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FOREIGN DIRECT INVESTMENT IN CHINA AND ITS IMPACT ON MANUFACTURING GROWTH

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ABSTRACT

Foreign Direct Investment (FDI) has been a hot yet controversial topic in the economy of China since the end of the 1970s when China opened its door to the outside world. Today however, the positive role played by FDI in China's rapid economic transition and growth has become obvious and undeniable. Thus, it becomes an interesting and useful task to carry out a thorough study of the economic phenomenon of FDI in China so that a small contribution can be made to both academic research and the policy making debate.

By mainly adopting Dunning's eclectic approach of FDI as the theoretical framework and also trying to adapt the relevant literature to the Chinese situation, this paper examines the quantitative trends and patterns of FDI in China and evaluates the relative contribution of FDI to China's manufacturing growth over the 15 years following the 1979 reforms. The empirical findings reveal that the trends and patterns of FDI in China have been determined by China's overall physical and institutional location advantages created or augmented by government reform policies. As a result, FDI in China has been positively associated with manufacturing growth, in terms of FDI's contribution to total fixed asset investment and therefore to industrial output growth, to manufacturing export growth and to the progress of technology. This study also highlights the problems and constraints faced by FDI in China and therefore the limited role played so far by FDI in China's economic growth, thus recommending the adoption of effective policies to further strengthen China's location advantages so that FDI will grow more rapidly and healthily in China and so will maximize potential gains from FDI.

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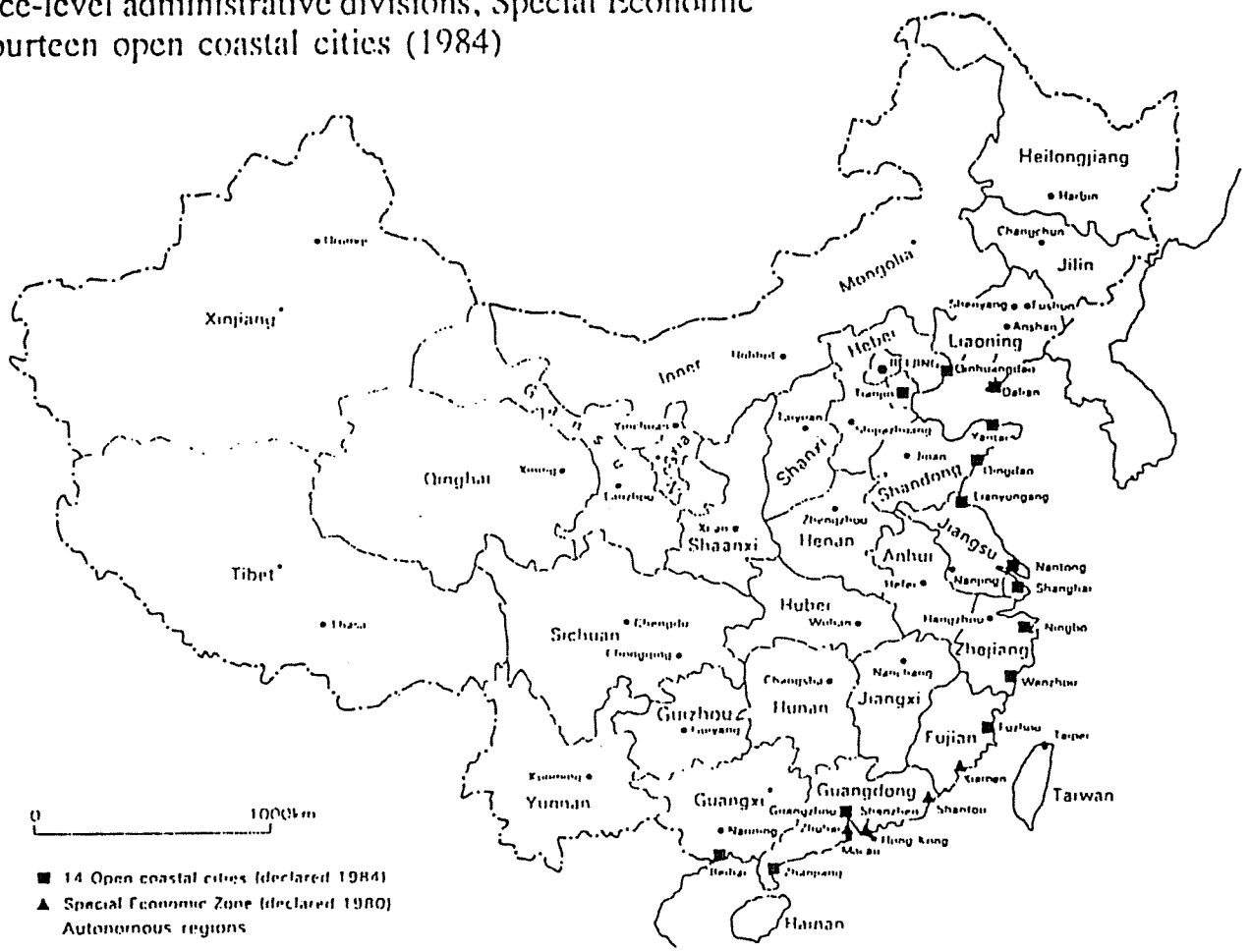
List of Abbreviations

ASEAN	Association of South East Asian Nations
CCP	Chinese Communist Party
CJV	Contractual (or Co-operative) Joint Venture
EC	European Community
Econocoas	Economically Opened Coastal Areas
EJV	Equity Joint Venture
ETDZ	Economic and Technology Development Zone
FDI	Foreign Direct Investment
FFE	Foreign-Funded Enterprise
FPI	Foreign Portfolio Investment
GDP	Gross Domestic Product
GVIO	Gross Value of Industrial Output
MNC	Multinational Corporation
NIE	Newly Industrializing Economy
OCC	Open Coastal City
OCP	Open Coastal Province
OCR	Open Coastal Region
PRC	People's Republic of China
SEZ	Special Economic Zone
SOE	State-owned Enterprise
TFAI	Total Fixed Assets Investment
WFO	Wholly Foreign-Owned Venture

China: Province-level administrative divisions, Special Economic Zones, and fourteen open coastal cities (1984)



CHAPTER 1. INTRODUCTION

1.1 BACKGROUND

After three decades of pursuing an autarchic and central-planing economic strategy, China introduced its ambitious programme of "Reforms and Opening up" in Dec. 1978 and embarked on its long-march to an open market economy. The orientation of its industrialization drive has thus changed dramatically from import-substitution towards outward-looking export-promotion.

As a result of these "Reforms and Opening up", the past years have seen China emerging as one of the most dynamic and fastest-growing economies in the world. During 1978-93, real Gross Domestic Product (GDP) grew at an average annual rate of 9.7%,[1] with the double-digit growth rates of nearly 15% in both 1992 and 1993, while the annual growth rate of manufacturing value-added was 13.7%. Over the same period, merchandise exports increased from $10.4 billion to $91.2 billion, a rate of growth of 16.5% per annum.

Underlying this impressive economic performance was the dramatic structural shift over the post-reform period. Since the mid-1980s, the manufacturing sector has overtaken agriculture as a major contributor to both GDP and foreign-exchange earnings. The share of manufacturing value-added in GDP increased from 35% in 1984 to 44% in 1993, whereas that of agriculture decreased from 35% to 21% over the same period. The share of manufacturing exports in total exports rose from 50% in 1985 to nearly 85% in 1994, while that of primary commodities declined from 50% to 16% during the same period. Thus manufacturing exports have indeed been playing the role of "engine of growth" in China. If the present trend of growth can be sustained, the day when China joins the ranks of the Newly Industrializing Economies (NIEs) should not be far away.

Within a relatively short period, China has successfully transformed itself from an underdeveloped agrarian society into one of the fast-growing potential NIEs. It has been argued that China's sustained economic and export growth over this period is not satisfactorily explained by a steady improvement in allocative efficiency, since the reform process has been gradual and partial in nature. Instead, China's success owes much to "productivity gains from dynamic forces unleashed by the creation of an investment friendly environment and the subsequent inflow of foreign capital, entrepreneurship, technology and market links" (Panagariya 1993, pp.66).

Indeed, in adopting the "open door" policy, China was following the example of the outward-

[1] Unless otherwise indicated, the data used in this chapter are from the World Tables diskette, 1995.

oriented Asian NIEs, where foreign direct investment (FDI) has played a varying but often significant role in economic upgrading (Naya 1990). In contrast to its pre-reform era, Chinese government has been giving high priority in its policies to attract FDI, aimed at promoting exports and technological transfer through FDI to modernize the economy. This paper focuses on the study of the role of FDI played in China's economic transition over the 15 years following the 1979 reforms.

1.2 OBJECTIVE AND SCOPE OF THE STUDY

The main objective of the research is twofold. First, it will examine the overall quantitative trends of FDI and its distribution amongst regions and economic sectors in China, and study which factors determine such trends and patterns of FDI in China. Second, it will assess the relative contribution of FDI to China's manufacturing growth over the post-reform period. This will be done from three aspects: the impact of FDI (1) on capital investment and therefore on industrial output growth; (2) on manufacturing export growth; and (3) on technology progress. The emphasis will be put on above the point (2).

After covering the core study, the paper will then highlight the problems faced by manufacturing FDI in China and elaborate policies to deal with them. It will be seen that for a specific case like China undergoing economic transition, government policies are crucial in determining the growth and the patterns of FDI on one hand, and in affecting the extent to which the potential benefits from FDI can be realized on the other.

1.3 METHODOLOGY AND DATA

The paper draws heavily on relevant literature and available statistical evidence to analyze the FDI performance in China. The approach to be applied in this study is both descriptive and analytical.

Data collecting is cumbersome. Every effort has been made to compile and reconcile the scattered and fragmented data from different sources in order to provide a rounded and integrated statistical framework of FDI performance in China. Still, much key information needed in this paper is incomplete. For example, breakdown data for sectoral distribution of FDI and FDI's share in manufacturing exports for the country as a whole are unavailable, hence, some provincial data will be used instead as a proxy. Furthermore, to remedy data deficiency, the contrast analytical approach will be used in this paper to make comparison of the FDI performance in difference regions, such as in Guangdong and Shanghai --the former is a pioneer FDI recipient and the latter falls far behind the process of attracting FDI and benefiting from it.

Another data problem concerns the definition of FDI in China. To avoid confusion, a detailed explanation of it is provided in Appendix B.

1.4 STRUCTURE OF THE PAPER

The paper is divided broadly into a theoretical section and an empirical section.

Following the introduction, Chapter two presents the theoretical foundations necessary to understand the determinant of FDI and its potential economic impact, both positive and negative, on developing countries. Attention is paid to those arguments that are especially significant for developing countries and their industrialization.

The next two chapters go into the empirical analysis. Chapter three examines the overall trends and patterns of FDI in China and explains how such trends and patterns of FDI reflect China's location advantages, which have been greatly strengthened and augmented by government's open-door policies. Chapter four covers the core study of the paper. It fully assesses the relative contribution of FDI on China's manufacturing growth.

Chapter five analyzes policy recommendations on how to solve the problems that impede the further growth of FDI and the maximization of its potential gains. Finally Chapter six summarizes the main findings of the paper.

CHAPTER 2. THEORETICAL BACKGROUND

2.1 INTRODUCTION

As a starting point for an understanding of the patterns of FDI in China and the role of FDI played in the economy of China, a theoretical framework is necessary. Unfortunately, the theory on FDI seems to be still in its infancy despite of the fact that the importance of FDI and MNCs in the world economy has increased significantly over the past decades.

Traditional explanations of FDI, based on international capital theory, were found unsatisfactory for two main reasons. One is that the simplified assumptions[2] of the Heckscher-Ohlin (H/O) model of international trade upon which it rests made it unrealistic and inapplicable in the real world where the market imperfections are the main characteristics; The other is that traditional explanations fail to capture the key features of FDI, that is, FDI involves the transfer of a whole package of resources, which includes not only the capital, but also the technology and manpower. In addition, FDI involves no change in the ownership of the transferred resources.

The modern theory on FDI and MNCs, developed since the 1960s, is either "macro-oriented", based on international trade theory, or "micro-oriented", based on industrial organization theory. The former includes the location theory (Southward 1953), the currency premium theory (Aliber 1970), the dynamic comparative advantage theory (Kojima 1973) and the level of development theory (Dunning 1981). The latter includes the industrial organization theory (Hymer 1960), the product-cycle theory (Vernon 1966), the risk-diversification theory (Grubel 1968), the internalization theory (Kindleberger 1969, Caves 1971, Buckley and Casson 1976) and the eclectic theory (Dunning 1977).

Given the lack of a better general theoretical explanation of FDI, Dunning's eclectic approach has been widely accepted. Convinced that no single theory can satisfactorily encompass the phenomenon of FDI, Dunning integrates three strands of economic theory, namely the industrial organization theory, internalization theory and the trade/location theory, to form a general framework for explaining why, how and where the MNCs engage in international production, especially the FDI activities.

In section 2.2, we first introduce Dunning's eclectic theory, paving the way for the empirical study of why and how a developing country like China can attract FDI, then we analyze the

[2] The neoclassical (H/O) theory of international trade commonly assume (1) incomplete specialization, (2) perfect competition in factor and good market, (3) identical production function which are homogeneous of degree one in all countries, and (4) identical taste and preferences in all countries.

economic impact of FDI on the developing countries.

2.2 THE ECLECTIC THEORY (OR OLI PARADIGM) ON FDI

2.2.1 The Configuration of OLI Paradigm

The eclectic theory rests on the hypothesis that a firm will engage in foreign direct investment if three conditions are satisfied:

(1) The firm possesses net ownership-specific (**O**) advantages *vis-à-vis* foreign firms serving a particular market. These advantages are exclusive to the firm that owns them and are likely to be transferable across national boundaries.

(2) The foreign country provides certain location (**L**) advantages so that it is more profitable for the firm to utilize its **O** advantages outside its home country. Otherwise, firm will choose exporting rather than FDI to serve the foreign market.

(3) The firm has market internalization (**I**) advantages. That is, it must be more beneficial for the firm to use its **O** advantages through an extension of its own activities. Otherwise, the firm will choose to sell or lease them to foreign firms through licensing or similar contractual arrangements.

The generalized predictions of the OLI paradigm can best be summarized in Dunning's own words:

> "at any given moment of time, the more a country's enterprises-relative to those of another possess O advantages, the greater the incentive they have to internalize rather than externalize their use, the more they find it in their interest to exploit them from a foreign location, then the more they are likely to engage in outbound production. By the same token, a country is likely to attract investment by foreign MNCs when the reverse conditions apply."(Dunning 1993, pp.80).

Based on OLI advantages, Dunning classifies FDI into four types, namely natural resource seeking, market seeking, efficiency seeking and strategic asset seeking FDI (Dunning 1994 pp.35-36). Thus, the extent, form and pattern of FDI are determined by the configuration of OLI advantages. In the following section, we examine in detail what factors are included in these advantages.

2.2.2 A Detailed Explanation of OLI Advantages

(1) The ownership (O) advantages

The concept of ownership advantages, first developed by Hymer in his doctoral dissertation in 1960, forms the cornerstone for the modern theory of MNCs and FDI. Dissatisfied with the neoclassical financial theory of portfolio flows, which sees FDI as a form of capital that moves in response to changes in interest rate differential in a frictionless world of perfect competition, Hymer took the FDI away from it and into the theory of industrial organization. In this way, FDI becomes more than a process of international financial exchange, but rather a mechanism by which the MNCs maintain control over value-added activities outside national boundaries. The result is that FDI generates international production.

For firms to own or control foreign productive facilities and to compete successfully with the indigenous firms which have better knowledge of the local market and business conditions, they must possess some ownership-specific advantages which are sufficient to outweigh the disadvantages of being foreign. These ownership advantages imply the existence of some kind of market failures. In other words, FDI could not exist in a perfect market because local firms would always be able to outcompete foreign entrants.

Following Hymer, a lot of studies have searched for defining the ownership advantages which MNCs may possess. Dunning (1981, 1993) summarizes them into two categories as follows:

(a) Asset-based advantages (Oa), which arise from the structural market failures. These include:

• Tangible assets: exclusive or favourable access to scarce resources such as natural resources, labour, capital, information, etc.

• Intangible assets or capabilities: proprietary technology and trade marks that are protected by patent; management and organizational skills; marketing systems, R&D capacity; human capital and experience, and so on.

• Monopolistic or oligopolistic advantages: due to size (scale economy) and established market position, a firm can achieve superior access to both factor market and goods market, and?or can develop the capacity to take advantage of division of labour and specialization, and?or can have strong influence on government policies.

(b) Transactional cost minimizing advantages (Ot), which arise from transactional market distortions. These include:

(i) Advantages that a branch plant of a national enterprise may have over a *de novo* enterprise (or over an existing enterprise breaking into a new product area).

• Benefits from many of the endowments of the parent company, such as access to cheaper inputs, knowledge of market, R&D capacity, centralized administrative, managerial and accounting procedures. This keeps the costs of a branch plant lower than that of the *de novo* firm who normally have to bear their full costs.

• Efficiency gains from economies of joint operation in purchasing, production, marketing and finance, etc.

(ii) Advantages that arise specifically from multinationality.

• More favoured access to and better knowledge about information, inputs and market.

• Enhanced ability to take advantage of geographic differences in factor endowment, government intervention, market, etc.

• Enhanced ability of risk diversification in different currency areas.

In sum, the ownership-specific advantages, which originated from industrial organization theory, explain "why" a firm can engage in cross-boundary productive activities.

(2) The internalization (I) advantages

While industrial organization theory suggests that for a firm to undertake FDI, it must possess some internally-transferable **O** advantages, one question remains open. That is, why a firm possessing these advantages does not sell or lease them to foreign firms, but instead opts to use them itself in a foreign country.

The question is explained by internalization theory, or the theory of transaction cost. By applying the notion of market failures, this approach helps to explain the route by which a firm chooses to exploit its **O** advantages. Dunning (1993, pp.78) then distinguished market failures as structural and transactional ones. The former rise where there are commercial monopoly power or where government imposes barriers to entry and economic rents are thus earned. The latter mainly rise where the buyers and sellers do not enter the market with symmetrical information; or where exist externalities such as technological spillovers; or where the production is attributable to economies of scale, scope or geographical diversification.

In the presence of these market deficiencies, the market will fail to operate in an efficient or optimal way and firms will choose not to use the mechanism of the market, but instead allocate resources by their own control procedures. In other words, the hierarchical control could replace the market or alternatively can strengthen it (Buckley and Casson 1985, pp.9).

Firms exploit their **O** advantages by internalizing the markets mainly through vertical integration, horizontal diversification, or a combination of these two. The advantages resulting from internalisation may be summarized as follows:

- To avoid search, negotiating and monitoring costs associated with the market transactions.

- To avoid costs arising from asymmetric information and uncertainty.

- To avoid costs of enforcing property rights.

- To capture the benefit of economies of externalities, economies of scale, scope and diversification.

- To avoid or exploit government intervention.
- To control quality and supply/sale of inputs (including technology) and outputs.

(3) Location (L) advantages

The **I** advantages, originally developed by internalisation theory, explain "how" MNCs carry out FDI. However, "why do firms produce in one country rather than in another?". The answer, explained by location theory, is that countries will attract FDI only if they possess certain location advantages. The **L** advantages that are found to be the main determinants of FDI in many empirical studies are as follows:

(a) <u>The market size and the growth of the market</u>

The market, defined here not geographically but in terms of the wealth and the level of development of an economy, is usually measured by GDP in empirical studies.

Market size is one of the most important determinants in explaining FDI in the developed countries, for FDI flowing to these countries are usually capital-, technology- or/and human-resource-intensive types which largely relies on the big market to achieve efficiency of resource allocation and to reap the economies of scale. The empirical studies carried out by economists, such as Bandera and White (1968), Scaperlanda and Mauer (1969), Dunning (1981), etc, all found a significant positive relationship between the level of GDP and FDI

flows to developed countries.

Nevertheless, the GDP growth rate, rather than the absolute level of GDP, is more important in determining FDI flows to the developing countries (Root and Ahmed 1979, pp.758). This is especially true for the Asian NIEs and the second generation of "tigers" such as ASEAN countries and China. The objective of FDI in these countries is mainly to form export-platform, so the domestic market size is of little importance. Instead, the high GDP growth rate provides MNCs with the confidence and opportunity to earn high returns on investments.

(b) Infrastructure development

Once infrastructure is defined in a broad concept so that it includes not only the physical facilities such as transport and communication, but also software such as commercial, legal and educational provisions, it is possible to argue --see Hymer (1971)-- that the foreign investors are attracted by countries actively developing these facilities. Empirical studies also show that the infrastructure is critical for non-extractive FDI in developing countries (Root and Ahmed 1979, pp.757; Jackson and Markowski 1995, pp.169). Efficient infrastructure helps to reduce transaction costs for foreign investors.

(c) Labour cost and productivity

The neoclassical economists tend to emphasis the role of cheap labour in determining the FDI growth in developing countries because it is in line with these countries' comparative advantage. Indeed, it is generally observed that as a result of their losing competitiveness in labour costs, the developed countries and Asian NIEs have increasingly shifted their labour-intensive manufacturing production to the developing countries to take advantage of latter's low labour costs.

Empirical studies, based on neoclassical model of private investment, especially Dunning's eclectic theory, confirm the role of low wage rate in decisions on FDI. For example, Kumar (1994) found that the low average wage rate are one of the attractive features of countries as export platforms for US FDI. Moore's study (1993) on the determinants of German manufacturing FDI also suggests a significant negative relationship between labour cost and FDI. Lucas (1993) found an interesting dual role of wages in determining FDI in East and Southeast Asian countries: as wages rise, FDI tends to be discouraged; but at the same time, as they rise relative to the capital cost, there is a tendency to substitute FDI for labour, so FDI is encouraged.

Other sources of studies incorporate labour productivity into the estimation. For example, based on their twenty-five-country case study, Jackson and Markowski (1995) conclude that

the costs should not be considered in isolation from productivity. Once productivity comes onto the scene, lower costs are not necessarily associated with higher FDI growth. This occurs where high costs are matched by high productivity, or low productivity is compensated for by low costs.

(d) The level of openness

The assertion that countries which increasingly attract large magnitude of FDI are those which pursue outward-oriented strategy has long been established in neoclassical theory (Bhagwati 1978, pp.212; Balassa 1981, pp.16).

Empirical studies carried out by economists, such as Root and Ahmed (1979), Balasubramanyam and Salisu (1991), and Jackson and Markowski (1995), support the above proposition. So as it is shown by the experiences of East and Southeast Asian countries, especially China: after it opens its door to the outside world, the inflow of FDI has never stopped growing.

Moreover, according to Bhagwati (1978), an outward-oriented strategy is also more likely to promote greater efficiency of utilization of FDI than import-substituting strategy. The empirical study carried out by Balasubramanyam *et al* (1996) supports this postulation.

(e) Government policies

Government can play a very important and active role in augmenting a country's location advantages through adopting appropriate commercial, fiscal and monetary policies. The government's role is particularly prominent in areas such as maintaining economic and political stability, promoting investment and outward-oriented industrialization, developing infrastructure and human capital, creating a liberalized and competitive economic environment, and so on. Here, we will focus on an incentive system and exchange rate policies to examine their influence on FDI.

Incentive system

Host countries tend to provide various explicit or implicit incentives to foreign investors, such as tax concessions, tariff reductions and subsidies. Generally speaking, lower tax rates attract higher level of FDI. Jackson and Markowski (1995) find that in the Asia-Pacific region, FDI is growing fastest where taxes are low and investment opportunities are not being exploited by domestic investors.

Similarly, import restrictions through high tariffs tend to discourage FDI. Dunning (1981) finds a significant negative relationship between tariff rates and FDI growth in his study of

US FDI in seven countries. The same result is obtained in Kumar's study (1994) of the US export-oriented FDI. According to him, due to the two-way character of trade between the affiliate and parent corporation, FDI is discouraged by high import tariffs.

Generally speaking, incentives are viewed as being effective in attracting FDI, especially the export-oriented and large-scale FDI in the developing countries (Cable and Persaud 1987, pp.11).

Exchange rate regime

Exchange rates can play a dual role in explaining variations in FDI. On one hand, a devaluation in the host country increases the real value of foreign investors' capital in terms of host country's currency, thus inducing FDI inflows. A revaluation works in the opposite way. The massive outflow of FDI from Japan and Asian NIEs in the late 1980s has been overwhelmingly induced by the appreciation of their currencies.

On the other hand, frequent fluctuation or continuous depreciation in real exchange rate will discourage FDI for the reason that it creates uncertainty. UNCTAD (1993) study on world wide FDI shows a negative relationship between FDI and the variance of the exchange rates in both industrialized and Asian developing countries.

So it is important for the host government to maintain a stable and competitive exchange rate in order to attract more FDI.

(f) Geographical proximity and cultural and linguistic affinities

The trends in FDI from developed countries to developing countries reveal a phenomenon of so-called triad pattern. That is, USA's FDI concentrates in Latin America, Japan's on other Asian countries, and EC's on Africa and Eastern Europe. Now, a new informal regional integration attracts even more attention, this is the core of the so-called Greater China, with massive FDI flowing from Hong Kong and Taiwan to the Southern China.

This phenomenon indicates that with rapid changes in global economic structure and increased competitive need to minimize transportation, time, information and cultural cost, the geographical location and cross-country ideological, linguistic and cultural links become more and more important elements of a country's location attractiveness.

In sum, location advantages determine whether or not FDI takes place and "where" it goes. They even determine the types of FDI. For example, the abundance of raw materials in a host country leads to vertical FDI, cheap labour induces FDI in "offshore production" (Buckley and Casson 1985, pp.13), and a country with highly developed human resources or technological

capacities attracts higher value-added FDI.

Thus, from developing countries' points of view, the **L** advantages have more significant implications for them than **O** and **I** advantages, for they are mainly the host rather than the home countries. The more and better location-specific endowments they possess, the higher the level and the quality of FDI they will attract.

To conclude, having discussed the main tenets of the eclectic theory, we now know that the FDI is the product of the interaction of the **O**, **I** and **L** advantages. It should be noted that these advantages are not static, they change over time (Dunning 1993, pp.80) --again a consideration very important and significant for developing countries like China. For as these countries move from lower to higher levels of development, their **L** attractions will increase, which will help to shift the patterns and structures of FDI from lower value-added industries to more sophisticated ones. During this process, the indigenous firms can even develop their own **O** advantages and form their own MNCs to invest abroad. The eclectic paradigm thus offers a robust tool for analysing the role of FDI as an engine of growth and development (Dunning 1993, pp.85). But then, what is the real impact of FDI on the developing countries? We shall turn to discuss this problem in the following section.

2.3 THE ECONOMIC IMPACT OF FDI ON DEVELOPING COUNTRIES

Attitudes and policies toward FDI in developing countries have undergone a marked change, from hostility and distrust to passive acceptance since the 1970s, and then to active encouragement since mid-1980s. Several considerations lie behind these changing perceptions. The first is the increasing preference for the non-debt-creating forms of capital finance over commercial bank borrowing due to the debt crisis of the early 1980s (Oman 1984, pp.32-35). The second is the growing awareness of FDI's benefits as exemplified by the positive role played by FDI in the Asian NIEs (Naya 1990, pp.305).

In this part, we will discuss both the positive and negative impact of FDI on the developing economies. Although FDI may affect host countries in a wide range of perspectives, such as social, cultural, political and physical environment (Andersson 1991, pp.28-29), for the purpose of this paper, we will only focus on its economic impact.

2.3.1 Economic Benefits of FDI

The transfer of MNCs' ownership-specific advantages, especially their intangible assets such as technology and marketing system, is the real benefit brought about by FDI to the developing countries. We divide the potential gains from FDI into four categories: the gains

from capital accumulation, the gains from increased integration with the world economy, the gains from transfer of technology and the gains from external economy.

(1) The gains from capital accumulation

The experience of the present industrialized and newly industrializing countries demonstrates that industrialization can act as an engine of growth. Industrialization, however, requires huge capital finance which normally can not be supplied entirely by domestic savings, especially in the developing countries where the saving capacity is limited. As a result, foreign finance becomes crucial for the industrial and economic growth in these countries.

In the neoclassical world, FDI is viewed as a source of long-term capital financing, augmenting a host country's capital formation. The role played by capital is best illustrated in Keynesian demand-driven model, in which an increase in investment leads to output growth through a multiplier effect. Also in Solow model, capital mobility increases the assets and long-run per capita income of both capital-exporting and capital-importing countries.

To see FDI as a means of capital accumulation, it is appropriate to make a comparison of it with other forms of capital finance, such as commercial loans and foreign portfolio investment (FPI). In the case of commercial loan, debt-servicing obligation occurs immediately after borrowing no matter whether the project associated with the loan is profitable or not. In addition, the present high interest rates and banks' reluctance to lend also make borrowing unobtainable for many developing countries. In contrast, the repatriation of the profit associated with FDI only occurs when project results are profitable. In respect to FPI, most of the developing countries still cannot attract it substantially due to the underdeveloped domestic financial market. So FDI has become a superior source of external finance in the developing countries.

(2) The gains from increased integration

Theoretically, there have been controversial opinions on the complementarity or substitutability between trade and FDI. The early study by Mundell based on modified H/O model of international trade showed that a tariff-induced capital inflow can be a substitute for commodity trade. However, the violation of its simplified assumptions can reverse this result and generate cases where capital flows lead to greater trade volumes (Naya 1990, pp.289).

Kojima (1978) proposed that FDI undertaken by an investing country's comparatively disadvantaged industry and going to a host developing country's comparatively advantaged industry are trade-oriented and can act as a catalyst for trade and for upgrading structural adjustment in both recipient and home countries.

Empirical studies strongly support the complementary relationship between trade and FDI. In East and Southeast Asian countries, FDI, especially that from Japan, the USA and Asian NIEs, has a significant positive effect on trade expansion, especially on export growth (Naya 1990, pp.299; Lin 1995, pp.746). Furthermore, by introducing into the developing countries the marketing know-how and the access to the international market network, either internalized by the MNCs themselves or through other trading firms, FDI helps the host developing countries to increasingly integrate into the world economy.

The standard analysis of the gains from increased integration recognizes several sources of such gains. The first is the strong empirical association between export growth and either industrial growth or GDP growth (Riedel 1991, pp.70), which underlines the role of trade as an engine of industrial and economic growth. The second is the enhanced comparative advantage: countries specialize more and benefit from one another's different endowments. The third is the efficiency gained from the realization of economies of scale as a result of the enlarged market. And the fourth is the increase in productivity both through participating in international competition and through learning by doing as countries integrating into more advanced, human-capital-abundant economies (Page 1987, pp.50; Romer 1990, pp. 98).

(3) The gains from transfer of technology

Technology here is broadly defined to include not only product innovations but also new production processes, and new organizational and management methods.

Technology progress is crucial for a country to maintain its international competitiveness and thus to sustain the high rate of growth over the long-term. Since MNCs are the prime innovators and are most efficient in realizing the potential of the new technology (Andersson 1991, pp.28), FDI undertaken by MNCs becomes the main, if not the only, effective way for the developing countries to obtain the new technology.

Vernon (1966) product-cycle theory depicts a dynamic process of "catching-up": the new product is initially innovated and manufactured in leading countries and imported by developing countries. As the product becomes mature and standardized, it shifts to developing countries, mainly via FDI, until it takes place entirely in the latter countries. Eventually these developing countries begin exporting the product. In Asia-Pacific region, this process has become so-called "a wild geese-flying pattern" of industrial and trade development (Ozawa 1992): Japan and Asian NIEs have been upgrading their technological capacity to produce and export technology-intensive and human-resource-intensive products, and have been relocating through FDI their labour-intensive and some simply capital-intensive manufacturing activities to the neighbouring developing countries, thus helping to narrow the technological gap between these more advanced and developing countries. As a result, the economies in Asian-

pacific region have been advancing together through changing comparative advantages over time.

Kojima (1978) explicitly analyzed the kinds of technology transfer that are more effective on the developing host economies. According to him, an orderly technology transfer which begins in those industries where the technological gap between transferor and transferrer is smallest can result in faster improvement in productivity and greater spillover effects in developing countries. This kind of transferred technology is usually more labour-intensive and involves less state-of-art technology but more training activities, so it is complementary to the host countries' comparative advantage and can be easily learned, absorbed, diffused and even improved by local entrepreneurs and personnel. In this sense, FDI acts as an initiator and a tutor of industrialization in developing countries. On the contrary, FDI that concentrates in industry where the technological gap is greatest between supplier and recipient will result no technology transfer at all, but only the monopolistic power of foreign firms.

(4) The gains from external economy

According to endogenous growth model, technology is a non-rival and partially excludable good which can generate spillovers on domestic factors of production (Romer 1990, pp. 89). Since technology is embodied in FDI, FDI benefits not only the individual firm or industry that receives FDI, but also the whole host economy through its spin-off effects. This may take place through, for example, the introduction of technology that can be emulated by other firms, the training of workers and managers who may transfer their skills elsewhere, the creation of forward and backward linkages, and the demonstration effects.

2.3.2 The Potential Costs and Negative Effects of FDI

Of course there is no free lunch and all the good things have to be paid for. Each and every benefit of FDI may be accompanied by potential cost and adverse effect on the host developing countries.

FDI involves various payments such as profits, interest, dividends, royalties and management fees which maybe too high to leave much surplus for the host countries after the repatriation. Moreover, MNCs may engage in various tactics to extract rents. A common one is through transfer pricing to maximize their global profit at the expense of the host economy's tax revenue.

Before well established in host economy, both import-substituting and export-oriented FDI may import substantially the raw materials and capital goods to support its production, thus having an adverse effect on the host countries's current account balance. This may be

especially true if the local supporting industries are underdeveloped.

The extent to which the FDI facilitates the technology diffusion and linkage development depends very much on the existing local entrepreneurial and technological capabilities. Where these capabilities are weak, FDI may crowd out local productive activities (Dunning 1988 pp.108; Andersson 1991, pp.28). This mainly happens when the transferred technology is inappropriate, i.e. it is too new or too advanced to complement local industrial systems, thus resulting in waste of resources and monopolistic power of MNCs (Kojima 1978, pp.145; Andersson 1991, pp.28; Leung 1996, pp.515).

FDI may accentuate spatial disparities since it is more likely to concentrate either in existing central locations or agglomerations where the human capital and the infrastructure are better developed, and the growth rate is already higher than in the rest of the country.

The immiserizing growth literature shows that FDI can lead to misallocation of resources and sub-optimal welfare levels, and even reduce welfare below pre-flow levels, when recipient industries are protected (Naya 1990, pp.289).

2.4 CONCLUSION

To conclude, both positive and negative effects of FDI can be expected by host countries. The extent of benefit to be reaped from FDI depends critically on the type of FDI, the economic structure of the host country and the macroeconomic and organizational strategies pursued by the host government (Dunning 1994, pp.35). Cost-benefit analysis is thus necessary for finding the proper policies to stimulate FDI and maximize the benefit from it.

Policies that are generally believed to be effective in attracting FDI and maximizing the positive effects of FDI include those regarding (1) the development of local capabilities such as education, infrastructure and R&D facilities; (2) the promotion of competition such as deregulation and liberalization of the market, the privatization of state-owned industries and the removal of protection; (3) macroeconomic management such as formulating outward-oriented trade and industrialization strategies, maintaining stabilities and liberalizing the financial market.

So far we have provided a theoretical framework for understanding the determinants of FDI and the potential impact of FDI on the host developing countries. We have found out that the type and the magnitude of FDI that a developing country can attract depends largely on the location advantages it possesses, or it can create through appropriate policies. Furthermore, the extent to which the FDI can benefit the host economy is conditioned by certain factors amongst which government policies are again the most crucial elements.

In the following chapters, we will apply this theoretical framework to the case of China to analyze the trends and patterns of FDI in China and its impact on manufacturing growth, especially the manufacturing export growth.

CHAPTER 3. FOREIGN DIRECT INVESTMENT IN CHINA

After nearly three decades of pursuing an autarchic and central-planning development strategy, China launched its market-oriented and outward-looking economic reforms at the end of 1978, aiming to benefit from the experience of the Asian NIEs. Attracting FDI has been one of the major objectives of the open door policy, which is actually part of these reform measures, over the post-reform years. This chapter mainly examines the trends and patterns of FDI in China over this period. But before doing that, it is necessary and useful to firstly analyze the policies that have been crucial in affecting such overall trends and patterns of FDI in China.

3.1 THE FDI POLICY: CREATING AND STRENGTHENING THE LOCATION ADVANTAGES

As analyzed in section 2.2, countries can only attract FDI when they possess certain location advantages. It is noteworthy that at the early reform period, except its huge market size and its comparative advantage in terms of low cost structure and abundant natural resources, China, being a socialist country, possessed little institutional advantages to attract FDI. However, the Chinese government has taken certain measures to generate and strengthen its location advantages. These measures are analyzed as follows:

3.1.1 Setting the Legal Framework for FDI

In July 1979, the Law on Joint Ventures Using Chinese and Foreign Investment was enacted, thus laying down the legal framework for FDI in China. During the early half of the 1980s, efforts were also made to introduce basic laws covering specific issues such as contracts, taxation, foreign exchange and other matters relating to FDI in China.

The legal environment for FDI in the early 1980s was not, however, well defined. Serious problems, often policy induced, existed, such as the non-transparent rules and regulations, restrictions on the use of raw materials, land and labour, annoying red tape involved in approval procedures, and the requirement to earn foreign exchanges. As a result, FDI grew very slowly during the early half of the 1980s (Pomfret 1991, pp.23).

Recognizing these and other problems which impeded the growth of FDI, in Oct. 1986, the Chinese authorities promulgated the "Provisions for Encouragement of Foreign Investment", giving it the common name of the "22 Articles Law", with its implementing regulations published in the next year. This law represented a turning point in China's policy towards FDI, i.e. away from passive permitting and waiting, towards active attracting, in which the Chinese government differentiated amongst types of FDI and singled out "export-oriented" and "technologically-advanced" enterprises for specific encouragement.

Since 1986/87, Chinese authorities quickened their steps to introduce laws and regulations to strengthen the legal framework for FDI. The Law on Enterprises Operated Exclusively with Foreign Capital was promulgated in April 1986, and the long-awaited Law on Co-operative Joint Ventures was finally passed in April 1988. Between 1986 and 1990, laws liberalizing controls on the hiring of personnel and setting wages, and on the use of land by foreign investors were also introduced. Tax laws relating to FDI were harmonized in 1990, establishing uniform income tax rates and preferential terms for all types of foreign-funded enterprises (FFEs). A comprehensive system regarding the protection of intellectual property rights was established during the 1990s. Thirty bilateral agreements on the avoidance of double taxation and 50 bilateral treaties on mutual promotion and protection of investments were signed with major home countries by the end of 1992.

To conclude, starting from a complete vacuum, the Chinese government has introduced a wide range of laws and their associated rules and regulations, providing an increasingly comprehensive legal framework for FDI in China.

3.1.2 Economically Opened Coastal Areas (Econocoas) (see the map of China)

In order to attract FDI, the Chinese government opened up four Southern coastal cities in 1979-80 as Special Economic Zones (SEZs), these were Shenzhen, Zhuhai and Shantou located in Guangdong and Xiamen in Fujian. These SEZs were designed not only to be vehicles of promoting export and absorbing advanced technology through FDI, but also to be "experimental laboratories" in which the market-oriented practices could be first tested on a geographically restricted basis and then generalized to the whole economy if they turned out to be successful.

As the gains from the experiment in SEZs were quickly recognized, more coastal areas were gradually opened up for FDI. These include: 14 Open Coastal Cities (OCCs)[3] designated in 1984, with their Economic and Technology Development Zones (ETDZs); three Open Coastal Regions (OCRs)[4] set up in 1985; Hainan SEZ formed in 1988; and Pudong Development Zone in Shanghai established in 1989.

As analyzed in section 2.2.2 (c), the level of openness is one of the critical location advantages in attracting the FDI inflows. We shall also see later that in China, a lion's

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[3] The 14 OCCs, from north to south, are: Dalian, Qinhuangdao, Tianjin, Qingdao, Yantai, Shanghai, Nantong, Lianyungang, Ningbo, Wenzhou, Fuzhou, Guangzhou, Zhanjiang and Beihai. Amongst which Fuzhou is in Fujian, Guangzhou and Zhanjiang are in Guangdong province.

[4] The three OCRs are: the Yangtze River Delta around Shanghai; the Pearl River Delta in Guangdong; and the Southern Fujian (Minnan) Delta Open Area in Fijian.

proportion of FDI has concentrated in Econocoas areas, especially in Guangdong and Fujian province. Indeed, with all of the four SEZs, three of the 14 OCCs and two of the three OCRs located in their territories, these two provinces have become the most open area for FDI in China. Furthermore, being geographically close to Hong Kong and Taiwan, and being the homeland for over 80% of overseas Chinese (Zhang 1994, pp.46), most of them residing in Hong Kong, Taiwan and other Southeast Asia, Guangdong and Fujian further possess more locational advantages than rest of the country in terms of their geographical proximity and cultural and linguistic affinity to Hong Kong and Taiwan. It will not be surprising to see later that FDI from Hong Kong and Taiwan, which is also the main source of FDI in China, has concentrated in these two provinces.

3.1.3 Incentive Framework

We classify incentives for FDI in China into two categories. One includes various tax incentives and foreign-exchange retention systems; the other includes government interventions that seek to remove the obstacles to FDI. In a Communist country like China, the latter are probably more significant to western investors, at least in the early stage of reforms.

Tax incentives

China offers FDI a very full and complex set of tax concessions which take the form of reduced tax rates, tax holidays and tariff exemptions. According to the Income Tax Law revised in April 1991, the income tax rate for FFEs is 15% in SEZs, ETDZs and Pudong open area, 24% in OCCs and OCRs, and 33% in other regions. These rates contrast with the national 55% imposed on domestic firms.

There is also a plethora of tax holidays and exemptions for FFEs. FFEs which are classified as "productive" and operate for over 10 years can enjoy a tax holiday for the first two profitable years and pay tax at half of the normal rate (depending on their locale, for example, a FFE in SEZs pays 7.5%) for the next three years. FFEs that are qualified as "technologically-advanced" or "export-oriented" enterprises enjoy even more favourable treatment in taxes.

In addition to these tax concessions, FFEs also enjoy various types of import and export tariff exemptions, which also differ amongst different locations.

Foreign-Exchange Retention

A major part of the China's open door policy has been the continuing reform on its foreign exchange regime. To alleviate the constraints caused by the non-convertibility and overvaluation of the yuan, the foreign-exchange retention system was put into practice in 1979 and further revised in 1991. The rate of retention is 70% for electrical and capital goods and

50% for everything else, but 100% for FFEs in SEZs (Fukasaku and Wall 1994, pp.33).

Rather than an "incentive", the retention system can best be considered as the removal of some impediments to foreign investors. It only became an incentive when it was combined with the right to sell such holdings on a swap market where the foreign exchange rate was closer to the equilibrium level than the official rate. The first formal swap market was opened in Shenzhen SEZ in 1985 and later spread to all major commercial centres in China. As a result, export-oriented FFEs could either sell their retention for a premium in swap market, or use it to buy foreign goods, thus they would have more incentives to export and earn foreign exchanges. For import-substituting FFEs, the access to foreign exchanges has been eased substantially.

Obstacle-Removing Interventions

As mentioned in section 3.1.1, the growth of FDI in China has been constrained by lots of policy-induced problems inherent in a command economy during the early stage of reforms, special efforts have been made by both national and local governments to overcome these obstacles. First, massive investment has been directed to the development of physical infrastructures and prior access to it for foreign investors has been encouraged, so has been the access to raw materials and intermediate goods (Fukasaku and Wall 1994, pp.41).

Moreover, the approval right of the FDI applications has been decentralized so as to enable the provinces and municipalities to make full use of their advantages and experiences to attract FDI. The local governments of Guangdong and Fujian were allowed to approve FDI valued below US$100 million, the corresponding figure for other coastal and inland provincial governments was US$30 and US$10 million respectively (Chen 1994, pp.76). Thus, many local governments have made great efforts to simplify the application procedures. For example, the "one stop" shop was pioneered by Dongguan city in Guangdong and is now practised nationwide (Zhang 1994, pp.46-48).

Given their special position in the economy, Guangdong and Fujian have been allowed by the central government to adopt "special policies and flexible measures" to attract and manage FDI. They were given more leeway in determining macroeconomic policies and in setting wages and prices. Banks were also given more freedom to lend locally (Zhang 1994, pp.47).

We have seen that China offers various fiscal, financial and obstacle-removing incentives to FDI. These incentives had removed many distortions of the pre-1979 Chinese economy (Pomfret 1991, pp.67). One characteristic of China's incentive structure is that these measures vary according to the locations, with SEZs and ETDZs ranking the highest, followed by OCCs and OCRs, inland provinces being the lowest. Thus, within the general incentive framework, FDI would move towards open areas which offer higher incentives, which puts Guangdong

and Fujian, with the biggest concentration of open areas, in a favourable position to FDI.

To conclude, China's location advantages have been largely strengthened and augmented by government policies aimed at facilitating the rapid expansion of FDI. These policies have created a more free and open economy, and made both hard and soft environments more favourable to foreign investors. Thus, the policy-induced location advantages, together with the comparative advantage in terms of huge market size and low labour and land costs, have made China one of the most attractive countries for FDI in the world. Within China, in turn, Guangdong and Fujian have become the most attractive locales for FDI. In the following section, we will discuss the trends and patterns of FDI in China, which, as we shall see, have strongly reflected the policy changes over the post-reform years as we mentioned in this section.

3.2 THE TRENDS AND PATTERNS OF FDI IN CHINA

3.2.1 The Growth of FDI in China

From 1979-94, China attracted US$309.24 billion intended FDI, of which US$99.48 (32.2%) has been realized. Total utilized FDI grew at an average rate of 45.4% per annum during the period 1984-94 (as per Table 3.1).

Table 3.1: **Foreign Direct Investment in China,** 1979-94 (thousands of US$ and %)

Year	Contracted FDI	Actual FDI	Utilization rate	Growth of Actual FDI
1979-82 (cumulative)	6999	1767	25.25	-
1983	1917	916	47.78	-48.16
1984	2875	1419	49.36	54.91
1985	6333	1959	30.93	38.05
1986	3330	2244	67.39	14.55
1987	4319	2647	61.29	17.96
1988	6191	3739	60.39	41.25
1989	6294	3773	59.95	0.91
1990	6987	3755	53.74	-0.48
1991	12422	4666	37.56	24.28
1992	58736	11292	19.23	142.01
1993	111435	27514	24.69	143.66
1994	81406	33787	41.50	22.80

Source: Lardy 1995, pp. 1066, and computed.

As shown in Table 3.1, the actual FDI grew very slowly during the first five years of the open door policy. The enaction of the joint venture implementing regulations in late 1983 and the patent legislation in March 1984, together with the opening up of the 14 coastal cities in April 1984, contributed to a slight surge of FDI in 1984-85. Further development of the legal system by introducing "22 Articles Law" in 1986/87 and other laws as mentioned in section 3.1.1, as well as the establishment of more open areas and more incentives offered to FFEs, brought about another boost of FDI in 1988.

Following a brief slowdown in 1989-90 due to the *Tiananmen* incident, FDI inflows picked up again in 1991. The year 1992 saw an unprecedented boom in FDI which continued throughout the next two years. With an inflow of US$34 billion in 1994 --more than triple that of 1992-- China has become the second largest recipient of FDI in the world, following the United States (UNCTAD 1995, pp.54). The dramatic increase in FDI inflows in 1990s can be attributed to, among other things, the more liberalized and favourable FDI regime, a stable and fast growing domestic economy, the relatively low costs of labour and land, and the economic restructuring experienced in Asian NIEs, especially in Hong Kong and Taiwan (Zhang 1993, pp.123; Lardy 1995, pp.1066-67).

3.2.2 The Form of FDI in China

Referring to Table 3.2, during the first half of the 1980s, FDI was dominated by Contractual Joint Ventures (CJVs), joint exploration, compensation trade, processing and assembly. These types of investment involve relatively low risks and low financial contribution, indicating a more cautious attitude of the foreign investors in the early reform period.

However, growing with an accelerating pace, Equity Joint Ventures (EJVs) have gradually gained importance. Since 1987, the share of EJVs in FDI has risen to more than 50%, while that of CJVs has decreased to around 20%, and that of joint exploration, compensation trade and others decreased even further. The gap has been filled by the dramatic increases in FDI in the form of Wholly Foreign-Owned Ventures (WFOs) since 1988. This changing pattern underlines the increasing confidence felt by foreign investors seeking to make long-term and large capital commitment, in the wake of the improvement in China's legal framework and investment environment (Kueh 1992, pp.647).

Table 3.2: **Realized FDI by types of ventures,** 1979-91, (millions of US$ and % share in brackets)

Year	FDI total	Equity JV	Contractual JV	Joint exploration	WFO venture	compensation trade	others
1979-81 (average)	373.56 (100)	21.77 (5.83)	117.77 (31.53)	106.04 (28.39)	0.33 (0.09)	94.08 (25.18)	33.57 (8.99)
1982	649.27 (100)	34.29 (5.28)	177.77 (27.38)	178.52 (27.50)	39.31 (6.05)	122.40 (18.85)	96.98 (14.94)
1983	915.96 (100)	73.57 (8.03)	227.38 (24.82)	291.50 (31.82)	42.76 (4.67)	197.28 (21.54)	83.47 (9.11)
1984	1418.85 (100)	254.73 (17.95)	465.02 (32.77)	522.92 (36.86)	14.94 (1.05)	98.45 (6.94)	62.79 (4.43)
1985	1956.15 (100)	579.88 (29.64)	585.04 (29.91)	480.61 (24.57)	12.95 (0.66)	168.59 (8.62)	129.08 (6.60)
1986	2243.73 (100)	804.47 (35.85)	793.79 (35.38)	260.33 (11.60)	16.30 (0.73)	181.10 (8.07)	187.74 (8.37)
1987	2646.61 (100)	1485.82 (56.14)	619.96 (23.42)	183.20 (6.92)	24.55 (0.93)	222.26 (8.40)	110.82 (4.19)
1988	3797.66 (100)	1975.40 (52.82)	779.93 (20.86)	212.19 (5.67)	226.16 (6.05)	316.59 (8.47)	229.39 (6.13)
1989	3773.45 (100)	2037.16 (53.99)	751.79 (19.92)	232.20 (6.15)	371.42 (9.84)	261.29 (6.92)	119.19 (3.16)
1990	3754.87 (100)	1886.07 (50.23)	673.56 (17.94)	244.31 (6.51)	683.17 (18.19)	158.74 (4.23)	109.02 (2.90)
1991	4667.00 (100)	2299.00 (49.26)	764.00 (16.37)	1135.00 (24.31)	170.00 (3.64)	208.00 (4.46)	92.00 (1.97)

Source: Kueh 1992, pp.645; Chen and Ho 1994, pp.50.

3.2.3 The Sources of FDI in China

As of the end of 1993, firms from more than 110 economies have invested in China. In terms of the share of the cumulative FDI inflows between 1979 and 1992, Hong Kong ranks the

first (59%)[5], followed by Japan (12%), the United States (9%), Taiwan (4%), Germany (2%) and Singapore (1%) (Zhang 1993, pp.125).

Table 3.3: **Distribution of Actual FDI by sources** (millions of US$ and %)

	1986		1989		1992	
	Value	Share	Value	Share	Value	Share
Total	1874.89	100.0	3392.57	100.0	11007.51	100.0
OECD Subtotal	709.93	37.9	916.99	27.0	1594.14	14.5
Japan	201.33	10.7	356.34	10.5	709.83	6.4
U.S.	314.90	16.8	284.27	8.4	511.05	4.6
Germany	19.28	1.0	81.39	2.4	88.57	0.8
Canada	0.00	0.0	16.95	0.5	58.24	0.5
France	42.30	2.3	4.60	0.1	44.93	0.4
U.K.	26.83	1.4	28.48	0.8	38.33	0.3
Others	83.33	4.4	74.70	2.2	75.72	0.5
Asia Subtotal	n.a.	n.a.	n.a.	n.a.	9145.51	83.1
HK & Macao	1132.37	60.4	2077.59	61.2	7709.07	70.0
Taiwan	n.a.	n.a.	n.a.	n.a.	1050.50	9.5
Singapore	13.00	0.7	84.14	2.5	122.31	1.1
South Korea	n.a.	n.a.	n.a.	n.a.	119.48	1.1
Thailand	9.10	0.5	12.68	0.4	83.03	0.8
Others	1.98	0.1	3.29	0.0	61.12	0.5

Note: The data are inclusive of FDI in EJVs, CJVs, WFOs, and joint exploration.
Source: Fukasaku and Wall 1994, pp.75.

In a dynamic perspective, as shown in Table 3.3, the share of FDI inflow from OECD countries, especially those from Japan and the U.S., has declined since mid-1980s, while that from Hong Kong and Taiwan has increased tremendously during the same period. Particularly Taiwan has become the second largest home economy of FDI in China since 1992, second only to Hong Kong. The complementarity of the economic structures, the geographical proximity and the extensive social ties certainly has facilitated the rapid expansion of FDI and trade between Hong Kong/Taiwan and mainland, especially Southern, China.

Recent years also saw an accelerated growth of FDI in China from South Korea and

[5] Although investment from Hong Kong account for a large share of total FDI inflows in China, some of them actually originated from other countries, including Taiwan. Moreover, a number of Hong Kong parent firms are themselves joint ventures between foreign and local companies (Zhang 1993, pp.125; Fukasaku and Wall 1994, pp.73).

Singapore as these two Asian NIEs have become the new-comers in the process of relocating the labour-intensive industries to the low-cost and low-risk neighbouring countries.

3.2.4 The Regional Distribution of FDI in China

Referring to Table A1, it can be observed that FDI inflows in China have heavily and increasingly concentrated in Econocoas areas. In 1992, nearly 90% of the actual FDI flew to 11 open coastal provinces and municipalities (OCPs), of which Guangdong alone accounted for a third of the total FDI, followed by Jiangsu and Fujian. Certainly 5 SEZs and 14 OCCs located in these areas have played a significant role in attracting FDI. As of 1991, these SEZs and OCCs, taken together, accounted for 62% of the total realized FDI in China (Fukasaku and Wall 1994, pp.76), three SEZs in Guangdong along shared nearly 20% and Shenzhen along accounted for 14% (Kueh 1992, pp.652).

The dynamic regional redistribution of FDI reveals that there has been a significant shift in the focus of FDI from pinner SEZs to Pearl River delta and Southern Fujian delta, and then to other coastal frontiers, especially Jiangsu, Shandong and Liaoning. The interior provinces are still out of favour for FDI in China because of, amongst other things, their poor infrastructure and the lack of ethnic ties with overseas Chinese investors.

At present, there are four main economic areas competing for FDI. One is the Pearl River Delta in Guangdong where about 37% of the total FDI in China is located as of 1992. In this area, Hong Kong investors are playing a leading role, together with those from Taiwan, Japan, the U.S. and Europe. It is noteworthy that Guangdong alone accounted for about 55% and 25% of the realized FDI in China from Hong Kong and Taiwan respectively. Another area is the Southern Fujian delta along the Taiwan Strait, where about 13% of the total FDI is located and investors from Hong Kong and Taiwan are the leading players. A third area is the Yangtze River delta including Shanghai, Jiangsu and Zhejiang, which accounted for about 20% of the total FDI and investors from Hong Kong, the U.S., Europe and Japan are playing a leading role in this area. Finally a fourth area is located along the Bohai Sea delta in Northern China, including Beijing, Tianjin, Shandong and Liaoning. This area attracted about 18% of the total FDI. Japanese and South Korea investors are dominant figures in both Liaoning and Shandong provinces because of their geographical proximity, while investors from Hong Kong, Japan, Taiwan, the U.S. and Europe play a major role in Beijing and Tianjin (Fukasaku and Wall 1994, pp.76; Ash and Kueh 1993, pp.731-32).

3.2.5 The Sectoral Distribution of FDI in China

Between 1979 and 1991, some 74% of total FDI in China concentrated in the industrial sector, another 23% went to the service sector, while agriculture only received 3% of total FDI

(Zhang 1993, pp.127). A significant structural shift of FDI has been experienced during this period.

In the early 1980s, the sectoral composition of FDI in China was strongly skewed towards the service sector, especially luxury hotels and other tourism-related projects. Another large category was the resource-based FDI, mainly engaged in oil exploration activities. The early amount of FDI engaged in manufacturing activities was small and mainly focused on small-scale, short-lived industrial processing and subcontracting activities.

Starting from 1987, when the Chinese authorities passed the "22 Articles Law" and its implementing rules, FDI started to move away from the service and into the manufacturing sector, as shown clearly in Table A2. For country as a whole, the share of actual FDI in manufacturing sector increased dramatically from 40% in 1985 to nearly 90% in 1990, while that in the service sector declined from more than half to only 10% over the same period. The same trend also holds good for nearly all the coastal provinces and cities, where data is available.

Moreover, there has been a significant diversification of FDI activities within the manufacturing sector since the late 1980s. The "22 Articles Law" and its implementing rules identified export-oriented and technologically advanced FFEs in transportation, communication, energy, metallurgy, construction materials, machinery, chemicals, pharmaceutical, medical equipment and electronics as "high priority" areas for foreign investors. As a result, FDI has grown rapidly in these industries since the late 1980s (Fukasaku and Wall 1994, pp.76). Unfortunately, the sectoral breakdown data are not available for the country as a whole. Considering the fact that Guangdong is the largest recipient of FDI in China, it makes sense to use Guangdong as a "window" to analyze the patterns of industrial distribution of FDI in China, since the structural characteristics of FDI in Guangdong provide a good approximation to those of the country as a whole (Pomfret 1991, pp.102-106 and 141; Thoburn *et al* 1992, pp.217).

As shown in Table 3.4, manufacturing investment from Hong Kong mainly concentrated in labour-intensive industries, such as electronics, toys, garments, textiles and plastic industries, the output of which is destined exclusively or overwhelmingly for re-export through Hong Kong (Leung 1996, pp.526). Industries that received only small amount of FDI from Hong Kong are generally capital-intensive, design-intensive or non-export-oriented, such as chemicals, jewelry and food processing industries.

Taiwanese FDI in China resembles the similar characteristic as that of Hong Kong, i.e. it is also heavily concentrated in labour-intensive industries such as electrical and electronics, plastic products, footwear, textiles and clothing, of which a large proportion of output is for

export (Fukasaku and Wall 1994, pp.84; Chen 1994, pp.83).

Table 3.4: **Hong Kong Manufacturing FDI in Guangdong**, by sector (%), 1991

Sector	Investment (%)
Electronics	25
Toys	19
Garments and Textiles	16
Plastics	11
Metal and Machinery	9
Electrical and Optical	7
Paper and Printing	5
Chemical	2
Watches	2
Food	1
Jewelry	1
Others	2

Source: Leung 1996, pp.524.

Table 3.5: **Non-Hong-Hong EJV Manufacturing FDI in Guangdong** (%), 1978-91

Sector	U.S.	Japan	Other Western	Other Asian	Total
Electronics	27.1	26.9	11.1	11.7	18.6
Construction Materials	0.0	26.5	7.1	41.9	15.3
Transport equipment	5.6	2.4	40.3	0.8	14.1
Chemical	17.8	17.0	0.0	17.1	12.3
Other	49.5	27.2	41.5	28.5	39.7

Source: Leung 1996, pp.525.

By comparison, besides the concentration in the electronics industry, non-Hong-Kong investment is largely of the capital-intensive, market-seeking types which cluster in industries such as construction materials, transport equipment and chemicals (see Table 3.5). In aggregates, the U.S. and other western investments are sectorally more diversified, reflecting their active sourcing and market development strategies (Leung 1996, pp.525).

The massive inflows of the labour-intensive manufacturing FDI from Hong Kong and Taiwan have been largely driven by the changing comparative advantages and economic restructuring experienced in these countries. The soaring labour costs and land prices in Hong Kong and Taiwan as a result of their fast economic growth, coupled with the sharp revaluation of their currencies since mid-1980s due to currency re-alignment, have made their labour-intensive industries less competitive in the world market. Moreover, after three decades of export-oriented industrialization, both Hong Kong and Taiwan, have been undergoing a

transformation from the first stage of development, which relies on the export of labour-intensive products, to a stage in which capital- and technology-intensive products are exported (Chen and Ho 1994, pp.30-34). As a result, these two Asian NIEs have been increasingly relocating their traditional manufacturing activities to lower-cost bases.

The opening-up of the China came at the right time. With its favourable investment policies, geographical proximity and ethnic affinity, and above all, its abundant supply of cheap labour and land, China has been able to attract successfully an increasing volume of "offshore" labour-intensive manufacturing FDI from Hong Kong and Taiwan since the mid-1980s.

3.3 CONCLUSION

China's open door policy since 1979 has strongly strengthened and augmented China's location advantages and resulted in a massive inflow of FDI over the past reform period, especially since mid-1980s. The most important source countries of FDI are Hong Kong, Japan, the U.S. and Taiwan. Geographically, FDI has concentrated in the coastal open areas, especially Guangdong and Fujian. Sectorally, FDI has focused on manufacturing activities, in which the investments from Hong Kong and Taiwan are more labour-intensive and export-oriented, while those from western countries are more capital-intensive and domestic-market-oriented.

Over the past decade, FDI has become well established in China and has increasingly become an indispensable part of the economy. Has FDI been a success in China? In the following chapter, we will turn to assess the role played by FDI in the process of China's economic transformation from a backward agrarian society into a fast-growing potential NIE.

CHAPTER 4. THE IMPACT OF FDI ON CHINA'S MANUFACTURING GROWTH

To achieve the objectives of industrialization and economic development, the Chinese government has long viewed FDI as not only the means of obtaining scarce capital, but also, more importantly, the major way of promoting export and technology transfer. As analyzed in the theoretical section, 2.3.1, these are also the main benefits which can be expected from FDI. Having examined the major trends and patterns of FDI in China in Chapter 3, we turn to evaluate in this chapter the impact of FDI on China's manufacturing growth.

The measures used to assess this impact include FDI's contribution (1) to capital formation and thereby to gross value of industrial output (GVIO) growth; (2) to manufacturing export growth; and (3) to technology progress.

4.1 CONTRIBUTION TO CAPITAL FORMATION AND TO GVIO GROWTH

Foreign investment fills the gap between domestic savings and investment. In China, however, saving rates have been exceptionally high relative to investment rates due to some historical and ideological reasons, and foreign investment inflows, including FDI, have contributed little or even negatively to China's savings-investment balance in most of the post-reform years, as shown in Table 4.1. Nevertheless, it would be completely wrong to conclude that China can achieve industrialization and economic development by self-reliance. In a command economy like China, resources have usually been poorly allocated. Savings and investment have largely been channelled to low-productive inland regions and profit-loosing state-owned enterprises (SOEs) for political reasons. As a result, the growth in coastal regions and in many productive or new manufacturing industries has been constrained by capital shortages. An absorption of nearly US$100 billion of FDI between 1979-94 (as per Table 3.1) has just provided a powerful supplement to the limited supply of capital in these regions and industries.

Table 4.1: **Investment and Savings,** selected years (% of GDP)

	1980	1985	1988	1989	1990	1991	1992	1993
Gross domestic investment	30.1	38.6	38.1	36.8	33.2	32.7	34.4	41.2
Gross national savings	30.2	35.1	37.5	36.5	37.4	37.3	37.2	40.3
Net foreign savings	-0.1	3.5	0.6	0.3	-4.2	-4.6	-2.8	0.9

Source: The World Tables diskette, 1995

Table 4.2: **Contribution of FDI to TFAI and GVIO,** 1985-90 (%)

	FDI share in TFAI				*Sanzi*[6] share in total GVIO					Average annual GVIO growth rate
	85	88	90	85-90	87	88	89	90	91	
SEZs	16.0	15.6	33.7	23.7	-	-	52.1	50.0	55.0	32.7
Shenzhen	18.4	25.5	34.7	30.5	61.5	63.3	59.0	68.4	68.2	44.5
Zhuhai	16.1	14.3	34.6	19.4	-	-	45.2	34.2	47.5	45.9
Shantou	4.8	4.7	49.2	11.5	-	-	30.5	22.5	33.3	16.3
Xiamen	18.3	14.4	19.8	22.8	30.2	43.2	48.3	45.7	53.8	27.3
OCCs	3.1	3.9	6.6	4.8	2.0	3.5	3.6	3.3	8.7	6.8
Dalian	1.9	7.2	33.4	10.1	-	-	-	2.8	5.0	9.6
Tianjin	1.4	2.6	2.0	2.6	1.4	2.3	3.4	4.2	4.1	5.7
Qingdao	0.6	1.8	7.7	4.7	-	-	0.8	1.1	2.5	14.8
Shanghai	2.7	3.3	3.7	4.2	1.2	2.2	3.5	-	-	4.4
Guangzhou	8.0	6.4	9.5	7.0	3.3	7.5	12.2	15.5	21.0	12.1
OCPs	2.9	3.8	6.8	4.3	-	-	-	-	-	12.2
Liaoning	0.5	1.8	4.7	2.1	-	-	0.3	0.8	-	5.8
Hebei	0.2	0.3	1.2	0.5	-	-	-	-	-	8.6
Shandong	0.5	1.1	2.7	1.4	-	-	0.1	0.4	-	14.5
Jiangsu	0.7	1.2	1.8	1.2	-	-	-	-	-	13.2
Zhejiang	0.7	0.7	0.9	0.8	-	-	-	-	-	12.5
Fujian	6.3	5.9	14.1	8.6	9.7	14.0	15.6	21.4	-	15.9
Guangdong	10.0	13.6	18.6	14.1	-	-	-	-	-	17.6
Hainan	6.6	21.5	12.5	11.9	-	6.5	10.0	8.6	14.3	10.8
Guangxi	2.1	1.0	2.5	2.3	-	-	-	-	-	9.5
Beijing	2.8	11.5	7.0	6.6	-	-	4.8	6.1	-	7.7
PRC total	2.3	3.1	4.0	3.1	-	-	-	3.6	5.0	9.5

Source: Kueh 1992, pp.656, 660 and 662; Zhang 1993, pp.135

The above-mentioned point is best illustrated by Table 4.2, from which we can see that for China as a whole, FDI has only contributed marginally (3.1%) to the Total Fixed Assets Investment (TFAI) during the latter half of the 1980s[6]. However, the impact of FDI on TFAI in Econocoas areas has been much greater and grown much faster than in the rest of the country. No surprising, it is the SEZs that enjoyed the highest shares: 24% during 1985-90, followed with the pioneer OCPs such as Guangdong, Fujian and Hainan.

Since investment can translate into output as analyzed in section 2.3.1 (1), it is reasonable to hypothesize that in China, the growth of FDI, through its contribution to TFAI, should *a priori* have been accompanied by accelerated industrial expansion, especially since mid-1980s when FDI shifted from the service sector to the industrial sector (see Table A2). This hypothesis is supported by data shown in Table 4.2. It can be observed that firstly, the contribution of *Sanzi* to Gross Value of Industrial Output (GVIO) increased markedly across all Econocoas areas in the late 1980s, although it varied greatly between regions in a manner which is consistent with regional differences in FDI share in TFAI. Secondly, the growth of GVIO in these regions was strongly positively correlated with the FDI share in TFAI during 1985-90. For SEZs as a whole, the rate of growth of GVIO between 1985 and 1990 -- averaging 33% per annum-- was extremely high. Considering the absence of manufacturing bases in this area prior to the open door policy, such an achievement is surely impressive. The growth of GVIO in pioneer OCPs was also much higher than the moderate national level during the same period.

By contrast, Shanghai --a formerly most important Chinese industrial centre-- has fallen far short of Guangdong and Fujian provinces. Its GVIO grew at only 4.4% per annum during 1985-90, compared with 17.6% in Guangdong. It is no coincidence that FDI share in TFAI in Shanghai was only 4%, compared with 14.1% in Guangdong. In addition, unlike Guangdong where FDI has highly concentrated in productive manufacturing industries, FDI in Shanghai has been mainly oriented to the service sector (see Table A2).

Another important point, revealed by Table 4.2 is that given the accelerated expansion of FDI absorption during the latter half of the 1980s in the new OCPs such as Jiangsu, Zhejiang, Shandong and Liaoning, as well as in new OCCs such as Dalian, Qingdao, Tianjin and Shanghai, it seems more likely that FDI will translate into higher industrial output growth in these regions in the near future. There remains a great potential for these late-comers to catch up with the pioneer FDI recipients both in terms of obtaining higher FDI share in TFAI and achieving higher rates of GVIO growth.

Sectorally speaking, although the breakdown of industrial FDI data is not available, the

[6] This share increased to 8% in 1992 (Zhang 1993, pp.134).

evidence shows that the impact of FDI on TFAI and on GVIO growth has been sizeable in industries such as energy, textiles and clothing, footwear, food processing, electric appliances, electronics, automobiles and more recently, in raw materials, telecommunications and transportation (Zhang 1993, pp.134). Taking Guangdong as an example, the average annual rate of growth of GVIO between 1985 and 1991 has been highest in industries with extensive FDI absorption, these included electronics (33%), garments (38%), chemical (25%), chemical fibre (41%) and plastics, including toys (29%) (Leung 1996, pp.528).

In conclusion, FDI has facilitated structural transformation and contributed decisively to industrialization in China through its contribution to capital investment and to industrial output growth. This is especially true in SEZs and coastal regions where FDI has concentrated. Moreover, FDI has also facilitated the initiating and upgrading of some manufacturing industries, such as electronics and automobiles, by easing capital constraints, thus helping to transform them from infant industries into China's key industries.

4.2 CONTRIBUTION TO MANUFACTURING EXPORTS

4.2.1 Exports and FDI: A Complementary relationship?

Export promotion through FDI is one of the key reasons for China's desire to attract FDI. But as analyzed in theoretical section 3.2.1 (2), FDI may substitute for, rather than complement, trade. To see whether FDI creates manufacturing exports in China, we should examine FFEs' export propensities, as measured by export-output ratios. Although the data is incomplete, the available evidence reveals that regions with higher FDI absorption also enjoy higher FDI share in exported GVIO. For example, in 1991, *Sanzi* enterprises contributed on average 55% of GVIO, but 76% of exported GVIO in the four SEZs. The corresponding figures for Guangzhou were 21% and 66%. In the same year, the average *Sanzi* share of GVIO and exported GVIO in OCCs were 9% and 37% respectively. Even in Shanghai where FDI share in GVIO was only 6% in 1991, its share of exported GVIO was 18% in that year. It has been estimated that in the early 1990s, *Sanzi* enterprises in SEZs and OCCs taken together accounted for about 20% of total GVIO produced in these areas but contributed more than half of the exported GVIO (Kueh 1993, pp.666). These findings imply that most FFEs have targeted their industrial output towards world markets, they are generally much more export-oriented than domestic firms and those in the SEZs are the most export-oriented.

In addition, considering the fact that nearly two-third of FDI has come from Hong Kong and Taiwan since China opened its door to FDI, and the fact that the objective of FDI from these two economies has been to build an export platform in China in order to secure their losing competitive advantages in labour-intensive manufactured products (see analysis in section 3.2.5), there is no doubt that most of the FDI are trade-oriented as defined by Kojima (see

analysis in section 2.3.1 (2)), which complement, rather than substitute for, the manufacturing exports in China.

4.2.2 Export Performance

The rapid expansion of China's exports after 1978 is one of the remarkable features of the impact of the open door policy. Between 1978 and 1994, China's merchandise exports grew on average by 17.5% per annum --twice as fast as the global trade, and this figure for manufacturing exports is 20% during 1980-94[7]. (China Statistical Yearbook, various years).

Table 4.3: **Exports of *Sanzi* Enterprises,** 1985-94 (millions of US$ and %)

Year	US$ millions	% of total exports	annual growth rate (%)
1985	320	1.1	
1986	480	1.6	50.00
1987	1200	3.0	150.00
1988	2460	5.2	105.00
1989	4920	8.3	100.00
1990	7800	12.5	58.54
1991	12100	16.8	55.13
1992	17400	20.4	43.80
1993	25240	27.5	45.06
1994	34710	28.7	37.52

Source: Lardy 1995, pp.1075

No one can deny the decisive role played by FDI in China's spectacular export performance. An econometric model has been constructed to estimate the relative contribution of FDI to China's manufacturing export growth. But the regression result turns out to be meaningless due to the non-stationarity of the variables as well as the residuals (see Appendix C). Anyway, an assessment of the export contribution of FDI can still be made by analysing the empirical data shown in Table 4.3. It can be seen that the share of *Sanzi* exports in total Chinese exports increased from negligible in the early reform years to over 5% in 1988 and 20% in 1992. In 1994, that share reached almost 30%. Given that the absolute volume of *Sanzi* exports have grown at an average annual rate of 71.7% during 1986 and 1994 --a rate that substantially outstripped the merchandise export growth rate of 18.2% during the same period-- this is really a remarkable achievement. The data covering **FDI share in total manufacturing exports** are missing, nonetheless, the available information shows that this share has been

[7] This performance owed most to the accelerated growth after 1985. The average annual growth rate of merchandise exports was 16.7% between 1978-85 and 18.2% during 1986-94. The corresponding figures for manufacturing exports were 9.1% between 1980-85 and 25.5% during 1986-94.

even higher, particularly in industries where FDI concentrated, such as electronics, machinery, footwear, toys, travel goods, textiles and clothing (Zhang 1993, pp.135).

Even more remarkable is the fact that this achievement derived almost entirely from the spectacular export performance in Econocoas areas where the share of *Sanzi* exports in total exports has been much larger than the national level, although with regional differences which are again consistent with those of the FDI share in TFAI and in total and exported GVIO (see Table A3 & 4.2).

Not surprisingly, it is the SEZs as well as Guangdong and Fujian that contributed most to China's overall export growth. The export growth rates in these two OCPs have been much faster than those of the country as a whole. Guangdong's exports grew at an average annual rate of 20.3% during 1978-91, and it grew by a further 32% in 1992. The export growth rate in Fujian was even higher since it started from a much lower base level. As a result, Guangdong's share in China's total exports rose from 12% in 1980 to 21% in 1991, that of Fujian's increased from 2% to 4% during the same period. Equally striking was the spectacular decline of Shanghai's contribution to China's total exports: it fell from 23.4% in 1980 to 8% in 1991. Thus Guangdong has overtaken Shanghai to become China's largest exporter since the early 1990s. The available evidence suggests that without Guangdong and Fujian, China's trade surplus in 1990 would have reduced by 70%! (Lardy 1992, pp.711; Ash and Kueh 1993, pp.722).

China's, especially Guangdong and Fujian's, success has been attributed overwhelmingly to the FDI-related exports to Taiwan and especially to Hong Kong. Indeed, accompanying the increasing inflow of FDI from Hong Kong, the share of exports to Hong Kong from China's total exports increased from 22% in 1979 to 53% in 1991. Even more striking is the increasing share of re-exports from Hong Kong as a portion of China's total exports, it increased from 5.6% to 40.5% during the same period (Chen and Ho 1994, pp.45). The data covering the FDI share in these exports is not available. But taking an example, in 1991, 85% of total Guangdong's exports and 37% of Fujian's exports were destined for Hong Kong. *Sanzi*'s share was about 40% with processing and compensation trade bringing another 6.5% in Guangdong. The corresponding figures in Fujian were 45% and 10%. Almost all these exports were manufactured products (Ash and Kueh 1993, pp.723-725).

In addition to the rapidly growing exports that have been generated directly by FDI, FDI has also contributed indirectly to China's exports by providing intermediate inputs to domestic producers who export the final products. Moreover, FDI has brought to China the marketing skills and market channels needed for integrating into the world economy, thus further helping indirectly to promote exports and increase efficiency in the economy of China. We shall comment more on this point in section 4.3.

4.2.3 Structural Change

Table 4.4: **Chinese exports and commodity composition of exports,** 1978-94
(billions of US$ and % share in total exports)

Year	Total Exports value	Primary %	Manufactured %	Textiles %	Light Industry %	Heavy Industry %
1978	9.8	-	-	21.9	25.0	25.5
1979	13.7	-	-	21.1	23.9	31.9
1980	18.2	50.5	49.5	17.9	24.0	39.4
1981	22.0	46.6	53.4	16.7	22.3	43.4
1982	22.3	45.0	55.0	16.8	20.8	47.5
1983	22.2	43.3	56.7	18.8	22.3	43.0
1984	26.1	45.7	54.3	20.2	19.3	43.3
1985	27.4	50.6	49.4	19.7	20.0	42.8
1986	30.9	36.4	63.6	24.1	24.3	32.3
1987	39.4	33.6	66.4	23.6	25.9	33.6
1988	47.5	30.4	69.6	22.9	27.5	32.5
1989	52.5	28.6	71.4	24.8	28.1	31.9
1990	62.1	25.6	74.4	-	-	-
1991	71.8	22.5	77.5	-	-	-
1992	85.0	20.1	79.9	-	-	-
1993	91.8	18.2	81.8	-	-	-
1994	121.0	16.3	83.7	-	-	-

Source: China Statistical Yearbook, various years.

The post-reform period has witnessed not only the pronounced growth of China's exports, but also dramatic changes in China's export structure. Referring to Table 4.4, in 1980, at the onset of China's open door policy, the primary products accounted for more than half of China's total exports. Since 1985, its share has fallen continuously and the share of manufactured goods rose sharply from less than half in 1985 to about three-quarters in 1990. It further increased to nearly 85% in 1994. The result was to put China in such a prominent position in the world economy that by 1991 China had become the second largest supplier of manufactured goods from non-OECD countries to the OECD member countries, it was second to Taiwan. And by 1994, China was the eighth largest manufacturing exporter in the world (Fukasaku and Wall 1994, pp.64; Lardy 1995, pp.1075).

Moreover, the commodity composition of manufacturing exports has also experienced a significant re-structuring during the same period. China's exports had traditionally been highly subjected to central planning. The Chinese government, like the former Soviet Union's, used to attach great importance and provide extensive protection to heavy industries, which are

predominantly owned by SOEs. But since the mid-1980s, the commodity composition began to skew overwhelmingly towards textiles and light industries (see Table 4.4). This experience points to the fact that market forces began to play a greater role in resource allocation, and China's manufacturing export structure has increasingly shifted to one that reflects the country's comparative advantage in labour-intensive products.

Such a dramatic structural shift has been propelled to a considerable extent by the substantial inflow of labour-intensive manufacturing FDI from Hong Kong and Taiwan since the mid-1980s. As explained in section 3.2.5, these two Asian NIEs have been relocating their traditional manufacturing products, where they are losing their comparative advantage, to China, especially Southern China, where the production costs are low. FFEs from these two economies have predominantly engaged in production of processed or assembled light industrial products such as textiles and garments, footwear, travel goods and toys. They have also engaged in production of some sophisticated products such as electronics and electrical appliances, chemicals and machinery. But even these higher value-added products are mainly processed or assembled from imported parts and components by using more labour-intensive method (Fukasaku and Wall 1994, pp.86). Over the last decade since 1985, the share of the exports of above-mentioned products as a portion of China's total exports have increased significantly (see Table A4) and by 1994, these exports grew to US$57 billion which comprised about 60% of total manufacturing exports that year. More than half of these exports have been produced by FFEs, especially those from Hong Kong and Taiwan (Lardy 1995, pp.1074).

Taking an example, Guangdong has been the most important locale for FFEs' manufacturing activities, especially those from Hong Kong and Taiwan, as explained in section 3.2.4. As a result, the rapid export structural shift has been striking in this province. Even as recently as 1985, 41% of Guangdong's exports were agricultural and processed agricultural products such as live pigs and vegetables were sold primarily to Hong Kong. By 1990, this share had fallen to 25%, mirroring a 16% increase in the share of the exports of textile and light industrial products. The dramatic rise in the latter was reflected by huge increases in exports of shoes (rising 41 times between 1985-90), garment (up 6-fold), cotton piece goods (up 7-fold), silk piece goods and toys (both quadrupling), plastic items (up 8-fold) and tools (up 5-fold). In contrast, there is no evidence that a similar transformation has experienced in Shanghai's export structure. Instead, between 1981 and 1990, heavy industry has continued to outperform light industry in Shanghai (Lardy 1992, pp.714).

Thus, with the help of FDI, China's export structure has come to display the NIE characteristics, with increased specialization in exports of labour-intensive manufactured products. The efficiency gained from resource allocation according to the country's comparative advantage has been potentially considerable, although it is more difficult to assess

in quantifiable terms.

In conclusion, FDI in China has facilitated trade linkages and helped to promote China's exports through its ties with home and well-established international marketing networks, thus increasingly integrating China into the world economy. Moreover, FDI has also helped China to convert its export structure to one that is increasingly determined by comparative advantage and has made China one of the most competitive exporters of the labour-intensive manufactured goods in the world market. One can say with no doubt that China's outstanding performance in manufacturing exports since 1985 --with an annual average growth rate of more than 25% between 1986 and 1994-- has been to a great extent made possible by FDI. Thus the Chinese government's strategy of export-promotion through FDI has been implemented fairly successful in China, especially in most of the Econocoas areas.

4.3 CONTRIBUTION TO TECHNOLOGY PROGRESS

Given the importance of the role of technology in economic upgrading, another central reason of China's desire to attract FDI has been the transfer of technology through FDI to modernize the economy. FDI's impact on technology progress is analyzed in the following two aspects:

4.3.1 Transfer of Labour-Intensive Technology

As analyzed in section 2.3.1 (3), according to Kojima, an orderly transfer of technology where the technology gap between transferrer and transferee is smallest can be more effective in increasing productivity and bringing about most desirable economic result in developing countries. This is indeed true in China. The most successfully transferred technology has been the mature, labour-intensive technology brought in by investors from Hong Kong and Taiwan.

Firms from these two Asian NIEs have been usually small or medium in size with operations generally confined to technically simple assembly or processing activities. Furthermore, they often use second-hand imported machinery and decade-old technology to produce labour-intensive products. The technology thus transferred from Hong Kong and Taiwan is mature and internationally standardized, rather than the most modern, but it is still newer and more advanced than the existing technology in China. Most importantly, it is appropriate to China's factor endowment in terms of the abundant supply of unskilled or semi-skilled labour (Khan 1991, pp.16; Pomfret 1991, pp.136). Because of the simple nature of such technology, it usually needs little modification and can be easily learned, absorbed and assimilated in China, thus translating into higher productivity and faster industrialization.

Moreover, FDI from Hong Kong and Taiwan contributed to China's technology progress by bringing in not only hardware such as machinery and production techniques, but also software

including marketing know-how, management skills and general industrial experience which are also mostly mature, but still more appropriate considering China's absorptive capacity. It is the latter that has been most important for the industrial and economic development in a command economy like China.

During its decades of autarchic economic policies before 1979, China had forgone the benefits of participating in the international division of labour. Managers and workers were used to eating out of an "iron rice bowel" and sharing "one big pot" with little care about productivity and responsibility. When the Chinese government decided to re-integrate the country into the world economy, they had little knowledge of how to survive successfully with international competition. Luckily, with the help of FDI from Hong Kong and Taiwan, especially Hong Kong --the most open economy in the world with extensive international business networks-- Chinese managers learned how to market non-traditional manufactured products, which are more heterogeneous than primary commodities, and selling them in large quantities on international market requires a more sophisticated understanding of consumer tastes, quality standard and so on. They also learned how to control inventories, meet production deadlines and ensure quality. Some of them even learned how to identify business opportunities and take the initiative to reap them (Pomfret 1991, pp.136). At the same time, workers have received reasonable training and learned how to be part of a modern manufacturing operation --they are more aware of factory discipline and responsibility of checking quality. All these attributes have been crucial for the increase of productivity in China's manufacturing industries.

Thus, with the help of FDI from Hong Kong and Taiwan, China has increasingly acquired the necessary technological capabilities to move up the ladder of comparative advantage from exports of primary commodities to exports of labour-intensive manufactured products since the mid-1980s.

4.3.2 Transfer of Modern Advanced Technology

Unlike Kojima predictions, (see section 2.3.1 (3)) that FDI undertaken in industry in which the technology gap between providing and receiving countries is largest results in monopolistic power of foreign firms but no transfer of technology at all, FDI from advanced countries such as the U.S., Japan and EC countries has indeed brought modern technology to China, and US firms have been in the forefront of modern technology transfer (Pomfret 1991, pp.108). Although some of the early joint ventures have run into trouble here and there because of, amongst other things, introducing technology beyond China's absorptive capacity, many have successfully introduced new technology to China when they have convinced their Chinese partners to accept older, more appropriate technology, rather than the latest thing (pomfret 1991, pp.135). Over the past decade since 1985, an increasing number of large-scale

projects using complex and advanced technology have been established in industries such as automobile, air transportation, coal-mining, mineral extraction, satellite telecommunications, computers and electronics (Zhang 1993, pp.136). Along with the transfer of hardware, FDI from advanced countries has also provided necessary training to Chinese personnel, and brought about modern managerial and organizational skills to Chinese enterprises.

Moreover, although such FDI departs furthest from China's comparative advantage and may fail to generate most efficient resource allocation and optimal economic result, it acts as an initiator to make it possible for China to step in at the first-stage of import-substitution of capital- and technology-intensive manufactured products. As economies of scales are achieved and overall improvement is made in product quality, worker efficiency, production procedures and management skills, the linkage effect can be strengthened on one hand, and the long-run prospects for export-promotion of these products should also be quite bright on the other hand. The reputable international marketing channels and the modern marketing techniques possessed and transferred by foreign partners will further strengthen the possibilities for China to move up the ladder of comparative advantage to exports of high-tech and heavy industrial products in the future. This is just the path along which Japan and Asian NIEs have proceeded successfully over the past decades.

In spite of such primary achievement and encouraging prospects, however, the overall present results of promoting transfer of advanced technology through FDI have been somewhat unsatisfactory. Further development of infrastructure and human capital, as well as further strengthening of the protection of intellectual property rights could facilitate the transfer of modern advanced technology in a faster pace.

In conclusion, FDI has contributed, to a reasonable extent, to technology progress in China, particularly with respect to mature labour-intensive technology needed for small and medium-sized industrial enterprises. Moreover, FDI has been the most effective way of technology transfer in China since it involves a full package which includes not only capital, machines and equipment, but also marketing techniques, management skills and training activities. It is the latter that benefits more the economy of China and makes it possible that China will eventually be able to continue the rapid economic growth even with diminishing reliance on FDI (Pomfret 1991, pp.136).

4.4 CONCLUSION

This chapter shows that FDI in China has been a success, playing an important role in China's manufacturing growth through its contribution to capital formation and industrial output growth, to manufacturing export growth and to the transfer of technology in China. As a result, China has been emerging as one of the major supplier of manufactured goods to the

world market since mid-1980s.

It is important, however, to notice that not all FDI succeeds and not all regions of China have benefited equally from FDI. The kind of FDI that contributed most to China has been the labour-intensive manufacturing FDI, mainly coming from Hong Kong and Taiwan, which is better fitted to China's comparative advantage. Regions that benefit most from FDI have been Econocoas areas where FDI has been concentrated, especially pioneer OCPs such as Guangdong and Fujian.

The increasing economic links through FDI amongst the economies of Hong Kong, Taiwan and Southern China (including Guangdong and Fujian) have led to the emergence of a "Greater China", which can been seen as an example of the "wild geese-flying pattern" of industrial and trade development. As analyzed in section 2.3.1 (3), this phenomenon is mainly observed in Asian-Pacific region and its intrinsic idea is that the development of this region involves a "catching-up" processes among a cluster of economies at different stages of industrialization and development. In "Greater China", Hong Kong and Taiwan have been relocating their labour-intensive manufacturing activities to Southern China, thus helping to reduce the time and costs for Guangdong and Fujian to catch up with more developed economies.

By contrast, FDI from developed countries such as Japan, the U.S. and the EC, which are usually large-scale, capital-intensive and domestic-market oriented, has been less successful. It has not contributed significantly to heavy and high-tech industrial development or to the transfer of modern advanced technology. Nonetheless, some primary achievements in these areas have been made and long-term prospects of development, including exports, are still highly encouraging.

The findings in this chapter also point to the fact that given the accelerated growth of FDI absorption since mid-1980s in late-coming Econocoas areas, especially in Pearl River delta, Southern Fujian delta, Yangtze River delta and Bohai Sea delta, the potential gains from FDI in these areas in the near future can be considerable. Unfortunately, the inland provinces have fallen far behind the process of sharing the benefits from FDI in China.

CHAPTER 5. PROBLEMS AND POLICY IMPLICATIONS

The last two chapters have discussed that China's strong location advantages have resulted in massive inflows of FDI since 1979, and FDI has made a great contribution to China's industrialization. However, impediments to the growth of FDI and the maximization of its potential benefits still exist. Greater efforts are thus needed to further strengthen China's location advantages and create the necessary conditions to fully realize the gains from FDI. These relate mostly to China's macro-economic policies, infrastructure and support facilities, the regulatory framework for FDI and the regional strategy of developing with FDI.

5.1 MACRO-ECONOMIC POLICIES

There is a consensus that investment, foreign and domestic alike, prospers best in a macro-economic environment that is stable, predictable and competitive. The market-oriented, outward-looking economic reforms carried out in China since 1979 have made significant progress towards establishing these conditions. Nevertheless, further efforts need to be made to extend the scope of the economic reforms. Those relating to FDI includes:

Foreign Exchange Regime

It is a good trend that China has been correcting its over-valued exchange rate since mid-1980s, first by several large-scale devaluations, and then on 1 Jan. 1994, the dual exchange-rate system was replaced by an unitary managed floating rate. As a result, export-oriented FDI has increased substantially. However, foreign-exchange controls and the inconvertibility of the yuan still remain among the most important obstacles to FDI, particularly to developed countries transferring modern technology in import-substitution industries. The best long-term solution to this problem is the free convertibility of the yuan and relaxation of foreign-exchange controls. Before this can be done, the second best approach is to establish an efficient nationwide foreign-exchange market in which both FFEs and local firms can trade foreign-exchange freely without too much government intervention.

Reform on Ownership Structure

Further diversification of ownership structure and reform of SOEs are needed to increase competition in the economy. China has made a great effort to promote private sector development, aimed at changing the ownership structure from monopolistic state ownership towards a more desirable mix, characterized by the coexistence of public, collective, private and foreign ownership. Still, China needs to launch a comprehensive privatization programme as other countries in transition have done (Zhang 1993, pp.129). Furthermore, market-oriented practices adopted by FFEs, such as the separation of ownership from management, a joint-stock system and the incentive system, should be introduced into SOEs. The benefits from such reform can be potentially considerable. On one hand, competition leads to increased

productivity, which in turn helps to attract more FDI chasing not only low wages, but also high productivity as explained in section 2.2.1 (3c). On the other hand, the potential gains from the spillover effect of FDI, as analyzed in section 2.3.1 (4), can be realized to a greater extent. For example, competition will force the local firms to emulate the advanced technology adopted in FFEs so as to improve their own efficiency; The techniques and skills learned by Chinese managers and workers in FFEs can be easily transferred to local enterprises where the organizational and management structures are similar to those adopted in FFEs.

Removal of Protection

The immiserization literature's demonstration of how FDI flows in protected industries can be welfare-reducing (see section 2.3.2) is of great relevance to the economy of China. Chinese import tariffs were relatively high by international standards and non-tariff barriers are also strong. In addition, protection provided to input industries, which are predominantly owned by SOEs, has also been high (Lardy 1995, pp.1077-81). High protection may not only discourage the growth of FDI, as analyzed in section 2.2.2 (3e), but may also reduce the potential gains from FDI according to immiserization literature if FDI goes to the protected industries. Thus China needs to adopt effective measures to remove the protection. This can be achieved through liberalizing the trade regime by reducing overall tariff rates, and through eliminating the remaining price distortions by promoting competitive goods and factor markets in which prices can be determined by market forces.

Others

Further efforts should be made to establish a well-functioning labour market and give more freedom to FFEs in hiring, firing and setting wages; and to streamline the financial system that would ensure the availability of efficient export financing facilities to FFEs.

5.2 INFRASTRUCTURE AND SUPPORT FACILITIES

Infrastructure

A developed infrastructure, both physical and institutional, is essential for attracting FDI and increasing the efficiency in utilization of FDI. The physical infrastructure includes transportation, telecommunications, public utilities and other facilities; and the institutional infrastructure includes banking, insurance, advertising, consultancy, R&D organizations, training institutes and legal institutions. The infrastructure in China is not of a high standard and it is unevenly distributed among different regions. A serious consideration should be given to following problems:

First, one of the most important obstacles for the inland provinces to attract substantial FDI is their poor and under-developed physical infrastructure, let alone the institutional

infrastructure. Special incentives and financial supports should be granted to them to develop the infrastructure so as to let them participate in the process of growing with FDI.

Second, although the infrastructure in Econocoas areas is better developed, it still experiences serious operational bottlenecks, especially in transport, telecommunications, banking, insurance and consultancy services. The efficient growth of these services is crucial to the development of the industrial sector, particularly the capital- and technology-intensive industries. Considering that an increasing share of FDI from developed countries has gone to the tertiary sector since the mid-1980s (Dunning 1993, pp.25), China should also consider opening-up its service sector and giving priority to FDI in both physical and institutional infrastructural development.

Third, China's technological capabilities are generally low. Moreover, many FFEs, especially those in SEZs, have been facing an inadequate supply of middle-level technical and management staff, as well as semi-skilled workers (Zhang 1993, pp.145). The absence of a well-functioning labour market and the lack of mobility of labour further contributes to such a shortage. To solve the problem, special incentives have to be given to R&D activities; educational and vocational training and other technical training should also be further strengthened. This will help to facilitate the absorption and diffusion of modern technology brought in by FDI, thus enabling China to move up the technological ladder and increase the value-added to its manufacturing sector.

Support Facilities

The weak domestic support industries also pose a serious problem for FDI. The high price and low quality domestic inputs, as well as the acute shortage of production materials, have made it difficult for FFEs to obtain supplies locally and to reduce imports of raw materials and intermediate products. As a result, the overall contribution of FDI to China's trade balances has been negative, at least at the early stages of its operation (see Table A5)[8]. Moveover, to some extent FFEs appear to be enclaves and create limited backward linkages as the domestic content of production and exports is very low. In order to fully realize the potential gains from FDI, promotional measures should be adopted to develop domestic support industries.

5.3 THE REGULATORY FRAMEWORK FOR FDI

Legal Framework for FDI

Although the Chinese authorities have made great efforts to set out a legal framework for FDI, many of the laws and regulations on FDI are couched in broad, ambiguous and

[8] Another important factor accounting for the trade imbalances of *Sanzi* enterprises is the transfer pricing widely practised by such enterprises.

sometimes conflicting terms, leading to different interpretation and inconsistent treatment at central and local level. Many local authorities also introduce their own complex regulations on FDI. All this has created an atmosphere of uncertainty and unpredictability for foreign investors, calling for further efforts to clarify, simplify and unify the laws and regulations across the country so as to increase the efficiency and transparency of the legal framework for FDI.

Furthermore, foreign investors have been continuously faced with problems arising from ineffective implementation of laws and regulations on FDI. Particularly, failing to enforce effectively the laws on intellectual property protection has impeded the growth of FDI transferring modern technology to China. Prompt efforts need to be made in this aspect.

Incentives for FDI

As discussed in section 3.1.3, the legislated incentives offered to FDI in China vary in different regions with Econocoas areas ranking much higher than inland provinces, which put the latter in a disadvantageous situation in attracting FDI. Moreover, as the approval mechanism and management of FDI are decentralized, local authorities compete fiercely for FDI through various tax concessions, which is self-defeating and costly to China. To solve the problem, first, more efforts should be made to remove the disincentives and obstacles to FDI rather than offer fiscal incentives; second, discriminatory policies in favour of investment in Econocoas areas should be removed and a unified incentive system across whole country should be established. These measures will help to attract more FDI, especially to inland areas, and also help to discourage low-quality FDI which comes to China only in order to take advantage of tax concessions and disappears when difficulties arise.

Bureaucracy and Corruption

The Chinese government has been frequently criticized for the heavy bureaucracy in approval procedures and excessive administrative intervention in operations of FDI. Furthermore, the multifarious levels of bureaucracy and political actors involved in FDI leads to notorious corruptive behaviour, especially in SEZs. The absence of a well-functioning and independent implementing legal system further worsens the situation. This partly explains why Hong Kong and Taiwan, which are familiar with the *guanxi* (connection) system, have dominated FDI in China. Great efforts should be made to solve these problems in order to attract more FDI, especially that from developed countries.

Post-Approval Monitoring and Evaluation Mechanism

FDI in China has sometimes been criticized for the use of obsolete equipment, tax evasion and transfer pricing. For example, a survey of 1500 products imported and/or exports by FFEs in 1990 found that 124 imported products were priced higher and 428 exported products were priced lower than China's average import/export prices. The total value of these differences

amounted to nearly US$2.8 billions --27% of total imports and exports of the FFEs in that year (Zhang 1993, pp.141). A sound and appropriate mechanism for monitoring and evaluating the operation of FDI in China is thus necessary so as to maximize the contribution of FDI to China's economic development.

5.4 REGIONAL STRATEGY OF DEVELOPING WITH FDI

Dunning's theory on dynamic changing location advantages (see section 2.2.2 (3)) and the "wild-geese flying" literature have significant implications on China's regional strategy of developing with FDI. China's coastal development strategy has led to the emergence of "Greater China" in which the South China, especially SEZs, has gained a great potential to converge on the advanced standards of Hong Kong and Taiwan in terms of per capita incomes, productivity and degree of industrialization (Ash and Kueh 1993, pp.742-43). The other coastal regions have no hesitation in making efforts to attract FDI and catch up with the pioneer open areas. During this process, the location advantages in Econocoas areas have been greatly strengthened and augmented. Especially, the technological capabilities have increased considerably. At the same time, however, the fast growth led to rising labour and land costs in these areas, inhibiting FDI chasing low costs.

The rich natural resources and the abundant supply of the cheap labour and land in the inland provinces complement China's overall location advantages. China could, therefore, adopt measures to attract capital- and technology-intensive FDI to Econocoas areas, and to encourage resource- and labour-intensive FDI to inland areas, so that the whole country can benefit fully form FDI and minimize the potential negative effect of FDI on accentuating spatial disparities, as analyzed in section 2.3.2.

To conclude, China should adhere firmly to its market-oriented economic reforms and open its door even wider to the outside world in order to attract more FDI. The policy agenda discussed in this chapter might be expected to remove a great deal of distortions that is a source of obstacles to FDI, especially FDI from developed countries, which is the main source for China to obtain modern technology and upgrade its manufacturing industries in the long-term. The emphasis has been on studying how to attract more high-quality FDI and how to effectively maximize its potential benefits and minimize its potential costs and negative effect.

CHAPTER 6. CONCLUSIONS

FDI has been the most dramatic manifestation of the "reforms and open-door policy" in China since 1979 and one of the key determinative factors in China's spectacular economic growth and its successful economic restructuring during the post-reform period. This paper has thus focused on the study of the quantitative trends and patterns of FDI in China and its relative contribution to China's manufacturing growth over the 15 years following the 1979 reforms.

The theoretical framework for the empirical study of FDI performance in China uses Dunning's eclectic theory of FDI, as its main tenets are found to be particularly helpful given the research aims of this paper. The OLI paradigm (Ownership-Location-Internalization advantages) postulates that for a developing country such as China to attract FDI, it must possess certain location advantages. These advantages include not only a country's underlying comparative advantage, but also a well-developed physical and institutional framework in which FDI can prosper. The OLI paradigm also proposes that the transfer of MNCs' ownership-specific advantages is the real benefit brought about by FDI to the developing countries. These ownership advantages include not only the tangible assets possessed by MNCs such as scarce capital and information, but also, more importantly, the intangible assets such as marketing system and technology (including management skills and industrial experiences). Thus the eclectic theory gives a comprehensive explanation of both the determinant and the impact of FDI in developing countries, which is just the research objective of this paper.

Nevertheless, considering the fact that the eclectic theory itself is a product of the integration of three strands of economic theory on FDI and its emphasis is on analysing the determinants rather than the impact of FDI, this paper has also to draw heavily on the available theoretical literatures concerning the economic impact of FDI on industrialization in developing countries. Specifically, the neoclassical theory of capital finance, Kojima's macro-economic theory on FDI, Vernon's product-cycle theory and the new theory on endogenous technological progress have been analyzed to see how, theoretically, FDI benefits the host developing countries' manufacturing growth in terms of its contribution to capital investment, to export growth and to technological progress, which is the core study of this paper.

Using this theoretical framework, the empirical analysis in the paper reached the following conclusions:

First, FDI in China is not a fortuitous phenomenon. It has grown continuously as a result of a whole set of effective policies adopted by Chinese government aimed at facilitating the expansion of FDI throughout the post-reform period. These policies, including setting the legal framework for FDI, establishing specifically-designated open coastal areas for FDI and

providing various fiscal, financial, foreign-exchange, infrastructural and obstacle-removing incentives to FDI, have created strong institutional and physical location advantages necessary to attract massive FDI inflows. These policy-induced location advantages, together with China's original advantages in terms of huge market size and cheap labour and land, have made China one of the most attractive countries for FDI in the world. However, China's overall location advantages are neither distributed evenly across the whole country, nor are they balanced across all the manufacturing industries. Geographically, the discriminatory policies in favour of FDI in coastal open areas have made these areas much more attractive than the inland regions; Sectorally, the location advantages needed for attracting FDI in manufacturing industries with high technological content have been generally weak in China.

The trends and patterns of FDI in China have reflected these overall location advantages. Presently, China is the second largest host country of FDI in the world, next to the United States. In respect to source countries, due to, among other things, the geographical proximity and cultural/linguistic affinity, Hong Kong and Taiwan's share in total FDI has increased rapidly and accounted for nearly 80% of FDI inflows in the 1990s. Japan and the U.S. have been the major developed country sources of FDI in China. Geographically, over 80% of FDI in China has been concentrated in coastal open areas. Sectorally, FDI has focused on manufacturing activities which basically fell into two categories: that from Hong Kong and Taiwan is directed to more labour-intensive and export-oriented industries, while that from developed countries is directed to more capital-intensive industries aimed at tapping the huge Chinese market.

Second, the empirical study of the paper supported the claim that FDI in China has made a significant contribution to China's manufacturing growth. This has been examined from the following perspectives:

(1) FDI's contribution to capital formation and therefore to industrial output growth. It has been found that this impact has been much greater in coastal open ares than in the rest of the country. In these areas, there has been strong positive relationship between FDI share in TFAI (total fixed assets investment) and either FDI share in total GVIO (gross value of industrial output) or the average annual rate of growth of GVIO between 1985-90. In short, FDI has facilitated structural transformation and contributed decisively to industrialization in China, especially in coastal open areas.

(2) FDI's contribution to manufacturing export growth. It has been found that FDI has largely complemented China's manufacturing exports and FDI's share in China's total exports has increased dramatically from negligible in mid-1980s to nearly 30% in 1994. Moreover, accompanying the process of relocating labour-intensive manufacturing activities from Hong Kong and Taiwan to mainland China, especially south China, FDI from these two Asian NIEs

has contributed decisively to China's export structural transformation. China's composition of exports has shifted dramatically from primary commodities to labour-intensive light industrial products --a changing pattern which has increasingly reflected China's comparative advantage. In short, with the help of FDI, China has become one of the most competitive exporters of the labour-intensive manufactured products in the world market. But again, the coastal open areas, especially the pioneer FDI recipients such as Guangdong and Fujian, have benefited more from FDI than the rest of the country.

(3) FDI's contribution to technology progress. It has been found that FDI has been the most effective way of technological transfer because it involves the transfer of not only hardware such as machines, but also software, including marketing know-how, management and organizational skills and training. It is the latter that has been more crucial for the economic upgrading in China.

It has also been found that FDI from Hong Kong and Taiwan has made significant contribution to China's technology progress. The technology transferred from these two Asian NIEs is mostly of the mature yet appropriate labour-intensive type which complements China's comparative advantage and can be easily learned, absorbed and diffused in China. Equipped with such transferred technology, China has successfully moved up the ladder of comparative advantage from exports of primary goods to exports of labour-intensive and some simple capital-intensive manufactured products since the mid-1980s. In contrast, FDI from developed countries such as the U.S. and Japan, in which modern advanced technology is embodied, has failed to contribute significantly to the transfer of modern technology to China's manufacturing industries for the reason that, among other things, such technology is generally used to produce high value-added capital- and technology-intensive manufactured products which depart further from China's comparative advantage and in which China's overall absorptive capabilities have been generally low. Nevertheless, recent years have witnessed a quickened pace of the transfer of modern technology through FDI from these developed countries and its long-run perspective of development, including exports, is still highly encouraging.

Third, although FDI has contributed decisively to China's manufacturing growth, its impact has been limited by its overall pattern throughout the post-reform period. This was reflected particularly by two facts. One is that not all regions benefit equally from FDI and the inland areas have not participated at all in the process of attracting FDI and developing with FDI. The other is that the bulk of FDI inflows from developed countries transferring modern technology has been too small to help China moving up the ladder of comparative advantage to produce and export capital-intensive and technology-intensive manufactured products in the near future.

Since the impact of FDI on manufacturing growth has been affected by the overall patterns of FDI and such patterns have been determined by location advantages which, in turn, can be strongly affected by government policies, Chinese government should thus make greater efforts to further strengthen China's location advantages and create necessary conditions for the more rapid expansion of FDI and the fully realization of the potential gains from FDI. The policies that have been found to be effective include: further improvement of the overall macro-economic policies; further development of infrastructure and support facilities; further strengthening of the regulatory framework of FDI and designing a more effective regional strategy of developing with FDI.

APPENDIX A: TABLES.

Table A1. Regional Distribution of Actual FDI in China, 1985-92
(US$ million and percentage)

Region	1985 value	1985 share	1986 value	1986 share	1987 value	1987 share	1988 value	1988 share	1989 value	1989 share	1990 value	1990 share	1991 value	1991 share	1992 value	1992 sha:
PRC total	1959.00	100.00	2244.00	100.00	2647.00	100.00	3739.00	100.00	3774.00	100.00	3755.00	100.00	4370.00	100.00	11007.51	100
SEZs	334.77	17.09	480.79	21.43	367.46	13.88	441.97	11.82	613.19	16.25	655.63	17.46	721.78	16.52	-	
Shenzhen	193.40	9.87	380.73	16.97	280.13	10.58	299.99	8.02	302.46	8.01	389.94	10.38	398.75	9.12	-	
Zhuhai	53.45	2.73	45.18	2.01	33.82	1.28	47.40	1.27	53.28	1.41	69.10	1.84	134.33	3.07	-	
Shantou	14.64	0.75	20.95	0.93	35.98	1.36	46.62	1.25	47.65	1.26	123.86	3.30	56.14	1.28	-	
Xiamen	73.28	3.74	33.93	1.51	17.53	0.66	47.96	1.28	209.80	5.56	72.73	1.94	132.56	3.03	-	
OCCs	301.65	15.40	374.14	16.67	517.07	19.53	680.86	18.21	908.62	24.08	861.39	22.94	1087.9	24.89	-	
Dalian	14.32	0.73	30.49	1.36	49.90	1.89	74.88	2.00	80.57	2.13	201.29	5.36	261.11	5.98	-	
Tianjin	32.51	1.66	42.81	1.91	133.13	5.03	61.15	1.64	31.42	0.83	36.93	0.98	93.88	2.15	107.24	1
Qingdao	2.30	0.12	10.73	0.48	14.00	0.53	12.33	0.33	58.01	1.54	45.88	1.22	46.47	1.06	-	
Shanghai	107.54	5.49	148.90	6.64	214.01	8.09	233.17	6.24	422.12	11.18	177.19	4.72	164.20	3.76	481.08	4
Guangzhou	118.45	6.05	101.42	4.52	66.63	2.52	155.84	4.17	134.31	3.56	180.87	4.82	231.61	5.30	-	
sub-total	275.12	14.04	334.35	14.90	477.67	18.05	537.37	14.37	726.43	19.25	642.16	17.10	797.27	18.24	-	
OCPs	929.94	47.47	1110.95	49.51	1129	42.65	1931.55	51.66	2333.53	61.83	2711.44	72.21	-		-	
Liaoning	24.58	1.25	48.18	2.15	90.84	3.43	130.55	3.49	126.14	3.34	257.31	6.85	-	-	489.56	4
Hebei	8.24	0.42	11.27	0.50	10.34	0.39	19.10	0.51	43.73	1.16	44.47	1.18	-	-	110.19	1
Shandong	34.20	1.75	65.02	2.90	64.87	2.45	111.55	2.98	163.33	4.33	185.70	4.95	-	-	973.35	9
Jiangsu	33.47	1.71	33.76	1.50	86.35	3.26	125.51	3.36	127.13	3.37	133.97	3.57	-	-	1460.04	13
Zhejiang	26.63	1.36	24.77	1.10	36.30	1.37	43.79	1.17	53.96	1.43	49.14	1.31	-	-	232.38	2
Fujian	118.60	6.05	62.50	2.79	55.35	2.09	145.47	3.89	348.03	9.22	319.89	8.52	-	-	1416.34	13
Guangdong	629.50	32.13	783.62	34.92	730.79	27.61	1212.26	32.42	1323.24	35.06	1582.31	42.14	1823.00	41.72	3551.50	33
Hainan	23.99	1.22	32.59	1.45	9.11	0.34	122.45	3.27	94.97	2.52	103.02	2.74	106.76	2.44	452.55	4
Guangxi	30.73	1.57	49.24	2.19	45.05	1.70	20.87	0.56	53.00	1.40	35.63	0.95	-	-	178.33	1
Beijing	88.82	4.53	149.71	6.67	105.79	4.00	503.18	13.46	320.16	8.48	278.95	7.43	-	-	349.85	3
Coastal region	1069.99	54.62	1302.66	58.05	1476.14	55.77	2225.87	59.53	2787.07	73.85	2925.56	77.91	-	-	9452.56	88
Others	889.01	45.38	941.34	41.95	1170.86	44.23	1513.13	40.47	986.93	26.15	829.44	22.09	-	-	920.67	11

Note: 1) As per the Table 3.1 for the data covering the year 1985-91. The data for 1992 are inclusive of FDI in EJVs, CJVs, WFOs and joint exploration only.
2) Coastal regions include 9 Open Coastal Provinces (OCPs) and 2 Open Coastal Cities (OCCs): Tianjina and Shanghai.

Source: Kueh 1992, pp.682, Fukasaku and Wall 1994, pp.77.

APPENDIX A: TABLES.

Table A2: **Sectoral Distribution of Realized FDI in China,** 1985 and 1990 (%)

Regions	Agriculture		Industry		Service	
	1985	1990	1985	1990	1985	1990
SEZs						
Shenzhen	0.18	-	53.54	80.33	46.27	19.67
Zhuhai	0.20	1.30	24.39	88.78	75.41	9.92
Shantou	1.27	0.56	41.80	79.27	56.93	20.18
Xiamen	-	-	39.50	-	60.50	-
OCCs						
Shanghai	-	2.13	64.60	58.57	35.60	41.41
Guangzhou	4.20	0.21	29.14	77.25	66.66	22.54
OCPs						
Liaoning	0.75	0.71	15.31	82.65	83.94	17.10
Fujian	3.25	1.49	45.73	77.65	51.02	18.55
Guangdong	4.46	0.91	49.18	86.36	46.36	12.74
Hainan	12.64	2.99	33.11	22.39	54.26	74.62
Guangxi	-	2.94	3.78	75.07	96.22	21.98
Beijing	-	-	9.70	16.74	89.50	83.26
PRC total	8.09	1.85	39.51	87.19	52.39	10.97

Source: Kueh 1992, pp.654; World Investment Directory 1992, pp.70.

Table A3: ***Sanzi*'s Share in Total Exports and Imports in China, 1988-91 (%)**

	Exports				Imports			
	1988	1989	1990	1991	1988	1989	1990	1991
SEZs	22.5	33.3	40.5	45.8	28.9	33.3	54.0	52.7
Shenzhen	26.4	37.0	44.0	50.5	30.7	33.0	51.7	57.2
Zhuhai	15.4	32.5	41.8	44.7	25.9	38.4	90.9	48.5
Shantou	11.7	18.5	23.6	28.4	14.9	2.2	26.6	31.5
Xiamen	18.4	28.0	37.4	41.7	42.8	43.0	56.7	58.5
OCCs	3.1	7.9	11.5	18.9	19.1	26.3	35.5	42.7
Dalian	6.7	18.7	24.1	40.4	60.8	36.8	50.2	61.6
Tianjin	2.3	3.9	6.0	10.4	13.2	20.9	28.7	33.7
Qingdao	1.4	5.2	7.5	13.1	29.6	37.6	30.8	37.4
Shanghai	1.7	4.7	6.4	10.8	15.8	22.9	29.7	43.9
Guangzhou	7.9	17.6	24.4	33.8	18.6	33.9	46.2	55.3
OCPs	7.6	13.0	17.2	22.0	19.8	25.7	38.4	37.1
Liaoning	1.0	3.0	4.2	9.3	24.3	17.7	28.9	37.9
Hebei	0.3	0.7	1.3	3.4	37.6	25.8	42.6	33.9
Shandong	0.6	2.3	3.6	4.0	9.7	17.3	25.7	33.9
Jiangsu	2.0	4.4	6.4	12.1	12.3	18.8	36.4	44.5
Zhejiang	2.5	3.7	6.1	9.0	9.5	13.1	19.3	25.2
Fujian	17.0	27.2	36.9	41.0	43.2	47.8	60.6	63.2
Guangdong	12.5	19.6	24.8	29.4	18.6	26.1	38.1	34.8
Hainan	2.1	7.6	7.1	8.5	12.8	17.6	34.9	29.1
Guangxi	1.6	3.4	4.8	7.5	14.7	21.7	26.3	24.5
Beijing	2.7	4.9	7.6	11.5	51.6	65.6	52.9	52.4
PRC total	5.2	9.2	12.6	16.8	14.3	19.7	23.6	26.6

Source: Kueh 1992, pp.668.

Table A4: **China's Merchandise Exports by Products,** 1985 and 1991 (%)

Category	1985	1991
Primary Products	50.6	22.5
Food	13.9	10.0
Beverages and Tobacco	0.4	0.7
Raw Materials	9.7	4.8
Fuels	26.1	6.7
Animal and Vegetable Oils	0.5	0.2
Manufactures	49.4	77.5
Manufactured Goods Classified by Materials	16.4	20.1
Textiles	11.9	10.8
Non-metal Mineral Products	0.8	2.3
Metal Products	1.6	2.4
Machinery and Transport Equipment	2.8	9.9
Power Machinery and Equipment	0.2	0.5
Specialised Industrial Machinery	0.6	0.8
Telecommunications, Receiving and Recording Equipment	0.3	2.8
Electrical Power Machinery, Appliances and Parts	0.4	2.3
Miscellaneous Products	12.7	23.1
Clothing	7.5	12.5
Footwear	0.9	3.2
Cameras, Optical Goods and Watches	0.2	0.9
Products Related to Processing and Assembly Trade	12.5	19.0

Source: China Statistical Yearbook, various years.

Table A5: **Trade Balance (Export minus Import) of *Sanzi enterprises in China*,** 1988-91

	(100 million of US$)				As share of export (%)			
	1988	1989	1990	1991	1988	1989	1990	1991
SEZs	-4.01	0.74	-7.63	-6.07	-32.47	3.33	-23.73	-14.11
Shenzhen	-1.88	2.63	-1.70	-3.18	-19.46	15.81	-7.41	-10.88
Zhuhai	-1.11	-0.93	-4.82	-0.98	-130.59	-44.29	-137.32	-19.25
Shantou	-0.18	-0.14	-0.12	-0.57	-20.22	-9.15	-5.29	-16.76
Xiamen	-0.84	-0.82	-0.99	-0.34	-88.42	-41.62	-28.78	-25.28
OCCs	-9.23	-12.72	-11.55	-12.97	-340.59	-173.53	-93.83	-55.76
Dalian	-1.87	-0.39	-0.61	-0.82	-623.33	-36.79	-35.47	-19.11
Tianjin	-0.71	-1.39	-1.04	-1.20	-182.05	-207.46	-97.20	-65.93
Qingdao	-0.30	-0.69	-0.36	-0.44	-1000.00	-460.00	-128.57	-69.84
Shanghai	-4.23	-7.43	-6.90	-7.00	-503.57	-318.88	-197.14	-106.22
Guangzhou	-2.11	-2.83	-2.65	-3.51	-181.90	-90.71	-46.01	-35.35
OCPs	-20.57	-18.06	-28.96	-20.51	-91.59	-40.43	-40.49	-18.97
Liaoning	-2.21	-0.91	-1.10	-1.23	-566.67	-71.09	-49.55	-23.61
Hebei	-1.36	-0.91	-1.32	-0.59	-3400.00	-758.33	-550.00	-85.51
Shandong	-0.68	-1.12	-0.98	-1.39	-400.00	-157.75	-79.03	-61.78
Jiangsu	-0.77	-1.34	-2.45	-4.22	-157.14	-120.12	-129.63	-102.18
Zhejiang	-0.09	-0.13	0.21	0.25	-23.68	-18.57	15.67	9.54
Fujian	-3.71	-2.61	-2.43	-3.55	-157.14	-52.52	-26.91	-27.54
Guangdong	-10.95	-9.69	-19.57	-8.05	-59.38	-27.43	-35.71	-10.16
Hainan	-0.37	-0.87	-1.14	-1.57	-616.67	-348.00	-300.00	-296.23
Guangxi	-0.42	-0.46	-0.20	-0.16	-466.67	-209.09	-51.28	-27.59
Beijing	-4.72	-5.89	-4.44	-5.37	-1815.38	-1178.0	-516.28	-358.00
PRC total	-77.50	-66.00	87.40	81.19	-	-	-	-

Source: Kueh 1992, pp.670.

APPENDIX B: DEFINITION OF FDI IN CHINA.

China recognizes six different kinds of FDI categories:

1. Equity joint ventures (EJVs);
2. Co-operative joint ventures (CJVs);
3. Wholly foreign-owned ventures (WFOs);
4. Joint exploration (mainly offshore oil);
5. Compensation trade; and
6. Others, including processing, assembly and international leasing.

The first three categories have been the main forms of FDI in China, especially since mid-1980s. Chinese are used of addressing them together as "*Sanzi* enterprises".

Perhaps no other country would consider the last two categories to be FDI. Some of the Chinese statistical sources report these two categories as a separate group, but some not. This may cause confusion in analysing FDI data from different sources, and make it difficult to do comparison studies.

However, efforts have been made to make the data consistent and integrate, at least within one topic. Moreover, considering the fact that the share of the last two categories in total FDI has declined sharply since mid-1980s, as we shall see in section 3.2.2, it will not change the whole picture of our analysis too much by using data with or without these two categories.

Note that unless otherwise explicitly stated, the FDI data reported in this paper include the whole above-mentioned six categories.

APPENDIX C: MODELLING THE IMPACT OF FDI ON CHINA'S MANUFACTURING EXPORTS.

In order to estimate the relative contribution of FDI to China's manufacturing export growth, I constructed an econometric model covering the period of 1980-93 in which data are available. To avoid the omitted variable bias, except the level of FDI, I also incorporated other relevant variables into the regression model. It is reasonable to assume that the level of manufacturing exports also depends on the real exchange rates, the manufacturing output, for which the ratio of manufacturing value-added over GDP is a good proxy variable, and the foreign demand, proximated by the average level of GDP of China's top 5 trading partners.

Then the model takes the following form:

$$\mathbf{LnE = B_1 + B_2\ LnFDI + B_3\ LnM + B_4\ LnFD + B_5\ LnRER}$$

where

E: the level of manufacturing exports (in current US$)
FDI: the level of foreign direct investment (in current US$)
M: the ratio of manufacturing value-added to GDP (in constant yuan)
FD: the foreign demand (in constant US$)
RER: the multilateral real exchange rate indices (1980=100).

By checking first the normality of each variables, I found that E, FDI, M and FD are all strongly skewed to the right and a logarithm transformation makes them distributed normally. Although RER is distributed normally, it is also log-transformed in order to derive appropriate economic conclusion, i.e. elasticities. As a result, the residuals is also found to be normally distributed.

The expected sign for B_2, B_3, B_4 and B_5 are all positive, which means that percentage increases in FDI, M, FD and RER leads to percentage increase in E.

The multiple regression result is as follows: (t statistics in bracket)

$$LnE = -19.74 - 0.017\ LnFDI + 3.20\ LnM + 2.21\ LnFD + 0.29\ LnRER$$
$$(-3.24) \quad (-0.33) \quad (3.62) \quad (3.92) \quad (0.92)$$
$$R^2 = 0.98 \quad DW = 1.59$$

To our surprise, FDI has a wrong sign and it, as well as RER, turns out to be statistically insignificant. Although the R^2 is quite high, the DW statistics fall within the boundary of the critical value (0.632, 2.03), indicating the presence of positive autocorrelation.

Since our variables are all time series, it is more likely that the problem of autocorrelation is caused by non-stationarity. After applying the Dickey Fuller (ADF) test --see Table C1 for a detailed presentation of a decision tree process of testing for stationarity-- I found that all the variables except RER are random walks, i.e. they are non-stationary. The further test of the stationarity of the residuals shows that it is also a random walk, indicating that the variables are not even co-integrated. All this implies that our regression result is totally spurious. There is no true relationship among these variables.

Table C1: **Application of Decision Tree for Testing Stationarity**

		LnE (n=14)	LnFDI (n=14)	LnM (n=14)	LnFD (n=14)	LnRER (n=14)	Residuals
Unrestricted model	RSS_u	0.0867	1.0261	0.0039	0.0014	0.0481	0.0617
$B_1=B_2=0$, $B_3=1$	RSS_{R1}	0.3115	1.9738	0.0088	0.0026	0.1772	0.1097
	F-stat.	6.91	2.46	3.35	2.29	7.16	2.07
	Critical	5.68	5.68	5.68	5.68	5.68	5.68
		Reject	Accept	Accept	Accept	Reject	Accept
$B_2=0$, $B_3=1$	RSS_{R2}	0.1984	-	-	-	0.1443	-
	F-stat.	5.15				8.00	
	Critical	7.24				7.24	
		Accept				Reject	
$B_3=1$	Estimate	-	-	-	-	-0.30	-
	SE					0.289	
	T-stat.					-4.50	
	Critical					-2.31	
						Reject	
Decision		Random Walk with drift	Random walk without drift	Random walk without drift	Random walk without drift	Stationary	Random walk without drift

Note: SE: standard errors

Efforts were also made to introduce a dummy variable for FDI by taking a value of 0 before

the year 1988 and a value of 1 thereafter, considering the fact that from 1988 onward, FDI inflows increased sharply and manufacturing exports also experienced a boom during the same period. The aim of doing so is to eliminate the problem of autocorrelation by incorporating a potentially relevant variable into the model. But unfortunately, the regression result is not improved. The residuals is still non-stationary.

Hence, the quantitative analysis could not be used in this paper. Such a disappointing statistical result may be partly due to the time-series data itself, and partly caused by the small degree of freedom (we have only 14 observations but 5 explanatory variables including constant term in the model). Moreover, since most of the FDI inflows took place only recently in the 1990s and its long-run effects have not been materialized, one can hardly expect a satisfactory regression result from such a data set.

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