j} + \mu_{2t} \quad (11b)$$

where k is the index of real wages with $k = 1$ representing Chinese wages and $k > 1$ being overseas wages. The lag structures denoted by j and the dummy variables reflect specific industrial characteristics. The system is written by first differences and lag distribution, which allows for the estimation of both the growth rates of investment and labor demand. There are no error corrections terms, reflecting the fact that globalization is a dynamic, ongoing process where new locations may emerge as attractive sites for production, whilst existing sites may become redundant. It is, therefore, unlikely that FDI firms will have established any long run equilibrium over investment locations. $\frac{I_i}{K_i}$ denotes the ratio of real investment to capital stock for firms in Hong Kong, Macao and Taiwan, as well as FDI firms in developed countries in China. Wage variables are measured by the total average value of Chinese and foreign real wage.⁴⁾ In

4) Wage in this paper refers to the average wage in money terms per person during a certain period of time for staff and workers in enterprises, institutions, and government agencies, which reflects the general level of wage income during a certain period of time. Average wage is equal to total wages of the reference period divided by the corresponding average number of employment.

constructing these wages, salaries are assumed to form part of FDI firms' marginal costs, which is consistent with the view that, with FDI firms' production, all labor costs are potentially variable. The final variable in the investment function is the Tobin's q . For investment purposes, the focus should be upon marginal and not average q , but, for the FDI firms, only average q is observable. In this respect, it might be considered that the inclusion of both Chinese and foreign wages captures, the effects of a change in marginal q of FDI firms on domestic investment in China. The dependent variable $\frac{L_i}{K_i}$ in the labor demand function (11b) denotes the ratio of total employees to the real capital stock.⁵⁾ The wage variables and the investment rate correspond to those in the investment equation. In addition, the domestic output, for per person GDP is also included in the equation to capture cyclical effects. The output variable is expected to have positive effects on labor demand. Chinese wages and the output variable are considered to be contemporaneous with the dependent variable $\frac{L_i}{K_i}$. For different firms, the variables entering the system were all $I(0)$. The equations (11a) and (11b) were estimated using the full information system estimator. The results of the estimation are

5) Employment in this paper refers to the persons who work in enterprises and institutions of state ownership, collective ownership, joint ownership, share holding, foreign ownership, and ownership by entrepreneurs from Hong Kong, Macao, and Taiwan, and other types of ownership and their affiliated units, and receive the payment. But they exclude retired persons invited to work in the units again, teachers in the schools run by the local people and foreigners and persons coming from Hong Kong, Macao and Taiwan and working in the state-owned economic units.

summarized in Tables 5, 6 and 7.

2. Empirical Model of Effects of FDI and SOFI Stock on Employment in the Primary, Secondary and Tertiary Industry in China

In this section, the effects of FDI stock and SOFI(State-Owned Fixed Asset Investment) on employment are empirically examined in detail based on sectoral-and provincial-level data. In our model, it is assumed that exports of FDI inflows have positive effects on employment, while imports of FDI inflows have negative effects on employment. The high real average wage has negative effects on employment. State-owned fixed asset investment stock has positive effects on employment. GDP representing the level of economic growth of host country should have a positive effect on employment. Although FDI is mainly concentrated in secondary industries, such as manufacturing, employment in this sector is very limited. FDI should have strong demand for labor following China's accession into the WTO, especially affecting employment in tertiary industries. Thus, FDI stock should have positive effects on employment. The model of employment of FDI stock is as follows:

$$\begin{aligned} \ln(\text{Emp}_i) = & \alpha_0 + \alpha_1 \ln(\text{Gdp}_i) + \alpha_2 \ln(\text{Rwage}_i) + \alpha_3 \ln(\text{Fdi}_i) \\ & + \alpha_4 \ln(\text{Sofi}_i) + \alpha_5 \ln(\text{Fex}_i) + \alpha_6 \ln(\text{Fim}_i) + \varepsilon_i \end{aligned} \quad (12)$$

where, denotes the number of worker in province i , in ten thousand persons. Gdp_i denotes the real gross domestic production in province i , in 100 million Yuan RMB. $Rwage_i$ represents the real average wage per person in province i , in Yuan RMB. Fdi_i denotes the FDI stock in province i , in ten thousand dollars. $Soft_i$ denotes state-owned fixed asset investment stock in province i , in 100 million Yuan RMB. Fex_i denotes exports of FDI firms in province i , in ten thousand dollars. Fim_i denotes imports of FDI firms in province i , in ten thousand dollars. ϵ_i represents the random disturbance term in the model. These variables above are expressed as real variables by using the consumer price index, GDP deflator and fixed asset investment price index where applicable. The results of the model are shown in Tables 8, 9, 10, and 11.

3. Empirical Model of Effects of Fixed Asset Investment from Hong Kong, Macao and Taiwan, and from other Developed Countries on Employment in the Secondary and Tertiary Industries in China

$$\begin{aligned} \ln(Emp_i) = & \beta_0 + \beta_1 \ln(Gdp_i) + \beta_2 \ln(Rwage_i) + \beta_3 \ln(HMTemp_i) + \beta_4 \ln(Femp_i) \\ & + \beta_5 \ln(Semp_i) + \beta_6 \ln(Fex_i) + \beta_7 \ln(Fim_i) + \epsilon_i \end{aligned} \quad (13)$$

where, $HMTemp_i$ denotes per fixed asset investment of the firms of developed countries in province, in 100 million yuan (RMB) per 10 thousand persons. $Femp_i$ denotes per fixed

asset investment of the firms of developed countries in province i , in 100 million yuan(RMB) per 10 thousand persons. $Semp_i$ denotes per fixed asset investment in state-owned firms in province i , in 100 million yuan(RMB) per 10 thousand persons. Emp_i denotes employees of secondary or tertiary industries in province i , in 10 thousand persons. Other variables have the same meanings as in equation (12). The results of the models are shown in Tables 12 and 13.

4. Main Results and Interpretations of Models

The results of the model based on Hamiltonian function are summarized in Tables 5, 6 and 7. In Table 5, $L1/K1$ indicates the labor demand per capital stock for the firms in Hong Kong, Macao and Taiwan; the results show that wage variables in 1999 and 2000 have positive effects on labor demand, but the coefficients are not statistically significant. In contrast, the wage variable in 2001 has negative effects on labor demand, and the coefficients are statistically significant at the 1% level. The pooled analysis has similar results for 2001, but the coefficient is not statistically significant. The results imply that investment from Hong Kong, Macao and Taiwan are mainly focused on labor-intensive industries that benefit from cheap labor in China. Investment variables of first or second-order lag have negative effects, with only some of the coefficients statistically significant at the 5% or 1% levels. This suggests that new investment has been used as a

substitute for labor, implying that new investment has increased technological progress of production but decreased labor employment. Per person GDP variable has positive effects on labor demand, and the coefficients are statistically significant at the 10% or 5% levels, implying that the strong growth of China has been helpful in absorbing more FDI, which has been favorable to employment.

<Table 5> Effects of FDI from NICs on Employment of China

Dependent Variable: $D(\text{LOG}(L1/K1))$

Dependent Variable D(LOG(L1/K1))	1999	2000	2001	1999-2001
C	(-0.824) ³⁾	0.389	0.325	0.053
T statistics	-3.084	1.583	0.623	
D(LOG(L1/K1(-1)))	0.072	(0.474) ³⁾	0.634	0.382
T statistics	0.257	3.411	1.035	
D(LOG(L1/K1(-2)))	0.141	(0.497) ²⁾	-0.302	0.136
T statistics	0.556	2.404	-0.814	
D(LOG(RWAGE))	0.465	0.308	(-9.472) ³⁾	-1.797
T statistics	0.350	0.244	-3.435	
D(LOG(RWAGE(-1)))	0.808	-1.243	(10.638) ²⁾	1.269
T statistics	0.968	-1.380	2.716	
D(LOG(RWAGE(-2)))	-0.227	(-1.940) ²⁾	(5.242) ²⁾	0.256
T statistics	-0.141	-2.704	2.256	
D(LOG(I1/K1(-1)))	0.102	(-0.326) ³⁾	0.119	0.086
T statistics	1.298	-3.671	0.568	
D(LOG(I1/K1(-2)))	-0.168	(-0.107) ²⁾	-0.020	-0.048
T statistics	-1.051	-2.690	-0.082	
D(LOG(Y))	(2.737) ¹⁾	(3.348) ²⁾	(-5.593) ¹⁾	0.738
T statistics	1.838	2.155	-1.846	
D(LOG(Y(-1)))	0.177	(-1.915) ²⁾	-3.962	-1.592
T statistics	0.124	-2.196	-1.548	
D(LOG(Y(-2)))	2.050	(-1.869) ²⁾	-1.275	-0.207
T statistics	1.646	-2.449	-0.528	
R-squared	0.490	0.586	0.658	0.182
F-statistic	1.634	2.693	3.654	1.709
Durbin-Watson stat				1.585

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H_0 : Coefficient = 0.

In Table 6, L2/K2 indicates the labor demand per capital stock for MNCs of developed countries except for firms from Hong Kong, Macao and Taiwan, the results show that the wage variable in 2000 has positive effects on labor demand, but the coefficients are not statistically significant. In contrast, the wage variables in 2001 and 1999 have negative effects on labor demand, and the coefficients are statistically significant at the 1% level. The pooled analysis show similar result for 2001, but the coefficient is not statistically significant. The first- and second-order lagged wages have negative and positive effects on labor demand, and some of the coefficients are statistically significant at the 5% level. The results imply that investment from MNCs of developed countries participate not only in labor-intensive industries, but also in capital-intensive and technological-intensive industries. The investment variables of first and second-order lag have negative and positive effects on labor demand; the positive coefficients are statistically significant at the 5% level, while the negative coefficients are not statistically significant. This implies that investment in some years has substituted for labor, and in other years has helped increase labor demand. That is, some investment has helped increase technological progress of production and decreased labor requirements, while some investment such as in the service industries has augmented labor demand. Per person GDP variable show similar results as in Table 1, i.e. they have positive effects on labor demand, and coefficients are statistically significant at the 10% or 5% levels. The result implies that strong growth in China is

helpful to absorb more FDI and increase employment.

<Table 6> Effects of FDI from the Developed Countries on Employment of China

Dependent Variable D(LOG(L2/K2))	1999	2000	2001	1999–2001
C	0.054	-0.089	0.294	-0.070
T statistics	0.168	-0.584	1.416	-0.581
D(LOG(L2/K2(-1)))	0.164	-0.001	-0.032	0.084
T statistics	0.715	-0.012	-0.080	0.854
D(LOG(L2/K2(-2)))	-0.144	0.035	-0.021	-0.001
T statistics	-0.437	0.345	-0.108	-0.006
D(LOG(RWAGE))	-0.421	0.024	(-4.094) ³⁾	-0.609
T statistics	-0.397	0.030	-2.631	-1.047
D(LOG(RWAGE(-1)))	-0.578	(-1.255) ²⁾	(3.965) ³⁾	-0.247
T statistics	-0.719	-2.116	2.249	-0.514
D(LOG(RWAGE(-2)))	-0.034	0.197	1.060	0.148
T statistics	-0.024	0.447	0.942	0.337
D(LOG(I2/K2(-1)))	0.074	-0.028	-0.012	-0.009
T statistics	0.958	-0.594	-0.130	-0.225
D(LOG(I2/K2(-2)))	(0.230) ²⁾	0.044	-0.081	0.040
T statistics	2.487	0.971	-1.179	1.046
D(LOG(Y))	(3.733) ¹⁾	(1.849) ¹⁾	(-2.637) ¹⁾	(1.460) ¹⁾
T statistics	2.090	2.025	-2.032	1.963
D(LOG(Y(-1)))	0.441	0.605	-2.056	-0.221
T statistics	0.318	0.737	-1.294	-0.409
D(LOG(Y(-2)))	-1.418	-0.220	-0.922	-0.188
T statistics	-1.153	-0.343	-0.813	-0.478
R-squared	0.437	0.496	0.453	0.119
F-statistic	1.318	1.771	1.491	1.016
Durbin-Watson stat				1.779

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H_0 : Coefficient = 0.

In Table 7, $L3/K3$ indicates the labor demand per capital stock for state owned enterprises. The wage variables in 2000 and 1999 are found to have positive effects on labor demand, but coefficients are not statistically significant. In contrast, the wage variables in 2001 and 1998 have negative effects on labor demand, and coefficients are statistically significant at the 1% level. The pooled analysis show similar result for 2000 and 1999, but the coefficients are not statistically significant. The lagged first- and second-order wage has negative and positive effects on labor demand, but the coefficients are not statistically significant. The results imply that investments from state-owned enterprises mainly focus on labor-intensive industries, where wages are less sensitivity on labor demand. Investment variables of first or second-order lags have negative and positive effects on labor demand, and coefficients are statistically significant at the 10% level. The results show that investment in some years is responsible for unemployment by substituting for labor, and in other years helps increase labor demand by the creation of new enterprises. That is, some investment used to enhance technological progress of production might generate unemployment as renovation and reconstruct of state owned enterprises occurs, while some investment such as in service industries or for new enterprises tend to help labor demand. Per person GDP has negative effects on labor demand, with some coefficients statistically significant at the 1% or 5% levels. This signifies the decreasing tendency of the importance of state owned enterprises as an important factor of China's growth, and moreover,

state owned enterprises have relatively been a poor source of employment in China.

<Table 7> Effects of Investment of State Owned Enterprises on Employment of China

Dependent Variable D(LOG(L3/K3))	1998	1999	2000	2001	1998-2001
C	(-0.341) ²⁾	(-0.200) ³⁾	0.013	-0.049	(-0.282) ³⁾
T statistics	-2.113	-4.230	0.239	-1.113	-3.434
D(LOG(L3/K3(-1)))	(-1.032) ²⁾	0.028	(0.598) ³⁾	0.241	(-0.573) ³⁾
T statistics	-21.656	0.394	3.847	1.014	-10.672
D(LOG(L3/K3(-2)))	-0.944	0.040	0.006	0.289	(-0.251) ³⁾
T statistics	-1.597	0.520	0.341	1.694	-4.709
D(LOG(RWAGE))	(-0.923) ²⁾	0.132	0.085	(-0.696) ³⁾	0.002
T statistics	-2.111	0.686	0.299	-2.880	0.005
D(LOG(RWAGE(-1)))	-0.496	0.121	-0.161	0.275	-0.129
T statistics	-0.931	0.829	-0.824	0.827	-0.371
D(LOG(RWAGE(-2)))	-0.204	-0.076	-0.165	-0.243	-0.013
T statistics	-0.521	-0.481	-1.069	-0.968	-0.042
D(LOG(I3/K3(-1)))	0.313	0.063	-0.011	(-0.165) ¹⁾	0.031
T statistics	1.241	0.664	-0.094	-1.865	0.195
D(LOG(I3/K3(-2)))	(-0.482) ¹⁾	-0.089	-0.064	0.034	(0.253) ¹⁾
T statistics	-1.984	-1.118	-0.605	0.265	1.710
D(LOG(Y))	-0.588	(-0.771) ³⁾	-0.229	0.285	-0.452
T statistics	-0.912	-3.198	-0.734	0.874	-0.870
D(LOG(Y(-1)))	-0.993	(0.447) ¹⁾	0.262	-0.273	-0.354
T statistics	-1.552	2.040	0.899	-0.837	-0.855
D(LOG(Y(-2)))	(-0.724) ¹⁾	-0.294	-0.308	0.033	(-0.581) ²⁾
T statistics	-1.790	-1.503	-1.337	0.122	-2.118
R-squared	0.969	0.496	0.677	0.726	0.537
F-statistic	58.583	1.873	4.188	5.311	12.900
Durbin-Watson stat					0.438

Note: 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0: Coefficient = 0.

In Tables 8, 9, 10 and 11, *firstemp*, *secemp*, *thiremp* and *totalemp* variables indicate the effects of FDI and state owned fixed asset investment on the employment of primary, secondary, tertiary and total employment, respectively. In China, in the primary industries, GDP is seen to have positive effects on employment, and the coefficients are all statistically significant at the 1% level. The wage variables have negative effects on employment, which is consistent with the assumption of our model. The coefficients are all statistically significant at the 10% level, and for the pooled analysis at the 1% level. Most of the FDI variables have positive effects on employment although they all are not statistically significant, but the pooled analysis is statistically significant at the 5% level. State owned fixed asset investment variables have negative effects on employment, and the coefficients are all statistically significant at the 1% or 5% levels. Export and import variables of FDI have negative effects on employment although they all are not statistically significant, but for the pooled analysis, coefficients are statistically significant at the 1% level. The parameters of the models show that R values all are higher than 0.7, while the F values all higher than 13, thus the models are statistical meaningful.

<Table 8> Effects of FDI and State Owned Asset Investment on Employment of Primary industries in China

(Dependent Variable : Firstemp)

Model	C	Log (GDP)	Log (Rwa ge)	Log (FDIR)	Log (RSSOFI)	Log(FIM)	log(FEX)	ADJ. R SQ	F- Stat
Model1993	(24.410) ³⁾	(2.108) ³⁾	(-1.628) ²⁾	0.209	(-1.254) ³⁾	-0.389	-0.001	0.725	13.280
T statistics	4.773	6.343	-2.401	0.720	-3.074	-1.020	-0.008		
Model1994	(19.422) ³⁾	(2.274) ³⁾	-0.863	0.142	(-1.376) ³⁾	-0.207	-0.227	0.781	17.683
T statistics	3.123	7.024	-1.142	0.476	-3.606	-0.509	-1.036		
Model1995	(22.427) ³⁾	(2.084) ³⁾	(-1.344)*	0.096	(-1.198) ³⁾	-0.113	-0.219	0.798	19.426
T statistics	3.924	6.351	-1.879	0.442	-3.055	-0.590	-1.582		
Model1996	(21.992) ³⁾	(2.097) ³⁾	(-1.265)*	-0.042	(-1.161) ³⁾	0.003	(-0.252) ¹⁾	0.788	18.340
T statistics	3.813	6.172	-1.820	-0.186	-2.848	0.015	-1.723		
Model1997	(22.819) ³⁾	(2.188) ³⁾	(-1.182)*	-0.133	(-1.373) ³⁾	0.052	-0.205	0.805	20.248
T statistics	4.906	6.690	-1.969	-0.828	-3.451	0.484	-1.474		
Model1998	(20.112) ³⁾	(1.786) ³⁾	(-1.350)*	0.127	(-0.749) ²⁾	-0.349	-0.012	0.814	22.115
T statistics	3.517	6.468	-1.933	0.618	-2.508	-1.499	-0.080		
Model1999	(23.325) ³⁾	(1.815) ³⁾	(-1.724) ³⁾	0.074	(-0.728) ²⁾	(-0.240) ¹⁾	-0.041	0.850	28.310
T statistics	6.199	7.025	-3.879	0.494	-2.611	-1.825	-0.302		
Model2000	(20.647) ³⁾	(1.906) ³⁾	(-1.308) ²⁾	0.019	(-0.796) ²⁾	-0.163	-0.153	0.820	22.963
T statistics	4.380	5.986	-2.377	0.124	-2.268	-1.288	-1.039		
Model2001	(21.468) ³⁾	(2.069) ³⁾	(-1.192) ²⁾	-0.058	(-1.024) ²⁾	-0.135	-0.141	0.789	19.127
T statistics	3.733	5.378	-1.842	-0.263	-2.385	-0.710	-1.047		
Model93-01	(15.600) ³⁾	(2.028) ³⁾	(-0.770) ³⁾	(0.108) ²⁾	(-0.923) ³⁾	(-0.198) ³⁾	(-0.209) ³⁾	0.794	170.453
T statistics	19.780	20.153	-5.936	2.167	-8.016	-4.807	-5.109		

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0 : Coefficient = 0.

In the secondary industry, GDP have positive effects on employment, and the coefficients are all statistically significant at the 1% level. Wage has a negative effect on employment, which is consistent with the assumption of the model. The coefficients are all statistically significant at the 10% and 5% levels, while for the pooled analysis coefficients are statistically significant at the 1% level. FDI variables have negative effects on employment, and some coefficients are statistically significant at the 10% and 5% levels, but the pooled analysis is statistically significant at the 1% level. State-owned fixed asset investment variables have negative effects on employment, and the coefficients are not all statistically significant, but the pooled analysis has coefficients that are statistically significant at the 1% level. Most of the import variables of FDI have negative effects on employment except for 1999 and 2000, although they are not all statistically significant, but the pool analysis shows positive effect on employment and the coefficient is statistically significant at the 1% level. Export variables have positive effects on employment except for 2000 and 1999 although they are not all statistically significant, but the pooled analysis have statistically significant coefficients at the 1% level. The R values all are greater than 0.9, and F values all are greater than 50; thus the models are statistically meaningful.

<Table 9> Effects of FDI and State Owned Asset Investment on Employment of Secondary Industries in China

(Dependent Variable: Secemp)

Model	C	Log (GDP)	Log (Rw age)	Log (FDIR)	Log (RSS OFI)	Log (FIM)	log (FEX)	ADJ. R.SQ	F-Stat
Model1993	(6.548) ³⁾	(1.254) ³⁾	-0.265	(-0.366) ³⁾	-0.083	(0.335) ²⁾	-0.060	0.956	78.822
T statistics	3.386	9.975	-1.033	-3.336	-0.540	2.318	-1.097		
Model1994	(8.845) ³⁾	(1.208) ³⁾	-0.530	-0.021	-0.096	-0.212	0.161	0.924	57.827
T statistics	2.904	7.624	-1.432	-0.144	-0.516	-1.063	1.498		
Model1995	(9.344) ³⁾	(1.240) ³⁾	(-0.615) ¹⁾	-0.129	-0.089	-0.040	0.089	0.938	71.894
T statistics	3.518	8.128	-1.850	-1.272	-0.489	-0.452	1.389		
Model1996	(9.176) ³⁾	(1.182) ³⁾	(-0.662) ¹⁾	-0.146	-0.007	-0.012	0.073	0.933	65.884
T statistics	3.335	7.292	-1.998	-1.368	-0.039	-0.114	1.048		
Model1997	(9.767) ³⁾	(1.199) ³⁾	(-0.667) ²⁾	(-0.169) ²⁾	-0.114	-0.006	0.108	0.942	77.417
T statistics	4.525	7.900	-2.395	-2.264	-0.619	-0.123	1.668		
Model1998	(7.619) ³⁾	(1.293) ³⁾	-0.427	-0.102	-0.166	-0.089	0.102	0.939	74.909
T statistics	2.689	9.450	-1.232	-1.000	-1.120	-0.774	1.394		
Model1999	(7.514) ³⁾	(1.338) ³⁾	-0.344	(-0.152) ³⁾	-0.232	0.121	-0.086	0.938	74.502
T statistics	3.539	9.179	-1.371	-1.805	-1.476	1.628	-1.107		
Model2000	(8.639) ³⁾	(1.411) ³⁾	-0.426	-0.124	-0.344	0.072	-0.034	0.915	53.141
T statistics	3.020	7.305	-1.275	-1.313	-1.616	0.932	-0.382		
Model2001	(7.155) ²⁾	(1.558) ³⁾	-0.173	-0.141	(-0.462) ¹⁾	-0.036	0.038	0.915	53.362
T statistics	2.198	7.153	-0.471	-1.135	-1.900	-0.333	0.501		
Model93-01	(13.198) ³⁾	(1.235) ³⁾	(-0.864) ³⁾	(-0.228) ³⁾	(-0.195) ³⁾	(0.100) ³⁾	(0.061) ³⁾	0.921	517.72
T statistics	31.472	23.081	-12.528	-8.642	-3.183	4.538	2.796		

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0 : Coefficient = 0.

In the tertiary industry, GDP have positive effects on employment, and the coefficients are all statistically significant at the 1% level. Wage variables have negative effects on employment, which is consistent with the assumptions of the model. The coefficient in 1999 is statistically significant at the 5% level and for the pooled analysis at the 1% level. Most of FDI variables have positive effects on employment, and coefficients for 1993 and 1998 are statistically significant at the 5% level, but the not statistically significant for the pooled analysis. State-owned fixed asset investment variables have negative effects on employment, and some coefficients are statistically significant at the 10% or 5% levels, and at 1% for the pooled analysis. Most of the import variables of FDI show negative effects on employment except for 1993, 1997 and 1999 although they are not all statistically significant, but the pool analysis show positive effect on employment with statistically insignificant coefficients. Export variables have negative effects on employment, and most of the coefficients are statistically significant at 5% and 10% levels, and at 1% level for the pooled analysis. The parameters of the models show that R values all are greater than 0.8, and F values all are greater than 40; thus the models are statistically meaningful.

<Table 10> Effects of FDI and State Owned Asset Investment on Employment of Tertiary industries in China

(Dependent Variable : Thiremp)

Model	C	Log (GDP)	Log (Rwage)	Log (FDIR)	Log (RSSOFI)	Log (FIM)	log (FEX)	ADJ. R.SQ	F-Stat
Model1993	(8.672) ³⁾	(1.221) ³⁾	-0.407	(-0.217) ^{b)}	(-0.291) ¹⁾	(0.267) ¹⁾	-0.096	0.923	57.281
T statistics	4.362	9.450	-1.545	-1.926	-1.836	1.798	-1.698		
Model1994	(6.001) ²⁾	(1.187) ³⁾	-0.131	0.155	-0.187	-0.149	-0.109	0.918	53.233
T statistics	2.172	8.253	-0.390	1.171	-1.103	-0.826	-1.117		
Model1995	(7.470) ²⁾	(1.141) ³⁾	-0.346	0.078	-0.154	-0.043	(-0.116) ¹⁾	0.919	53.868
T statistics	2.788	7.416	-1.033	0.763	-0.839	-0.480	-1.783		
Model1996	(6.427) ²⁾	(1.107) ³⁾	-0.297	0.125	-0.065	-0.096	(-0.130) ¹⁾	0.926	58.991
T statistics	2.544	7.437	-0.976	1.280	-0.367	-0.972	-2.028		
Model1997	(8.663) ³⁾	(1.156) ³⁾	-0.424	-0.001	-0.230	0.026	(-0.113) ¹⁾	0.931	64.106
T statistics	4.210	7.984	-1.597	-0.020	-1.306	0.544	-1.838		
Model1998	(6.541) ²⁾	(1.221) ³⁾	-0.202	(0.150) ¹⁾	(-0.288) ²⁾	(-0.169) ³⁾	-0.056	0.942	79.324
T statistics	2.728	10.550	-0.689	1.750	-2.300	-1.736	-0.905		
Model1999	(8.400) ³⁾	(1.135) ³⁾	(-0.445) ³⁾	0.093	-0.205	0.040	(-0.202) ³⁾	0.941	77.881
T statistics	4.771	9.388	-2.141	1.329	-1.572	0.652	-3.152		
Model2000	(7.567) ³⁾	(1.208) ³⁾	-0.303	0.129	-0.281	-0.005	(-0.208) ²⁾	0.898	43.665
T statistics	2.846	6.730	-0.977	1.479	-1.419	-0.076	-2.497		
Model2001	(5.779) ¹⁾	(1.318) ³⁾	-0.033	0.144	(-0.396) ¹⁾	-0.129	(-0.124) ¹⁾	0.893	41.136
T statistics	1.901	6.484	-0.097	1.238	-1.743	-1.284	-1.744		
Model193-01	(9.2340) ³⁾	(1.1474) ³⁾	(-0.521) ³⁾	0.031	(-0.223) ³⁾	0.007	(-0.108) ³⁾	0.920	503.79
T statistics	25.045	24.388	-8.585	1.340	-4.149	0.353	-5.627		

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0 : Coefficient = 0.

Regarding total employment, GDP variables have positive effects on employment, and the coefficients are all statistically significant at the 1% level. The wage variables have negative effects on employment, which is consistent with the assumption of the model. The coefficients are statistically significant at the 1% level, including for the pooled analysis. Most of FDI variables have negative effects on employment except for 2000 and 2001, and coefficients in 1993 and 1994 are statistically significant at the 1% level, and the pooled analysis is also statistically significant at the 1% level. State-owned fixed asset investment variables have positive effects on employment, and coefficients are statistically significant at the 1% level; the pooled analysis also have coefficients that are statistically significant at the 1% level. Most of the import variables of FDI have positive effects on employment except for 1996 and 2001, although they are not all statistically significant, but the pooled analysis show a positive effect on employment and the coefficients are statistically significant at the 1% level. Export variables have negative effects on employment except for 2001, and coefficient in 1999 is statistically significant at the 5% level, but the pooled analysis show positive effects with coefficient not statistically significant. The R values are greater than 0.9, and F values are greater than 80; thus the models are statistically meaningful.

<Table 11> Effects of FDI and State Owned Asset Investment on
Total Employment in China

(Dependent Variable : Totalemp)

Model	C	Log (GDP)	Log (Rwage)	Log (FDIR)	Log (RSSOFI)	Log (FIM)	log (FEX)	ADJ. R.SQ	F-S tat
Model1993	(9.038) ³⁾	(0.580) ³⁾	(-0.814) ³⁾	(-0.233) ³⁾	(0.451) ³⁾	(0.193) ²⁾	-0.025	0.961	117.293
T statistic s	7.494	7.401	-5.090	-3.396	4.689	2.139	-0.727		
Model1994	(9.134) ³⁾	(0.469) ³⁾	(-0.922) ³⁾	(-0.053) ³⁾	0.592	0.014	-0.025	0.954	98.442
T statistic s	5.119	5.048	-4.250	-0.621	5.411	0.116	-0.404		
Model1995	(9.514) ³⁾	(0.395) ³⁾	(-0.987) ³⁾	-0.087	(0.630) ³⁾	0.045	-0.019	0.957	104.784
T statistic s	5.693	4.112	-4.718	-1.360	5.491	0.810	-0.461		
Model1996	(8.737) ³⁾	(0.353) ³⁾	(-0.976) ³⁾	-0.037	(0.715) ³⁾	-0.005	-0.019	0.957	104.791
T statistic s	5.278	3.620	-4.891	-0.583	6.111	-0.078	-0.447		
Model1997	(9.077) ³⁾	(0.359) ³⁾	(-0.952) ³⁾	-0.070	(0.614) ³⁾	0.032	-0.007	0.952	93.664
T statistic s	6.185	3.483	-5.023	-1.376	4.889	0.948	-0.158		
Model1998	(9.056) ³⁾	(0.534) ³⁾	(-0.833) ³⁾	-0.112	(0.407) ³⁾	0.092	-0.036	0.946	84.987
T statistic s	4.675	5.712	-3.519	-1.608	4.020	1.169	-0.724		
Model1999	(7.910) ³⁾	(0.463) ³⁾	(-0.732) ³⁾	-0.070	(0.442) ³⁾	(0.136) ³⁾	(-0.115) ²⁾	0.967	140.616
T statistic s	6.978	5.943	-5.462	-1.556	5.262	3.440	-2.778		
Model2000	(7.567) ³⁾	(0.415) ³⁾	(-0.775) ³⁾	0.002	(0.504) ³⁾	0.026	-0.046	0.946	85.833
T statistic s	4.604	3.742	-4.039	0.044	4.122	0.586	-0.891		
Model2001	(4.855) ²⁾	(0.398) ³⁾	(-0.525) ²⁾	0.062	(0.551) ³⁾	(-0.109) ¹⁾	0.016	0.952	96.451
T statistic s	2.756	3.374	-2.649	0.924	4.186	-1.873	0.392		
Model93-01	(13.538) ³⁾	(0.416) ³⁾	(-1.282) ³⁾	(-0.145) ³⁾	(0.464) ³⁾	(0.117) ³⁾	0.013	0.930	584.901
T statistic s	45.527	10.973	-26.194	-7.772	10.688	7.497	0.843		

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0: Coefficient = 0.

In Table 12 and Table 13, Thiremp and Secemp variables respectively indicate the effects of FDI from Hong Kong, Macao and Taiwan, as well as developed countries, on the secondary and tertiary employment of China. In Table 12, results of the model show that GDP have positive effects on secondary employment, and the coefficients are all statistically significant at the 1% level. Wage variables have negative effects on employment, which is consistent with the assumptions of the model. Parts of the coefficients in 2000 and 2001 are statistically significant at the 5% level, and 1% level for the pooled analysis. Most of FDI employment variables from NICs countries such as Taiwan, Hong Kong and Macao, have positive effects on employment except for 1998 and 1996, and the coefficient in 2000 are statistically significant at the 5% level and 1% level for the pooled analysis. Most of FDI employment variables from developed countries have negative effects on employment except for 1997 and 1996, and coefficients in 1998 are statistically significant at the 5% level and 1% level for the pooled analysis. Employment from state-owned fixed asset investment variables have negative or positive effects on employment, and some coefficients are statistically significant at the 5% level, but not statistically significant for the pooled analysis though positive effects are suggested. Most of the import variables of total FDI have negative effects on employment except for 2000 and 1999 although not all are statistically significant, but the pooled analysis show negative effect on employment and coefficient are not statistically significant. Export variables have positive

or negative effects on employment, and most of the coefficients are statistically significant at the 5% and 10% levels, but statistically insignificant for the pooled analysis, which

<Table 12> Contributions of Investment from Hong Kong, Macao and Taiwan Firms and Developed Countries, and State Owned Enterprises to Employment of Secondary Industries in China

(Dependent Variable : LOG(Secemp))

Dependent Variable LOG(Secemp)	1996	1997	1998	1999	2000	2001	1996-2001
C	-7.261	1.869	-0.699	4.334	(8.118) ¹⁾	6.718	(1.067) ³⁾
T statistics	-1.520	0.596	-0.160	0.822	1.930	1.701	2.835
LOG(GDP)	(1.194) ³⁾	(1.109) ³⁾	(1.133) ³⁾	(1.135) ³⁾	(1.103) ³⁾	(1.110) ³⁾	(1.067) ³⁾
T statistics	12.289	10.067	12.490	10.603	10.994	10.742	27.079
LOG(RWAGE)	0.578	-0.465	-0.192	-0.715	(-1.129) ²⁾	(-1.065) ²⁾	(-0.666) ³⁾
T statistics	1.090	-1.326	-0.391	-1.211	-2.444	-2.469	-4.475
LOG(HMIEMP)	-0.053	0.018	-0.067	0.131	(0.175) ²⁾	-0.189	(0.097) ³⁾
T statistics	-0.650	0.285	-0.857	1.278	2.218	-1.282	2.935
LOG(FOREMP)	0.121	0.006	(-0.145) ²⁾	-0.068	-0.098	-0.024	(-0.092) ³⁾
T statistics	0.991	0.070	-2.195	-0.822	-1.161	-0.262	-2.778
LOG(STATEMP)	(0.666) ²⁾	0.099	0.175	-0.356	(-0.726) ²⁾	(-0.761) ²⁾	0.045
T statistics	2.218	0.858	0.651	-1.032	-2.419	-2.530	0.508
LOG(FIM)	-0.089	-0.071	(-0.284) ³⁾	0.096	0.076	-0.168	-0.017
T statistics	-0.954	-1.529	-3.256	0.939	1.015	-1.433	-0.567
LOG(FEX)	0.038	0.047	(0.215) ²⁾	(-0.194) ¹⁾	(-0.168) ²⁾	0.092	-0.003
T statistics	0.384	0.673	2.309	-2.022	-2.117	0.768	-0.003
Adjusted R-squared	0.931	0.929	0.931	0.915	0.923	0.908	0.903
F-statistic	52.664	53.450	54.907	43.957	48.971	40.303	228.729

Note: 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H₀: Coefficient = 0.

suggests negative effects. R values are greater than 0.9, and F values are greater than 40; thus the models are statistically meaningful.

In Table 13, results of model also show that GDP variables have positive effects on tertiary employment, and the coefficients are all statistically significant at the 1% level. Most of wage variables have negative effects on employment except for 1999 and 1996, which is consistent with the assumption of model. Some of the coefficients in 2001 are statistically significant at the 10% level, and at the 1% level for the pooled analysis. FDI employment variables from NICs countries have negative effects on employment, and coefficients in 1998 and 2001 are statistically significant at the 5% and 10% levels, and the pooled analysis is also statistically significant at the 5% level. Most of FDI employment variables from developed countries have negative effects on employment except for 2001 and 1996 although they are not statistically significant, and the pooled analysis also is not statistically significant. Employment from state owned fixed asset investment variables have positive effects on employment except for 2000 and 2001, and some coefficients are statistically significant at the 5% and 10% levels, and at the 10% level for the pooled analysis which suggests positive effects. Most of import variables of total FDI have negative effects on employment except for 2000 and 1997, the coefficient in 1998 is statistically significant, but for the pooled analysis, there are positive effects on employment and coefficient are not statistically significant. Export variables have

negative effects on employment, and the coefficient in 2000 is statistically significant at the 10% level, and statistically significant at the 1% level for the pooled analysis, which suggests negative effects. The R values are greater than 0.9, and F values are greater than 24; thus the models statistically meaningful.

<Table 13> Contributions of Investment from Hong Kong, Macao and Taiwan and Developed Countries as well as State Owned Enterprises to Employment of Tertiary Industries in China

(Dependent Variable : LOG(Thiremp))

Dependent Variable LOG(Thiremp)	1996	1997	1998	1999	2000	2001	1996-2001
C	-7.007	3.561	-0.327	1.262	7.646	(6.575) ¹⁾	(2.801) ³⁾
T statistics	-1.715	1.281	-0.095	-0.304	1.593	1.846	2.638
LOG(GDP)	(1.093) ³⁾	(1.021) ³⁾	(1.033) ³⁾	(1.069) ³⁾	(0.983) ³⁾	(1.006) ³⁾	(1.026) ³⁾
T statistics	13.155	10.466	14.461	12.703	8.588	10.797	32.656
LOG(RWAGE)	0.692	-0.480	-0.065	0.051	-0.887	(-0.800) ¹⁾	(-0.382) ³⁾
T statistics	1.526	-1.544	-0.167	0.111	-1.683	-2.058	-3.217
LOG(HMTEMP)	-0.080	-0.028	(-0.174) ²⁾	-0.052	-0.021	(-0.263) ¹⁾	(-0.053) ²⁾
T statistics	-1.135	-0.480	-2.807	-0.652	-0.231	-1.977	-2.038
LOG(FOREMP)	0.039	-0.002	-0.038	-0.073	-0.033	0.046	-0.020
T statistics	0.371	-0.032	-0.727	-1.130	-0.342	0.559	-0.767
LOG(STATEMP)	(0.748) ³⁾	0.085	(0.461) ²⁾	0.438	-0.342	(-0.483) ¹⁾	(0.135) ¹⁾
T statistics	2.911	0.836	2.174	1.617	-0.997	-1.782	1.937
LOG(FIM)	-0.011	0.010	(-0.148) ²⁾	-0.039	0.039	-0.023	0.003
T statistics	-0.143	0.239	-2.150	-0.481	0.463	-0.216	0.148
LOG(FEX)	-0.094	-0.105	0.051	-0.083	(-0.164) ¹⁾	-0.130	(-0.115) ³⁾
T statistics	-1.124	-1.677	0.701	-1.099	-1.816	-1.199	-4.087
Adjusted R-squared	0.929	0.927	0.940	0.924	0.857	0.887	0.913
F-statistic	51.841	51.665	63.964	49.742	24.939	32.537	258.113

Note : 1) means "significant" at the level of 10%.

2) means "significant" at the level of 5%.

3) means "significant" at the level of 1%.

For the null hypothesis, H0 : Coefficient = 0.

V. Conclusions

Based on the analyses using provincial data of China, the derived results show that FDI inflows and state-owned fixed asset investment have different effects on employment. Total FDI inflows in China have limited effects on employment, while state owned enterprises have positive effects.

In primary industries, total FDI inflows have positive effects on employment, especially reflected in the pooled analysis. This is because processing industries of agricultural products in China have enjoyed greater interest by FDI firms. But SOEs have negative effects on employment because agriculture in China is largely based on a production system based on family-duty. In secondary industries, both total FDI inflows and SOFI have negative effects on employment. This implies that FDI firms have limited effects on employment, and SOEs tend to decrease employment along with the rising productivity and market reform in China. In tertiary industries, total FDI inflows have positive effects on employment, while SOEs have negative effects on employment. The results closely reflect the undeveloped tertiary industries in China. FDI firms have great potential in employment of service sectors in China, especially following China's accession into the WTO in

2001. However, although the contribution of FDI firms to employment of China is very limited, total FDI inflows have begun to show positive effects on total employment since 2000. SOEs however still absorb most of the employment in China.

Thus, state-owned enterprises still accounts for most of the employment in China. FDI inflows from NICs such as Hong Kong, Macao and Taiwan have shown positive effects on employment in secondary industries that concentrate on manufacturing industries with labor-intensive characteristics, but have negative effects on employment in tertiary industries such as service industries that have capital-intensive and technical-intensive characteristics. In contrast, FDI inflows from developed countries have positive effects on employment in tertiary industries, and have negative effects on employment in the secondary industries in China's labor market.

VI. Policy Implications

The results of this paper show that FDI firms have increasing tendency to augment employment although only in a limited way; employment of FDI firms from NICs in labor-intensive industries, and employment of FDI firms from other developed countries in capital-intensive or technical-intensive industries. In contrast, state owned firms have a decreasing tendency to absorb employment, although most of employment is still concentrated in state owned enterprises. Overall, FDI firms tend to be attracted to newer and fast growth areas, while domestic firms tend to be concentrated in the traditional capital-intensive and large-scale industries. However, the gaps of capital and labor productivity between FDI firms and domestic firms are be narrowed along with FDI inflows that exhibit higher labor-productivity.

Thus, these results imply that state owned enterprises and FDI firms have only limited effects on employment with respect to total labor resources in the future economy, even with China's accession into the WTO, along with the deepening of the market economy, which has caused China's labor market to become diversified as a result of abundant labor. FDI inflows also lead to technological spillovers that

prompt labor productivity of state owned firms, which eventually will force state owned firms to reform and reorganize themselves to enhance productivity. Workers layoffs and increased the pressure on employment is expected in China's labor market. Therefore, government policies should encourage the development of non-state owned enterprises such as private enterprises and township and village enterprises, so that employment can be maintained. The superior labor resources in urban areas should be absorbed greatly through developing tertiary industries. Furthermore, China's government also should enhance the construction of urbanizing of small to medium townships so as to solve the employment problem of increasingly superior labor resources generated by the limited agriculture land in rural areas.

Appendix

<Appendix 1> Exports of FDI Trade of China's Provinces

(10 thousand dollars)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	33890	49256	70939	98814	115424	126273	146514	287108	323871
Tianjin	60609	101300	198729	295097	352987	382367	449079	637925	710297
Hebei	16540	27741	32607	54219	63223	72029	80044	101240	114229
Shanxi	4898	7939	11625	12582	11387	10567	8088	15209	15445
Inner Mongolia	2663	4206	5217	7950	9100	5861	7468	13798	12894
Liaoning	116289	162200	237075	317895	352803	383276	436131	624463	629968
Jilin	6703	14006	19315	26049	26059	27875	34709	39197	42787
Heilongjiang	9091	11337	16042	24264	27811	22427	22612	26679	25935
Shanghai	178275	265848	401810	544661	700243	816461	1034641	1426102	1595857
Jiangsu	150378	206638	293600	506970	670710	804595	985907	1445340	1664217
Zhejiang	97787	103339	110982	202352	246044	268295	332775	534851	709930
Anhui	6263	7242	9736	15549	20504	26439	29143	39993	43112
Fujian	248904	287056	354323	450087	529863	544915	588818	759713	828809
Jiangxi	4102	4296	4463	5920	7840	8659	9989	16298	11233
Shandong	88896	158898	253751	385182	514760	522517	585026	792766	923578
Henan	6850	9575	11728	21802	22717	24677	23679	30889	31396
Hubei	13406	15528	18737	28523	33007	25428	30986	42956	50064
Hunan	4256	6360	6839	10781	12211	11504	12900	18250	21256
Guangdong	1436698	1984452	2576243	3069026	3678155	3918329	3939790	4951011	5437384
Guangxi	10668	14508	21778	26412	35135	31925	22044	34112	24353
Hainan	7086	5312	5777	6822	8697	7616	28669	30464	30039
Chongqing	n/a	n/a	n/a	n/a	n/a	6905	6213	9666	9228
Sichuan	8331	9539	9115	13118	16993	12476	15805	24517	23997
Guizhou	1202	1957	2895	4169	6199	4468	3456	4012	4423
Yunnan	2546	2554	3435	4257	4405	3780	4240	8113	10952
Xizhang	134	122	30	235	300	159	219	389	217
Shaanxi	2976	4318	4170	8427	11743	11082	8914	11612	10808
Gansu	1496	1485	1946	2414	3592	3514	2392	3833	5294
Qinghai	1	425	602	825	299	336	88	202	154
Ningxia	974	630	983	2088	3162	2935	2791	4294	5904
Xingjiang	5681	3230	3095	4146	4613	8499	9636	9120	5877

<Appendix 2> Imports of FDI Trade of China's Provinces

(10 thousand dollars)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	124063	147672	186628	224022	233856	281772	366197	489739	540603
Tianjin	109458	189617	301237	406855	435524	433255	536476	731364	723888
Hebei	48317	53892	67248	89623	56380	60779	65629	56907	66116
Shanxi	10884	6988	5354	5295	6404	7645	32841	26667	10769
Inner Mongolia	8051	7875	10041	7402	6564	4073	3841	4358	4958
Liaoning	159907	214465	262974	319087	387294	303372	389683	605234	590609
Jilin	34227	47939	65711	61045	45500	57211	61309	73077	10473
Heilongjiang	21633	28465	36517	48086	36586	21961	20990	20674	19296
Shanghai	405426	494631	719781	942116	959476	1005314	1232266	1914952	2083843
Jiangsu	307817	350171	487284	706739	748251	858550	977768	1572741	1754914
Zhejiang	105540	142807	195379	270804	224223	202419	233593	404142	477217
Anhui	20981	26136	26768	52581	43561	35535	53863	54786	56030
Fujian	357321	434621	468563	502316	524501	517316	545272	64602	674669
Jiangxi	32826	26692	15283	10129	7284	8871	18643	15516	16821
Shandong	176614	253187	362652	466395	448976	423077	433596	599802	702925
Henan	26333	31043	38092	40183	28409	22156	22424	26807	28303
Hubei	53935	49840	72753	84286	78273	69101	60303	61729	81661
Hunan	25355	22664	21644	25421	20646	16822	16960	29467	34706
Guangdong	1979877	2536046	2744113	3027696	3272863	3173178	3391787	4252685	4425844
Guangxi	41592	73032	60094	43459	32524	39368	26340	21228	21889
Hainan	55233	60323	51086	56898	26607	34453	10495	15529	50992
Chongqing						32192	17353	22723	22118
Sichuan	40077	43142	42401	101001	88862	18884	27177	37007	42737
Guizhou	4138	5093	5966	2616	3059	1671	1119	1678	1902
Yunnan	6897	16118	16759	21309	18482	10854	9744	11545	10238
Xizhang	216	1644	2454	6086	5886	1000	851	245	19
Shanxi	18441	17557	16287	27418	23933	24129	23910	23823	25792
Gansu	4203	4340	3358	4202	3008	2746	1658	1824	3616
Qinghai	82	401	20	86	1	269	15	723	2174
Ningxia	674	1840	503	1659	1348	717	1787	1831	1539
Xinjiang	3202	5177	7321	5565	3854	3059	4471	2439	3702

<Appendix 3> Exports & Imports of FDI Trade of China's Provinces

(10 thousand dollars)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	157953	196928	257567	322836	349280	408045	512711	776847	864474
Tianjin	170067	290917	499966	701952	788511	815622	985555	1369289	1434185
Hebei	64857	81633	98855	143842	119603	132808	145673	158147	180345
Shanxi	15782	14927	16979	17877	17791	18212	40929	41876	26214
Inner Mongolia	10714	12081	15258	15352	15664	9934	11309	18156	17852
Liaoning	276196	376665	500049	636982	740097	686648	825814	1229697	1220577
Jilin	40930	61945	85026	87094	71559	85086	96018	112274	149260
Heilongjiang	30724	39802	52559	72350	64397	44388	43602	47353	45231
Shanghai	583701	760479	1121591	1486777	1659719	1821775	2266907	3341054	3679700
Jiangsu	458195	556809	780884	1213709	1418961	1663145	1963675	3018081	3419131
Zhejiang	203327	246146	306361	473156	470267	470714	566368	938993	1187147
Anhui	27244	33378	36504	68130	64065	61974	83006	94779	99142
Fujian	606225	721677	822886	952403	1054364	1062231	1134090	1405740	1503478
Jiangxi	36928	30988	19746	16049	15124	17530	28632	31814	28054
Shandong	265510	412085	616403	851577	963736	945594	1018622	1392568	1626503
Henan	33183	40618	49820	61985	51126	46833	46103	57696	59699
Hubei	67341	65368	91490	112809	111280	94529	91289	104685	131725
Hunan	29611	29024	28483	36202	32857	28326	29860	47717	55962
Guangdong	3416575	4520498	5320356	6096722	6951018	7091507	7331577	9203696	9863228
Guangxi	52260	87540	81872	69871	67659	71293	48384	55340	46242
Hainan	62319	65635	56863	63720	35304	42069	39164	45993	80961
Chongqing						39097	23566	32389	31346
Sichuan	48408	52681	51516	114119	105855	31360	42982	61524	66734
Guizhou	5340	7050	8861	6785	9258	6139	4575	5690	6325
Yunnan	9443	18672	20194	25566	22887	14634	13984	19658	21190
Xizhang	350	1766	2484	6321	6186	1159	1070	634	236
Shanxi	21417	21875	20457	35845	35676	35211	32824	35435	36600
Gansu	5699	5825	5304	6616	6600	6260	4050	5657	8910
Qinghai	83	826	622	911	300	605	103	925	2328
Ningxia	974	2470	1486	3747	4510	3652	4578	6125	7443
Xinjiang	5681	8407	10416	9711	8467	11558	14107	115559	9579

<Appendix 4> FDI Inflows of China's Provinces

(10 thousand dollars)

Provinces	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Beijing	31846	27695	24495	34985	66694	137157	107999	155290	159286	216800	197525	168368	176818	172464
Tianjin	8134	3493	13261	10778	61368	101499	152093	215273	251135	211361	176399	116601	213348	158195
Hebei	2685	3935	5656	11309	39654	52340	54668	83022	110308	142868	104202	67923	66989	78271
Shanxi	882	340	380	5384	8643	3170	6383	13808	26893	24451	39129	22472	23393	21164
Inner Mongolia	n/a	1064	166	520	8526	4007	5781	7186	7325	9082	6456	10568	10703	17701
Liaoning	n/a	24373	36239	51642	127913	144014	142461	173782	236635	219045	106173	204446	251612	341168
Jilin	335	1760	3164	7534	27527	24192	40802	45155	40227	40917	30120	33701	33766	24468
Heilongjiang	2312	2449	2085	7217	23232	34759	51686	56691	73485	52639	31828	30086	34114	35511
Shanghai	42212	17401	14519	49361	316025	247309	289261	394094	422536	360150	283665	316014	429159	427229
Jiangsu	9464	12416	21922	146324	284371	376315	519082	521009	543511	663179	607756	642550	691482	1018960
Zhejiang	5181	4843	9229	23978	103175	115026	125806	152050	150345	131802	123262	161266	221162	307610
Anhui	478	961	1067	5466	25764	37000	48256	50661	43443	27673	26131	31847	33672	38375
Fujian	32880	29002	47116	142364	287444	371318	404390	408455	419710	421211	402403	343191	391804	383837
Jiangxi	587	621	1949	9972	20817	26168	28888	30126	48103	46496	32080	22724	39575	108197
Shandong	13132	15084	21639	100342	187413	255242	268898	263355	277556	220274	225878	297119	352093	473404

Provinces	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Henan	4266	1049	3799	5316	30491	38673	47855	52356	69204	61654	52135	56403	45729	40463
Hubei	2295	2900	4664	20313	54053	60186	62512	68079	84866	97294	91488	94368	118860	142665
Hunan	643	1116	2543	13271	43746	33114	50773	74530	91702	81816	65374	67833	81011	90022
Guangdong	115644	146000	194288	370111	755576	946343	1026011	1175407	1263495	1201994	1165750	1128091	1193203	1133400
Guangxi	4594	2866	3185	18201	88456	83633	67263	66313	88579	88613	63512	52466	38416	41726
Hainan	10707	10302	17672	45255	70710	91809	106207	78908	70554	71715	48449	43080	46691	51196
Chongqin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	41802	43107	23893	24436	25649	19576
Sichuan	n/a	1604	8091	11214	57141	92174	54159	44090	24846	37248	34101	43694	58188	55583
Guizhou	747	468	1409	1979	4294	6363	5703	3138	4977	4535	4090	2501	2829	3821
Yunnan	740	261	351	2875	9702	6500	9769	6537	16566	14568	15385	12812	6457	11169
Xizhang	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Shaanxi	9719	4191	3176	4553	23430	23880	32407	32609	62816	30010	24197	28842	35174	36005
Gansu	17	85	478	35	1195	8776	6392	9002	4144	3864	4104	6235	7439	6121
Qinghai	n/a	n/a	n/a	68	324	241	164	100	247	n/a	459	n/a	3649	4726
Ningxia	233	25	18	35	1190	727	390	555	671	1856	5134	1741	1680	2200
Xingjiang	n/a	537	22	n/a	5300	4830	5490	6390	2472	2167	2404	1911	2035	1899

<Appendix 5> GDP of China's Provinces

(100 Million Yuan RMB)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
exchange rate	372.21	372.21	376.59	478.38	532.27	551.49	576.19	861.87	835.07	831.42	828.98	827.91	827.96	827.84	827.77
Beijing	326.82	410.22	455.96	500.82	598.9	709.1	863.54	1084.03	1394.89	1615.73	1810.09	2011.31	2174.46	2478.76	2845.65
Tianjin	220	259.64	283.34	310.95	342.75	411.24	536.1	725.14	920.11	1102.4	1235.28	1336.38	1450.06	1639.36	1840.1
Hebei	521.92	701.33	822.83	896.33	1072.07	1278.5	1690.84	2187.49	2849.52	3452.97	3953.78	4256.01	4569.19	5088.96	5577.78
Shanxi	257.2	316.7	376.3	429.3	468.5	570	704.7	853.77	1092.48	1308.01	1480.13	1486.08	1506.78	1643.81	1779.97
Inner Mongolia	212.27	270.81	292.69	319.31	359.66	421.68	532.71	681.92	832.88	984.78	1099.77	1192.29	1268.2	1401.01	1545.79
Liaoning	719.12	881.02	1003.81	1062.74	1200.1	1472.95	2010.82	2461.78	2793.37	3157.69	3582.46	3881.73	4171.69	4669.06	5033.08
Jilin	297.49	368.67	391.65	425.28	463.47	558.06	717.95	936.78	1129.2	1337.16	1446.91	1557.78	1660.91	1821.19	2032.48
Heilongjiang	454.6	551.98	630.61	715.23	824.23	864.04	1203.22	1618.63	2014.53	2402.58	2708.46	2798.89	2897.41	3253	3561
Shanghai	545.46	648.3	696.54	756.45	893.77	1114.32	1511.61	1971.92	2462.57	2902.2	3360.21	3688.2	4034.96	4551.15	4950.84
Jiangsu	922.33	1208.85	1321.85	1416.5	1601.38	2136.02	2998.16	4057.39	5155.25	6004.21	6680.34	7199.95	7697.82	8582.73	9511.91
Zhejiang	603.71	765.76	843.72	897.99	1081.75	1365.06	1909.49	2666.86	3524.79	4146.06	4638.24	4987.5	5364.89	6036.34	6748.15
Anhui	442.35	546.94	616.25	658.02	663.6	801.16	1069.84	1488.47	2003.58	2339.25	2669.95	2805.45	2908.58	3038.24	3290.13
Fujian	279.24	383.21	458.4	522.28	622.02	787.71	1133.49	1685.34	2160.52	2583.83	3000.36	3286.56	3550.24	3920.07	4253.68

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Jiangxi	262.9	325.83	376.46	428.62	479.37	572.55	723.06	948.16	1205.11	1517.26	1715.18	1851.98	1853.65	2003.07	2175.68
Shandong	n/a	n/a	n/a	n/a	1810.54	2196.53	2779.49	3872.18	5002.34	5960.42	6650.02	7162.2	7662.1	8542.44	9438.31
Henan	609.6	749.09	850.71	934.65	1045.73	1279.75	1662.76	2224.43	3002.74	3661.18	4079.26	4356.6	4576.1	5137.66	5640.11
Hubei	517.77	626.52	717.08	824.38	913.38	1088.39	1424.38	1878.65	2391.42	2970.2	3450.24	3704.21	3857.99	4276.32	4662.28
Hunan	469.44	584.07	640.8	744.44	833.3	997.7	1278.28	1694.42	2195.7	2647.16	2993	3118.09	3326.75	3691.88	3983
Guangdong	n/a	n/a	n/a	n/a	1780.56	2293.54	3225.3	4240.56	5381.72	6519.14	7315.51	7919.12	8464.31	9662.23	10647.71
Guangxi	241.56	313.28	383.44	449.06	518.59	646.6	893.58	1241.83	1497.56	1697.9	1817.25	1903.04	1953.27	2050.14	2231.19
Hainan	57.3	77.13	91.4	102.49	120.51	181.71	258.08	330.95	364.17	389.53	409.86	438.92	471.23	518.48	545.96
Chongqin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1179.09	1350.1	1429.26	1479.71	1589.34	1749.77
Sichuan	n/a	n/a	n/a	n/a	1382.96	1624.51	2096.48	2777.88	3534	2985.15	3320.11	3580.26	3711.61	4010.25	4421.76
Guizhou	165.5	211.79	235.84	260.14	295.9	339.91	416.07	521.17	630.07	713.7	792.98	841.88	911.86	993.53	1084.9
Yunnan	229.03	301.09	363.05	451.67	517.41	618.69	779.21	973.97	1206.68	1491.62	1644.23	1793.9	1855.74	1955.09	2074.71
Xizhang	17.71	20.25	21.86	27.7	30.53	33.29	37.28	45.84	55.98	64.76	76.98	91.18	105.61	117.46	138.73
Shaanxi	244.96	314.48	358.37	404.3	466.93	540.52	671.37	816.58	1000.03	1175.38	1300.03	1381.53	1487.61	1660.92	1844.27
Gansu	159.52	191.84	216.84	242.8	271.39	317.79	372.24	451.66	553.35	714.18	781.34	869.75	931.98	983.36	1072.51
Qinghai	43.38	54.96	60.37	69.94	75.1	87.52	109.62	138.24	165.31	183.57	202.05	220.16	238.39	263.59	300.95
Ningxia	39.63	50.29	59.21	64.84	71.78	83.14	103.82	133.97	169.75	193.62	210.92	227.46	241.49	265.57	298.38
Xingjiang	148.51	192.72	217.42	274.01	335.91	402.31	505.63	673.68	825.11	912.15	1050.14	1116.67	1168.55	1364.36	1485.48

<Appendix 6> Total Fixed Asset Investment of China's Provinces
(100 Million Yuan RMB)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	418.53	653.71	864.85	889.66	989.71	1124.62	1171.16	1280.46	1513.32
Tianjin	219.41	332.52	396.55	438.51	500.67	571.05	576.45	610.94	705
Hebei	471.88	671.39	907.75	1182.59	1425.98	1591.76	1770.47	1816.79	1912.53
Shanxi	235.07	276.16	270.64	311.77	376.74	454.93	477.57	548.16	663.58
Inner Mongolia	207.67	229.75	251.32	262.05	278.65	316.76	348.22	423.64	503.63
Liaoning	737.34	897.59	865.49	881.67	986.62	1057.7	1119.47	1267.68	1421.19
Jilin	264.12	302.21	320.27	362.99	361.17	431.78	500.02	603.51	701.7
Heilongjiang	338.59	412.27	517.62	568.64	669.86	770.05	751.66	832.64	963.58
Shanghai	708.14	1201.62	1597.89	1996.88	1981.48	1966.38	1855.76	1869.38	2004.64
Jiangsu	1155.52	1330.74	1764.76	1963.06	2174.97	2450.37	2441.88	2569.97	2823.2
Zhejiang	803.74	1115.51	1482.62	1611.44	1608.56	1801.74	1958.05	2349.95	2834.94
Anhui	294.02	375.57	476.1	609.79	677.85	722.61	703.45	803.97	893.37
Fujian	399.33	564.35	683.02	779.76	880.88	1053.01	1084.66	1112.2	1172.91
Jiangxi	201.29	246.03	282.54	317.32	329.45	400.6	454.44	516.08	631.84
Shandong	950.68	1129.07	1308.62	1528.5	1742.53	1935.58	2220.57	2531.1	2788.68
Henan	475.17	628.82	783.14	1039.41	1209.5	1289.7	1206.83	1377.74	1544.06
Hubei	392.74	578.78	785.09	935.22	1023.5	1156.76	1239.14	1339.2	1486.55
Hunan	344.38	455.02	523	684.14	667.39	796.89	883.94	1012.24	1174.3
Guangdong	1857.04	2416.56	2315.83	2363.18	2291.05	2644.13	2937.02	3145.13	3484.43
Guangxi	280.26	391.66	403.15	476.42	479.8	562.32	578.76	583.34	655.63
Hainan	201.82	218.77	182.08	181.01	161.48	173.37	194.78	198.87	213.32
Chongqing	n/a	n/a	n/a	n/a	375.57	492.97	525.26	572.59	697.03
Sichuan	591.34	744.45	901.42	1113.17	926.34	1145.33	1224.4	1418.04	1617.52
Guizhou	101.61	136.27	161.79	193.55	222.3	278.41	311.93	396.98	536.01
Yunnan	262.99	317.47	390.45	456.27	538.6	660.43	663.97	683.96	738.45
Xizh ang	18.26	20.9	35.13	29.43	34.5	41.26	53.56	64.05	83.26
Shanxi	222.42	249.57	310.18	343.71	393.16	517.57	587.79	653.67	773.43
Gansu	101.51	134.88	145.76	206.95	242.08	301.45	355.51	395.4	460.37
Qinghai	46.29	47.64	53.11	77.67	88.44	108.78	117.15	151.14	196.35
Ningxia	45.47	53.73	62.17	72.1	85.84	106.75	128.1	157.52	191.08
Xinjiang	261.65	293.57	331.97	388.67	446.99	514.77	526.65	610.39	706

<Appendix 7> State Owned Fixed Asset Investment of
China's Provinces

(100 Million Yuan RMB)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	337.83	511.28	518.28	541.65	600.69	721.81	741.39	758.06	744.86
Tianjin	156.62	219.24	245.76	257.64	279.12	302.25	329.94	255.52	248.76
Hebei	291.96	336.19	411.04	507.24	641.67	726.89	811.46	827.66	775.95
Shanxi	181.82	209.91	205.44	232.24	280.41	329.91	319.45	347.21	405.11
Inner Mongolia	167.64	180.04	191.13	197.88	197.32	204.24	215.51	263.04	269.69
Liaoning	475.78	590.39	584.87	544.66	573.76	651.21	662.95	649.42	690.71
Jilin	193.45	197.39	210.57	254	223.43	262.61	300.08	318.52	368.67
Heilongjiang	290.79	335.33	380.1	427.57	530.96	610.19	567.28	452.45	531.82
Shanghai	413.44	710.25	935.92	1040.37	1151.05	1088.71	986.82	826.83	760.58
Jiangsu	397.76	469.36	583.6	697.81	783.07	969.44	1052.78	1137.93	1219.7
Zhejiang	254.59	343.12	440.14	529.16	547.17	653.98	743.88	875.69	1029.64
Anhui	168.26	186.08	266.17	294.96	283.37	330.03	343.58	428.76	467.45
Fujian	195.27	244.94	306.74	323.2	368.64	429.62	427.71	407.19	435.44
Jiangxi	123.57	143.3	157.91	176.87	199.12	243.22	250.59	279.78	331.29
Shandong	475.76	525.47	599.79	681.94	767.66	930.43	1052.61	1167.85	1175.3
Henan	278.62	364.03	437.84	499.06	555.08	653.14	659.25	728.56	763.08
Hubei	262.24	374.15	496.71	558.4	542.01	627.54	708.86	762.24	819.24
Hunan	194.6	236.34	298.38	355.22	333.01	405.3	463.65	520.08	582.21
Guangdong	883.18	903.19	1108.76	1092.52	1054.32	1152.4	1226.57	1260.84	1210.47
Guangxi	169.26	193.97	216.29	236.14	222.83	276.58	300.12	314.77	348.97
Hainan	121.31	95.51	86.45	82.37	75.51	81.97	83.39	83.14	92.15
Chongqing	n/a	n/a	n/a	n/a	176.31	259.55	263.42	268.79	312.63
Sichuan	376.12	429.11	515.63	579.65	514.87	666.88	652.62	667.3	727.6
Guizhou	76.68	92.31	107.58	131.63	141.84	178.07	198.97	247.73	352.98
Yunnan	173.58	212.13	256.56	279.78	341.5	438.57	439.03	437.27	464.39
Xizhang	16.48	19.75	34.25	28.21	31.58	38.57	51.05	61.42	78.81
Shaanxi	155.58	168.29	200.28	223.51	239.66	355.57	377.56	428.82	479.13
Gansu	75.74	95.62	106.33	144.52	169.97	216.52	246.73	277.82	299.83
Qinghai	40.02	39.49	44.59	64.42	72.37	87.19	91.53	96.07	117.29
Ningxia	32.85	39.61	43.44	55.3	65.98	75.9	78.48	97.88	119.41
Xinjiang	213.11	240.17	262.68	312.64	363.42	434.59	418.57	329.42	353.28

<Appendix 8> Fixed Asset Investment from Hong Kong,
Macao and Taiwan

(100 Million Yuan RMB)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	2.07	10.86	52.51	79.78	97.77	169.6	132.65	124.19	125.02
Tianjin	0.85	6.5	19.34	17.34	12.49	22.53	18.12	15.02	60.08
Hebei	3.16	11.1	10.18	15.16	11.43	25.63	17.64	27.88	27.68
Shanxi	1.82	0.44	0.53	0.93	0.95	4.14	9.87	11.16	13.29
Inner Mongolia	0.22	0.89	0.79	0.17	0.16	0.97	1.12	1.35	8.19
Liaoning	7.62	17.22	22.25	31.18	47.76	41.23	32.54	72.99	65.83
Jilin	0.33	0.37	0.28	2.85	2.07	17.2	12.29	17.74	7.73
Heilongjiang	3.94	8.8	8.89	7.21	7.42	12.12	8.47	7.56	6.88
Shanghai	15.86	10.68	31.16	53.4	107	118.66	119.52	86.36	84.25
Jiangsu	24.54	36.2	62.97	71.25	71.34	94.6	75.32	88.16	78.76
Zhejiang	14	18.94	28.64	30.43	27.94	49.43	38.02	45.14	74.41
Anhui	2.28	1.69	2.39	6.33	3.42	13.36	9.52	11.67	12.25
Fujian	26.57	42.54	61.7	91.54	118.82	162.4	132.28	130.63	179.06
Jiangxi	2.09	2.44	2.31	3.74	5.37	10	7.23	8.64	11.73
Shandong	13.39	37.41	37.55	23.73	23.86	29.63	24.55	38.62	68
Henan	4.26	16.61	35.85	29.46	21.25	35.03	27.71	26.32	41.33
Hubei	5.98	11.09	33.6	43.77	54.78	54.99	34.34	36.77	36.9
Hunan	2.42	4.98	7.46	10.95	8.37	13.65	11.91	13.69	20.18
Guangdong	75.19	156.8	197.93	259.94	265.09	356.79	400.4	416.34	553.73
Guangxi	5.19	4.56	9.37	10.27	7.38	14.58	13.89	13.49	17.91
Hainan	5.84	15.81	13.95	10.12	6.49	9.65	6.71	12.14	10.89
Chongqing	n/a	n/a	n/a	n/a	17.5	24.55	20.62	19.11	26.25
Sichuan	7.29	5.66	18.32	19.69	5.09	24.94	22.2	23.66	26.26
Guizhou	0.43	0.39	0.57	0.85	0.63	4.23	3.46	2.9	3.47
Yunnan	1.94	4.77	5	5.59	6.29	9.79	14.18	13.25	7.07
Xizhang	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.18	0.13
Shaanxi	0.4	0.53	2.45	1.9	1	6.43	7.6	6.7	9.65
Gansu	0.01	0.92	1.48	2.96	2.48	3.88	7.01	3.53	2.44
Qinghai	0.01	0.18	0.11	1.2	0.31	1.35	1.88	0.63	0.43
Ningxia	0.04	0.27	0.47	0.58	0.74	0.48	0.55	0.28	0.85
Xingjiang	0.01	1.38	5.59	3.15	1.9	2.36	6.49	16.97	2.65

<Appendix 9> Foreign Fixed Asset Investments Without Hong Kong,
Macao and Taiwan

(100 Million Yuan RMB)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	24.42	65.3	185.9	154.35	160.71	80.92	65.4	64.86	63.47
Tianjin	18.9	31.2	44.32	55.08	101.4	111.16	57.21	81.04	110.44
Hebei	18.43	31.5	46.84	57.8	78.31	58.61	61.33	54.03	34.73
Shanxi	3.04	4.9	7.43	6.24	19.07	26.7	37.33	32.05	25.24
Inner Mongolia	4.22	5.36	4.39	2.99	2.52	3.41	1.04	2.74	1.35
Liaoning	73.39	97.45	90.94	88.58	98.97	62.23	51.07	53.65	63.98
Jilin	8.16	33.97	40.33	35.15	43.46	21.54	13.34	18.04	24.76
Heilongjiang	1.81	7.08	7.79	17.5	22.51	6.59	4.04	5.84	8.19
Shanghai	45.75	91.1	177.13	286.77	260.5	287.69	248.18	220.32	248.81
Jiangsu	42.1	88.25	169.47	246.73	288.78	353.01	271.4	199.17	205.06
Zhejiang	23.44	51.3	76.76	111.59	119.06	80.99	27.94	49.05	71.65
Anhui	5.18	11.53	19.28	21.2	37.16	22.28	44.68	35.3	21.29
Fujian	19.92	69.33	92.99	108.27	101.28	77.06	101.62	125.5	90.76
Jiangxi	2.46	7.93	9.48	9.15	7.17	7.66	9.35	9.74	9.43
Shandong	28.25	65.2	79.62	108.08	106.78	106.01	67.96	63.7	92.4
Henan	12.09	26.27	27.39	34.28	35.35	21.83	13.83	13.39	21.73
Hubei	16.48	49.38	58.62	72.06	74.66	60.59	27.08	23.7	26.82
Hunan	7.17	10.37	23.47	21.38	23.33	10.7	13	24.72	17.54
Guangdong	134.48	413.03	254.89	269.78	243.86	139.11	214.33	140.71	196.41
Guangxi	20.36	31.72	31.49	24.28	28.09	28.76	28	14.75	10.19
Hainan	9.61	24.21	38.5	43.5	20.51	16.05	16.84	12.23	5.62
Chongqing	n/a	n/a	n/a	n/a	15.46	15.66	14.7	12.86	17.04
Sichuan	10.98	32.97	26.81	47.88	30.07	12.93	21.78	27.42	25.07
Guizhou	0.88	2.42	5.39	6.25	7.96	4.22	2.93	3.25	4.09
Yunnan	4.21	10.05	13	18.57	11.61	8.88	4.99	8.52	3.76
Xizhang	0.02	n/a	n/a	n/a	n/a	0.3	n/a	0.02	0.6
Shaanxi	5.6	5.82	11.03	8.08	5.16	7.17	5.33	7.71	6.44
Gansu	2.59	5.76	4.15	14.27	9.03	5.75	4.58	4.06	2.64
Qinghai	0.02	0.07	0.02	0.47	0.78	1.05	0.82	1.62	1.61
Ningxia	0.21	1.32	1.35	2.09	0.58	0.77	2.69	1.71	1.12
Xinjiang	11.86	5.57	6.52	4.23	1.79	0.32	0.61	1.53	3.18

<Appendix 10> Foreign Fixed Asset Investments With Hong Kong,
Macao and Taiwan

(100 Million Yuan RMB)

Provinces	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	26.49	76.16	238.41	234.13	258.48	250.52	198.05	189.05	188.49
Tianjin	19.75	37.7	63.66	72.42	113.89	133.69	75.33	96.06	170.52
Hebei	21.59	42.6	57.02	72.96	89.74	84.24	78.97	81.91	62.41
Shanxi	4.86	5.34	7.96	7.17	20.02	30.84	47.2	43.21	38.53
Inner Mongolia	4.44	6.25	5.18	3.16	2.68	4.38	2.16	4.09	9.54
Liaoning	81.01	114.67	113.19	119.76	146.73	103.46	83.61	126.64	129.81
Jilin	8.49	34.34	40.61	38	45.53	38.74	25.63	35.78	32.49
Heilongjiang	5.75	15.88	16.68	24.71	29.93	18.71	12.51	13.4	15.07
Shanghai	61.61	101.78	208.29	340.17	367.5	406.35	367.7	306.68	333.06
Jiangsu	66.64	124.45	232.44	317.98	360.12	447.61	346.72	287.33	283.82
Zhejiang	37.44	70.24	105.4	142.02	147	130.42	65.96	94.19	146.06
Anhui	7.46	13.22	21.67	27.53	40.58	35.64	54.2	46.97	33.54
Fujian	46.49	111.87	154.69	199.81	220.1	239.46	233.9	256.13	269.82
Jiangxi	4.55	10.37	11.79	12.89	12.54	17.66	16.58	18.38	21.16
Shandong	41.64	102.61	117.17	131.81	130.64	135.64	92.51	102.32	160.4
Henan	16.35	42.88	63.24	63.74	56.6	56.86	41.54	39.71	63.06
Hubei	22.46	60.47	92.22	115.83	129.44	115.58	61.42	60.47	63.72
Hunan	9.59	15.35	30.93	32.33	31.7	24.35	24.91	38.41	37.72
Guangdong	209.67	569.83	452.82	529.72	508.95	495.9	614.73	557.05	750.14
Guangxi	25.55	36.28	40.86	34.55	35.47	43.34	41.89	28.24	28.1
Hainan	15.45	40.02	52.45	53.62	27	25.7	23.55	24.37	16.51
Chongqing	n/a	n/a	n/a	n/a	32.96	40.21	35.32	31.97	43.29
Sichuan	18.27	38.63	45.13	67.57	35.16	37.87	43.98	51.08	51.33
Guizhou	1.31	2.81	5.96	7.1	8.59	8.45	6.39	6.15	7.56
Yunnan	6.15	14.82	18	24.16	17.9	18.67	19.17	21.77	10.83
Xizhang	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.2	0.73
Shaanxi	6	6.35	13.48	9.98	6.16	13.6	12.93	14.41	16.09
Gansu	2.6	6.68	5.63	17.23	11.51	9.63	11.59	7.59	5.08
Qinghai	0.03	0.25	0.13	1.67	1.09	2.4	2.7	2.25	2.04
Ningxia	0.25	1.59	1.82	2.67	1.32	1.25	3.24	1.99	1.97
Xingjiang	11.87	6.95	12.11	7.38	3.69	2.68	7.1	18.5	5.83

<Appendix 11> Per Capita GDP of China's Provinces

(Yuan / Person)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	3336	4124	4509	4878	5781	6805	8240	10265	13073	15044	16735	18482	19846	22460	25523
Tianjin	2682	3117	3353	3621	3944	4696	6075	8164	10308	12270	13796	14808	15976	17993	20154
Hebei	921	1219	1409	1465	1545	1843	2682	3376	4444	5345	6079	6525	6932	7663	8362
Shanxi	n/a	1168	1367	1528	1467	1744	2352	2819	3569	4220	4736	5040	4727	5137	5460
Inner Mongolia	1025	1291	1377	1478	1642	1906	2382	3013	3639	4259	4691	5068	5350	5872	6463
Liaoning	1917	2285	2574	2698	3027	3693	5015	6103	6880	7730	8525	9333	10086	11226	12041
Jilin	1269	1559	1635	1746	1718	2071	2868	3703	4414	5163	5504	5916	6341	6847	7640
Heilongjiang	1335	1602	1808	2028	2099	2433	2343	4427	5465	6468	7243	7544	7660	8562	9349
Shanghai	4396	5161	5489	5910	6675	8652	11700	15204	18943	22275	25750	28253	30805	34547	37382
Jiangsu	1462	1891	2038	2103	2143	2858	4308	5785	7299	8447	9344	10021	10665	11773	12922
Zhejiang	1470	1842	2009	2122	2310	2850	4431	6149	8075	9455	10515	11247	12037	13461	14655
Anhui	842	1026	1136	1182	1052	1253	1672	2521	3357	3881	4390	4576	4707	4867	5221
Fujian	999	1349	1589	1763	1803	2264	3649	5386	6833	8136	9258	10369	10797	11601	12362
Jiangxi	729	891	1013	1134	1212	1439	1835	2376	2984	3715	4155	4484	4661	4851	5221

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Shan dong	1131	1395	1595	1815	1876	2307	3222	4473	5758	6834	7590	8120	8673	9555	10465
Henan	756	910	1012	1091	1141	1377	1867	2475	3313	4032	4430	4712	4894	5444	5924
Hubei	1031	1228	1383	1556	1584	1827	2565	3341	4162	5122	5899	6300	6514	7188	7813
Hunan	818	999	1074	1288	1280	1487	2053	2701	3470	4130	4643	4953	5105	5639	6054
Guangdong	n/a	n/a	n/a	n/a	2823	3575	4938	6380	7973	9513	10428	11143	11728	12885	13730
Guangxi	607	770	927	1066	1058	1318	2031	2772	3543	4081	4356	4076	4148	4319	4668
Hai nan	939	1241	1444	1589	1645	2126	3815	4820	5225	5500	5698	6022	6383	6894	7135
Chongqin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4452	4684	4826	5157	5654
Sichuan	702	861	960	1134	1180	1356	1911	2516	3177	3763	4029	4339	4452	4784	5250
Gui zhou	546	683	750	810	890	1009	1034	1553	1853	2093	2215	2342	2475	2662	2895
Yunnan	653	845	1003	1224	1147	1334	2006	2490	3044	3715	4042	4355	4452	4637	4866
Xizhang	863	964	1021	1276	1388	1486	1642	1984	2392	2732	3194	3716	4262	4559	5307
Shaanxi	794	1004	1124	1241	1292	1458	1041	2344	2843	3313	3707	3834	4101	4549	5024
Gansu	764	905	1007	1099	1133	1314	1600	1925	2288	2901	3137	3456	3668	3838	4163
Qin ghai	1018	1260	1365	1558	1592	1821	2337	2910	3430	3748	4066	4367	4662	5087	5735
Ningxia	922	1143	1317	1393	1451	1635	2123	2685	3328	3731	4025	4270	4473	4839	5340
Xingji ang	n/a	n/a	n/a	n/a	2047	2458	2980	3953	4764	5167	5904	6229	6470	7470	7913

<Appendix 12> Population of China's Provinces at the end of 2002

(10 thousand persons)

Provinces	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Beijing	1081	1086	1086	1094	1102	1112	1125	1251	1259	1240	1246	1257	1382	1383	1423
Tianjin	n/a	n/a	884	909	920	928	935	942	948	953	957	959	1001	1004	1007
Hebei	5795	5881	6159	6220	6275	6334	6388	6437	6484	6525	6569	6614	6744	6699	6735
Shanxi	2807	2853	2899	2942	2979	3012	3045	3077	3109	3141	3172	3204	3297	3272	3294
Inner Mongolia	2094	2122	2163	2184	2207	2232	2260	2284	2307	2326	2345	2362	2376	2377	2379
Liaoning	n/a	n/a	3967	3990	4016	4042	4067	4092	4116	4138	4157	4171	4238	4194	4203
Jilin	n/a	n/a	2483	2509	2532	2555	2574	2592	2610	2628	2644	2658	2728	2691	2699
Heilongjiang	3466	3510	3543	3575	3608	3640	3672	3701	3728	3751	3773	3792	3689	3811	3813
Shanghai	n/a	n/a	1337	1340	1345	1349	1356	1415	1419	1457	1464	1474	1674	1614	1625
Jiangsu	6438	6536	6767	6844	6911	6967	7021	7066	7110	7148	7182	7213	7438	7355	7381
Zhejiang	n/a	n/a	4168	4202	4236	4266	4294	4319	4343	4435	4456	4475	4677	4613	4647
Anhui	n/a	n/a	5675	5761	5834	5897	5955	6013	6070	6127	6184	6237	5986	6328	6338
Fujian	n/a	n/a	3037	3079	3116	3150	3183	3237	3261	3282	3299	3316	3471	3440	3466
Jiangxi	3684	3746	3810	3865	3913	3966	4015	4063	4105	4150	4191	4231	4140	4186	4222

Provinces	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Shan dong	8009	8181	8493	8570	8610	8642	8671	8705	8738	8785	8838	8883	9079	9041	9082
Henan	8317	8491	8649	8763	8861	8949	9027	9100	9172	9243	9315	9387	9256	9555	9613
Hubei	5185	5259	5439	5512	5580	5653	5719	5772	5825	5873	5907	5938	6028	5975	5988
Hunan	n/a	n/a	6128	6209	6267	6311	6355	6392	6428	6465	6502	6532	6440	6596	6629
Guangdong	n/a	n/a	6346	6439	6525	6607	6689	6868	6961	7051	7143	7270	8642	7783	7859
Guangxi	4088	4150	4261	4324	4380	4438	4493	4543	4589	4633	4675	4713	4489	4788	4822
Hainan	n/a	n/a	663	674	686	701	711	724	734	743	753	762	787	796	803
Chongqin	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	3042	3060	3075	3090	3097	3107
Sichuan	n/a	n/a	10804	10897	10998	11104	11214	11325	11430	8430	8493	8550	8329	8640	8673
Gui zhou	3127	3171	3268	3315	3361	3409	3458	3508	3555	3606	3658	3710	3525	3799	3837
Yunnan	3594	3648	3731	3782	3832	3885	3939	3990	4042	4094	4144	4192	4288	4287	4333
Xizhang	212.3	215.9	222	226	228	232	236	240	244	248	252	256	262	263	267
Shaanxi	3140	3198	3316	3363	3405	3443	3481	3514	3543	3570	3596	3618	3605	3659	3674
Gansu	2148	2185	2255	2285	2314	2345	2378	2438	2467	2494	2519	2543	2562	2575	2593
Qinghai	434.2	440.2	448	454	461	467	474	481	488	496	503	510	518	523	529
Ningxia	n/a	n/a	470	480	487	495	504	513	521	530	538	543	562	563	572
Xingji ang	1426	1454	1529	1555	1581	1605	1632	1661	1689	1718	1747	1774	1925	1876	1905

<Appendix 13> Discount Value of Fixed Asset Investment of China's Provinces

(100 Million Yuan RMB)

Provinces	1978	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	10.96	25.38	57.87	78.66	91.62	84.78	178.49	225.57	245.3	304.3	384.94	400.53	430.93	469.68
Tianjin	6.1	17.56	47.65	54.43	67.63	71.73	97.52	137.4	174	184.9	209.05	217.54	269.58	313.01
Hebei	20.81	44.17	98.31	129.76	159.88	187.51	258.96	296.37	397.7	513.9	568.08	651.67	717.61	797.47
Shanxi	13.04	26.09	60.27	76.44	98.87	104.03	108.4	134.58	160.9	176.2	200.09	197.15	213.5	237.78
Inner Mongolia	6.01	20.58	43.72	50.61	60.38	67.32	85.2	101.16	113.4	132	166.54	177.42	172.95	193.66
Liaoning	28.72	68.03	147.37	178.45	210.58	237.74	283.25	339.87	465	523.7	616.74	709.16	776.07	839.64
Jilin	9.68	24.79	57.5	69.15	80.72	91.03	119.47	160.5	185.3	237.6	251.39	269.4	325.76	343.22
Heilongjiang	17.12	51.61	104.86	112.31	156.67	139.92	198.65	276.98	343.1	386.9	411.97	435.87	422.94	550.96
Shanghai	10.6	26.16	92.93	126.62	160.36	158.49	241.31	332.29	364.2	407.7	489.77	580.89	635.73	722.64
Jiangsu	19.98	48.8	186.92	217.55	280.87	331.02	452.89	710.45	771.3	912.2	1034.88	1148.29	1303.16	1488.65
Zhejiang	11.3	35.07	89.08	106.59	137.05	170.63	257.66	299.86	346.7	439.3	487	572.71	767.78	875.99
Anhui	11.38	31.33	74.4	81.92	100.15	141.82	181.58	225.29	280.9	291.3	368.75	398.73	433.07	467.23
Fujian	5.85	18.38	51.27	63.37	79.88	115.61	157.39	233.83	290.3	352.5	397.48	433.03	496	560.82
Jiangxi	8.19	17.82	33.85	44.06	55.87	60.81	97.04	127.74	155.1	209.9	251.6	300.73	351.41	418.62

Provinces	1978	1985	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Shandong	22.72	71.22	182.12	220.78	266.92	385.99	561.55	655.73	827.8	1118.1	1317.45	1374.08	1616.66	1904.35
Henan	16.23	53.62	119.13	141.93	184.36	236.01	301.73	343.01	482.4	554.1	597.37	619.96	708.22	791.61
Hubei	13.7	29.26	97.92	122.35	152.36	137.74	170.66	283.65	369.9	525.5	613.56	685.77	669.88	701.65
Hunan	12.78	28.23	58.88	75.18	100.15	132.9	177.69	240.05	341.6	407.8	415.79	433.88	578.46	600.74
Guangdong	22.36	63.54	172.81	215.25	294.7	397.84	550.53	782.34	1020.1	1126.6	1251.72	1436.78	1641.14	1731.46
Guangxi	7.26	16.09	41.51	50.03	60.53	67.3	86.86	134.5	158.2	187.1	188.03	194.97	215.33	258.06
Hainan	-	-	8.94	10.8	17.5	29.16	34.31	45.86	54.7	64.7	68.01	73.65	83.49	88.64
Chongqin	-	-	-	-	-	-	-	-	-	-	207.25	226.32	261.39	268.91
Sichuan	31.79	67.38	128.66	161.39	226.3	261.74	349.67	437.99	490.1	464.7	574.33	612.28	642.46	734.68
Guizhou	3.94	11.36	29.6	32.63	39.72	45.32	54.11	71.82	81	90.5	98.53	113.6	128.72	160.1
Yunnan	3.42	9.03	36.28	50.57	64.47	87.21	114.54	131.95	199.8	217.3	215.43	283.71	287.11	319.34
Xizhang	-	1.04	2.12	2.3	2.24	2.92	3.85	6.08	6.4	11.4	27.87	24.13	28.85	32.05
Shaanxi	8.02	16.85	48.97	55.01	70.22	90.22	106.74	137.31	155.6	185.2	197.14	241.44	267.26	332.74
Gansu	5.54	14.32	23.67	27.13	38.06	46.65	58.2	70.82	92.3	101.2	108.19	118.06	186.02	192.61
Qinghai	1.52	3.21	9.86	7.38	14.32	14.57	19.37	26.48	25.7	32.3	34.95	38.74	59.91	54.34
Ningxia	1.84	4.36	9.52	10.68	12.84	15.28	18.8	25.79	28.5	33.4	37.46	43.37	49.73	58
Xingjiang	3.08	8.03	26.85	32.75	46.51	64.83	80.46	121.06	154.6	172.8	189.88	195.18	231.3	270.63

<Appendix 14> Number of Staff of China's Provinces

(10 thousand persons)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	405.2	410.4	418.5	454.9	470	476.6	465.9	477.9	470.9	460.6	465.3	418.8	403	397.9	400.3
Tianjin	281.5	281.4	284.4	284.3	291.6	294	293.4	291.9	289.6	284	281.3	209.7	202.7	193.3	184
Hebei	609.8	631.3	639	652.7	673.7	688.4	703.7	699.2	698	696.2	676.7	587.7	563.8	539.4	519.2
Shanxi	409.5	422	428	438.7	451.7	462.3	462.2	466	463.4	464.9	455.9	391.8	379.4	370.2	363
Inner Mongolia	342.8	353.1	357.2	369.7	383.2	392.7	392.2	387.1	383.7	379.7	363.9	298.9	278.2	263.9	251
Liaoning	969.2	990.6	994.3	1012.2	1033.3	1045.2	1027.5	1031.3	1028.4	997.7	969.4	689.8	631	587	545.3
Jilin	486.1	497.5	509.4	517.3	533.4	541.5	545.4	530.1	520.4	513.3	500.9	374.1	352.6	329.9	313.3
Heilongjiang	806.6	824.5	836.5	856.2	872.1	880.3	864.8	853.5	834.9	814.6	797	607.3	574.7	531.5	510.9
Shanghai	505.4	509.8	505.8	508.1	517.7	511.2	492.2	478.7	470.5	456.8	435.3	348.5	327.1	307	290
Jiangsu	845.3	873	867.6	879.9	899.3	904.1	917	909.8	916	905.5	893.7	752.8	717.1	673.3	625.8
Zhejiang	459.6	475.8	470.1	476	492.8	491.4	502.3	500.9	498.6	495.3	482.3	421.9	396.8	373	353.2
Anhui	454.5	470.8	477.9	484.8	497.1	507.6	495	492.9	502.8	502.5	502.6	427.6	408.9	392.7	372
Fujian	293.3	301.7	302.5	310.9	322.3	340.8	344.8	352	344.1	350.5	357.7	334.5	320.4	318	314.3
Jiangxi	365.3	379.2	380.1	386.1	398.9	408.4	412.4	413.9	411.3	412	409.4	322.5	305.9	291.6	279.3
Shandong	684.6	733.7	739.5	767.5	803.3	837.8	857.1	872.3	917.4	930.7	937.6	836.8	809.1	790.1	770.5

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Henan	644.5	669.7	681.2	692.6	722.5	746.2	771.2	789.3	815	842.1	841.3	748.1	723.2	718.2	704.4
Hubei	658.7	677	684	698.5	716.1	731.9	741.4	738.9	742.4	738	735.4	597.9	568	529.4	501.6
Hunan	515.2	530.2	536.6	551	567.1	579.7	588.9	590.7	597.5	596.8	597.5	475.1	459.4	441.3	397.9
Guangdong	820.5	747.7	762.6	785.5	827.6	858.1	879.9	879.8	912	904.1	897.3	809.9	780.9	747.7	724.6
Guangxi	296.1	302.8	306.6	311.8	323.1	334	345.1	341.1	343.3	344.5	340	307.8	295.2	283.1	274.3
Hainan	–	102.6	104	105.9	108.1	111.8	102.2	109.5	107	102.8	102.6	83.3	80.4	77.8	74.7
Chongqin	–	–	–	–	–	–	–	–	–	–	289.3	236.6	222.3	208.9	201.2
Sichuan	881.2	912.6	921.5	936.1	965.7	982.6	985.3	987.1	990.3	987.4	681.6	572.8	547.2	515.4	486.7
Guizhou	211.9	214.4	216.7	225.5	231.9	235.8	219.7	231.1	226.6	231.6	232.8	207	197.8	194	189.2
Yunnan	274.7	280.1	285.8	291.9	303.1	308.1	310.3	312.3	311.6	315.4	313.7	295.1	284.5	273.4	261.6
Xizhang	15.7	16.1	16.1	15.8	16.4	16.8	17.3	16	16.3	16.7	16.7	16.3	15.8	16.2	16
Shaanxi	357.8	366.4	373.5	379.2	390.2	394.6	397.6	392.1	395	398	396.2	335.3	335.4	327.6	323.8
Gansu	215.1	220.3	223.8	231.9	247.5	252	258.4	253.4	250.1	251.6	246.7	221.8	205.4	201.2	193
Qinghai	64.5	65.1	65.2	66.4	67.4	67.8	66.2	65.3	65.8	65.6	63.7	56.2	52.4	46.9	43.5
Ningxia	60.7	62.7	65.5	67.4	70.1	71.9	71.9	72.3	73.4	72.7	73.9	67.4	64.1	62.7	60.4
Xingjiang	278.8	285	288.4	300.6	311.3	318.3	317.2	311.8	311.9	313.6	310.7	283.3	270.9	255.8	247

<Appendix 15> Number of Total Employee of China's Provinces

(10 thousand persons)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	-	-	-	-	659.3	668.6	659	681.7	669.5	661	661	624.3	621.9	622.1	629.5
Tianjin	-	-	-	-	471.6	472.1	478	490.5	489.7	485	492	427	421.1	406.7	410.5
Hebei	-	-	-	-	3109.8	3179.3	3241	3303.7	3367.3	3391	3415	3382.9	3399.9	3441.2	3379.6
Shanxi	-	-	-	-	1373.7	1402.7	1414	1447.9	1460.4	1478	1483	1429	1434.3	1419.1	1412.9
Inner Mongolia	891	909.7	910.3	924.6	963	979.4	999	1012.1	1024.5	1043	1050	1006.8	1017	1016.6	1013.3
Liaoning	1835.4	1858.6	1874.8	1897.3	1932.6	1954.1	1952	2009.2	2034	2031	2063	1818.2	1796.4	1812.6	1833.4
Jilin	-	-	-	-	1185.9	1224.5	1230	1250.2	1254.5	1258	1237	1127.4	1102.8	1078.9	1057.2
Heilongjiang	1333.3	1358.6	1395	1436.2	1476.1	1477.1	1492	1524.3	1552.4	1567	1659	1723	1679.9	1635	1631
Shanghai	-	-	-	-	773	764.1	740	763.2	768	764	770	670	677.3	673.1	692.4
Jiangsu	-	-	-	-	3720	3729.4	3743	3756.4	3765.4	3748	3746	3635	3595.8	3558.8	3565.4
Zhejiang	-	-	-	-	2595.9	2625.2	2659	2694	2700.7	2702	2700	2651.1	2660.9	2700.5	2772
Anhui	2563.3	2665.9	2723.9	2807.6	2891.2	2982.7	3049	3119.4	3206.8	3246	3322	3311	3312.5	3372.9	3389.7
Fujian	1237.7	1281.1	1301.8	1348.4	1436.5	1489.9	1521	1551.6	1567	1594	1613	1621.9	1630.9	1660.2	1677.8
Jiangxi	-	-	-	-	1844.9	1870.3	1893	2008.4	2059.2	2064	2078	1971.3	1961.3	1935.3	1933.1

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Shandong	3766	3887	3940.3	4043.2	4310.1	4405.1	4473	4546.3	4625.4	4650	4707	4657.2	4698.6	4661.8	4671.6
Henan	-	-	-	-	4274.2	4386.6	4481	4608.9	4696.7	4829	5017	4999.6	5205	5571.7	5516.6
Hubei	-	-	-	-	2556.8	2567	2607	2672.8	2707	2692	2709	2616.3	2572.4	2507.8	2452.5
Hunan	-	-	-	-	3251.5	3308.8	3361	3440.2	3506.1	3547	3591	3498.5	3496.1	3462.1	3438.8
Guangdong	-	-	-	-	3324.9	3397	3480	3569.1	3656.8	3691	3784	3737.4	3760.5	3861	3962.9
Guangxi	1961	2012	2046	2109	2170.8	2217.4	2277	2336.4	2382.5	2417	2452	2470.9	2481.5	2530.4	2543.4
Hainan	280.8	292	298.4	304.6	316.1	321.2	320	335.5	335.3	335	331	320.8	326.2	333.7	339.7
Chongqin	-	-	-	-	-	-	-	-	-	-	1690	1645.1	1639.4	1636.5	1624
Sichuan	-	-	-	-	6075.4	6202.5	6221	6256.8	6335.3	6295	4618	4534.7	4482.3	4435.8	4414.6
Guizhou	1435.9	1501.3	1570.8	1651.8	1701.4	1741.8	1770	1825.6	1857.1	1892	1927	1946.3	1975.9	2045.9	2068.2
Yunnan	-	-	-	-	2021.2	2065.2	2106	2147.3	2186.3	2214	2248	2270.3	2273.4	2295.4	2322.5
Xizhang	107.8	107.2	107.6	107.9	109.7	111	113	112.7	113.7	118	120	118.4	122.2	123.4	124.6
Shaanxi	-	-	-	-	1668.7	1699.6	1718	1746.7	1774.4	1798	1812	1802	1780.9	1812.8	1784.6
Gansu	-	-	-	-	1091.7	1112.7	1131	1151	1159.4	1175	1186	1175.6	1185.6	1182.1	1187.2
Qinghai	-	-	-	-	211.6	216	217	222.9	226	232	235	230.4	241.2	238.6	240.3
Ningxia	190.9	197.4	203.5	211.2	218.7	224.4	230	235.5	243.6	250	260	259.5	270.8	274.4	278
Xingjiang	-	-	-	-	624.2	635.7	646	649.7	662.2	672	691	678.3	669.6	672.5	685.4

<Appendix 16> Number of Employee in the Primary Industries of China's Provinces

(10 thousand persons)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	91.8	88.4	91.1	90.7	90.8	84.6	78	73.9	70.7	72	71	71.2	74.3	72.7	70.6
Tianjin	94.1	91.2	93.5	93.6	94.3	92.5	89	85.6	82.8	82	81	80.9	82.6	80.9	82.2
Hebei	1615.6	1659.6	1739.1	1820.5	1905.3	1874.7	1857	1780.5	1729.3	1635	1634	1649.7	1653.3	1678.2	1675.4
Shanxi	580.9	592	611	632.8	642.8	646.6	642	637.4	636	640	638	644.4	659.1	662.7	662.4
Inner Mongolia	490.3	490	491.3	515.5	537.9	532.3	534	533.3	536.7	547	545	542.6	555.4	553.7	546.4
Liaoning	630.7	625.1	638.2	646	666.3	657.2	631	627.8	632.7	645	664	668.3	675.6	683.3	681.7
Jilin	465.8	511.6	549	564.8	572.4	591.3	578	575.7	561.6	559	552	543.9	544.4	541.6	535.9
Heilongjiang	529.8	522.9	550.5	568.7	565.8	547.8	569	562.3	571.8	566	653	831.7	812.5	808.5	808.3
Shanghai	-	-	-	-	-	72.3	68	68.5	71	71	77	80	93.5	88	86.6
Jiangsu	-	-	-	-	-	1730.4	1657	1621.2	1569.2	1557	1560	1555.7	1529	1502.7	1474.6
Zhejiang	1272	1282.2	1330.7	1358.3	1367	1352.4	1248	1195.7	1154.3	1131	1115	1109.1	1080.1	1021	990.8
Anhui	1784.8	1826.5	1883.1	1943.7	1990.6	2013.1	1961	1922.1	1945.4	1969	1979	2007.3	2007.5	2017.9	1991.1
Fujian	-	-	-	-	-	839	820	796.7	789.8	788	783	787.5	789.9	778.2	768.8
Jiangxi	1098.3	1111.6	1146.4	1193.1	1224.2	1177.2	1089	1127.2	1141.3	1134	1121	1098.6	1082.6	1004.4	997.9

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Shandong	2423	2471	2524	2582.1	2697.2	2644.6	2610	2543.3	2515.7	2488	2511	2498.9	2485.9	2473.7	2444.2
Henan	-	-	-	-	-	2965	2915	2869.3	2819.2	2827	2915	2952	3310.2	3569	3482.5
Hubei	-	-	-	-	-	1512.9	1479	1433.4	1383.4	1349	1318	1284.7	1259.1	1204.8	1186.4
Hunan	-	-	-	-	-	2287.3	2206	2159.5	2153.3	2128	2116	2100.9	2111.5	2104.4	2079.6
Guangdong	1605.1	1607.1	1632.4	1651.7	1645.3	1583.2	1497	1464.2	1370.4	1467	1528	1530.5	1550.7	1588.5	1584.2
Guangxi	1528.6	1548	1574.8	1613.8	1643.2	1627.9	1594	1588.9	1582.5	1599	1609	1623	1622.4	1574.5	1572.9
Hainan	202	207.2	210.2	213	217.7	215	208	204.5	203.5	202	203	197.7	198.8	204.4	204.9
Chongqin	-	-	-	-	-	-	-	-	-	-	967	948	958.9	925.2	887.9
Sichuan	-	-	-	-	-	4332.1	4148	4039.6	3996	3920	2872	2824.4	2747.1	2643.4	2595.8
Guizhou	1115.4	1172.5	1228.6	1292.3	1329.6	1359	1374	1364.9	1368.5	1382	1389	1394.2	1432.9	1377.9	1373.8
Yunnan	1411.1	1454.4	1503.2	1537.8	1588.8	1607	1630	1642.1	1656.2	1666	1678	1684.4	1677.1	1695.9	1710.5
Xizhang	-	-	-	-	-	87.7	88	87.9	87.8	90	91	90.3	92.7	91	89.5
Shaanxi	905	950	973	1010	1054	1069.1	1061	1055.4	1056.1	1053	1053	1055.2	1016.4	1010.2	994
Gansu	-	-	-	-	-	708.4	692	679.5	676.6	681	689	692.5	698.2	706.1	705.3
Qinghai	113.9	115.9	120.4	123.7	127.1	130.6	131	133.7	135.4	140	141	141.1	146.9	145.3	144.3
Ningxia	-	-	-	-	-	138.7	140	141.2	143.5	144	151	152.3	158.5	158.6	157.1
Xingjiang	-	-	-	-	-	375.4	375	370.8	376.5	379	392	391.3	385.2	387.9	388.2

<Appendix 17> Number of Employee in the Secondary Industries of China's Provinces

(10 thousand persons)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	264.1	267.6	266.2	281.6	279.7	279.6	278	275.9	268.5	253	252	220.5	209.3	201.6	210.6
Tianjin	-	-	-	-	-	233.4	235	237.7	237	231	226	177.2	171.7	166.8	161.4
Hebei	653.2	690.3	674.3	680.1	690	722.5	772	832.6	879.2	942	940	884	876.3	874.2	859.1
Shanxi	371	381.9	379.5	382.6	390.8	405.8	419	439.9	435.7	435	424	373.1	363.5	353.4	346.5
Inner Mongolia	188	200.1	199.1	201.4	208.8	218	213	222.8	225	224	213	179.7	172.5	167.4	161.9
Liaoning	770.7	784.2	777.1	778.2	788.5	772	780	773.3	771.7	750	725	523.9	491.9	476.9	461.3
Jilin	313.9	324.9	329.7	334.4	339.2	334.4	344	343.1	335.6	330	316	235.4	223.4	206.3	196.2
Heilongjiang	482.3	496.2	493.2	504.7	530	540.2	523	535.8	529.8	535	512	386.7	375.9	347.3	338.7
Shanghai	-	-	-	-	-	434.5	407	405.4	395	373	352	293	299.8	288.3	288.7
Jiangsu	1213.7	1251	1215.4	1208	1200.4	1220.7	1247	1250.3	1271.9	1247	1219	1104.6	1075.1	1057.3	1071.5
Zhejiang	-	-	-	-	-	723	782	831.1	848.1	849	835	785.1	789.9	833.6	893
Anhui	408.4	438.1	435.5	442	455.7	481.5	501	546.3	574.6	564	554	510.4	509.8	532.4	551.6
Fujian	253.7	269.1	275.5	277.1	300.8	326.7	341	371.1	371	383	399	330.6	390.5	407	420.9
Jiangxi	-	-	-	-	-	351.1	341	365	373.1	369	370	303.8	292.7	279.1	276.1

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Shandong	854	905	903	922.6	958.7	1001.1	1044	1098.6	1159.6	1161	1158	1097.4	1101.1	1101.7	1117.3
Henan	616	659	659	671	689	724	790	864.7	928.7	988	1011	957.8	912.6	977.1	997.3
Hubei	517.8	527.3	514.8	512.5	508.4	526.9	542	574.7	596.5	591	590	511.3	495.3	459.6	443.3
Hunan	–	–	–	–	–	488.2	512	549.8	573	584	582	508.8	509.7	507.5	496.7
Guangdong	–	–	–	–	–	890.1	923	1002.5	1047.2	1034	1047	1004.4	985.5	1011.8	1083.6
Guangxi	193.3	205	202.8	206.5	215.1	234.9	249	268.3	282	283	281	265.5	256.5	257.1	257.3
Hainan	26.8	27	29.3	28.9	30.9	34.1	33	40	39.3	39	38	32.7	31.7	32	32.8
Chongqin	–	–	–	–	–	–	–	–	–	–	291	253.9	249.3	251.1	249.4
Sichuan	574.3	600.2	583.6	578.1	602.8	897.5	957	989	1008.6	1014	717	643.6	633.8	641.9	645.7
Guizhou	180.5	185.8	163.2	169.1	177.7	175.2	162	181.3	185	188	193	180	185.2	189.4	193.6
Yunnan	182.9	183.3	183.9	184.8	191.7	198.1	201	211.4	216.7	219	220	215.2	211.9	210.4	207.9
Xizhang	–	–	–	–	–	4.8	5	4.9	5.2	6	6	6.7	6	7.2	8.1
Shaanxi	311	299	298	302	314	320.5	328	333.1	341.3	341	339	300.1	304	299.1	297.4
Gansu	–	–	–	–	–	187.1	194	203.2	203.2	204	196	177.9	169.3	163.3	159.3
Qinghai	38.1	38.6	38	38.9	39.3	39.5	41	39.8	41	40	40	34.9	33.7	31.9	31.1
Ningxia	35.2	36.7	37.6	38.5	40.1	41.2	43	45.2	46.5	48	49	45.9	46.4	49.7	50.7
Xingjiang	96.8	101.5	101.9	107.4	110.6	112.7	119	122.1	124.3	121	118	105	98.9	92.7	92.2

<Appendix 18> Number of Employee in the Tertiary Industries of China's Provinces

(10 thousand persons)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	242.3	228.1	236.6	254.8	263.5	278.1	286	331.8	330.2	335	338	332.5	338.3	347.9	348.3
Tianjin	-	-	-	-	-	138.6	144	167.1	169.8	172	185	168.8	166.8	159	166.9
Hebei	-	-	-	-	-	464.7	587	690.4	758.7	814	841	848.8	870.3	888.9	845.1
Shanxi	-	-	-	-	-	300.7	331	370.4	388.7	403	422	411.3	411.7	402.9	404
Inner Mongolia	212.7	219.6	219.9	207.7	216.2	210.1	219	255.8	262.6	272	293	284.4	289.1	295.5	305.1
Shanghai	222	231.4	232.4	233.4	244.3	230.9	252	289.2	302.1	321	341	297.3	284	296.8	317.1
Liaoning	434	449.3	459.5	473.1	483.5	483.1	470	608	629.3	636	674	625.9	628.9	652.3	690.4
Jilin	253	269.7	263.5	270.2	283.1	281.6	263	331.4	357.5	368	370	347.9	335	330.9	325.1
Heilongjiang	321.2	339.5	351.3	362.8	386.1	380.4	337	426.1	450.8	467	494	504.4	491.5	479.1	484
Jiangsu	563.1	597.3	589.7	616	629.1	591.2	802	884.9	924.4	943	967	974.5	991.7	998.8	1019.3
Zhejiang	-	-	-	-	-	428.2	578	666.9	698.5	722	751	757	790.9	845.8	888.2
Anhui	370.1	401.3	405.3	421.9	430.8	364.5	535	650.7	686.9	714	789	793.2	795.1	822.6	847
Fujian	242.4	255.6	261.4	284.3	306.1	247.4	315	383.5	406.1	422	432	504	450.5	475	488.1

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Jiangxi	230.8	243.3	247	254.8	261.6	266.4	420	516.4	544.7	562	586	569	586	651.8	659.1
Shandong	489	511	514	538.5	563.4	595.2	772	904.3	950.3	1001	1039	1061	1111.5	1086.3	1110.1
Henan	570	609	565	582	606	566.9	725	875	948.8	1014	1092	1090	982.2	1025.5	1036.9
Hubei	410.5	429.9	437	450.2	458.8	442.7	544	664.8	727	753	801	820.3	818	843.4	822.8
Hunan	-	-	-	-	-	388.4	583	731	779.8	835	893	888.9	874.9	850.2	862.6
Guangdong	-	-	-	-	-	645.7	917	1103	1239.1	1190	1210	1202	1224.3	1260.7	1295.1
Guangxi	239.1	259	268.7	288.2	312.5	260.9	394	478.8	517.8	535	563	582.5	602.6	698.8	713.2
Hainan	51.9	57.7	58.9	62.8	69.5	64	59	91	92.2	94	90	90.4	95.7	97.2	102
Chongqin	-	-	-	-	-	-	-	-	-	-	432	443.2	431.2	460.2	486.7
Sichuan	-	-	-	-	-	659.2	1054	1227.8	1330.9	1361	1028	1067	1101.4	1150.5	1173.1
Guizhou	140	143	179	190.4	194.2	164.2	208	278.8	303.4	323	346	372.1	357.9	478.6	500.9
Yunnan	183.5	189.2	193.6	200.1	209	221.6	255	293.6	313.2	329	350	371	384.4	389.2	404.1
Xizhang	-	-	-	-	-	17.5	17	19.9	20.4	22	23	21.5	23.5	25.2	27
Shaanxi	233	245	258	264	272	265.8	305	358	376.8	404	420	446.7	460.5	503.6	493.2
Gansu	214.8	191.6	206.2	206.7	204.8	157.8	231	268.2	279.4	290	301	305	318.2	312.7	322.6
Qinghai	-	-	-	-	-	41.9	41	49.3	49.7	51	54	54.1	60.6	61.4	64.9
Ningxia	35.9	38.1	40.3	41.2	43	40	43	49.1	53.4	58	60	61.2	65.9	66.1	70.2
Xingjiang	123.3	126	129	131.8	139	144.8	127	157.2	161	172	181	182.2	185.6	191.9	205

<Appendix 19> Average Real Wage of All the Staffs of China's Provinces

(Yuan RMB)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	1787	2107	2312	2653	2877	3402	4510	6523	8144	9579	11019	12451	14054	16350	19155
Tianjin	1651	1975	2262	2438	2724	3118	4003	5364	6501	7643	8238	9946	11056	12480	14308
Hebei	1394	1688	1821	2019	2156	2485	3034	4185	4839	5286	5692	6302	7022	7781	8730
Shanxi	1427	1661	1902	2111	2267	2530	3025	3997	4721	5183	5320	5641	6065	6918	8122
Inner Mongolia	1331	1548	1685	1846	2012	2339	2796	3675	4134	4716	5124	5792	6347	6974	8250
Liaoning	1469	1784	1982	2180	2371	2715	3248	4269	4911	5269	5591	7161	7895	8811	10145
Jilin	1366	1630	1755	1888	2045	2308	2700	3666	4430	5370	5664	6551	7158	7924	8771
Heilongjiang	1357	1578	1739	1850	2070	2295	2661	3375	4145	4564	4889	6238	7094	7835	8910
Shanghai	1893	2276	2608	2917	3375	4273	5646	7405	9279	10663	11425	13580	16641	18531	21781
Jiangsu	1471	1796	1918	2129	2302	2800	3613	4974	5943	6603	7108	8256	9171	10299	11842
Zhejiang	1493	1841	2031	2220	2422	2884	4201	5597	6619	7413	8386	9759	11201	13076	16385
Anhui	1264	1494	1646	1827	1959	2264	2770	3793	4609	5175	5492	6117	6516	6989	7908
Fujian	1381	1647	1930	2162	2420	2777	3477	4889	5857	6684	7559	8531	9490	10584	12013
Jiangxi	1215	1446	1562	1729	1842	2154	2497	3450	4211	4852	5089	5384	6749	7014	8026
Shandong	1427	1782	1920	2149	2292	2601	3149	4338	5145	5809	6241	6854	7656	8772	10008
Henan	1258	1470	1628	1825	1964	2269	2646	3546	4344	4924	5225	5781	6194	6930	7916

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Hubei	1333	1580	1713	1903	2081	2370	2934	4051	4685	5099	5401	6436	6991	7565	8619
Hunan	1458	1713	1862	2038	2177	2526	3142	4104	4797	5100	5326	6558	7269	8128	9623
Guangdong	1681	2250	2678	2929	3358	4027	5322	7117	8250	9127	9698	11032	12245	13823	15682
Guangxi	1478	1760	1859	2049	2262	2634	3368	4468	5105	5397	5542	6208	6776	7651	9075
Hainan	–	1416	1663	1982	2194	2720	3138	4488	5340	5476	5664	6248	6865	7408	8321
Chongqin	–	–	–	–	–	–	–	–	–	–	5502	6433	7182	8020	9523
Sichuan	1340	1597	1796	2011	2194	2458	2960	4028	4645	5156	5626	6577	7249	8323	9934
Gui zhou	1337	1547	1694	1947	2090	2406	2840	3870	4475	4917	5206	5775	6595	7468	8991
Yunnan	1439	1715	1880	2130	2328	2686	3751	4514	5149	6231	7037	7667	8276	9231	10537
Xizhang	2612	2824	2927	3178	3355	3448	4067	7115	7382	11087	10098	10987	12962	14976	19144
Shaanxi	1409	1680	1856	2042	2198	2434	2890	3803	4396	4882	5184	6029	6931	7804	9120
Gansu	1680	1949	2207	2407	2566	2902	3418	4796	5493	5882	6182	6809	7427	8560	9949
Qinghai	2041	2305	2438	2632	2752	3098	3800	4976	5753	6513	7091	8011	9081	10050	12906
Ningxia	1593	1829	2041	2252	2408	2722	3128	4270	5079	5635	6073	6822	7392	8590	10442
Xingji ang	1681	1895	2055	2289	2455	2742	3238	4253	5348	5987	6644	7121	7611	8717	10278

<Appendix 20> Consumer Price Index of China's Provinces(%)

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	108.6	120.4	117.2	105.4	111.9	109.9	119	124.9	117.3	111.6	105.3	102.4	100.6	103.5	103.1
Tianjin	106.8	116.9	114.7	103	110.2	111.4	117.6	124	115.3	109	103.1	99.5	98.9	99.6	101.2
Hebei	107.8	118	118.7	100.6	103.4	106.1	113.8	122.6	115.2	107.1	103.5	98.4	98.1	99.7	100.5
Shanxi	107.4	120.9	119.5	102.2	104.8	107.3	115.1	125.2	116.9	107.9	103.1	98.6	99.6	103.9	99.8
Inner Mongolia	107.8	116.3	115.3	102.3	104.6	107.4	114.1	122.9	117.5	107.6	104.5	99.3	99.8	101.3	100.6
Liaoning	108.6	119.3	118.2	103.3	105.6	106.7	115.2	124.3	116.1	107.9	103.1	99.3	98.6	99.9	100
Jilin	107.6	120.3	117.2	104.9	106.8	108	112.6	120.6	115.2	107.2	103.7	99.2	98	98.6	101.3
Heilongjiang	109.4	118	114.6	105.7	107.4	109.2	114.8	121.9	116.1	107.1	104.4	100.4	96.8	98.3	100.8
Shanghai	108.1	120.1	115.9	106.3	110.5	110	120.2	123.9	118.7	109.2	102.8	100	101.5	102.5	100
Jiangsu	109.2	121.9	117.1	103.2	104.9	106.6	118.2	123.2	115.8	109.3	101.7	99.4	98.7	100.1	100.8
Zhejiang	108.8	121.5	118.2	102.1	103.5	107.5	119.8	124.8	116.6	107.9	102.8	99.7	98.8	101	99.8
Anhui	109.1	120.9	117.2	102.7	106.1	108.2	114.7	126.9	114.8	109.9	101.3	100	97.8	100.7	100.5
Fujian	109.4	126.5	118.9	99.3	103.5	105.9	115.4	125.3	115.2	105.9	101.7	99.7	99.1	102.1	98.7

Provinces	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Jiangxi	106.6	121.8	118.5	102.1	102.8	105.7	114.6	126.9	116.9	108.4	102	101	98.6	100.3	99.5
Shandong	108.2	118.7	117.3	103.4	104.9	106.8	112.7	123.4	117.6	109.6	102.8	99.4	99.3	100.2	101.8
Henan	106.3	119.4	118.7	100.7	102.3	105.4	110.4	125.2	116.5	110.5	103.5	97.5	96.9	99.2	100.7
Hubei	107.5	119	116.3	104.2	104.9	109.6	118.4	125.3	120	109.4	103.2	98.4	97.8	99	100.3
Hunan	109.8	125.6	118.2	100.4	104.4	110.7	116.8	125.3	119	107.7	102.8	100.2	100.5	101.4	99.1
Guangdong	111.2	129.4	122.1	97.5	101.2	107.3	121.6	121.7	114	107	101.9	98.2	98.2	101.4	99.3
Guangxi	108.2	120.8	121.1	101.1	102.8	105.9	122	126	118.4	106.5	100.8	97	97.7	99.7	100.6
Hainan	109.8	128.1	128.4	102.1	103.9	108.7	123.3	126.7	113.5	104.3	100.8	97.3	98.3	101.1	98.5
Chongqing	-	-	-	-	-	100	100	100	100	100	103.1	96.4	99.3	96.7	101.7
Sichuan	107.6	119.9	119.8	103.8	103	107.4	116.8	124.6	118.5	109.3	105.1	99.6	98.5	100.1	102.1
Guizhou	107.1	119.8	118.3	101.8	104.4	107.8	116	122.8	121.4	109.1	103.4	100.1	99.2	99.5	101.8
Yunnan	107	119.8	118.6	102.8	103.1	108.9	121.3	119.2	121.3	108.7	104.3	101.7	99.7	97.9	99.1
Xizhang	-	-	-	-	-	100	113.4	100	100	100	100	100	100	99.9	100.1
Shaanxi	-	-	-	102.4	106.6	110.3	113.1	126.7	119	109.7	104.8	98.4	97.8	99.5	101
Gansu	107.6	119.1	117.9	103.2	104.9	107.2	115.4	123.7	119.8	110.2	102.9	99	97.6	99.5	104
Qinghai	-	-	-	105.1	107.6	108	113.2	121.8	118	110.8	104.8	100.7	99.5	99.5	102.6
Ningxia	107.3	117.1	117.2	107.1	106.3	108.3	114.3	123.1	117.1	106.8	103.8	100	98.7	99.6	101.6
Xinjiang	107.2	114.7	116	105	108.6	108.6	113	126.7	119.7	110.5	103.7	100.2	97.4	99.4	104

<Appendix 21> Fixed Asset Investment Price Index of
China's Provinces

(%)

Provinces	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Beijing	107.3	112.2	126.6	116.2	113.9	108.2	102.7	100.8	99.9	101	100.6
Tianjin	-	119.4	122.9	111.9	107.6	102.5	100.8	98.9	99.2	99.9	99.7
Hebei	106.8	129.3	124.8	110	106.9	103.9	101.5	97.8	99.4	101.1	99.9
Shanxi	107.8	116.8	124.8	108.3	106.8	104.9	101.5	98.8	99.7	101.8	101.7
Inner Mongolia	107.1	109.3	124.5	106.7	103.9	105.3	99.7	101.7	101.9	101.9	100.8
Liaoning	108.2	120.9	136.4	117.4	104.9	102.2	102.3	99.8	100	101.1	100.4
Jilin	111.9	116.4	128.8	107.3	109.6	102.9	104.4	100.8	102.2	102	101.1
Heilongjiang	107.6	113.5	127.9	109	106.5	103.4	102.7	100.8	99.7	101.5	100.1
Shanghai	107.3	112.9	131.4	108.8	103.1	106.9	100.5	98.4	98.1	100	100.7
Jiangsu	104.5	112.1	138.8	114.6	107.4	103.2	99.2	98.4	98.3	101.1	100.8
Zhejiang	-	-	138.8	112.4	107.2	101.3	99.5	97.6	98.2	100.3	100.4
Anhui	114.8	119.8	123	120.1	106.5	103.4	101.3	100	99.3	101.6	99.5
Fujian	108.6	114.9	134.1	107.3	104.8	104.7	101.1	98	98.5	100.2	99.5
Jiangxi	110.4	110.1	129.8	114.6	107.2	105.8	101.4	102.1	98.6	101.4	98.9
Shandong	112.4	119.4	122.1	115.8	106.6	103.1	100.4	99.2	99.6	102.4	101.4
Henan	109.4	119.8	126.7	106	105.9	103.9	102.9	98.7	98	102.9	100.4
Hubei	108.3	117	127.4	107.9	105	104	102.1	100.5	99.5	101.7	100.1
Hunan	108.1	116.4	129.5	113.5	109.5	104.9	101.8	102.7	100.5	102.3	101.3
Guangdong	-	124.6	-	-	-	-	-	-	-	-	100.2
Guangxi	101.7	117.9	131.2	112.3	103.4	103.6	100.3	99.9	96.1	101.4	102
Hainan	-	-	-	-	-	-	-	-	-	101.8	100.3
Chongqing	-	-	-	-	-	-	101.7	98.7	100.5	102.5	100.8
Sichuan	108.1	113.9	133.2	107.3	101.2	104.8	102.2	97.5	100.5	100.9	101.5
Guizhou	110.6	120.2	126.9	113.1	107.6	105.4	101.4	100	99.4	102.2	100.4
Yunnan	112.1	117.6	135.4	113.6	104	104.3	105.4	101.8	100.7	101.6	101
Xizang	-	-	-	-	-	-	-	-	-	-	-
Shaanxi	112.9	119.1	129.5	111.7	107.9	107.8	105.3	101.8	101.2	103.6	103.6
Gansu	116.5	117.4	126.2	112.6	109.4	104.9	102.7	100.3	101	103.3	102
Qinghai	-	115.1	125.9	108.4	105.3	103.5	103	98.5	100.1	101.6	100.3
Ningxia	110.4	117.3	123	112.6	109.3	107.4	102.2	102.1	99.7	104.5	101.5
Xinjiang	114.8	116.9	126.5	112.3	106.2	105.6	103.2	102	99	103.6	102.5

<Appendix 22> Number of Employee in State Owned Firms of
China's Provinces

(10 thousand persons)

Provinces	1995	1996	1997	1998	1999	2000	2001
Beijing	363.6	355.1	354.7	308.1	287.6	266.2	235.9
Tianjin	202.1	199.1	196.2	137.7	118.5	108.3	103
Hebei	551.4	553	545.8	467.8	447.4	426	402.8
Shanxi	383.1	385.5	376.2	299.7	294.5	286.3	267.2
Inner Mongolia	308.7	308.5	297.7	232.8	213.3	201.1	186.3
Liaoning	699.7	680.3	661.6	487.8	447.2	418.4	372.8
Jilin	393.7	391.8	382.2	291.7	269.6	250.5	230.2
Heilongjiang	645.2	634.7	625.3	479.6	455.2	411.4	369
Shanghai	341	328.1	308.2	238.6	219.7	198.6	163.7
Jiangsu	581.9	581.4	584.5	480.6	455.5	421.7	377.4
Zhejiang	300.3	295.3	290.5	245.2	224.2	202.5	177.5
Anhui	380.1	382	367.7	308.4	286.6	276	252.8
Fujian	223.1	223.4	221.7	192.9	179.5	170.8	158.3
Jiangxi	343.2	345.6	343.1	261.8	249.8	238.7	222.2
Shandong	678.4	685.5	690.4	612.1	579.9	555.1	519.5
Henan	641.8	663.4	615.3	494.8	475.3	463.7	447.7
Hubei	583.1	579.9	573.1	468	444.9	417.4	379.5
Hunan	482.7	487.9	46.6	392.2	386.4	372.5	316.4
Guangdong	565.5	565.7	556.6	474.7	449.9	425.5	391.8
Guangxi	293.4	296.3	294.2	254.2	244.2	234.5	218.7
Hainan	94.1	88.9	87.7	71.6	68.8	66.9	62
Chongqing			215.3	175.5	161.2	149.3	134.8
Sichuan	751.1	749.4	518.2	421	405.2	381.5	350.5
Guizhou	201.2	204.8	203	173.1	162.8	160	148.9
Yunnan	269.2	273.1	270.7	250.6	236.6	224.6	207.3
Xizh ang	16.4	17	17	16.6	15.9	16.4	14.5
Shanxi	344.4	345.6	345	280.1	280.2	272.4	257.9
Gansu	218.8	217.1	214	184.8	170.4	169.4	158.8
Qinghai	58.3	58.3	56.5	49.7	46.8	41.7	36.2
Ningxia	62.9	63.1	63	54.5	52.3	51	47.9
Xinjiang	282	283.9	282	251.9	242.6	223.4	197.5

<Appendix 23> Number of Employee in Hong Kong, Macao, Taiwan
Firms of China's Provinces

(10 thousand persons)

Provinces	1996	1997	1998	1999	2000	2001
Beijing	10.1	10.2	13.1	13.5	14.2	12.9
Tianjin	6.4	8.5	8	10.4	10.7	11.2
Hebei	8.5	7.6	6.2	5.9	5	5.4
Shanxi	1.4	1.4	2	1.7	1.7	1.7
Inner Mongolia	1.9	2.1	2.3	2	1.7	1.6
Liaoning	8.2	8.7	9.5	10.2	10.2	8.1
Jilin	1.7	1.8	2	2.4	2.4	2.4
Heilongjiang	4.4	4.6	4.4	4.1	3.5	3.6
Shanghai	13.7	13.8	16.9	22	23.3	17.6
Jiangsu	19.5	20.6	20.1	19.8	20	20.8
Zhejiang	12.4	13	15.5	15.2	15.9	16.8
Anhui	2.2	2.3	2.1	2.3	2.1	1.8
Fujian	37.9	44.1	47.6	49.1	51.5	61.3
Jiangxi	2.7	2.4	3.3	2.9	2.6	3.5
Shandong	12.7	13	11	11.1	11.9	12.6
Henan	8.9	8.7	9.2	9	9.6	7.6
Hubei	5.9	5.4	4.7	4.1	4.1	4.2
Hunan	2.6	3	2.8	2.8	2.7	2.8
Guangdong	89.6	96.4	99	102.7	102.7	104.9
Guangxi	2.3	2.1	2.8	2.7	3	2.8
Hainan	1.9	1.9	1.7	1.6	1.7	1.5
Chongqing		1.8	2	2.2	2	2.1
Sichuan	3.4	1.8	2.6	2.8	2.6	2.3
Guizhou	0.7	0.6	0.6	0.6	0.6	0.7
Yunnan	1.8	1.9	1.8	2	1.7	1.6
Xizhang		0				
Shaanxi	1.2	0.8	1.1	1.3	1.3	1.5
Gansu	0.7	0.3	0.4	0.4	0.3	0.6
Qinghai		0.2	0.2	0.2	0.1	0.03
Ningxia	0.3	0.3	0.4	0.3	0.3	0.3
Xingjiang	1.5	1.3	0.9	1	0.9	0.9

<Appendix 24> Number of Employee in Foreign Firms without Hong Kong, Macao, Taiwan Firms of China's Provinces
(10 thousand persons)

Provinces	1995	1996	1997	1998	1999	2000	2001
Beijing	18.1	20.7	21.2	21.2	20.6	23.8	22.4
Tianjin	12.9	15	18.2	18.2	22.2	24.6	25.9
Hebei	7.2	8	8.1	7.3	6.7	6.9	7.3
Shanxi	1.9	1.9	1.8	1.1	1	0.9	1.2
Inner Mongolia	2.2	2.7	2.8	1.7	2.1	2.2	1.7
Liaoning	17.8	17.2	19.1	19.9	18.9	20.9	20.7
Jilin	6.2	7.2	7.4	5.5	5.7	5.9	6.1
Heilongjiang	5.5	4.6	4.7	3.8	3.6	3.4	3.6
Shanghai	22.2	27.1	29.8	35.5	36.8	40.3	33.2
Jiangsu	18	22.1	23.8	26.4	28.6	31.4	32.4
Zhejiang	12.7	14.4	14.8	11	12.3	13.9	14
Anhui	3.8	3.5	4	3.4	4	3.6	4.1
Fujian	16.4	28.4	32.2	35.9	36.5	40.3	35
Jiangxi	1.9	1.6	2.5	2.4	2	1.4	1.4
Shandong	24.7	25.9	28.9	28	33.9	38.7	41.7
Henan	7.6	7.3	7.2	6.2	5.8	5.5	5.4
Hubei	4.2	4.1	4.7	4.6	3.5	4.7	5.6
Hunan	3.2	3.3	3.6	3.4	2.8	2.9	2.3
Guangdong	35.8	40.3	42.6	38.7	40.5	43	46
Guangxi	5.7	5.4	6.6	4.9	4.1	3.8	3.7
Hainan	1.8	1.9	2.2	1.5	1.6	1.7	1.7
Chongqing			2.8	2	2.2	2.6	2.6
Sichuan	5.1	6	3.6	3.8	3.8	3.3	3
Guizhou	1.5	1.2	1.4	1.3	1.3	1.2	1
Yunnan	1	1.2	1.5	1.3	1.2	1.3	1.3
Xizhang			0.1				0.02
Shaanxi	1.2	1.2	1.3	1.7	1.6	1.6	2.2
Gansu	1.1	1.2	1.1	0.8	0.9	0.9	1.4
Qinghai	0.1	0.2	0.1				
Ningxia	0.9	1	1.1	1	1	1	0.8
Xinjiang	0.5	0.6	0.6	0.6	0.5	0.5	0.5

<Appendix 25> Fixed Asset Investment in Domestic Firms without
Hong Kong, Macao, Taiwan Firms of China's Provinces

(100 Million Yuan RMB)

Provinces	1996	1997	1998	1999	2000	2001
Beijing	655.53	731.23	874.1	973.11	1091.41	1324.83
Tianjin	366.09	386.78	437.36	501.12	514.88	534.48
Hebei	1109.63	1336.24	1507.52	1691.5	1734.88	1850.12
Shanxi	304.6	356.72	424.09	430.37	504.95	625.05
Inner Mongolia	258.89	275.97	312.38	346.06	419.55	494.09
Liaoning	761.91	839.89	954.24	1035.86	1141.04	1291.38
Jilin	324.99	315.64	393.04	474.39	567.73	669.21
Heilongjiang	543.93	639.93	751.34	739.15	819.24	948.51
Shanghai	1656.71	1713.98	1560.03	1488.06	1562.7	1671.58
Jiangsu	1645.08	1814.85	2002.76	2095.16	2282.64	2539.38
Zhejiang	1469.42	1461.56	1671.32	1892.09	2255.76	2688.88
Anhui	582.26	637.27	686.97	649.25	757	859.83
Fujian	579.95	660.78	813.55	850.76	856.07	903.09
Jiangxi	304.43	316.91	382.94	437.86	497.7	610.68
Shandong	1396.69	1611.89	1799.94	2128.06	2428.78	2628.28
Henan	975.67	1152.9	1232.84	1165.29	1338.03	1481
Hubei	819.39	894.06	1041.18	1177.72	1278.73	1422.83
Hunan	651.81	635.69	772.54	859.03	973.83	1136.58
Guangdong	1833.46	1782.1	2148.23	2322.29	2588.0	2734.29
Guangxi	441.87	444.33	518.98	536.87	555.1	627.53
Hainan	127.39	134.48	147.67	171.23	174.5	196.81
Chongqing		342.61	452.76	489.94	540.62	653.74
Sichuan	1045.6	891.18	1107.46	1180.42	1366.96	1566.19
Guizhou	186.45	213.71	269.96	305.54	390.83	528.45
Yunnan	432.11	520.7	641.76	644.8	662.19	727.62
Xizhang					63.85	82.53
Shaanxi	333.73	387	503.97	574.86	639.26	757.34
Gansu	189.72	230.57	291.82	343.92	387.81	455.29
Qinghai	76	87.35	106.38	114.45	148.89	194.31
Ningxia	69.43	84.52	105.5	124.86	155.53	189.11
Xingjiang	381.29	443.3	512.09	519.55	591.89	700.17

<Appendix 26> Average Real Wages of State Owned Firms of
China's Provinces

(Yuan RMB)

Provinces	1995	1996	1997	1998	1999	2000	2001
Beijing	8238	9645	10907	12348	14162	16431	11063
Tianjin	6963	8072	8689	10237	11082	12721	8345
Hebei	5208	5653	6066	6592	7354	8146	5746
Shanxi	5094	5596	5791	5935	6310	7249	4927
Inner Mongolia	4407	4996	5462	5979	6580	7261	5525
Liaoning	5452	5894	6226	7604	8370	9221	6354
Jilin	4803	5765	6017	6814	7368	8121	5765
Heilongjiang	4461	4985	5323	6536	7435	7792	4917
Shanghai	9578	11015	11733	13746	16852	18865	13693
Jiangsu	6441	7186	7745	8872	9855	11109	7543
Zhejiang	6952	7734	8847	10480	12232	14465	12208
Anhui	4994	5600	6039	6628	7092	7471	5106
Fujian	5790	6609	7621	8682	9867	11170	9098
Jiangxi	4427	5050	5303	5473	6930	7249	5149
Shandong	5585	6356	6817	7469	8389	9656	6235
Henan	4677	5265	5643	6204	6594	7453	5726
Hubei	4991	5411	5741	6783	7381	7989	5677
Hunan	5082	5412	5683	6797	7522	8401	6877
Guangdong	8540	9494	10032	11294	12624	14387	9040
Guangxi	5226	5525	5654	6243	6805	7663	6388
Hainan	5230	5365	5468	5970	6586	7146	6207
Chongqing			5828	6732	7541	8390	6614
Sichuan	4952	5476	5996	7044	7771	8909	6575
Guizhou	4672	5125	5434	5819	6695	7594	6218
Yunnan	5286	6419	7237	7882	8449	9422	7203
Xizhang	7572	11519	10524	11462	13566	15566	6236
Shaanxi	4639	5142	5452	6257	7162	8043	5293
Gansu	5747	6131	6445	7129	7806	8916	6728
Qinghai	6161	6946	7623	8511	9664	10744	6101
Ningxia	5273	5819	6206	7020	7654	8913	7166
Xinjiang	5431	6067	6709	7167	7614	8731	8197

References

- Altzinger, Wilfried and Christian Bellak, "Direct Versus Indirect FDI: Impact on Domestic Exports and Employment," *A-1090, working Paper Series*, Vienna University of Economics and Business Administration, Vienna, Austria, 1999.
- Anderson, P. S. and P. Hainaut, "Foreign Direct Investment and Employment in Industrial Countries," No.61, *Working Paper Series*, Monetary Economic Department, Basle, Switzerland, 1998.
- Chamberlin, G. and S. Hall and D. Vines, "The G3 Model: Version," Center for International Macroeconomics, Oxford, England, 2001.
- Chen, Yu, "Foreign Direct Investment and Manufacturing Productivity in China," CEPII Research Project, CERDI, France, 2002.
- Chen, Chunlai, "Foreign Direct Investment in China: A Case Study," *Working Paper Series*, The Australian National University, Australia, 2001.
- Claro, Sebastian, "Tariff and FDI Liberalization: What to Expect from China's Entry into the WTO?", *Working Paper Series*, UCLA, 2001.
- Driffield, Nigel and Karl Taylor, "Spillovers from FDI and Skill Structures of HostCountry Firms," *Working Paper Series*, Department of Economics, University of Birmingham, Edgbaston, Birmingham, UK, 2001.
- Eauch, James E. and Vitor Trindade, "Information and Globalization: Wage Co-Movements, Labor Demand Elasticity, and Conventional Trade Liberalization," *Working Paper Series 7671, National Bureau of Economic Research*, Cambridge, MA, USA., 2000.
- Faggio, Giulia and Jozef Konings, "Job Creation, Job Destruction and

- Employment Growth in Transition Countries in 1990s,” Research Paper, LICOS, Center for Transition Economics and Economics Department, K.U. Leuven, Belgium, 2000.
- Fan, Emma Xiao Qin, “Technical Spillovers from foreign Direct Investment: a Survey,” *ERD Working Paper Series* No.33, Asian development Bank, Manila, Philippines, 2002.
- Lee, Xinzhong and Park, Seung Rok, *Effects of Foreign Direct Investment on International Trade of China*, Research Report, Korea Economic Research Institute, Seoul, Republic of Korea, 2003.
- Li, Xinzhong, et al., “Does Variation in fixed Investment by Foreign Firms Explain Part of the Variation in Economic Growth across Chinese Provinces?”, *ICSEAD Working paper series*, The International Center for the Study of East Asian Development, Kitakyushu, Japan, 2002.
- Mellander, Erik, “The Multi-Dimensional Nature of Labor Demand and Skill-Biased Technical Change,” *Working Paper Series, Research Institute of Industrial Economics*, Stockholm, Sweden, 1999.
- Mickiewicz, T. and S. Radosevic, “The Value of Diversity: Foreign Direct Investment and Employment in Central Europe During Economic Recovery,” ISSN 1468-4144, *Working Paper Series*, School Slavonic and East European Studies, London, UK., 2000.
- Park, Seung Rok, *Chinese Economic Growth and the Role of Foreign Direct Investment*, Korea Economic Research Institute, Seoul, Republic of Korea, 2002.
- Przybylinski, Michal and Iwona Swieczewska, “New Labor Productivity Equations for IMPEC: The Concept and First Results,” *Scientific Research Project*, Academy of Management, University of Lodz, Polish, 2001.
- Tomlinson, Philip R., “The Real Effects of Transnational Activity upon Investment and Labor Demand within Japan’s Machinery Industries,” *Institute for Industrial Development Policy*, Japan, 1999.

Abstract

This paper examines the effects of foreign direct investment (FDI) and state-owned fixed asset investment (SOFI) on employment in China using the standard Hamiltonian function. Results of our study show that total FDI inflow into China have had limited effects on employment, while state-owned investment enterprises have had positive effects. Thus, the amount of employment in China is still centered in state owned enterprises (SOEs). However, FDI inflows from countries that are closely related with mainland China or newly industrial countries (NICs) such as Hong Kong, Macao and Taiwan, exhibit positive effects on employment in secondary industries i.e. manufacturing industries with labor-intensive characteristics, but have negative effects on employment in tertiary industries such as service industries that are largely capital-intensive and technical-intensive. In contrast, FDI inflows from other developed countries have positive effects on employment in tertiary industries, while having negative effects on employment in secondary industries.