

The Impact of Multinational Enterprises on Economic Structure and Efficiency in China

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Synthesis

Since the beginning of 1990s, especially since 1992, the pattern of foreign direct investment in China has undergone significant changes. Multinational enterprises (MNEs) played an important role in this new wave of foreign investment “invasion” into the Chinese market. They have been successful in defeating most of the major Chinese domestic companies and significantly increased their market share in a small number of key industries. The invasion of MNEs has become the utmost concern of Chinese society and Chinese government. The discussion is dominated by fears of losing the control over the market by the national firms to the expanding multinational enterprises. To answer the question how national firms can survive and compete with MNEs, the government has to re-examine their policies concerning foreign direct investment (FDI) and MNEs. Some studies have been done in the field but most of them have used aggregated data or been presented as case studies of a single industry or a firm. Almost all previous studies ignored the quantitative analysis of the effects of multinational enterprises on economic efficiency. This study tries to give an answer to the question of the positive and negative contributions of multinational enterprises on economic efficiency and economic structure.

This study seeks to identify and evaluate the extent and the ways in which multinational enterprises and domestic enterprises have influenced the efficiency of the allocation of resources and the distributional consequences of MNE investment in China over a period of reform and structural changes since the early 1980s. The main conclusions of the research include:

- MNEs have impacts on Chinese economic structure different from that of domestic firms and other foreign invested firm (mainly Hong Kong, Taiwan and Macao firms), the MNEs focus more on capital and knowledge intensive sectors.
- The OLI advantages of MNEs have assisted the economic restructuring towards higher allocative and technical efficiency.
- The disadvantages of MNE activities include (i) losing some structural autonomy at the part of Chinese government; (ii) making Chinese economy more vulnerable to the international market, (iii) changing the income distribution between and within industries in China.

The main data source of this research is *the Third National Industrial Census of the People's Republic of China*. The census covers all industrial enterprises

(7341517 enterprises) in 30 provinces in China except Taiwan, Hong Kong and Macao, including 59311 foreign invested enterprises. The data is compared with *the National Industrial Census in 1985*.

The structural characteristics of multinational enterprises in 1995 are reviewed, compared with non-multinational firms. The statistical relationship between these structural variables and the sectoral distribution of two types of production are established and statistically tested.

The study give the Chinese government a clear picture of a quantitative calculation of the positive and negative effects of MNEs on the allocation of resources within and between sectors and on the distribution of income, and a guideline of policy choices to deal with the “invasion” of multinational enterprises. The main policy suggestions include: (1) continue to keep China’s open door policy to FDI and MNE in the long run; (2) giving MNEs nationality treatment, stopping the current special treatments as well as special restrictions to MNEs in the long run; (3) using MNEs’ positive effects to adjust the economic structure; (4) using the FDI and MNE investment as a weapon to promote domestic reform.

I. Introduction

During the past two decades, China has achieved remarkable economic progress and has been successful in introducing foreign direct investment. China has become one of the most important home countries for inflows of foreign direct investment (FDI) in the world. Since the beginning of 1990s, especially since 1992, the pattern of foreign direct investment in China has undergone significant changes: (1) The total value of investment and the value of average single investment have increased dramatically. (2) A significant portion of capital inflow has shifted from labor-intensive industries to technical-intensive industries. (3) Huge multinational enterprises (MNEs) have entered the Chinese market systematically. They have been successful in defeating some of the major Chinese domestic companies and significantly increased their market share in a small number of key industries, or almost totally occupied the market in some areas, e.g. cosmetics and detergent industries. In detergent industry, almost all major national firms became joint ventures and changed the brands of their products recently.

The invasion of MNEs has become the utmost concern of Chinese society and Chinese government. Heated discussions have been carried out on TV and other news media. Fears have been expressed that inward multinational enterprises harm the Chinese welfare in that Chinese national firms have lost major market share in some key industries. A complete economic analysis of impact of MNEs’ activities on the nation’s welfare and efficiency is needed for government policy making.

The activities of multinational enterprises, among other things, have initiated a structural adjustment in the form of reallocation of resources from labor-intensive sectors towards technology-intensive and / or human capital-intensive sectors (higher value-added sectors). It will dramatically change China’s industrial division of labor, the product structure, the interdependence of industries and companies, and the upgrade of technology.

Some studies have been done in the field, but most of them used aggregated data or presented as cases of a single industry or a firm. Almost all previous studies ignored the quantitative analysis of the effects of multinational enterprises on

economic efficiency. This study tries to give an answer to the question of the positive and negative contributions of Multinational enterprises on economic efficiency and economic structure.

II A Literature Review

2.1 Theory

In the 1960s and 1970s Hymer (1976) and Kindleberger (1969) developed *Structural Market Imperfection Theory*, which argues that the development of MNEs shows the imperfection of the market. It is because the imperfection of the market that MNEs can use its organizational efficiency to compete with the local firms.

Vernon (1966, 1979) developed a *International Product Life Cycle Theory*, shows that a product's position in its life cycle determines its geographical production location. FDI is the result of this transaction of production location.

Buckly (1976) developed *Natural Market Imperfection Theory* and *Internalization of Market Theory*, shows that MNEs use effective administrative structure to replace the imperfect market structure. MNEs internalize the imperfect market structure.

Knickerbocker (1976) examines the oligopolistic behavior of MNEs, shows that in some oligopolistic industries FDI is determined by the reaction and behavior of competitors.

Dunning (1974, 1985, 1988) synthesizes *Structural Market Imperfection Theory* and *Natural Market Imperfection Theory* and developed a more general theory of MNEs. His papers define economic structure as the way in which resources are distributed among alternative uses. It answers the question "what goods or service should a nation produce". Optimum allocative efficiency is defined as being reached when the distribution of resource between competing uses cannot be bettered by transferring one unit of any one resource from one activity to another. There are two types of efficiency: 1. technical and scale efficiency, the way in which resources are used within a given sector; 2. allocative efficiency, the way in which resources are distributed between sectors.

The extent and pattern of multinational operations, as generally accepted, are determined by three factors: ownership-specific advantages (the extent to which firms of one nationality possess advantages relative to those of another nationality in sourcing a market), internalization-specific advantages (the extent to which enterprises find it profitable to use these advantages themselves rather than lease them to firms in foreign countries), and location-specific advantages (the extent to which it is profitable to combine the use of internalized ownership-specific advantages with immobile resources in a foreign country rather than in the home country).

These OLI advantages are not evenly distributed between countries and the multinational enterprises will affect the allocation of resources in both the home and host countries. Multinational enterprises may affect economic structure in three ways: 1. transferring assets across national boundaries, 2. internalizing these assets, and 3. affecting the disposition of resources by assigning a common ownership to separate but interrelated activities.

The benefits which a country can draw from FDI and MNEs are dependent on its general economic climate and investment environment. Because of its improving economic environment, China has the chance to make maximum use of the potentials

of MNEs by applying some specific FDI policy designed to channel MNE efforts in the desired direction.

2.2 Empirical Analysis: General

Dunning 1985 is a collection of empirical studies of MNEs in twelve countries, including both industrial and newly industrialized countries. The book answers the question: “To what extent and in what ways have the operations of MNEs affected economic structure or changes in economic structure in a selection of countries in the 1970s?” “Is the role of the MNEs as active agents in the process of permanent and accelerated restructuring a positive one?” It incorporates twelve case-studies of the impact of MNEs on the allocation of resources within industrial sectors. Most of the studies in the volume also consider the role of MNEs as actors in influencing the restructuring of economic activity in 1970s.

The twelve countries studied by Dunning 1985 is mainly in the industrial world. Nine studies cover industrial countries and three studies cover developing countries. Three main group is distinguished inside the industrial countries. In the first group of countries, United States, Japan and Sweden, outward foreign direct investment dominants. In this group the question asked is whether the capital outflow does not result in a loss of export, employment and knowledge insufficiently equilibrated by the reflex of earnings out of foreign investment. In the second group of countries, Canada, Portugal, and Belgium, a net inflow of FDI is registered. In this group two questions are raised: Is the economic, cultural and political independence not menaced by foreign investment? And is a slow in down of FDI not even more menacing for the country’s economy due to its dependence on FDI? The third group of countries, UK, West Germany, and France, has a broadly balanced FDI position. Therefore, in these countries the value of both outward and inward FDI is discussed. In the fourth group, the three developing countries are all in the stage of becoming newly industrialized countries. But the attitude to FDI differs widely. In India, the government’s policy to FDI is highly restrictive; in Korea it is moderately restrictive, while Singapore’s policy to FDI is very open.

In his analysis on UK, Dunning tested a group of assumptions of MNE activity on resource allocation, e.g., relative to non-MNEs, foreign-owned multinational firms will produce in the most internationally competitive sectors, produce in those sectors which are of above average productivity or profitability, produce in those sectors which are above average net capital expenditure per employee, etc.

Dunning’s analysis demonstrated that, MNEs have had an impact on UK economic structure different from that of UK indigenous firms producing in the UK (including the UK output of UK MNEs). This is a reflection both of the difference in the configuration of the OLI advantages facing MNEs and the way they have translated these into conduct and performance. There are strong suggestions that the O advantages of MNEs have assisted the UK’s economic restructuring in 1970s towards higher allocative and technical efficiency; and that MNEs have adjusted to changing L advantages of UK resource endowments rather more positively than indigenous firms. One cost of the greater internationalization of the UK economy may have been the cost of some structural autonomy on the part of the UK.

Bergsten, Horst and Moran (1978) reviews the US government policy toward MNEs, and argues that US policy needs to reform in six specific areas: taxation, compensation for domestic workers, firms or communities hurt by foreign investment,

antitrust, insurance and guarantees through the Overseas Private Investment Corporation, host-country expropriation, and investment in the Soviet Union.

2.3 Empirical Analysis: China

Shilling and Wang 1996 discusses the issues of managing capital flows in East Asia. The book reviews the evolution of capital flows to East Asian countries and the impact of capital flows on East Asian Economies. Macroeconomic considerations and microeconomic considerations in managing capital flows are also discussed. The book addresses a number of issues that policy makers must face, including maintaining macroeconomic stability while continuing to attract beneficial capital flows, managing the diverse microeconomic impacts of the growing variety of instruments in the markets, matching the development of domestic capital and financial markets with the demands imposed by the foreign flows. The book discusses China's experiences in managing foreign capital flows.

Wang 1996 introduces the investment of the world famous MNEs in China, including detailed case studies. He also discusses the positive and negative effects of FDI on Chinese economy and the relevant policy issues.

Zheng 1997 reviews China's experience in using foreign capital since 1980s, especially the industrial structure by using Data of *the Third National Industrial Census* of China. It examines the effects of FDI on Chinese economy by using macroeconometric model. The paper also discusses policy issues of FDI.

Wang 1997 addresses the issues of FDI and industrial development in China. The paper discusses the industrial sector characteristic of FDI and its changes, the capital intensity characteristics of foreign invested enterprises, and the effects of FDI on China's industrial performance.

Feenstra 1998 discusses the meaning of joining WTO to China. He points out that Hong Kong's returning to China is called "One Country Two Systems". In fact, China has had a lot of experiences in that. For example, compared to Chinese domestic firms, foreign invested firms in China have been operating under quite different rules. This can also be called "One Country Two Systems". This kind of dual system is not consistent with the principle of WTO. To join WTO, China should clear some of the barriers in this dual structure. Since any dual structure must twist production and exchange, eliminating these barriers could be good for China in the long run. Therefore, joining WTO could create a unified economic structure within which domestic firms and foreign firms could compete equally with each other.

III The Trend and Structure of FDI and MNEs in China

This project adopts the comparative factual approach, which seeks to compare the activities of MNEs with those of their non-MNE competitors. The main data source is *the Third National Industrial Census of the People's Republic of China*, edited by the Office of the Third National Industrial Census, State Statistical Bureau. The census covers all industrial enterprises (7341517 enterprises) in 30 provinces in China except Taiwan, Hong Kong and Macao, including 59311 foreign invested enterprises. The census includes all basic data of enterprises, including financial, accounting, labor, sales, inventory, research and development, and production data in 1995. The data is compared with the *National Industrial Census in 1985*.

3.1 The Trend of FDI

Since the end of 1970s, China has made a great progress in using foreign capital in economic growth. FDI and MNEs have played a major role in this process. Between 1993 and 1996, China has become the second largest FDI home country for four years. Until the end of 1996, China has actually used \$283.94 billion of foreign capital (State Statistical Bureau 1997, see A2 in Appendix) , including 36.7% of foreign debt, 61.6% of FDI, and 1.7% of other foreign investment (including international lease, compensation trade and processing and assembly).

The total foreign capital used consists of three parts, foreign debt, FDI, and other foreign investment. Foreign debt was the major form of foreign investment, around 60-70% of the total investment before 1992. The portion of FDI in total foreign investment increased dramatically in early 1990s and has become major part of total foreign investment. Between 1992 and 1996, the average portion of FDI has been over 70% of the total foreign capital used (Zheng 1997).

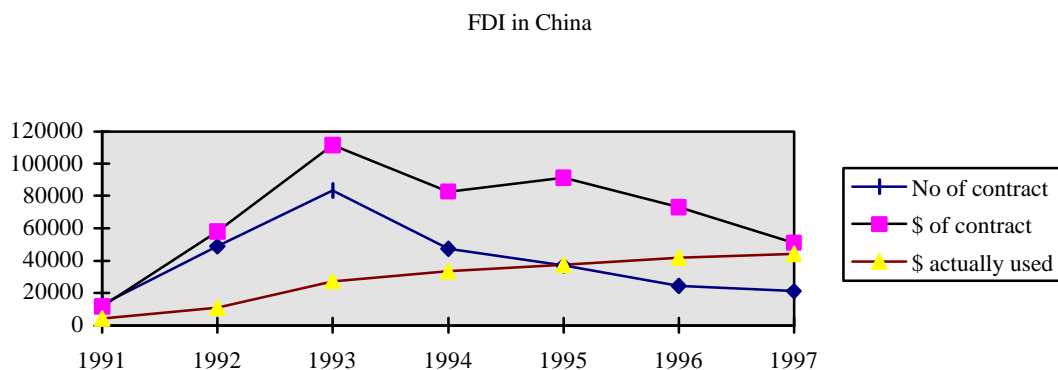
The amount of capital used can be divided into the amount through the signed contracts and the amount actually used. Even though the amount actually used of FDI continually increased until 1997, the number and amount of contract decreased in 1994, 1996 and 1997. The decrease in the amount of contract means the growth rate of amount actually used will go down in the near future. Because of the adjustment of tariff for imported equipment and other factors, the contract amount of FDI increased in the first seven months in 1998, while the amount of FDI actually used decreased in the same period.

Year	Number of Contracts	Value of Contracts	Value Actual Used
1991	12978	11977	4366
1992	48764	58124	11007
1993	83437	111436	27515
1994	47549	82680	33767
1995	37011	91282	37527
1996	24556	73276	41726
1997	21002	51004	44236
1979-1997			219120

Source: China Statistical Yearbook 1997, p.605. National Bureau of Foreign Exchange, 1997 International Balance Sheet, "Financial Times", June 2, 1998.

According to the Chinese State Statistic Bureau, there are four kinds of FDI in China: joint ventures, cooperative operation, cooperative development, and foreign enterprises. In the period of 1979 to 1985, cooperative operation was the main form of FDI. In 1986, the percentage of joint ventures exceeded that of cooperative operation. In 1991, the percentage of foreign enterprise exceeded cooperative operation. The percentage of foreign enterprise in the value of actual used FDI increased from 2% in early 1980s to 23.8% in 1991. The investment of MNEs became more systematic since 1994.

Figure 3.1



3.2 The Structure of FDI

Hong Kong and Taiwan have been the major source of foreign investment in China. Between 1984 and 1996, 39.5% and 5.5% of the total foreign investment came from Hong Kong and Taiwan, respectively. Japan and U.S. are also major source countries of FDI in China, accounting for 15.6% and 6.6% of the total foreign investment from 1984 to 1996. The investment of the top seven countries accounts 64.3% of the total foreign capital actually used in China in 1996. The capital investment from Japan is mainly government debt, while that from U.S. is mainly FDI. FDI from Hong Kong, Taiwan and Macao accounted for 59.8% of the total FDI between 1991 to 1996.

Table 3.2 Top Seven Source Countries of Total Foreign Capital Actually Used in China

	billion Dollars					
	1991	1992	1993	1994	1995	1996
Hong Kong	2.83	8.41	18.89	19.84	20.40	20.85
Taiwan	0.47	1.05	3.13	3.39	3.17	3.48
Japan	1.89	3.17	4.91	3.06	5.11	3.69
U.S.	0.44	0.58	2.66	3.03	3.11	3.44
U.K.	0.23	0.21	0.57	1.09	1.01	1.30
Korea	0	0.12	0.38	0.08	1.19	1.5
Singapore	0.07	0.14	0.67	1.17	1.86	2.24

Source: Zheng 1997.

Currently, **Most FDI is invested in the eastern coastal area.** The sales of foreign invested enterprises in 12 eastern provinces accounted for 86% of the sales of all foreign invested enterprises in 1995. The sales of foreign invested enterprises in Guangdong province accounted for 30% of the sales of all foreign invested enterprises.

In terms of sectoral distribution, **most of foreign investments have been targeted in the industrial sector.** From 1990 to 1996, industrial sector accounted for

56% of the total contractual foreign capital, while agriculture and transportation accounted for only 7%. The foreign capital used in construction sector increased dramatically before 1993 and dropped sharply after then.

Table 3.3 Contractual Foreign Capital Used in Different Sectors billion Dollars

	1990	1991	1992	1993	1994	1995	1996
Agriculture	0.93	1.26	0.94	2.61	1.00	1.82	1.13
Manufacture	7.69	12.40	39.30	54.00	44.90	62.50	50.49
Construction	0.18	0.22	1.93	3.88	2.39	2.02	2.00
Transportation	0.38	1.35	2.14	3.91	2.61	2.28	1.60
Commerce and Service	0.11	0.18	1.44	4.61	3.92	3.43	2.35
Real Estate	0.48	1.50	18.10	44.50	23.90	17.80	12.85

Source: Zheng 1997.

3.3 The Structure of FDI in Industrial Sectors

The industrial sectors have been the main target of FDI in China since 1980s. Table A3 in Appendix is the main indicators of all industrial enterprises (except village enterprises) in China in 1995. We show these data first as a base of comparison with all foreign invested enterprises and MNEs.

Table A3 in Appendix shows that the foreign side capital is 15.19% of the total capital in all enterprises. The value of export of all enterprises is 15.25% of the value of sales and the value of profit is 2.93% of the value of sales.

Table A4 shows the quantities of the main indicators of all foreign invested enterprises in China in 1995. Foreign invested enterprises, defined by State Statistical Bureau, are those whose 25% or more capital are funded by foreign investors including investors from Hong Kong, Taiwan and Macao.

Table A4 shows the structure of capital of foreign invested enterprises in all industrial industries. The average **foreign capital of all foreign invested enterprises** accounts for 57.99% of total capital in foreign invested enterprises, within which capital from Hong Kong, Taiwan and Macao accounts for 59%. In terms of absolute value, the most foreign funded industries are No.41 electric and telecommunications, No.17 textile, and No.40 electric equipment and machinery.

Table A4 also shows the value of **exports** (in yuan) is 38.20% of the value of sales for all foreign invested enterprises, which is much higher than the average of all industrial enterprises (15.25%). The value of export is 127.04% of that of import for all foreign invested enterprises, showing that export is about one quarter high than import. This is inconsistent with the aggregated data published in "China's Foreign Economic Statistical Yearbook, 1996", which shows the export of all foreign invested enterprises has been less than import recently. The **sales profit rate** is 4.29% for foreign invested enterprises, which is also higher than the average of all industrial enterprises (2.93%).

Table A5 shows the rate of some data of foreign invested enterprises as percentages of those of all enterprises.

The capital of all foreign invested companies count 24% of total capital of all enterprises, 85% of all foreign capitals. **While they only count 20% of the sales of all companies, they count 52% of all exports and 30% of all profits.** The highest market shares, in terms of percentage of the sales of foreign invested enterprises, are

in No.24 culture, education and sports goods (60.76%), No.41 electronic and telecommunications (60.63%), No.42 instruments, meters, cultural and clerical machinery (38.82%), and No.21 furniture manufacturing. The highest percentages of export of foreign invested enterprises are in No.41 (94.44%), No.23 printing and record medium reproduction (79.38%), No.30 plastic products (77.16%).

The above results are derived for the 2 digit industries, or widely defined industries. A detailed research has been done by the authors of this paper on the more narrowly defined industries. Selected results of this research is shown in Table 3.4.

Table 3.4 The Rates of Sales of Foreign Invested Enterprises in Narrowly Defined Industries (%)

4-digit industries	
Coal mining	-
Metal processing machinery	1.0
Casting production	3.0
Bearing and valve production	7.3
Clothing production	33.8
Medical equipment production	30.0
General equipment production	42.7
Automobile production	43.0
Soft drink production	99.0
6-digit industries	
Cable production	15.3
TV, VCR, camcorder production	67.7
Easy staple food production	87.7
Soap, detergent	89.0
Car production	100.0

Source: Zheng 1997.

In narrowly defined 4-digit industries, car manufacturing enterprises are 100% foreign invested enterprises (but not all foreign funded). In 3-digit industries, soft drink enterprises are 99% foreign invested enterprises.

3.4 The Trend and Structure of MNEs

According to the definition by the UN Trade and Development Conference, MNEs are “economic entities have affiliates in two or more countries, effectively controlled by the parent company, perform production and operation across borders.”

Since the beginning of 1990s, the MNE investment in China increased dramatically. According to the data of the 200 largest foreign invested companies published by SSB (SSB 1992, 1994, 1996), **the sales, profits, total capital and export of large MNEs in China increased rapidly.**

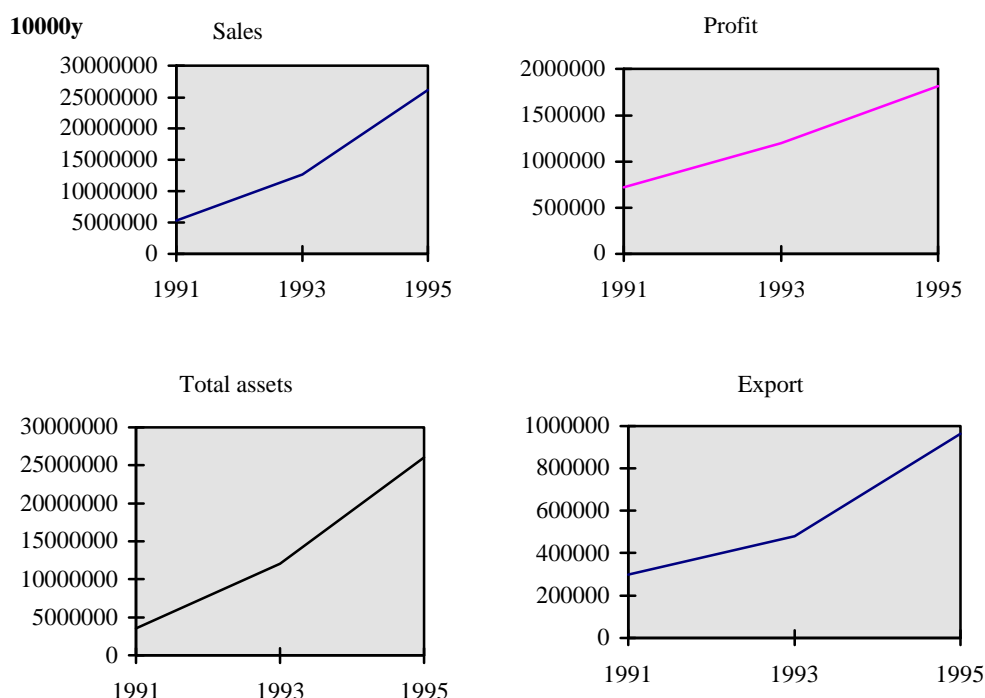
Table 3.5 The Largest 200 Foreign Invested Production Enterprises in China

	Sales	Profit	Total assets	Export
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	10000 yuan	10000 yuan	10000 yuan	10000 yuan
Total				
1991	5271885	714297	3584125	299087
1993	12700470	1194161	12060045	481819
1995	26176293	1812153	25996624	963241
Average per enterprise				
1991	26359	3571	17920	1495
1993	63502	5970	60300	2409
1995	130881	9956	131962	4816

Source: SSB 1992, 1994, 1996.

Figure 3.2



Calculating by using data in Table 3.5, the annual growth rate of the sales (not deducting the effect of price increase) of the 200 largest foreign-invested enterprises from 1991 to 1995 is approximately 48%. Since this number does not include the effects of the increasing in the number of MNEs, the actual growth rate of sales should be larger than this number.

According to the director of the State Planning Committee, more than 300 of the world largest 500 MNEs have been invested in China.

The research group identifies and selects the affiliates of the world famous MNEs in China from the 1995 National Industrial Survey by the definition of MNEs, the name of the companies and other characteristics. The sample is selected mainly by the Fortune 500 company list, considering the size and the share of foreign investment in the company. The following analysis is based on this sample. Table 3.6 is the summary of this sample.

Table 3.6 Famous Foreign MNEs in the Industrial Sector (not Including Mining) in China, 1995

1000 yuan, %									
code	number of firms	employee	actual investment	share of foreign investment	sales	export / sales	profit	profit / sales	export - import
13	61	19490	1888678	0.64	9114140	0.04	473625	0.05	-124470
14	64	12465	2396072	0.92	2718245	0.05	8557	0.00	-32879
15	30	7606	1663949	0.79	3479230	0.02	-50303	-0.01	-5944
16	3	584	40442	1.00	347640	0.19	120095	0.35	1442
17	15	4235	319475	0.69	452236	0.75	-22320	-0.05	6127
18	47	13082	183909	0.92	1359417	0.84	89986	0.07	35113
19	13	6398	49904	0.63	356530	0.73	33188	0.09	6142
20	9	490	36963	0.96	38534	0.56	-2963	-0.08	1603
21	7	6466	4613	1.00	9574	0.00	17226	1.80	-122
22	15	9166	1826684	0.29	1590281	0.09	45803	0.03	13221
23	8	1706	386050	0.78	272507	0.06	-9247	-0.03	-7776
24	17	4587	74873	1.00	871531	0.72	15920	0.02	21462
25	14	335	29125	0.97	35734	0.03	-66	0.00	-2078
26	88	20508	4693483	0.76	12060967	0.07	952889	0.08	-111923
27	19	4502	512614	0.79	2105625	0.05	276687	0.13	-51722
28	4	797	49126	1.00	47777	0.00	2550	0.05	-
29	8	7233	287005	0.92	932027	0.24	1636	0.00	-6953
30	18	5268	232819	0.49	589319	0.51	35276	0.06	5126
31	34	5705	2036843	0.45	873561	0.56	-27946	-0.03	24306
32	8	1678	1681158	0.86	626612	0.81	76478	0.12	53366
33	5	540	-	-	-	-	-1236	-	-
34	58	5618	1018789	0.91	1041856	0.29	-75359	-0.07	-19440
35	50	8884	1572545	0.82	3045807	0.33	124626	0.04	-44295
36	72	11076	751293	0.85	1887563	0.46	124327	0.07	15436
37	208	106202	7712112	0.71	55545886	0.03	3648111	0.07	-1464646
40	119	57449	6263354	0.74	10963230	0.52	-188040	-0.02	-22863
41	89	69003	8373407	0.65	48776587	0.51	4040703	0.08	1630771
42	69	12288	1747101	0.59	3928374	0.60	211316	0.05	-40359
43	60	15626	496995	0.87	1137663	0.55	69480	0.06	15645
44	13	7049	273313	0.73	7949383	0.00	968492	0.12	-12191
total	1225	426036	45089703	0.70	172157809	0.25	10959491	0.06	-117901
average	-	347.7845	36807.921	-	140536.99	-	8946.523	-	-96.2457

Table 3.7 Comparison of All Enterprises, Foreign Invested Enterprises and MNEs in Industrial Sectors

item	profit / sales	export / sales	export - import
All enterprises	0.0293	0.1525	No data
Foreign invested enterprises	0.0429	0.3820	+
MNEs	0.0637	0.2483	-

Figure 3.3

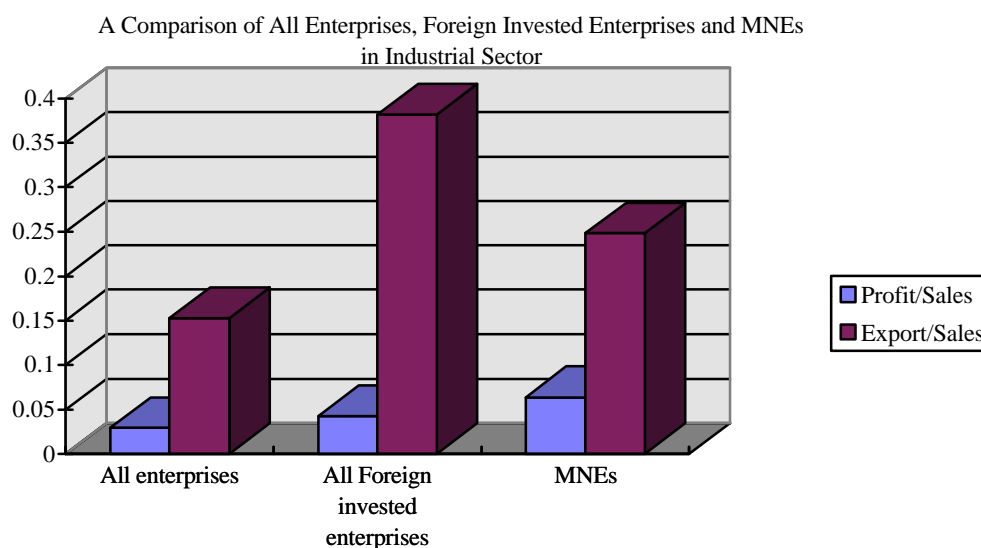


Table 3.7 shows that **the MNEs have the highest sales profit rate (6.37%)**, while sales profit rate of all foreign invested enterprises is higher than that of all enterprises.

The export / sales ratio of foreign invested enterprises is higher than that of all enterprises, but **the export / sales ratio of MNEs (24.83%) is lower than that of all foreign invested enterprises (38.20%)**. In industrial sector not including mining industries, the export is greater than import for foreign invested enterprises, but **the MNEs' export is slightly smaller than its import**. Possible explanations include: (1) Since just entering Chinese market, the MNEs need to import large amount of equipment. They view the market in terms of long run, and have not make large amount of profit yet. (2) The type of investment by MNEs is different from other foreign investment enterprises, their main objective is the domestic market, and export is not their main objective.

The number of MNEs accounts for 2.09% of all foreign invested enterprises. Its capital accounts for 3.02% of the capital of all enterprises and 11.40% of the foreign side capital of all enterprises. The sales, export and profit accounts for 3.54%, 5.76% and 7.69% of the sales, export and profit of all enterprises, respectively.

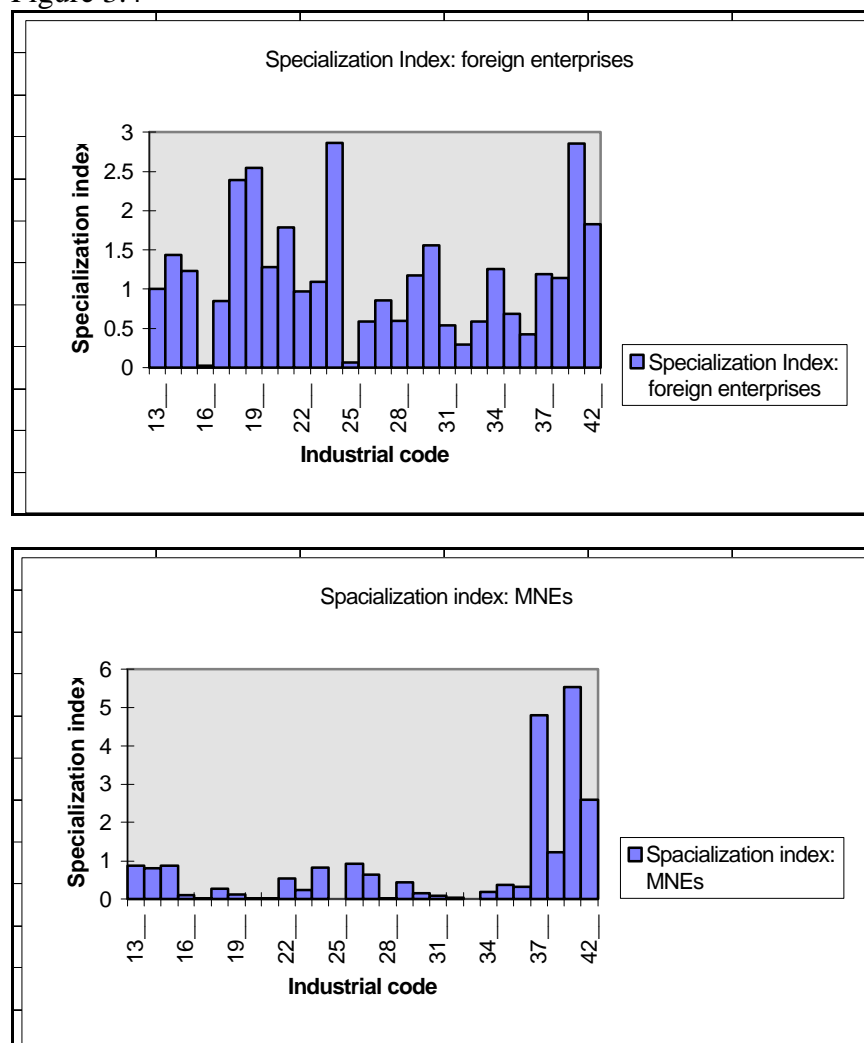
3.5 The Factor Intensive Characteristics of MNEs

To analyze the factor intensive characteristics of foreign invested enterprises and MNEs, we calculated the specialization index of the foreign invested enterprises and MNEs in 28 industries in industrial sector. The specialization index is defined as the ratio of the sales of foreign companies in industry *i* to total sales of foreign companies divided by the ratio of the sales in industry *i* to the total sales of all companies. When foreign companies' specialization index is greater than 1, it indicates that the foreign sales in that industry is more concentrated than that of all enterprises. The factor intensive characteristics are shown in Table 3.8.

Table 3.8 The Factor Intensive Characteristics of All Foreign invested enterprises and MNEs

Industrial code	Sales ratio of all enterprises	Sales ratio of foreign invested enterprises	Specialization indexes of foreign invested enterprises	Sales ratio of MNEs	Specialization indexes of MNEs
	100%	100%		100%	
13	0.0637	0.0599	0.9969	0.0558	0.8770
14	0.0206	0.0280	1.4363	0.0166	0.8060
15	0.0241	0.0281	1.2345	0.0213	0.8816
16	0.0221	0.0005	0.0263	0.0021	0.0963
17	0.0947	0.0752	0.8428	0.0027	0.0292
18	0.0299	0.0676	2.3945	0.0083	0.2782
19	0.0198	0.0477	2.5510	0.0021	0.1101
20	0.0081	0.0098	1.2850	0.0002	0.0290
21	0.0036	0.0060	1.7899	5.87E-05	0.0162
22	0.0176	0.0162	0.9722	0.0097	0.5519
23	0.0068	0.0069	1.0893	0.0016	0.2457
24	0.0065	0.0175	2.8633	0.0053	0.8220
25	0.0455	0.0028	0.664	0.0002	0.0048
26	0.0799	0.0448	0.5947	0.0739	0.9253
27	0.0200	0.0163	0.8614	0.0129	0.6428
28	0.0174	0.0097	0.5962	0.0002	0.0168
29	0.0131	0.0145	1.1772	0.0057	0.4358
30	0.0232	0.0341	1.5564	0.0036	0.1551
31	0.0617	0.0312	0.5373	0.0053	0.0867
32	0.0837	0.0232	0.2937	0.0038	0.0458
33	0.0284	0.0159	0.5896	0	0
34	0.0337	0.0399	1.2553	0.0064	0.1894
35	0.0489	0.0315	0.6834	0.0186	0.3811
36	0.0365	0.0145	0.4219	0.0115	0.3165
37	0.0708	0.0794	1.1882	0.3406	4.8056
40	0.0551	0.0592	1.1391	0.0672	1.2188
41	0.0539	0.1453	2.8573	0.2991	5.5444
42	0.0092	0.0159	1.8296	0.0240	2.5983

Figure 3.4



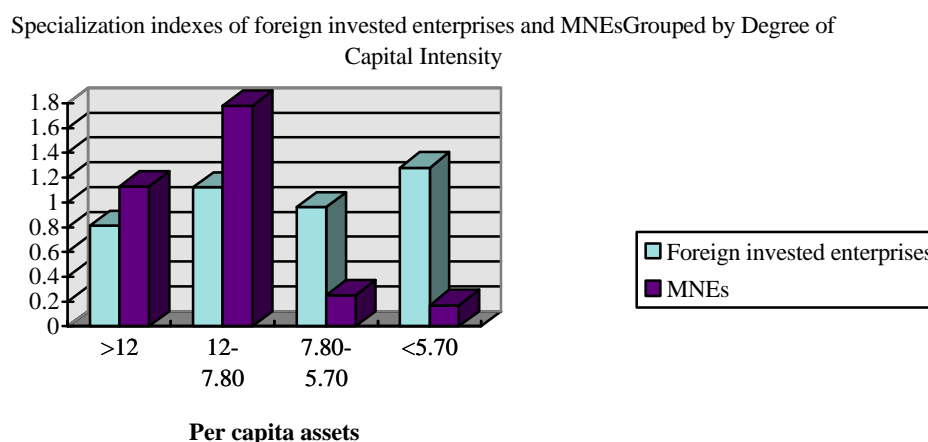
The above figures show that all foreign invested enterprises distributed relatively equally in light industries and manufacturing industries, while the MNEs are concentrated in manufacturing industries, e.g., transportation equipment production, electric, electronic and instrument industries.

The researchers also re-group the industries according to per capita assets. We find that relative to all foreign invested enterprises, MNEs are more concentrated in capital intensive industries.

Table 3.9 The Specialization Indexes of All Foreign Invested Enterprises and MNEs Grouped by Degree of Capital Intensity

Per assets capital (1000 yuan)	Ratio of sales of all enterprises	Ratio of sales of all foreign invested enterprises	Ratio of sales of MNEs	Specialization indexes of foreign invested enterprises	Specialization indexes of MNEs
>12	0.2808	0.2285	0.3185	0.81	1.13
12-7.80	0.3285	0.3678	0.5850	1.12	1.78
7.80-5.70	0.3063	0.2952	0.0825	0.96	0.25
<5.70	0.0845	0.1084	0.0140	1.28	0.17

Figure 3.5



With the deepening of China's openness to the outside world, MNEs are entering finance and service areas step by step. This is not the focus of this project and further research is needed.

IV. The Effects of FDI and MNEs on Efficiency

Economic efficiency includes technical efficiency and allocative or structural efficiency, efficiency within a firm and efficiency out of the firm. The latter deals with how resources are distributed in different sectors. This research focuses on the structural efficiency.

The structural characteristics of multinational enterprises in 1985 and 1995 are reviewed, compared with non-multinational firms. The main structural characteristics include the followings:

- Labor productivity (LP), defined as net output / total employment;
- Sales profitability (π_s), defined as profit / sales;
- Per capita profitability (π_L), defined as profit / total employment;
- Value added ratio (VA / S), defined as value added / sales;
- Capital labor ratio (K / L), defined as total capital / total employment;
- Per capita assets (A / L), defined as total assets / total employment;
- Per capita export (EX / L), defined as export / total employment;
- Education ratio (EDU / L), defined as university graduates / total employment;
- Per capita wage (W / L), defined as total wages / total employment;
- Sales / wage ratio (S / W), defined as total sales / total wages;
- Concentration ratio (CON), defined as percentage of sales accounted for by 10 largest enterprises;
- Size effect (SZ), defined as shares of the sales of largest 10 enterprises in any sector / shares of sales of the smallest 10 enterprises in the sector;
- Per yuan sales new product research and development expenditure (RD / S), defined as total new product R & D expenditure / total sales;
- Per yuan sales tax revenue (TAX / S), defined as total tax / total sales;
- Per yuan sales air pollution index (AIR / S), defined as total amount of air pollution / total sales;

Per yuan sales water pollution (WT / S), defined as total wastewater disposed / total sales.

Since we can not find data of import for each industry, we are not able to calculate the revealed comparative advantage.

Following Dunning 1985, this project establish and examine the statistical relationship between these structural variables and the sectoral distribution of two types of production, large and medium sized Chinese enterprises and MNEs, by using single OLS regression models. The project also tests the statistical relationship of the changes of theses structural characteristics between 1985 and 1995 and the changes in sectoral distribution of the two types of production. As Dunning pointed out, this kind of statistical association does not tell us anything about the direction of causation and the level of significance of each variable may be influenced by other variables not included in the equation.

The general form of the test equations are as follows:

$$\Delta \text{structural variable} = a_i + b_i \Delta \text{CN}_i + c_i * \Delta \text{MNE}_i + D_i \quad (\text{I})$$

where CN_i is the sales share of Chinese large and medium sized enterprises in industry i , MNE_i is the sales share of MNEs in industry i , D_i is dummy variables reflecting the different government policies in different industries (all industries are grouped into three groups), Δ represents change. When the data on the change in structural variables are missing, equation (II) is used as an alternative:

$$\text{structural variable} = a_i + b_i \text{CN}_i + c_i * \text{MNE}_i + D_i \quad (\text{II})$$

Cross sectional data of 88 industries are used in the first group statistical tests (equation (I), Table 4.1), cross sectional data of 117 industries are used in the second group tests (equation (II), Table 4.2). The first group uses less observations, since there are less data for 1985. The number in parentheses are t statistics.

Table 4.1 Statistical Test Results (I)

Model	Dependent variable	Intercept	ΔCN	ΔMNE	D1	R^2	F	Observations
d1	$\Delta A / L$	4.23 (7.52)	0.40 (0.31)	26.27 (3.65)	18.15 (6.63)	0.3890	17.83	88
d2	$\Delta \pi_L$	-0.01 (-0.21)	0.06 (0.56)	1.19 (2.11)	1.83 (8.53)	0.4700	24.83	88
d3	$\Delta \pi_s$	-0.02 (-5.27)	0.15 (14.12)	0.17 (2.98)	0.10 (4.42)	0.7209	72.18	88
d4	ΔLP	0.30 (1.73)	0.11 (0.27)	4.32 (1.94)	1.10 (1.30)	0.0567	1.68	88

Table 4.2 Statistical Test Results (II)

model	dependent var	intercept	CN	MNE	D1	D2	D3	R^2	F	observation
1	LP	0.98 (3.70)	1.48 (2.45)	6.82 (3.73)	7.66 (10.07)			0.5467	45.43	117
2	π_L	0.02 (0.31)	0.32 (2.21)	1.45 (3.34)	1.48 (8.14)			0.4506	30.90	117
3	π_s	0.02 (4.30)	0.01 (1.10)	0.08 (2.93)	0.04 (3.88)			0.1868	8.65	117
4	K/L	1.94 (8.18)	0.86 (1.59)	5.61 (3.42)	4.88 (7.14)			0.3865	23.73	117

5	A/L	4.96 (6.95)	8.16 (5.01)	27.35 (5.54)	22.54 (10.96)	0.6433	67.92	117	
6	EX/L	1.62 (4.45)	-1.70 (-2.05)	10.03 (3.99)	0.17 (0.16)	0.1660	7.50	117	
7	W/L	0.39 (22.44)	0.24 (6.03)	0.72 (6.02)	0.22 (4.42)	0.4695	33.33	117	
8	S/W	12.70 (11.51)	-0.94 (-0.37)	24.22 (3.17)	17.34 (5.46)	0.2579	13.09	117	
9	CON	1812.13 (6.90)	1278.99 (2.14)	9281.07 (5.11)	1269.16 (1.68)	0.2245	10.90	117	
10	SZ	15568.0 2	183670. 8	764567. 5	70006.0 3	0.1040	4.37	117	
11	GINI	0.68 (71.73)	0.17 (8.07)	0.52 (7.93)	0.03 (1.20)	0.5240	41.46	117	
12	EDU/L	-0.0003 (-0.037)	0.11 (6.33)	0.09 (4.48)	0.02 (0.99)	0.2891	15.32	117	
13	RD/S	0.0007 (0.94)	0.007 (3.97)	0.011 (2.03)	0.017 (7.37)	0.4501	30.83	117	
14	TAX/S	-0.001 (-0.196)	0.028 (2.02)	0.015 (0.35)	0.102 (5.79)	0.2928	15.59	117	
15	AIR/S	0.64 (0.74)	1.91 (1.23)	-8.13 (-0.85)		76.87 (48.78)	0.9948	955.66	19
16	WT/S	0.0005 (0.67)	0.0013 (1.09)	-0.0069 (-0.93)		0.1856 (151.53)	0.9995	9345.47	19

In Table 4.1 and 4.2, D1 is a dummy variable reflecting government policy in most cases, D2 is a dummy variable reflecting government policy on research and developing expenditures in different industries, and D3 is a dummy variable reflecting government policy on environmental protection.

The test results in Table 4.1 and 4.2 shows:

The first group of tests (Table 4.1) suggest a positive correlation between the change in MNEs' sales between 1985 and 1995 and (i) per capita assets, (ii) labor productivity (not significant), (iii) per capita profitability, and (iv) sales profitability (Model d1, d4, d2, and d3). The marginal changes in MNEs' sales will associated with the changes in the above structural efficiency variables.

The second group of tests (Table 4.2) suggests:

(1) Positive correlation exists between MNEs' sales shares and labor productivity. This suggests that MNEs will produce in those sectors which are of above average productivity. This means that the marginal changes in MNEs' sales share will associate with the increase in labor productivity in that industry. (Model 1)

(2) Positive correlation exists between MNEs' sales shares and profitability. This suggests that MNEs will produce in those sectors which are of above average profitability. This means that the marginal changes in MNEs' sales share will associate with the increase in profitability in that industry. (Model 2 and 3)

(3) Positive correlation exists between MNEs' sales shares and capital labor ratio and per capita assets. This suggests that MNEs will produce in those sectors which are of above average capital labor ratio and per capita assets. This means that the marginal changes in MNEs' sales share will associate with the increase in capital labor ratio and per capita assets in that industry. (Model 4 and 5)

(4) Positive correlation exists between MNEs' sales shares and per capita export. This suggests that MNEs will produce in those sectors which are of above average export. This means that the marginal changes in MNEs' sales share will associate with the increase in export in that industry. (Model 6, but data also show that MNEs' import is higher than export, therefore the above correlation does not mean MNEs' concentration in high net export industries.)

(5) Positive correlation exists between MNEs' sales shares and per capita wage and sales / wage ratio. This suggests that MNEs will produce in those sectors

which are of above average per capita wage and sales / wage ratio. This means that the marginal changes in MNEs' sales share will associate with the increase in per capita wage and sales / wage ratio in that industry. (Model 7 and 8)

(6) Positive correlation exists between MNEs' sales shares and employees' education level and R & D expenditure level. This suggests that MNEs will produce in those sectors which are of above average employees' education level and R & D expenditure level. This means that the marginal changes in MNEs' sales share will associate with the increase in employees' education level and R & D expenditure level in that industry. (Model 12 and 13)

(7) Positive correlation exists between MNEs' sales shares and concentration ratio and size effect. This suggests that MNEs will produce in those oligopolistic sectors. This means that the marginal changes in MNEs' sales share will associate with the increase in concentration and the size of firms in that industry. (Model 9 and 10)

(8) Positive correlation exists between MNEs' sales shares and tax revenue, but not significant. The marginal contribution of MNEs' sales share to tax revenue is less than that of the domestic firms. This probably due to government's beneficial tax policies toward MNEs. (Model 14)

(9) Negative correlation exists between MNEs' sales shares and air and water pollution. This suggests that MNEs will produce in those sectors which are of below average pollution level. But since the sample is too small, the relation is not significant. (Model 15 and 16)

The researchers also do the same test using the data of all foreign invested enterprises, and compared with the above results for MNEs. The results are similar.

V. The Effects of FDI and MNEs on Income Distribution

The above tests also suggests that the MNEs are concentrated in the industries in which enterprise income (profits) are relatively unequal (relative large GINI coefficient). This means that the further entering of MNEs will increase the inequality in enterprise income within industries. (Model 11 in Table 4.2)

To test the changes in income distribution caused by MNEs, the changes in distribution of profit rate in different industries in 1985 and 1995 is compared. The results show that the inequality level of the distribution of profit among industries increased. The entering of MNEs is one of the factors affecting this. The results of calculations are list in Table 5.1.

Table 5.1 GINI Coefficients of the Distribution of Profits in Industrial Sector

Year	2 digit industries	3 digit industries
1985	0.2880	0.2711
1995	0.5617	0.3639

This project also calculated the GINI coefficients of the per capita wages in industrial sectors in 1985 and 1995. The coefficients are 0.0865 in 1985 and 0.1459 in 1995, respectively. The inequality in the distribution in per capita wages increased too. Again, the entering of MNEs is one of the factors affecting this.

VI. Policy Suggestions

6.1 Some Conclusions

Some conclusions can be derived from the above analysis:

- MNEs have impacts on Chinese economic structure different from that of domestic firms and other foreign invested firm (mainly Hong Kong, Taiwan and Macao firms). the MNEs focus more on capital and knowledge intensive sectors.

- The OLI advantages of MNEs have assisted the economic restructuring towards higher allocative and technical efficiency.

- The disadvantages of MNE activities include (i) losing some structural autonomy at the part of Chinese government; (ii) making Chinese economy more vulnerable to the international market, (iii) changing the income distribution within and between industries in China.

6.2 Policy Suggestions

Based on the analysis in the previous sections, what should government policy be to MNE activity? What modifications of existing policy are needed?

Our main suggestion is that the Chinese government needs to continue to keep its open door policy to FDI and MNEs in the long run. Since the global economic integration is a trend no country can resist, the Chinese government has no much choice on whether to open the door to outside world or not. Under this overall long run direction, positive intervention and negative intervention toward MNEs can be discussed and formulated to absorb the benefits of MNE investment and to limit its negative effects.

The foreign investment policy should be a comprehensive system of policies, including tax policy, antitrust policy, industrial policy, trade policy, exchange rate policy, macroeconomic policy, employment policy, and foreign policy. All these policies are inter-correlated and should be considered systematically. The Chinese government has no comprehensive policy toward FDI and MNE so far. It needs to formalize such a policy.

1. Improving investment environment: giving MNEs nationality treatment

The MNEs should be treated the same way as the domestic firms in the long run in a competitive market economy. This means giving MNEs nationality treatment, giving the domestic private firms the same treatment and relaxing the administrative constraints on the domestic state-owned-enterprises.

The current special treatments as well as special restrictions to MNEs should both be stopped in the long run. The most important thing to attract foreign investment is not the special treatments, but a stable, standardized investment environment.

The government should set up a legal system of foreign investment and a operating procedure as soon as possible. To ensure the minimization of abuses arising from monopoly power, national monopolies legislation could be used.

A list of the industries restricting the entering of MNEs has published recently by the central government, but some of the ambiguous areas should be made more clear. Only a small number of industries related to national security should be restricted to MNEs' entry, other areas should be understood automatically as allowing entry. An agenda could be formulated to let the MNEs enter step by step. To prevent

some government departments create obstacles for their owner interests, the right to determine which industry allowing entry should be given to the State Council.

As soon as the policy established, it should not be changed too frequently.

2. Negative interventions: to limit the adverse effects of MNE investment

The MNE activities, resulting from MNEs' ability to gain or improve market positions as a result of their OLI advantages, may work against social well-being of the host country and worsen the resource allocation between countries under some circumstances. One example is MNEs' international transfer pricing which can distort the profitability figure of affiliates.

The Chinese government has an obligation to protect Chinese national interests from the adverse effects of MNE activities. These kind of protections should meet clear criteria through standardized procedures.

The Chinese government should publicly announce the areas foreign investment could not enter for national security reason.

The government should try to ensure MNEs' intentions are consistent with national goals at the negotiating stage with MNEs.

Tax policy should move toward a balance in tax treatment between income of domestic firms and MNEs. But in the short run in some specific areas, the tax policy may need to deviate from its long term goal of neutrality.

Within the government fiscal ability, the government should give certain compensations to those firms and individuals whom were damaged by MNE activities.

3. Structural adjustment and MNEs

The Chinese government should understand that in a market oriented economy, the economic structure is adjusted by the market force as well as government intervention. Government is no longer the sole source of structural adjustment. The government should learn to work with private firms in adjusting the economic structure. This includes cooperating with MNEs. From the analysis in this paper, we know MNEs have assisted the economic restructuring towards higher allocative efficiency. The Chinese government should use this positive effects in adjusting the economic structure.

4. MNEs and domestic reform

The foreign investment policy should be considered as a inter-correlated part of the domestic development policy. The relaxing of the restrictions on foreign investment should be step by step with the reform of domestic market.

The current policy toward FDI and MNE investment gives some special treatment to foreign firms but discriminates them in other fields. The same is true for domestic firms. For example, the tariff for equipment imported by foreign invested firms are deducted, but they are not allowed to distribute their products directly in domestic market (they have to use domestic wholesale and retail firms). On the other hand, most of the domestic production firms are not allowed to export by themselves (they have to use state-owned export companies). All these policies restricts the operation of domestic firms as well as foreign invested firms.

The FDI and MNE investment could be used as a weapon to promote domestic reform. What special treatment foreign invested enterprises have should be given to the domestic firms, e.g. tariff deduction for equipment imports. On the other hand,

most rights domestic firms have should be eventually given to foreign firms, e.g. the marketing operation in domestic market. The same logic should be suitable for state owned domestic firms and non-state owned domestic firms.

Due to the East Asian financial crises and domestic macroeconomic situation in China, the FDI and MNE investment in the near future may decrease. The foreign capital actually used in the first seven months of 1998 decreased by 1.74%, compared with the same period last year. But in the long run, considering the size of Chinese market, the prospects of FDI and MNE investment are still optimistic.

To sum up, since the positive effects of FDI and MNE investment on Chinese economy, Chinese government should continue to keep its open door policy to FDI and MNEs in the long run. At the same time, feasible measures should be taken to limit the negative effects. The foreign investment policy should be considered as a inter-correlated part of the domestic development policy. The opening to FDI and MNE investment should be carried out simultaneously. Nationality treatment should be given to MNEs, the domestic private firms should be given the same treatment and the administrative constraints on the domestic state-owned-enterprises should be relaxed step by step.

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Appendix

A1 Industry Code

Code	Industries
06__	Coal mining & processing
07__	Petroleum & Natural gas extraction
08__	Ferrous metals mining and dressing
09__	Nonferrous metals mining & dressing
10__	Nonmetal minerals mining & dressing
12__	Logging & transport of timber & bamboo
13__	Food processing
14__	Food production
15__	Beverage production
16__	Tobacco processing
17__	Textile industry
18__	Garments & other fiber products
19__	Leather, furs, down & related products
20__	Timber processing, bamboo, cane, palm fiber and straw products
21__	Furniture manufacturing
22__	Paper making & paper products
23__	Printing & record medium reproduction
24__	Culture, education & sports goods
25__	Petroleum refining and cooking
26__	Raw chemical materials and chemical products
27__	Medical and pharmaceutical products
28__	Chemical fiber
29__	Rubber products
30__	Plastic products
31__	Nonmetal mineral products
32__	Smelting & pressing ferrous metals
33__	Smelting & pressing of nonferrous metals
34__	Metal products
35__	Ordinary machinery
36__	Special purposes equipment
37__	Transport equipment
40__	Electric equipment & machinery
41__	Electronic and telecommunications
42__	Instruments meters, cultural & clerical machinery
43__	Other manufacturing

A2 Actual Use of Foreign Capital in China, 1979-1996

in billions of dollars

year	total	debt		FDI		other investment	
	\$ bil	\$ bil	%	\$ bil	%	\$ bil	%
1979-82	12.45	10.69	85.8	1.17	9.4	0.60	4.8
1983	1.98	1.07	53.8	0.64	32.1	0.28	14.1
1984	2.71	1.29	47.5	1.26	46.5	0.16	6.0
1985	4.65	2.69	57.8	1.66	35.7	0.30	6.4
1986	7.26	5.01	69.1	1.87	25.8	0.37	5.1
1987	8.45	5.80	68.7	2.31	27.4	0.33	3.9
1988	10.23	6.49	63.4	3.19	31.2	0.55	5.3
1989	10.06	6.29	62.5	3.39	33.7	0.38	3.8
1990	10.29	6.53	63.5	3.49	33.9	0.27	2.6
1991	11.55	6.89	59.6	4.37	37.8	0.30	2.6
1992	19.20	7.91	41.2	11.01	57.3	0.28	1.5
1993	38.96	11.19	28.7	27.52	70.6	0.26	0.7
1994	43.21	9.27	21.4	33.77	78.1	0.20	0.4
1995	48.13	10.33	21.5	37.52	78.0	0.29	0.6
1996	54.80	12.67	23.1	41.73	76.1	0.41	0.7
1979-96	283.94	104.11	36.7	174.88	61.6	4.95	1.7

Source: China Statistical Yearbook 1997, p.605.

A3 All Industrial Enterprises, 1995

Code	Number of employees	Capital	Capital, Chinese side	Capital, Foreign side	Sales	Export	Profit
	10000	100 mil yuan	100 mil yuan	100 mil yuan	100 mil yuan	100 mil yuan	100 mil yuan
06__	600.71	741.19	740.22	0.97	1118.61	45.46	34.61
07__	147.19	711.3	711.11	0.18	1367.15	126.03	123.03
08__	34.22	83.86	83.7	0.16	101.67	0.79	1.89
09__	79.25	123.35	121.71	1.64	299.98	6.97	22.18
10__	120.15	149.14	171.74	7.39	332.56	16.36	11.44
12__	111.32	107.24	107.12	0.12	165.02	1.3	6.54
13__	242.26	639.35	525.04	114.31	2863.96	258.03	45.64
14__	154.99	386.12	255.52	130.6	929.44	121.48	17.02
15__	149.10	488.63	369.82	118.81	1087.6	33.59	36.02
16__	32.14	184.35	182.56	1.79	994.48	38.27	125.83
17__	872.68	1278.43	1041.02	237.41	4257.01	1294.12	-41.3
18__	270.65	407.13	246.12	161	1346.42	811.17	24.39
19__	151.52	518.85	424.04	94.81	891.95	485.27	9.75
20__	104.02	163.5	123.43	40.07	365.28	54.44	1.94
21__	50.01	80.39	58.86	21.54	162.34	37.58	4.87
22__	181.67	360.92	273.02	87.9	794.06	63.81	22.99
23__	109.11	215.6	176.4	39.2	305.64	17.61	9.75
24__	71.77	116.13	63.09	53.04	292.18	209.42	11.68
25__	79.29	429.61	419.12	10.49	2047.42	74.23	75.86
26__	482.40	1306.41	1146.01	160.4	3592.1	325.03	120.06
27__	115.74	333.46	284.93	48.53	902.67	127.32	51.48
28__	56.19	331.87	266.2	65.67	782.98	62.76	46.03
29__	98.06	183.46	135.82	47.63	589.39	109.75	5.26
30__	160.48	459.46	321.25	138.21	1046.67	190.87	8.54
31__	799.44	1525.52	1321.48	204.03	2774.39	173.95	58.36
32__	388.37	1715.95	1652.01	63.94	3763.76	347.85	130.68
33__	123.19	381.35	351.56	29.80	1287.25	118.60	42.86
34__	283.38	548.33	407.46	140.88	1515.62	311.80	26.18
35__	486.40	940.43	833.57	106.86	2202.10	228.98	66.65
36__	358.40	628.80	575.84	52.97	1643.34	114.81	26.87
37__	422.19	1029.82	876.00	153.83	3185.49	200.26	86.92
40__	311.44	775.25	599.11	176.14	2479.02	352.31	74.28
41__	195.35	694.74	423.24	271.50	2424.55	922.70	116.82
42__	96.12	195.91	146.83	49.08	416.67	115.39	6.91
43__							
45__	16.40	114.45	112.28	2.16	91.49	0.76	6.42
46__	40.18	305.61	304.12	1.49	177.08	16.66	6.88
Total	7995.78	18656	15851.35	2834.55	48597.34	7415.73	1425.33
%				0.1519		0.1525	0.0293

A4 All Foreign-Funded Enterprises, 1995

Industry code	No. of enterprises	Capital	Capital, Chinese side	%	Capital, Taiwan & HK	%	Capital, foreign (not including Taiwan & HK)	%	Capital, Total Foreign	%
		1000 yuan	1000 yuan		1000 yuan		1000 yuan		1000 yuan	
6	34	99604	58259	0.584906	15667	0.157293	22224	0.223124	37891	0.380416
7	5	229192	210718	0.919395	13574	0.059225	4900	0.021379	18474	0.080605
8	13	40754	25986	0.637631	8180	0.200716	6588	0.161653	14768	0.362369
9	42	145429	58470	0.402052	65686	0.451671	12591	0.086578	78277	0.538249
10	276	968934	291503	0.300849	485769	0.501344	156927	0.161958	642696	0.663302
11	3	1200	842	0.701667	358	0.298333	0	0	358	0.298333
12	3	9388	3735	0.397848	4595	0.489455	0	0	4595	0.489455
13	2087	16208159	6194913	0.38221	5075166	0.313124	4683642	0.288968	9758808	0.602092
14	2126	17972697	5399719	0.30044	6170283	0.343314	5344633	0.297375	11514916	0.640689
15	1274	18170897	7392598	0.406837	4808170	0.264608	5170526	0.28455	9978696	0.549158
16	10	374716	196660	0.524824	99715	0.266108	78341	0.209068	178056	0.475176
17	4927	35692127	14646812	0.410365	16165368	0.452911	4315416	0.120907	20480784	0.573818
18	7591	22109719	6979678	0.315684	10565502	0.477867	4112666	0.186012	14678168	0.663879
19	3252	13223280	4216741	0.318888	6775565	0.512397	2016865	0.152524	8792430	0.664921
20	1413	6371523	2474566	0.388379	2774255	0.435415	1047497	0.164403	3821752	0.599818
21	962	3259385	1197713	0.367466	1406794	0.431613	531323	0.163013	1938117	0.594627
22	1316	12821364	4301002	0.335456	5489940	0.428187	2925462	0.228171	8415402	0.656358
23	1000	6667278	2911794	0.436729	2533162	0.379939	1157058	0.173543	3690220	0.553482
24	1602	6264533	1426196	0.227662	3896151	0.621938	888585	0.141844	4784736	0.763782
25	160	860568	430184	0.499884	228826	0.265901	187700	0.218112	416526	0.484013
26	3041	22794175	8701026	0.381721	5670536	0.248771	8230021	0.361058	13900557	0.609829
27	899	8663756	4379081	0.505448	1991513	0.229867	2270624	0.262083	4262137	0.49195
28	397	5393808	2527286	0.468553	2284450	0.423532	572350	0.106112	2856800	0.529644
29	572	5863286	1934399	0.329917	1894827	0.323168	2019154	0.344372	3913981	0.667541
30	3837	21602097	8825219	0.408535	9658139	0.447093	2844852	0.131693	12502991	0.578786
31	2913	32650133	14298541	0.437932	10727685	0.328565	7193795	0.22033	17921480	0.548895
32	449	6631200	3575391	0.539177	1806356	0.272403	1227275	0.185076	3033631	0.457478
33	508	5656132	2998972	0.530216	1804454	0.319026	678531	0.119964	2482985	0.43899
34	2911	20872115	7528557	0.360699	8414417	0.403142	4326410	0.207282	12740827	0.610423
35	1698	16240350	6560503	0.403963	2716322	0.167258	6880522	0.423668	9596844	0.590926
36	1449	7603796	3267760	0.429754	1977280	0.260039	2213700	0.291131	4190980	0.551169
37	1567	22251030	10514620	0.472545	3641359	0.163649	7119553	0.319965	10760912	0.483614
38	0	0	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!	0	#DIV/0!
39	2	7655	5741	0.749967	1914	0.250033	0	0	1914	0.250033
40	2677	25401995	9521645	0.374838	7547697	0.29713	8000881	0.314971	15548578	0.612101
41	3267	38601624	13200960	0.341979	11743200	0.304215	12813368	0.331939	24556568	0.636154
42	1117	6589794	2011449	0.305237	2431365	0.368959	2103556	0.319214	4534921	0.688173
43	3069	10729569	2745446	0.255877	5842167	0.544492	1987319	0.185219	7829486	0.729711
44	232	29837318	12922318	0.433092	8360417	0.2802	2075243	0.069552	10435660	0.349752
45	17	357319	141136	0.394986	157772	0.441544	58211	0.16291	215983	0.604454
46	18	178404	102703	0.575677	70434	0.394801	5212	0.029215	75646	0.424015
Total	58736	4.49E+08	1.74E+08	0.387571	1.55E+08	0.345615	1.05E+08	0.234267	2.61E+08	0.579882

A4 Continued

Industry code	Sale	Export	Profit	Import	Export ¹
	1000 yuan	1000 yuan	1000 yuan	1000 US\$	1000 US\$
6	247808	210	7247	0	17
7	2403395	842	763526	0	0
8	18847	792	3714	0	88
9	181693	6674	19904	0	350
10	1117217	361538	14748	20560	39085
11	5000	0	-391	0	0
12	1214	0	-224	0	0
13	60583475	14827077	1644970	1388254	1826640
14	28328585	4695277	1349813	590918	643456
15	28491398	1271042	1485689	262042	116880
16	556387	96271	86992	17858	13747
17	76131775	36989857	1104249	2752190	4232686
18	68411629	49079915	1989567	2707706	5975145
19	48281594	35527765	579817	2803001	4089027
20	9960196	3140591	36361	197604	362238
21	6165817	2822024	195020	125920	304284
22	16382031	3407921	546820	600337	677419
23	7064241	1397851	325627	133589	152339
24	17752423	14423753	422270	961609	1554756
25	2888755	631180	32193	137190	237781
26	45335881	10277031	2162828	1105903	1136284
27	16499599	2787418	2073290	223124	378101
28	9906285	2602858	-12578	218773	315415
29	14723080	5849407	147343	365587	620191
30	34568167	14727705	172942	1299806	1676841
31	31635089	6771671	956138	756654	1403057
32	23461930	2191433	667250	195376	237896
33	16107070	2893915	515887	426360	427543
34	40373903	19062962	1198894	2054907	2439648
35	31935455	7002497	2798195	869946	968176
36	14712710	4071522	795439	416157	494422
37	80320456	6091938	4677769	2521039	861076
38	0	0	0	0	0
39	37398	3756	5909	76	437
40	59920621	20543924	2562574	2388014	2341878
41	1.47E+08	87141004	8044584	16585029	19782909
42	16176844	8285861	776597	816327	889371
43	19956914	13313843	554774	1741756	2566271
44	32946749	3876679	4609088	345071	458801
45	501960	21122	4037	17572	2485
46	22670	0	-9589	0	0
Total	1.01E+09	3.86E+08	43332065	45046255	57226740
%		0.381951	0.042856		

¹ Export in yuan and in \$ could be different due to foreign exchange management system and other factors.

A5 Rates of Foreign invested enterprises as Percentages of All Enterprises

100%

Industry code	Capital	Capital, Chinese side	Capital, Taiwan & HK	Total foreign capital	Sales	Export	Profit
06	0.134	0.079	16.152	39.06	0.222	0.005	0.209
07	0.322	0.296	75.411	102.63	1.758	0.007	6.206
08	0.486	0.31	51.125	92.3	0.185	1.003	1.965
09	1.179	0.48	40.052	47.73	0.606	0.958	0.897
10	6.497	1.697	65.733	86.97	3.359	22.099	1.289
12	0.088	0.035	38.292	38.29	0.007	0	-0.034
13	25.351	11.799	44.398	85.37	21.154	57.463	36.042
14	46.547	21.132	47.246	88.16	30.479	38.651	79.307
15	37.187	19.99	40.469	83.99	26.197	37.84	41.246
16	2.033	1.077	55.707	99.47	0.559	2.516	0.691
17	27.919	14.07	68.091	86.27	17.884	28.583	-26.74
18	54.306	28.359	65.624	91.17	50.81	60.505	81.573
19	25.486	9.944	71.465	92.74	54.13	73.212	59.468
20	38.97	20.048	69.235	95.38	27.267	57.689	18.743
21	40.545	20.349	65.311	89.98	37.981	75.094	40.045
22	35.524	15.753	62.457	95.74	20.631	53.407	23.785
23	30.924	16.507	64.621	94.14	23.113	79.378	33.398
24	53.944	22.606	73.457	90.21	60.759	68.875	36.153
25	2.003	1.026	21.814	39.71	1.411	8.503	0.424
26	17.448	7.592	35.352	86.66	12.621	31.619	18.015
27	25.981	15.369	41.037	87.82	18.279	21.893	40.274
28	16.253	9.494	34.787	43.5	12.652	41.473	-0.273
29	31.959	14.242	39.782	82.17	24.98	53.298	28.012
30	47.016	27.471	69.88	90.42	33.027	77.161	20.251
31	21.403	10.82	52.579	87.84	11.403	38.929	16.383
32	3.864	2.164	28.251	47.44	6.234	6.3	5.106
33	14.832	8.53	60.552	83.32	12.513	24.401	12.037
34	38.065	18.477	59.728	90.44	26.639	61.138	45.794
35	17.269	7.87	25.419	89.81	14.502	30.581	41.983
36	12.093	5.675	37.328	79.12	8.953	35.463	29.603
37	21.607	12.003	23.671	69.94	25.214	30.42	53.817
40	32.766	15.893	42.851	88.27	24.171	58.312	34.499
41	55.563	31.19	43.253	90.45	60.63	94.441	68.863
42	33.637	13.699	49.539	92.4	38.824	71.807	112.39
45	3.122	1.257	73.043	99.99	5.487	27.792	0.629
46	0.584	0.338	47.271	50.77	0.128	0	-1.394
Average	0.240674	0.10977		85.49	0.207832	0.520566	0.30386