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FDI and the Opening Up of China's Economy

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RÉSUMÉ

Bien que la Chine ait entamé son ouverture économique, depuis maintenant plus de vingt ans, sa prochaine entrée à l'OMC est généralement considérée comme un événement qui aura des conséquences majeures sur son économie. Afin de mieux comprendre les enjeux de cette accession, cette étude a pour objet d'évaluer le degré d'ouverture de l'économie chinoise à la fin des années quatre-vingt dix. L'intégration croissante de la Chine dans l'économie mondiale peut se mesurer à l'expansion rapide de son commerce international et à l'afflux massif de capitaux étrangers. Depuis 1980, le poids de la Chine dans le commerce mondial a triplé, passant de moins de 1 % à plus de 3 %. La Chine est devenue le second pays destinataire des flux d'investissements directs étrangers (après les États-Unis). Ces deux évolutions sont en fait étroitement liées.

La politique d'ouverture de la Chine a eu pour double objectif de promouvoir les exportations tout en protégeant son marché intérieur. Elle y est parvenue d'une part grâce à une politique commerciale dualiste qui a exempté les industries exportatrices de tarifs douaniers sur leurs importations de biens intermédiaires et d'autre part grâce à des mesures sélectives à l'égard des investissements étrangers qui les ont canalisés vers les productions destinées aux marchés extérieurs ou à la substitution d'importation. Les investissements directs étrangers ont eu ainsi un rôle décisif dans l'ouverture de l'économie chinoise et dans son insertion dans la division internationale du travail.

L'analyse met en évidence les effets positifs des investissements direct étrangers (IDE) sur l'industrie manufacturière chinoise :

- ✓ les entreprises à capitaux étrangers sont devenues des acteurs majeurs des restructurations industrielles. Leur poids dans l'investissement interne et dans la production industrielle, leur intensité capitalistique et leur productivité du travail plus élevées que celles des entreprises chinoises, mettent en évidence leur impact potentiel sur les structures et l'efficacité industrielles ;

- ✓ ces entreprises à capitaux étrangers, si elles demeurent spécialisées dans les industries intensives en travail, sont aussi présentes dans des secteurs capitalistiques ;

- ✓ par ailleurs, bien qu'elles soient fortement orientées à l'exportation, elles commercialisent actuellement la majeure partie de leurs productions sur le marché intérieur chinois ;

- ✓ l'investissement direct étranger a accéléré la diversification des régimes de propriété dans l'industrie et a ainsi contribué à l'émergence de structures concurrentielles. Actuellement la production des filiales étrangères contribue plus que les importations à la satisfaction de la demande intérieure. Les IDE ont ainsi été un facteur décisif de l'ouverture de l'économie chinoise.

On relève aussi les effets négatifs de ce mode d'ouverture :

- ✓ certains indices montrent que les entreprises à capitaux étrangers sont soumises à une moindre pression fiscale que les entreprises chinoises. Les sorties de capitaux qui alimentent les "faux" investissements étrangers confirment que les politiques préférentielles en faveur des IDE sont un élément qui fausse la concurrence ;

- ✓ en outre, la présence des firmes à capitaux étrangers dans plusieurs secteurs caractérisés par des tarifs douaniers élevés, suggèrent que celles-ci ont tiré parti de la protection du marché intérieur.

L'évolution des spécialisations de la Chine dans son commerce international ces dernières années a été, quant à elle, largement déterminée par la stratégie des firmes étrangères :

- ✓ le commerce extérieur de la Chine est encore caractérisé par de fortes complémentarités intersectorielles, contrastant ainsi avec celui des autres pays en développement d'Asie, marqué par une accélération des échanges intra-sectoriels. La Chine cependant, tout en maintenant de fortes spécialisations dans ses industries traditionnelles (textiles) a réussi à acquérir de nouveaux avantages comparatifs dans des secteurs technologiquement plus avancés (équipement informatique, électronique grand public, appareils ménagers et appareils électriques) ;

- ✓ en fait, ce sont les filiales des entreprises étrangères implantées en Chine qui sont à l'origine de la quasi-totalité de ses gains de parts de marché et de la diversification de ses exportations dans de nouveaux secteurs technologiques. Dans ces secteurs, elles ont établi sur le continent des bases de production fortement intégrées dans la segmentation internationale des processus productifs. La Chine s'est ainsi spécialisée dans les stades finals de fabrication et d'assemblage où elle a un avantage comparatif. La Chine ne maîtrise pas l'ensemble du processus de production des biens exportés, cependant, on observe une forte augmentation du contenu local de ce type d'exportation dans la deuxième moitié des années quatre-vingt-dix ;

- ✓ les excédents commerciaux massifs que la Chine enregistre avec les États-Unis et l'Union européenne sont pour l'essentiel dus au activités d'assemblage des entreprises étrangères implantées en Chine. Si l'on excluait ces échanges, la Chine serait déficitaire envers l'UE et son excédent sur les États-Unis serait réduit de quatre-cinquièmes ; l'excédent commercial de la Chine ces dernières années est ainsi largement attribuable aux stratégies de délocalisation des entreprises étrangères ;

- ✓ en outre, la compétitivité de ces industries fortement internationalisées se révèle moins sensible aux variations du taux de change réel ; elles ont ainsi contribué à amortir les effets négatifs de l'appréciation du yuan sur les échanges extérieurs chinois pendant la crise asiatique.

Cette expansion des échanges portée par les entreprises à capital étranger a eu aussi des revers :

- ✓ les capacités d'exportation des entreprises chinoises ont peu bénéficié de l'expansion du commerce tiré par l'IDE. Les médiocres performances à l'exportation des entreprises chinoises depuis 1992 soulignent que le secteur internationalisé, par nature coupé du secteur local, a eu peu d'effet d'entraînement sur la compétitivité des industries locales ;

- ✓ l'inertie des exportations des entreprises chinoises doit aussi être mise en relation avec le régime dualiste d'importation qui a très fortement limité leur accès aux technologies et équipements et étrangers, contribuant ainsi à pérenniser leur retard ;

- ✓ enfin, la concentration géographique des investissements étrangers a créé de fortes disparités régionales dans les degrés d'ouverture.

Les résultats de ces analyses montrent que l'entrée de la Chine dans l'OMC aura des conséquences importantes :

- ✓ dans la mesure où le commerce extérieur de la Chine se caractérise par de fortes spécialisations sectorielles, on considère généralement que la libéralisation commerciale devrait se traduire par d'importantes réallocations de ressources au sein de l'économie. La Chine devrait renforcer ses spécialisations dans les secteurs intensifs en main d'œuvre, et notamment dans l'industrie textile qui bénéficiera de la suppression des quotas de l'accord multifibre à l'horizon 2005. Dans les secteurs capitalistiques, les entreprises chinoises comme les filiales étrangères, devront faire face à une concurrence accrue sur le marché intérieur ;

- ✓ cependant, la libéralisation commerciale devrait aussi renforcer le processus déjà bien engagé d'insertion de l'industrie chinoise dans la division internationale des processus de production. Les IDE asiatiques et particulièrement ceux de Hongkong et de Taiwan devraient s'accélérer et accentuer le mouvement de délocalisation en Chine des industries électriques et électroniques. L'ouverture accrue devrait aussi permettre aux firmes multinationales d'intégrer la Chine dans leur stratégies régionales ou mondiales de production et de commercialisation ;

- ✓ enfin, la libéralisation commerciale atténuera les distorsions qui caractérisent le régime douanier actuel et élargira l'accès aux produits étrangers pour les entreprises chinoises. Celles-ci devraient tirer parti de l'abaissement des barrières à l'importation pour accélérer leur modernisation et améliorer leur compétitivité tant sur le marché intérieur que sur les marchés mondiaux.

En entrant à l'OMC, la Chine poursuit plusieurs objectifs interdépendants : renforcer la dynamique des réformes internes, soutenir la croissance grâce à une meilleure allocation des ressources, continuer à recevoir des flux importants d'IDE en leur offrant de nouvelles opportunités dans le secteur des services. En effet, les IDE dans l'industrie manufacturière

devraient se ralentir car nombre de secteurs sont maintenant saturés et souffrent de surcapacités. Dans ces industries, il y a désormais moins d'opportunités pour les investissements de capacités, mais l'investissement étranger pourrait venir appuyer les programmes de rationalisation en cours, si l'ouverture du capital des entreprises d'État permet le développement d'opérations de fusions et acquisitions, qui constituent actuellement les formes les plus dynamiques d'investissement international. Une telle évolution suppose que soient progressivement levés en Chine les obstacles créés par les déficiences du cadre législatif et réglementaire ainsi que les résistances politiques.

Cette étude utilise essentiellement les données officielles chinoises sur les IDE. En fait celles-ci sont les seules à permettre à la fois une vue d'ensemble et une analyse assez détaillée sur la situation et les perspectives des IDE en Chine. En dépit de leurs limites en termes de méthodologie et de fiabilité, elles sont donc incontournables. Cependant le cas échéant, on se référera aux informations fournies par les organisations internationales et les pays partenaires pour compléter ou relativiser les chiffres officiels chinois.

SUMMARY

Although China has been opening up its economy for more than twenty years, it is generally considered that its future accession to WTO will imply far-reaching consequences for its economy. In order to better understand what is at stake as China enters the WTO, this study is intended to investigate the degree of openness of China's economy at the end of the nineties. The rapid expansion of its international trade and large capital inflows provide evidence of the increasing integration of China in the world economy. Since 1980, China's share in international trade has trebled, rising from less than 1% to more than 3% in 1999. China has become the second largest recipient of foreign direct investment (FDI), after the US, with cumulated inflows amounting to more than US$ 300 billion at the end of 1999. These two trends appear to be closely interrelated.

China's opening up policy has aimed at promoting exports, while protecting the domestic market. This was achieved through a dualistic trade regime which has granted tariff exemptions on imports of intermediate by export-oriented industries, and through a selective policy which has channelled FDI into manufacturing production targeted for exports or for import substitution. As a result, FDI has played a major part in the opening up of China's industry and in its integration into the international division of labour.

The study offers evidence of the positive impact of foreign direct investment (FDI) on China's manufacturing industry:

- ✓ foreign-invested enterprises (FIEs) have become major players in China's industrial restructuring. Their relatively large contribution to domestic investment and to manufacturing output, their higher capital intensity and labour productivity, compared to domestic firms, indicate potentially strong effects on industrial structure and efficiency;

- ✓ FIE specialisation shows a bias in favour of labour intensive industries but nevertheless allows for their strong participation in some capital-intensive industries;

- ✓ another important finding is that, while still contributing decisively to China's export performance, FIE production is now more domestic than export-oriented;

- ✓ FDI has allowed new entrants into China's industry and hence accelerated the diversification of ownership patterns, which has been part of the emergence of competitive structures. Moreover, FIE production now accounts for a more important part than imports in the supply of Chinese domestic demand, highlighting the fact that that FDI has been a major factor in the opening up of China 's economy.

The analysis also provides support for the argument that the opening up policy followed up to now has had adverse effects:

- ✓ indicators tend to show that FIEs are subjected to a lighter tax burden than State-owned firms. The hypothesis that preferential treatment for FDI has distorted competition is confirmed by large capital outflows which are fuelling "false" FDI;

- ✓ the low level of import penetration in several sectors shows that FIEs were in position to benefit from a protected domestic market, while tariff and non-tariff barriers strongly restricted Chinese firms' imports.

Turning to foreign trade, the analysis amply shows that China's specialisation pattern during the nineties was largely determined by the strategy of foreign affiliates:

- ✓ in contrast with other developing Asian economies, which have increasingly moved to intra-industry trade, China's international trade is still determined by strong inter-sectoral complementarities. However, while maintaining its strong specialisation in traditional industries (clothing), China has succeeded in building up new comparative advantages in more technologically advanced sectors (computer equipment, consumer electronics, household electrical appliances and electrical apparatus);

- ✓ in fact, during the nineties, foreign affiliates located in China were responsible for virtually all its gains in world market share and for the diversification of its exports in favour of more technological sectors. They have established manufacturing bases in China, deeply integrated in the international splitting-up of production processes. As a result China's has become specialised in the downstream stages of production in which it has a comparative advantage. Although China does not master the whole production process in these industries, the local content of these processed exports has tended to increase in recent years;

- ✓ China's large trade surpluses with the EU and the US were mainly due FIE processing trade: if processing trade was excluded, China's surplus with the EU would turned to deficit and its surplus with the US would be reduced by four-fifths. In recent years, China's large trade surpluses were thus due to the relocation strategy of foreign firms investing in China;

- ✓ the competitiveness of this highly internationalised industrial sector proved to be relatively less sensitive to the variation of the real exchange rate than other segments of China's exports; this dampened the adverse consequences of the real appreciation of the yuan on China's trade during the Asian economic crisis.

Nevertheless, this FDI-led trade expansion was associated with important shortcomings:

- ✓ it has had apparently limited effects on domestic export capabilities, as Chinese firms have recorded only modest export performance since 1992. This supports the argument

that the internationalised sector, isolated from the rest of the economy, has failed to enhance the global competitiveness of China's domestic industry;

- ✓ a major reason why exports by domestic firms have lagged behind can be found in the dualistic trade regime which has strictly limited their access to foreign equipment and technology;

- ✓ furthermore, the geographic concentration of FDI has led to increasing divergence in the degree of openness Chinese regions.

The results of these analysis then show that China's entry into WTO will have far-reaching consequences:

- ✓ as China' trade is characterised by strong sectoral specialisation, it is generally considered that trade liberalisation is expected to lead to important reallocations of resources within the domestic economy. It will strengthen its comparative advantage in labour intensive activities such as the clothing industry. In capital intensive industries, both Chinese and FIEs will have to adjust to stronger competition in the domestic market;

- ✓ however, trade liberalisation is likely to enlarge China's participation in the international splitting-up of production process. Asian FDI, especially from Hongkong and Taiwan, will increase and help China's industry evolve towards high-tech and high value-added products in electrical and electronic industry. Trade liberalisation should also make it possible for multinational firms to integrate China in their regional and global production networks;

- ✓ trade liberalisation will reduce the distortion in China's trade regime and allow a more equal access to foreign goods. Chinese firms should take advantage of lower tariff and non-tariff barriers to proceed with their technical modernisation and enhance their competitiveness in domestic and world markets.

There are three mutually reinforcing reasons why China decided to enter WTO: strengthening economic reforms, supporting economic growth through a better allocation of resources, and maintaining large inflows of FDI by providing them new opportunities in service sectors. FDI in manufacturing industry is expected to slow-down as several sectors are now saturated and suffer from over-capacity. In these industries, investment in capacity (greenfield FDI) is expected to level off, but foreign investment may help the rationalisation programme currently implemented as the opening of the capital of State-owned entreprises is now considered as a way to attract the most dynamic forms of global foreign direct investment (Mergers & Acquisitions). Such an evolution can take place only if the obstacles associated with the lack of an adequate legal and regulatory framework as well as with political oppositions are progressively lifted.

The study makes use of statistical data available from official Chinese sources. Despite their well known deficiencies, these sources alone make it possible to draw a comprehensive and

quite detailed picture of the situation and outlook of FDI in China. Whenever it is possible, we refer to complementary information from partner countries and expert analysis in order to provide a more accurate assessment.

FDI AND THE OPENING UP OF CHINA'S ECONOMY

Françoise Lemoine[*]

INTRODUCTION

Although China has been opening up its economy for more than twenty years, it is generally considered that its future accession to WTO will imply far-reaching consequences for its economy. In order to better understand what is at stake with China entering the WTO, it is useful to investigate the degree of openness of China's economy by the end of the nineties.

The increasing integration of China into the world economy has been driven by the rapid expansion of its international trade and by large foreign direct investment inflows. These two trends appear closely interrelated. FDI has been a major determinant of the opening up of China's economy: it has strongly contributed to promote competition in the domestic market and determined the evolution of foreign trade.

The first section provides an overview of FDI trends in China since the beginning of the eighties. It puts forwards the domestic and the international factors which explain the evolution of FDI and outlines its role in the domestic economy and external financing. The section presents the major characteristics of FDI: major source countries, sectoral and regional distribution within China.

A second section analyses the role of foreign-funded enterprises in China's industry and their contribution to China's opening up to competition. It underlines the growing contribution of foreign-invested enterprises (FIEs) to industrial output, compares their performance indicators, their sectoral specialisation and export orientation, with those of domestic firms. To appreciate their contribution to the emergence of competition in China's industry, it examines the diversification of the ownership pattern in China's industry and estimates the respective shares of foreign affiliates, domestic firms and imports in the supply of the domestic market.

A third section investigates the factors which have driven China's integration in the international division of labour and identifies the role played by FDI in this process. It examines the determinants of China's foreign trade, and it shows how foreign affiliates located in China have been the engine of foreign trade expansion, as they have developed export-oriented industries deeply involved in the international splitting-up of production process.

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I. FOREIGN DIRECT INVESTMENT IN CHINA: AN OVERVIEW

1.1. China's Opening Up Policy: Promoting Exports and FDI

Foreign direct investment (FDI) in China was authorised in 1979, as part of the economic reform and opening up policy launched in December 1978. In order to accelerate the country economic modernisation, the new policy has fostered China's participation in international trade and its access to external sources of capital and technology. FDI could be considered as the best way to achieve these different tasks: introduce foreign capital and assimilate modern technology and management skills.

Since early eighties, China has followed a trade policy which bears similarities with that of other Asian countries and has combined export promotion together with relatively strong import protection measures. Import protection is usually a major disincentive to export since it raises the cost of capital goods and of intermediate inputs required to produce goods for export. It causes domestic prices to be higher than they otherwise would be and thus makes the home market more attractive than world markets *(Flatters and Harris, 1994)*. In order to fully neutralise this anti-export bias, China's trade policy has insulated the exporting industries from the indirect effects of protection and has allowed exporting sectors to import goods outside the normal custom regime (duty free).

China's policy towards FDI has also been selective: it has included preferential treatments (tariff exemptions and fiscal reductions) in areas in which FDI has been encouraged, *i.e.* the export oriented sectors and the sectors targeted for import substitution policies; it has imposed severe constraints in other sectors (limited access to the domestic market).

However, China's trade policy has evolved and since the mid-nineties the level of protection has been progressively lowered. The average tariff rate was reduced from 43% in 1992 to 23% in 1996. In 1997, the average tariff on industrial products was cut to 17% and China announced that it would be reduced to 10% in 2005. The level of non-tariff barriers was still around 9% in tariff equivalent in 1996, according to World Bank's estimation *(World Bank, 1997)*; it has also been lowered since. Restrictions on FDI have been progressively eased. The development of Foreign Exchange Centres at the end of the eighties and currency convertibility for current account operations in 1996 have made it easier for foreign firms to balance their operations in foreign currencies. Moreover the access to the domestic market has been enlarged and new sectors gradually opened to FDI *(Rosen, 1999)*.

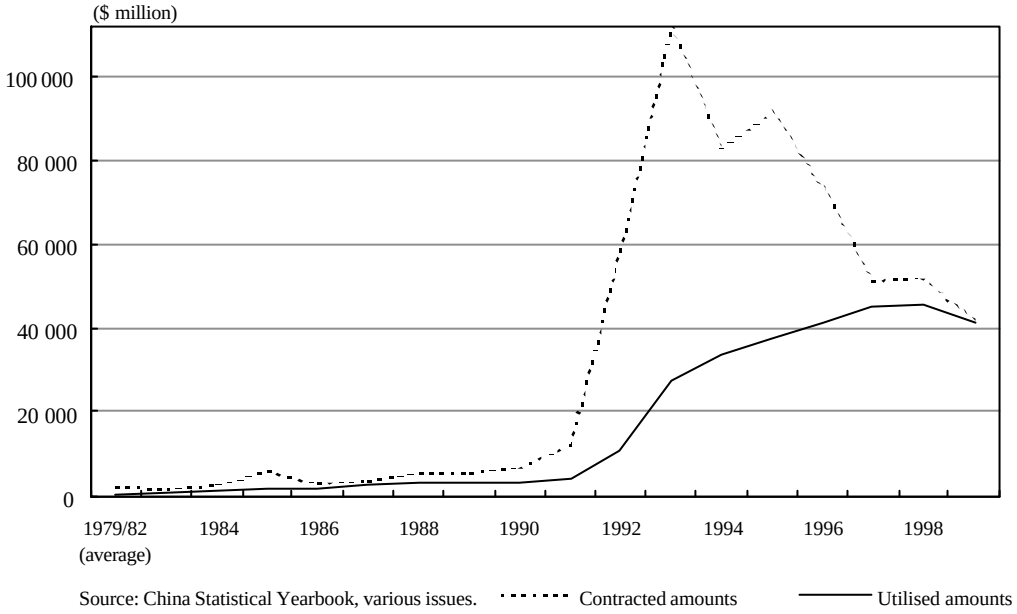
China's policy towards FDI has met with remarkable success, China becoming the second host country for FDI after the US in the nineties. Several factors have contributed to this success: the gradual liberalisation of China's domestic economic system has provided a more and more favourable environment for foreign firms' activity; the high rate of economic

growth achieved over twenty years has created a rapidly expanding domestic market which has attracted foreign investors. Lastly, China's integration into the world economy has been accelerated by the trend towards globalisation, which has meant a steady and rapid expansion of global foreign direct investment since 1992 *(OECD, 1999a)*.

1.2. The Rise of FDI in the Nineties

Trend in FDI flows to China shows three distinct phases: during the eighties, inflows increased at a moderate pace, then they soared from 1992 to 1997, and this upward trend has been interrupted since 1998 **(Figure 1)**.

Figure 1 - Annual Inflows of FDI in China: Contracted and Utilised Amounts, 1982-1999



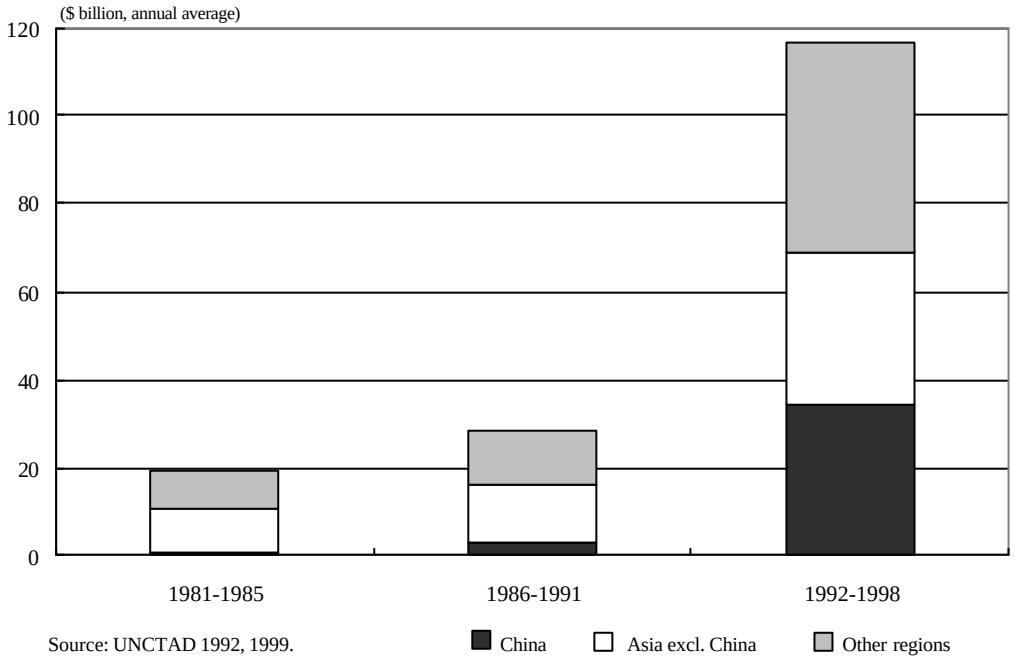
In the early stage of China's opening up, FDI inflows remained modest. Cumulated FDI at the end of 1983 stood around $3 bn. In the second half of the eighties, as foreign investors became more confident in the Chinese opening door policy, and as the regulatory framework for FDI improved, inflows progressively gained momentum. It jumped from $1.6 bn in 1985 to $3.2 bn in 1988. From 1988 to 1990, expansion was halted but it began to recover in 1991 ($4.4 bn).

FDI soared to $11 bn in 1992, to $33 bn in 1994 and culminated at $45 bn in 1997. This surge in FDI inflows was driven by institutional and macroeconomic factors: following Deng Xiaoping's support in favour of further economic liberalisation in Spring 1992, the Chinese government resumed a policy of far reaching economic reforms, and launched a new round of measures to attract FDI *(Tso, 1998; Chen, 1997a)*. Foreign invested enterprises were given more opportunity to sell their products in the domestic market, and new sectors were

experimentally opened to foreign investors (retail trade, finance). The macro economic policy which stimulated growth in 1992-1994 and the devaluation of the Renminbi also played an important part in attracting FDI.

This tremendous increase was part of a world-wide trend which directed very large amounts of FDI towards developing countries in the nineties. China was one of the main destinations of this wave of capital flows. From 1992 to 1998, the cumulated amount of FDI in China has reached $250 bn. China has become the first recipient of FDI among developing countries and received 30% of the total amount of direct investment flowing to developing countries and 50% of the total amount flowing to Asia **(Figure 2)**.

Figure 2 - Geographical Breakdown of FDI Inflows in Developing Countries

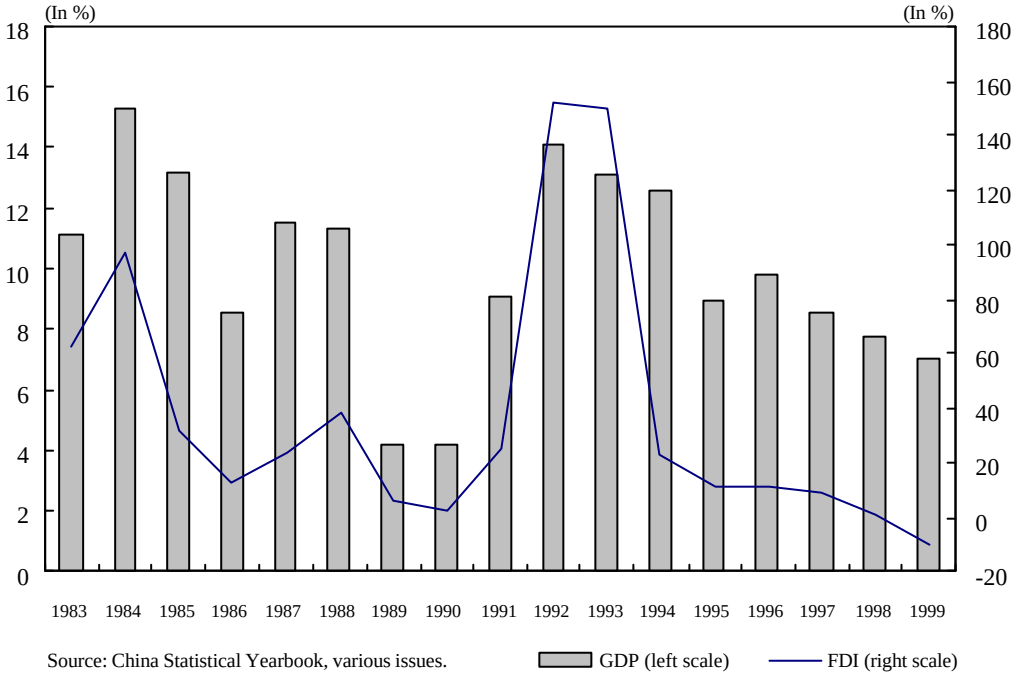


Source: UNCTAD 1992, 1999.

At the end of the nineties, the growth rate of FDI inflows in China slowed down markedly, and this coincided with a deceleration of economic growth, confirming that FDI trends are strongly influenced by the fluctuations in domestic economic growth **(Figure 3)**. The Asian economic crisis accentuated this evolution, as capital funds in Asian countries dried up and as all investors became more cautious. In 1998 Asian FDI in China fell (-10%) but this was compensated by an increase in FDI from other countries and the total value of FDI in China was stable. However, FDI inflows declined by 11% in 1999. The number of registered foreign invested enterprises (FIEs) which had trebled between 1992 and 1996, reaching 240,000, declined to 228, 000 in 1998 indicating that some foreign investors quitted the market. Contracted amounts of FDI are generally larger than utilised amounts, because

commitments are only gradually implemented and some projects may be never carried out[1]. Pledged amounts had surged in 1992-1995 and then decreased steeply, even before the Asian crisis **(Figure 1)**. In 1998 pledged FDI remained stable despite falling Asian investment, thanks to the finalisation of some big contracts with Western firms which had been pending for several years. But in the 1999 contracted FDI dropped by 21%. The ratio of contracted to realise FDI fell sharply, from 2.5 in 1995 to 1 in 1999. However, in early 2000, trend in contracted FDI reversed, stimulated by the prospects of China's accession to WTO.

Figure 3 - Annual Growth Rates of FDI Inflows and GDP in China, 1985-1998



1.3. Main Legal Forms

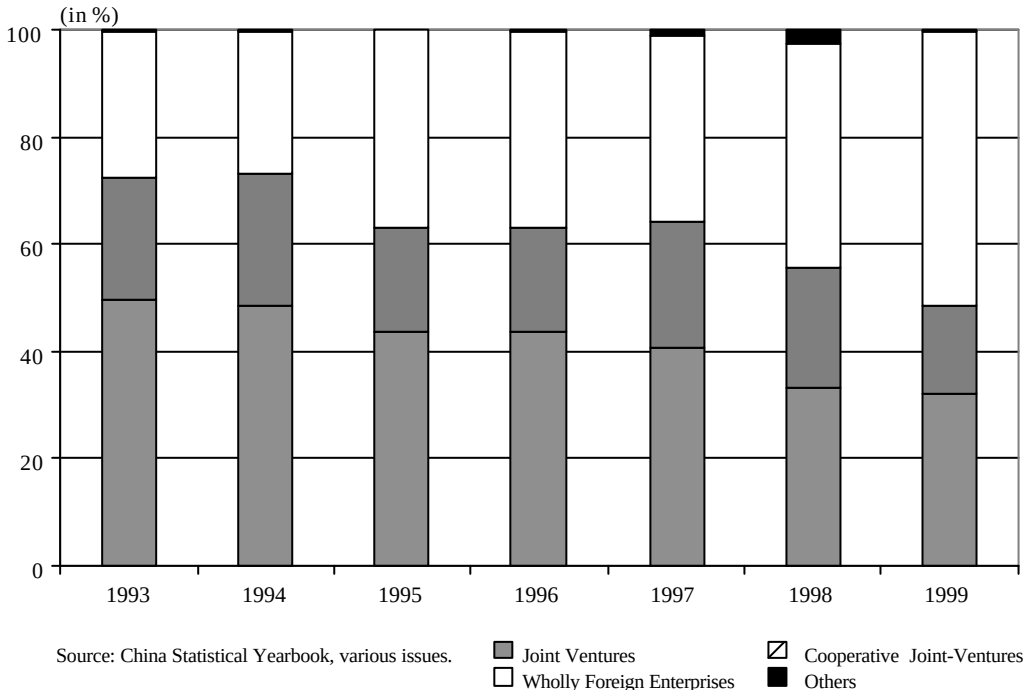
The legal and institutional framework for FDI has been elaborated progressively and has been part of the building up of a modern economic legislation in China. Three main legal regimes exist for foreign direct investment. *1)* Equity joint venture was the first form of foreign invested enterprise (FIE) to be authorised by the Joint venture law, in July 1979, which stipulates that foreign capital must account at least for 25% of the total capital of a joint-venture. *2)* Cooperative joint venture is a FIE in which the distribution of profits does not depend on the partners' shares in equity capital but is determined by agreement between the partners in the contract. Cooperative joint-ventures have been widely used, especially by Hongkong firms, even before they received a legal status, as the law on cooperative-joint-venture was passed only in April 1988. *3)* Enterprises with 100% foreign

[1] In this paper, unless otherwise indicated, we refer to FDI actually used.

capital were authorised in 1986 by a law which imposed two conditions: the wholly foreign firms should export at least 50% of their production or produce technologically-advanced goods.

In the early nineties, equity joint ventures accounted for the largest amount of FDI but they have lost ground since **(Figure 4)**. From 1993 to 1999, their share dropped from 50% to 32% of the total contracted amount of FDI. During the last five years, foreign firms invested preferentially in wholly foreign enterprises which represented more than 50% of the contract value of FDI in 1999, against 25% in 1994. The constraints imposed in principle on this type of enterprise have been compensated by the advantages perceived by foreign investors in terms of management autonomy. Cooperative joint ventures have kept their relative importance (around one fifth of FDI). For foreign investors, this latter category has the advantage of allowing flexible rules and practice. Wholly foreign enterprises concern larger projects on average, and they have contributed to increase the average size of FDI projects. In the eighties, the average size lay between USD 1 bn and 2 bn and in the late nineties between USD 2 bn and 3 bn. Other FDI regimes have a marginal importance, they include *a)* Cooperative development which were important in the early eighties for oil exploration projects but have lost their *raison d'être*; *b)* FDI in shareholding which increased rapidly in 1997 and 1998 but dropped in 1999. This new form of FIE may gain momentum in the future as the reform of State-owned enterprises will encourage a diversified structure of ownership.

Figure 4 - Legal Forms of Foreign Funded Entreprises (on Contract Basis)

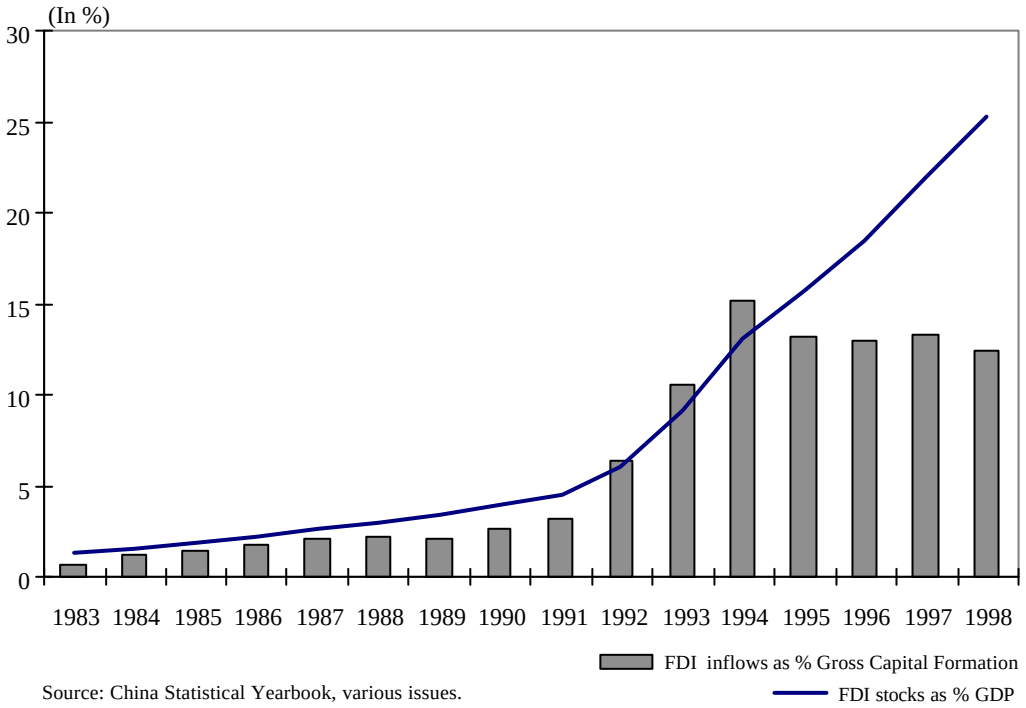


Source: China Statistical Yearbook, various issues.

1.4. Increasing Weight in Domestic Economy

Most indicators show that FDI plays a significant part in Chinese economy. FDI inflows (converted in yuan using the current exchange rates) represented up to 15% of gross capital formation in 1994. Although FDI in dollar terms has continued to increase since, this ratio has tended to decline as a result of the real appreciation of the yuan since 1995 **(Figure 5)**. Despite the size of the Chinese economy, the contribution of FDI to gross capital formation was higher than in most other Asian economies (Singapore excepted) in 1997 *(UNCTAD, 1999)*. FDI capital stock represented 25% of China's GDP in 1998, a ratio almost comparable to that existing in smaller economies which were opened to international capital flows long before China: for instance, FDI stock reached 28% of GDP in Indonesia, 38% in Malaysia. However, relative to the size of Chinese population, FDI is still low: FDI stock per capita is around $160 compared to more than $2000 in Malaysia, $320 in Thailand.

Figure 5 - FDI in China, 1983-1998: Share in Investment and GDP



Source: China Statistical Yearbook, various issues.

The contribution of FIEs to employment, investment, industrial output and foreign trade has reached significant levels. In urban areas, the number of staff and workers employed in FIEs

stood at around 6 million in 1998, accounting for 4% of total urban employment. If jobs created in rural areas (at township and village levels) are included, the figure of people directly employed by FIEs amount to 20 million, that is 11% of China's non-agricultural employment. If the jobs created indirectly by FDI are included, the number of employment opportunities created for local Chinese may well exceed 30 millions *(Ma, 1999)*. FIEs are responsible for a rapidly growing share of industrial output, around 20% in 1999. Their growth performance in recent years indicates that they resisted better than domestic firms to the slowing down of domestic and external demand. Despite the size of China's economy, the part taken by foreign affiliates in its manufacturing industry and exports, is comparable with that they play in other developing Asian economies **(Table 1)**.

FIEs are now major players in China's foreign trade (see section III). They made up 45% of exports and 55% of imports in 1998. This situation is the result of China's policy towards FDI which has strongly encouraged export-oriented activities *(Lemoine, 1998 and 1999)*.

Table 1 - FDI in Selected Asian Host Economies (in %)

	Share of FIEs in Manufacturing			FDI stocks/GDP
	Employment	Value-Added	Exports	1997
Indonesia (1995)	14	22	28	28.6
Malaysia (1996)	38	42	55	38.1
Taiwan (1996)	23	38	20	7.0
China (1997)	11	20	41	23.5

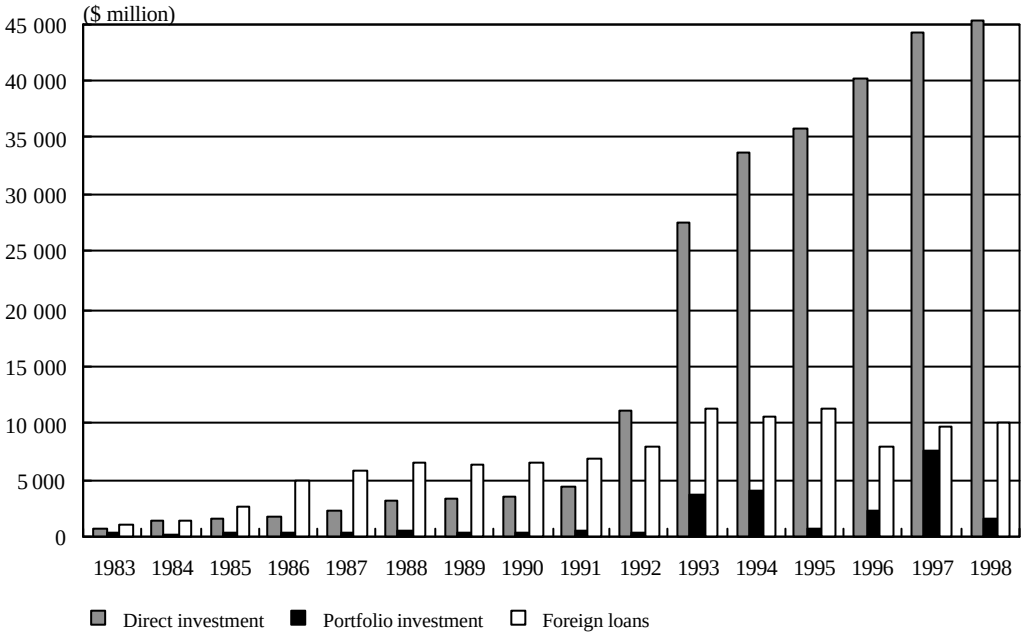
Source: Manufacturing: Ramstetter (1999); FDI stocks/GDP: UNCTAD, 1997.

1.5. A Major Source of External Financing

As China has carried out an active policy in attracting FDI and has imposed restrictions on other forms external financing, through maintaining currency inconvertibility, the pattern of foreign capital inflows has been quite different from that of other developing countries. Since 1992, FDI has been a major source of external financing for China *(World Bank, 1997);* it has been far more important than the two other components of foreign capital inflows: foreign loans and portfolio investments. In fact since 1992, large FDI inflows have completely changed both the magnitude and the structure of China's external financing **(Figure 6)**. During the period 1983-1991, total foreign financing represented $67 billion and, at this early stage of opening up, the main source of foreign capital was foreign loans, which accounted for more than 60% of total external financing. From 1992-1998 foreign financing increased almost fivefold (to $327 bn) and FDI became the major source of funds, providing China with 70% of total external resources. Portfolio investment remained limited although it was on the increase in 1997, amounting to 12% of external financing. According to available statistics, up to 1996, almost all portfolio investment consisted in foreign bonds and only in 1997 did investment in equity capital emerge as a substantial source of external financing

(7%). The low level of foreign investment in equity can be explained by the fact that China's financial system is still relatively underdeveloped and closed: the convertibility of the yuan is still limited to current account transactions; stock markets are still relatively narrow and they lack transparency.

Figure 6 - Sources of External Financing in China, 1983-1998



Source: IMF 1998 and China Statistical Yearbook, various issues.

The structure of China's external financing is different from that of most emerging countries in Latin America or Asia **(Table 2)**. In China, the share of FDI is much larger and the share of foreign loans much smaller than in Asian countries. Moreover, the importance of portfolio investment is much lower in China than in most developing countries. This structure of external financing explains why China has avoided the major financial crisis which hit most Asian countries in 1997 *(Fernald and Babson, 1999)*. The dominant part played by FDI in external financing has also made it possible for China to maintain a manageable level of foreign debt, which amounted to $ 140 billion at the end of 1998,

Table 2 - Structure of External Financing in Selected Developing Countries

(in % of stocks)

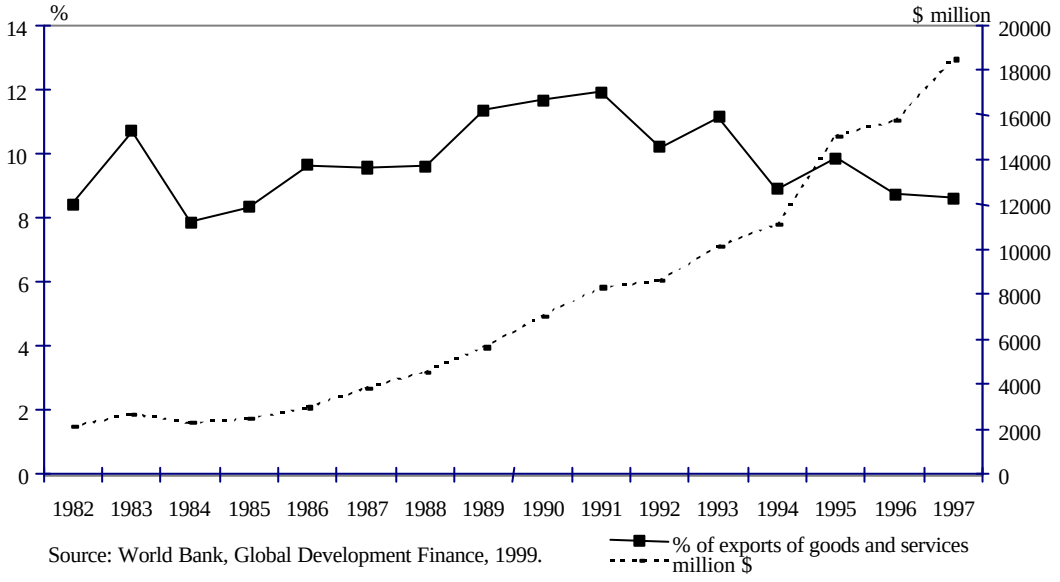
	Loans	Bonds	Equity	FDI
China	23	4	7	65
Brazil	20	49	9	22
Mexico	19	28	18	35

India	24	2	51	24
Indonesia	30	8	17	45
South Korea	68	28	10	-6
Thailand	84	4	5	7

Source: Caisse des Dépôts et Consignations, "Qu'apporte le financement de la croissance par les investissements directs ?", Flash n° 99-105, 8 juillet 1999.

representing about 15% of GDP[2]. Foreign debt is a moderate burden for Chinese economy as debt service takes less than 10% of its annual income from exports of goods and services **(Figure 7)**. Compared to portfolio investments which are volatile, FDI represent long term commitments of foreign investors and are relatively stable. The evolution of portfolio investment in China in 1998 highlights the instability of this type of capital inflows which react rapidly to changes in the perceived risk. Portfolio investment in China were negative in 1998 ($-3.7 bn) as a consequence of the Asian financial crisis.

Figure 7 - China: External Debt Service



Source: World Bank, Global Development Finance, 1999.

As FDI stock in China is now relatively large, income from investment is increasing and reinvested earnings are becoming an important part of foreign investment inflows. According to the balance of payments published by the IMF *(IMF, 1998 and 1999)*, FDI income represented around one third of FDI inflows (respectively $15 billion and $16 billion in 1997 and 1998) and most of it was reinvested (respectively $10 billion and $13 billion). Reinvested earnings made thus up about a quarter of total FDI inflows in 1997 and 30% in

[2] Expert estimations put the total Chinese foreign debt at US$ 180 bn, which represents 18% of GDP.

1998. This situation indicates that profits and dividends are potentially a source of capital outflows.

Every year from 1990 to 1998 (excepted in 1993), China recorded a surplus of its current account balance, due to large trade surpluses. It also recorded a capital account surplus, excepted in 1998, when the capital account deficit ($6 billion) was due to a fall in foreign loans received and to a large increase in trade credits provided by China to its foreign partners. Every year, the overall balance of payment registered a surplus which led to an increase in foreign exchange reserves. But total capital inflows exceeded the total amount of capital outflows plus increase in reserves, and "errors and omission" (E&O) were an important item of China's balance of payment. E&O represented between $6 bn and $10 bn a year between 1991 and 1994, rose to $17 bn in 1995 and has remained above $16 bn since, representing 8% of current account revenue. A part of this large E&O can be explained by an overestimated trade surplus, due to smuggled imports. It can also be explained by capital flight which has taken place despite foreign exchange control *(Din Lu, 1999)*. Foreign trade transactions provide opportunity for illegal practices (under-invoiced exports, fake import documents) which make it possible to transfer illegally funds abroad. Since mid-1998, Chinese authorities have taken a set of measures to curb smuggling and tighten exchange controls. As a result the E&O item stabilised at about $17 bn in 1998.

1.6. Geographic Origin of FDI: the Hongkong Bias

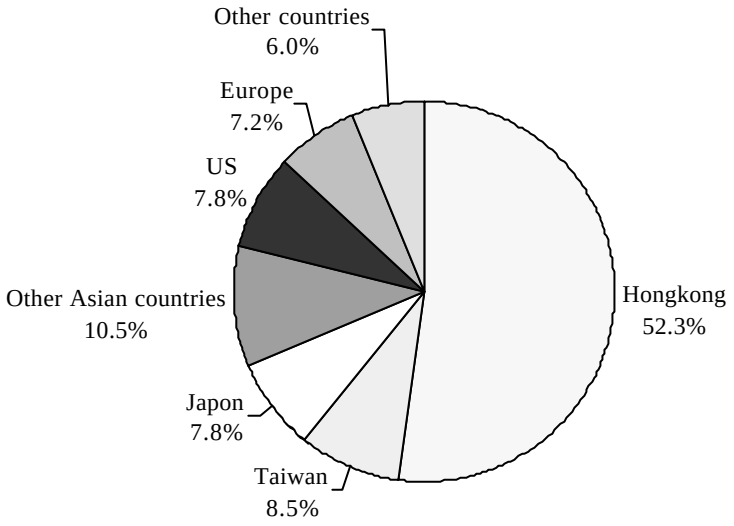
The very rapid growth of FDI in China was accompanied by some changes in the geographic pattern of investor countries. In the eighties, when FDI was still modest, three countries were responsible for the bulk of FDI inflows: through 1979 to 1991 Hongkong accounted for 62% of total FDI in China, Japan for 14% and the US for 10%. Gradually as confidence of foreign businesses in China's opening up and reform policy improved, investor countries diversified.

From 1992-1998, Asian countries accounted for an overwhelming share of FDI directed to China: about 80% of total FDI **(Figure 8)**. To a large extent this situation is due to the still dominant part of Hongkong, which accounted for more than half of total inflows. Over this period, Taiwan ranked second among foreign investing countries, far behind Hongkong, with 9% of total FDI. The importance of Hongkong and Taiwanese investors responded to the initial strategy of the Chinese authorities which was designed to attract "overseas Chinese" business to the mainland. The Special Economic Zones created in Guangong province (Shenzhen and Zhuhai) next to Hongkong and Macao, the Xiamen Special Economic Zone in Fujian province in front of Taiwan, were clearly designed at attracting funds from overseas Chinese. This policy proved to be a success. Most of Hongkong industry has been relocated in Shenzhen and in the Pearl River delta. Despite restrictions imposed by Taipeh on FDI in China, Taiwanese investment increased rapidly in the first half of the nineties; it has declined since 1997 but this turnaround may well reflect an underestimation of actual flows as Taiwanese firms are not allowed to invest directly in the mainland but have to pass through a third country. In Chinese statistics, FDI is registered as coming from the place where the investing firm is incorporated, but it may not coincide

with the actual home country of invested funds *(Chevalerias, 1998)*. This explains why Caiman Islands ranked thirteenth among countries investing in China in 1998 **(Table 3)**.

Foreign investment from Hongkong and Taiwan can be considered as specific since it benefited from special policies in China and it was enhanced by strong cultural and family links with the mainland. If this investment were considered as "internal" investment within an "enlarged China", the amount of "pure foreign FDI" in China would be much more modest, amounting to less than half the level it reached since 1992 ($100 bn against 240) *(Naughton, 1997)*.

Figure 8 - FDI in China (1992-1998): Main Countries of Origin



Source: China Statistical Yearbook, various issues.

In fact, it is difficult to have a precise picture of the actual pattern of FDI by country of origin, due to the role of Hongkong. First, "roundtripping" is often mentioned as a phenomenon which contributes to swelling Hongkong investment in China: Chinese firms illegally transfer money to Hongkong and then invest it in the mainland in order to benefit from the preferential treatment offered to foreign investment. An estimation suggested that round-tripping FDI accounted for about one fourth of FDI in China in 1992 *(Harold and Lall, 1993)*, but this indication has not been confirmed nor updated recently. Second, a part of Hongkong investment in China is made by Chinese firm affiliates, incorporated in Hongkong and listed in Hongkong stock exchange. These Red Chips raise funds through borrowing or issuing shares in Hongkong and invest in China. Third, Hongkong operates

as an intermediary between China and the rest of the world for capital flows as it does for international trade. Hongkong FDI in China includes flows from third countries which pass through Hongkong. This is the case of investment by Taiwanese firms which are not allowed by their government to invest directly in China and often set firms in Hongkong to carry out business with China. This is also the case of Western firms which invest in China through intermediaries in Hongkong to take advantage of their better experience and knowledge of how to do business with the mainland. In fact, the importance of flows passing through Hongkong is not precisely known, nor is the amount of "truly Hongkong" FDI. Over the last ten years the share of Hongkong in FDI in China has tended to decline (from 70% by the end of the eighties to less than 42% in 1998). However, it is not possible to identify the respective parts the two underlying factors: a more diversified geographic pattern of foreign investment and the development of direct relationship between foreign investors and mainland partners.

Since 1993 the most dynamic investment flows have come from Asian countries other than Hongkong and Taiwan, and which accounted for 24% of total FDI in China in 1998 (10% in 1993). Among these Asian countries, Japan was still the most important investor (8% of total FDI over the period 1992-1998) but its importance declined in 1997-1998, reflecting the deterioration of its domestic economy. Korea and Singapore have become top foreign investors in China, ranking respectively 3rd and 6th investor in 1998, with Korean investment in China catching up the Japanese investment in 1998 **(Table 3)**. Despite the decline of Asian FDI in China in 1998 (its share fell from 78% to 72%), Asian countries were still at the top of foreign investors.

Table 3 - FDI in China: a Comparison of China's and Partners' Statistics (cumulated FDI over 1992-1997), $ million

	China's statistics a	Partners' statistics b	Difference a-b
USA	14 965	4 281	10 684
Japan	15 385	14 266	1 119
United Kingdom	5 021	488	4 533
Germany	2 346	2 424	-78
France	1 568	878	690
Republic of Korea	5 996	3 332	2 664
Total 6 countries	**45 281**	**25 669**	**19 612**

Source: OECD, International Investment Statistics; China Statistical Yearbook, various issues.

From 1992 to 1998, investment flows from the United-States represented 8% of total FDI in China, a share which remained relatively stable over the period. Countries from the European Union taken together account for around 6.5%, but they have strengthened their position quite steadily since 1992. Among European investors in China, British firms have the largest contribution to FDI, well ahead of German firms.

Looking at home country statistics on FDI in China leads to a somewhat different picture **(Table 4)**. According to these sources, the aggregate amount of funds invested by the six major investors is almost half the amount given by Chinese data ($26 billion against $45 billion). But the difference varies widely depending on partners. Home country and host country statistics record roughly the same amount in the case of Japan and German FDI in China. This may be a coincidence as Japanese data concern contracted FDI and should be higher than Chinese data which concern realised investment. The difference is substantial in the case of South Korean and French FDI, as home country data are only half the level recorded in Chinese statistics. The largest discrepancy is found in the case of US and UK FDI, with home country statistics standing at respectively one third and one tenth of Chinese data. One of the reasons for such wide discrepancies may be that British and American firms invest in China through their companies in Hongkong, and that theses flows are not reported as investment in China according to home statistics.

Table 4 - Top Foreign Investors in China in 1998 ($ million)

Total	**45 463**
Hong Kong, China	18 508
United States	3 898
Singapore	3 404
Japan	3 400
Taiwan	2 915
Republic of Korea	1 803
United Kingdom	1 175
Federal Republic of Germany	737
Netherlands	719
France	715
Macao	422
Malaysia	340
Cayman Islands	324
Canada	317
Italy	275
Australia	272
Switzerland	229
Thailand	205
The Philippines	179
Sweden	133

Source: China Statistical Yearbook, 1999.

The aims of foreign firms investing in China are different depending the country of origin (*Zhang, 1995; Tso, 1998)*. Surveys have shown that Asian firms are motivated by cost consideration and tend to invest more than others in export-oriented activities. Asian investment in China thus corresponds to the relocation of their labour intensive industries

in a low-wage country in order to maintain their competitiveness in world markets (*Naughton, 1997; Huchet, 1997; Chen 1997b*). American and European investment is driven by market expansion strategies rather than by cost considerations. Their investment in China is more directed in capital intensive sectors producing for the domestic market.

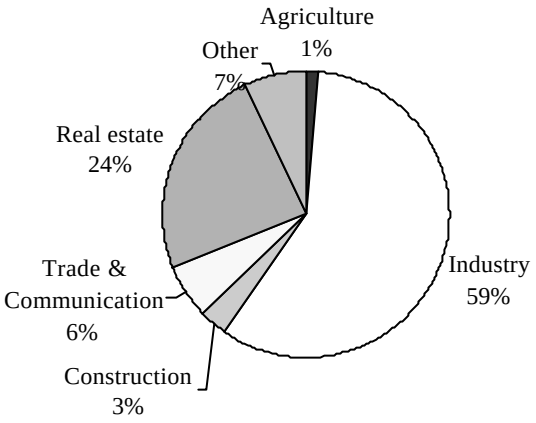
1.7. The Sectoral and Geographical Distribution of FDI within China

1.7.1. Concentration in Industry

The sectoral pattern of FDI in China changed over twenty years *(Sun, 1998; Broadman and Sun, 1997)*. In the eighties, a large part of FDI was directed to geological prospecting, real estate, tourism and related services. FDI in geological prospecting corresponded to the participation of Western firms to the exploration of China's oil fields, which was a then priority sector of China's industrial policy. Investment in real estate and services (hotels, restaurants, taxi companies) was driven by the needs created by the opening up policy. Many of these projects were then described as “foreigners serving the foreigners”. Such projects had the advantage of quick return on investment, whereas foreign investment in other sectors encountered several obstacles: lack of infrastructures as well as of a well-defined set of regulations, inadequate supply network, etc.

Since 1986, the Chinese government has taken several measures to change the sectoral structure of FDI in favour of investment in export-oriented and high technology sectors. Over 1988-1991 period, FDI inflows shifted towards industry. The boom in FDI after 1992 was first driven by a sharp increase in real estate projects which coincided with a "real estate fever" in major Chinese cities. Real estate reached 39% of total pledged foreign direct investment in 1993. FDI in industry has also increased rapidly and it has accounted for the major part of total FDI inflows, almost 60%, since 1993 **(Figure 9)**.

Figure 9
FDI in China (1993-1998): Sectoral Breakdown



Source: China Statistical Yearbook, various issues.

Investment in the service sector was relatively limited: trade and communication received around 6% of total FDI and other service sectors around 7%. This reflects the fact that many service sectors are not yet opened to FDI: foreign firms have been allowed to invest in financial services and in retail trade only on an experimental basis and in limited geographic areas.

As foreign firms already hold strong positions in several industrial sectors and as over-capacity exists presently in many of them, FDI inflows may have reached a ceiling under present conditions. A new impulse to FDI inflows may come from several factors: *1)* a revival in economic growth which will pull investment demand; *2)* the opening up of new sectors to foreign investors, following China's accession to WTO. The progressive liberalisation of FDI in services (wholesale and retail trade, banking, financial services, telecommunication) is likely to draw a new wave of FDI; *3)* equity participation in state-owned enterprises, provided that China is able to establish a legal and regulatory framework for mergers and acquisitions (M&A), which are currently the most important form of world-wide FDI.

1.7.2. Concentration of FDI in Coastal Areas

FDI in China is characterised by a very uneven geographic distribution. Regional breakdown of FDI shows a dividing line between coastal provinces and inland provinces in attracting foreign capital **(Figure 10)**. Since 1992, four fifths of FDI have been concentrated

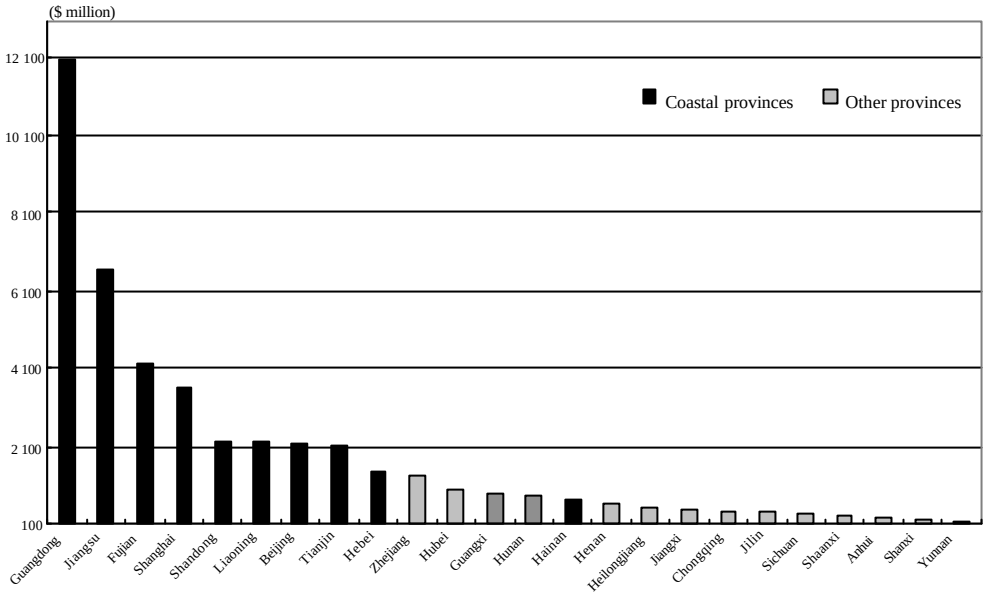
in coastal provinces and more precisely in five of them; Guangdong, Jiangsu, Fujian, Shanghai municipality and Shandong received more than 60% of total FDI. Trends in the geographical orientation of FDI show that the degree concentration in the coastal area increased from the eighties to the nineties **(Table 5)**.

Table 5 - Regional Distribution of FDI (%)

	Population 1996	GDP 1998	FDI 1979-1991	FDI 1992-1998	FDI stock/GDP 1998
China	100.0	100.0	100.0	100.0	26.6
Beijing	1.0	2.4	8.5	3.6	44.3
Tianjin	0.8	1.6	1.7	4.1	64.8
Hebei	5.3	5.1	0.6	2.0	9.9
Liaoning	3.4	4.7	4.2	4.5	25.3
Shanghai	1.2	4.5	5.8	8.5	49.6
Jiangsu	5.8	8.7	2.7	12.6	35.8
Zhejiang	3.5	6.0	1.2	3.3	13.8
Fujian	2.7	4.0	6.5	10.1	64.7
Shandong	7.1	8.7	2.4	6.4	18.7
Guangdong	5.7	9.6	36.6	27.6	79.0
Coastal provinces	**36.5**	**55.3**	**69.9**	**82.8**	**39.3**
Others provinces	**63.5**	**42.6**	**30.1**	**17.2**	**10.9**

Source: China Statistical Yearbook, various issues.

Figure 10 - FDI in China: Breakdown by Provinces*



*Provinces receiving less than $100 million are excluded from the figure (Inner Mongolia, Guizhou, Gansu, Xinjiang, Ningxia, Tibet, Qinhai).
Source: China Statistical Yearbook, 1999.

Several reasons explain this geographic polarisation of FDI. First, since its inception, the opening up policy has explicitly encouraged FDI in coastal provinces. In 1980, four special economic zones were created in the two Southern provinces of Guangdong and Fujian. Since the mid-eighties, the opening up policy has been extended northward: provinces and cities located in the central and northern part of the coast have been allowed to give preferential treatment to foreign investors. At the same time the authorities adopted a development strategy aimed at accelerating growth and modernisation in Eastern regions based on export-oriented industries. Only in the early nineties were inland cities and border areas encouraged to open up. In early 2000 the Chinese government announced a programme aimed at restoring a more balanced regional development and decided to apply preferential tax policies in order to attract FDI in Central and Eastern areas. In fact preferential policies have been only one of the advantages that coastal provinces offered to foreign investors. They also have better economic endowments which give them comparative advantages over inland provinces: geographic proximity to international markets, better transport infrastructures, more skilled labour. Furthermore, many coastal provinces have advanced rapidly in economic liberalisation, have developed a dynamic non-state sector, and have thus provided a more favourable environment to foreign investors. Finally, as they have recorded higher economic growth, they also have provided foreign business with larger and rapidly expanding markets.

Changes have taken place in the distribution of FDI among coastal provinces. During the eighties, FDI were preferentially oriented towards Southern provinces, with Guangdong

receiving more than one third of total FDI from 1979 to 1991. Most investment was coming from Hongkong and was naturally directed to the neighbour province which offered low production costs for industrial production. In the nineties, the geographic breakdown of FDI gradually shifted away from Guangdong towards provinces located in the central part of the coast. Four provinces benefited most from the wave of FDI in the nineties: Shanghai which opened the Special Economic Zone of Pudong in 1990, Jiangsu province which benefits from its geographic location near Shanghai, Shandong, and Fujian which has attracted increasing flows of FDI from Taiwan. Still, the two Southern provinces of Guangdong and Fujian are the most open to FDI, with the highest ratio of FDI stock to GDP (respectively 79% and 65%). The three municipalities of Tianjin, Shanghai and Beijing have also a strong economic dependance on FDI (FDI stock/GDP stands around 50%). Other coastal provinces show different degrees of FDI penetration: from Hebei which is still relatively closed to Jiangsu which is quite opened.

The opening up of China's economy to FDI has in fact been limited to the coastal provinces while most inland provinces are still closed economies. In 1998, the ratio of FDI stock to GDP in coastal area was almost four times the level it reached in inland area (40% against 11%). The geographic distribution of FDI has thus created diverging patterns of economic development in China.

II. FOREIGN INVESTED FIRMS IN CHINA'S INDUSTRY

A number of empirical studies have investigated the determinants of investment flows in China, the different strategies of foreign investors, and have assessed the impact of FDI on economic growth. Relatively few studies have provided a detailed assessment of the effect of FDI on the structure and efficiency of China's industry at the end of the nineties. The reasons can be found in the relative paucity of data and especially in the lack of sufficiently long time series[3]. In fact FDI inflows in China's industry have surged since 1993 and firms with foreign capital acquired an important position in China's manufacturing industry in the mid-nineties. Research work taking into account the recent trends in the contribution of FDI to China's industry has been done by Démurger (2000), Fan (1999), Sun (1998), Sun and *alii* (1999), Wu (1999 and 2000), Zhang and Zheng (1998).

Using available data, this section is intended to assess the role of foreign invested firms in the restructuring of China's industry and in the opening up of the domestic market to competition. First it underlines the contribution of foreign invested enterprises (FIEs) to industrial output, it compares their performance indicators in terms of capital intensity and labour productivity in order to highlight their potential impact on industrial efficiency, and examines how their sectoral specialisation and export orientation influence China's overall industrial pattern. Then it attempts to assess the role of FIEs in the emergence of

[3] Available statistics on FDI in China's industry include 1) FDI trends in industry as a whole and in other broad economic sectors from 1993 to 1998; 2) key indicators on the activity of foreign invested firms in the different industrial sectors (38 sectors) for the years 1995, 1996, 1997 (not published for 1998); 3) detailed data on foreign funded enterprises, for 1995, as part of the Third National Industrial census which covers all industrial enterprises.

competitive structures in China's market, it points out their role the diversification of ownership pattern in China's industry and estimates their relative share in the supply of the domestic market compared to that of domestic firms and imports.

2.1. The Contribution of Foreign Invested Firms to Industrial Production

2.1.1. Rising Contribution to Industrial Output

From 1985 to 1997, the pattern of industrial output by categories of ownership underwent tremendous changes, as evidenced by the drop of State-Owned Enterprises' weight and the rise of non-state firms (collectively owned, individual and "others") **(Table 6)**:

- ✓ State-Owned Enterprises (SOEs) lost their dominant position in industry, as their share fell from 65% in 1985 to 25% in 1997. SOEs clearly ceased to be the engine of industrial growth in the nineties: their contribution to growth fell below 10% over the period 1992-1997;

- ✓ the major "gains" in industrial structure were registered by "individual" firms (their share rose from 2% to 18%) as well as by "other ownership forms" (their share rose from 1% to 18%), in which FIEs play a dominant part since they accounted for 3/4 of the output of this category in 1997;

- ✓ collectively owned enterprises became the most important category of ownership in industry in 1997 (38%), and have accounted for 40% in output growth since 1992.

Table 6 - Contribution of Categories of Ownership to Industrial Output and Growth (in %)

	Industrial output, all firms				
	Structure of Ownership			Contribution to Growth	
	1985	1993	1997	1985-1993	1993-1997
Total	**100**	**100**	**100**	**100**	**100**
SOEs	64.9	47.0	25.5	42.5	9.6
Collectively-owned firms	32.1	34.0	38.1	34.5	41.1
Individual firms	1.8	8.0	17.9	9.5	25.3
Other economic forms	1.2	11.1	18.4	13.5	23.9

Source: *China Statistical Yearbook*, various issues.

Changes in the ownership structure of industry since 1993 can be more precisely investigated at the level of establishments which are independent accounting units. They correspond approximately to industrial enterprises at the level of townships and above, *i.e.* they exclude village enterprises. They cover about 60% of total industrial output. In this narrowly defined industrial sector, the contribution of FIE to output more than doubled, from 9% to 21% between 1993 and 1997. They contributed 37% of the output increase and

gained most of the ground lost by SOEs: FIEs' share in output increased by 12 points, while SOEs' share dropped by 15 points **(Table 7)**.

Table 7 - Contribution of Categories of Ownership to Industrial Output and Growth of Urban Industry (in %)

	Industrial output, independent accounting units		
	Structure of Ownership		Contribution to Growth
	1993	1997	1993-1997
Total	**100**	**100**	**100**
SOEs	55.6	40.8	20.1
FIEs	9.1	20.8	37.1
Foreign country investors	4.7	12.0	22.2
HK + Macao + Taiwan	4.4	8.8	14.9
Other firms	35.2	38.4	42.8
Collective enterprises	30.0	28.9	27.5
Shareholding companies	3.6	7.2	12.1
Others	1.6	2.3	3.2

Source: *China Statistical Yearbook*, various issues.

In 1998 and 1999, FIEs have further strengthened their position in industry as they recorded above average growth rates. Their share in industrial output of independent accounting units jumped to 25% in 1998. Their share in industrial value added increased from 17.8 in 1997 to 19.1 in 1998 and 20.6 in 1999[4].

During this period, the output of FIEs involving investors from developed countries increased much faster than output of FIEs involving "Overseas Chinese" (Hong Kong, Macao and Taiwan). In 1997, the former accounted for the largest share of total FIE output (almost 60%) and were responsible for 12% of China's industrial output. This change in the nature of FDI inflows indicates that Multinational enterprises (MNEs) have played a decisive part in the wave of FDI since 1993. The strengthened presence of MNEs, which carry out strategies different from that Overseas Chinese, can be expected to have positive effects on capital and technology transfer, as their investment projects are larger, more oriented towards relatively capital intensive and technology intensive sectors (see below). They are also more oriented towards the domestic market, and this raised concerns in China and "fears of losing control over the domestic market by the national firms to the expanding MNEs"*(Zhang and Zheng, 1998)*.

[4] Data for 1998 and 1999 are not strictly comparable with that of 1997 because of a change in the statistical coverage. Since 1998, data cover industrial firms with an annual sale income over 5 million yuan, whereas up to 1997 they cover independent accounting units.

2.1.2. Basic Indicators of FIEs Compared to Domestic Firms

Several indicators are used to compare the performance of Chinese industrial firms depending ownership forms. Technical and financial indicators show that large differences exist between FIEs and domestic firms but also within these two broad categories **(Table 8)**.

Table 8 - Principal Financial Indicators of Industrial Enterprises by Ownership*, 1997

	Total	Domestic firms	FIEs	SOEs	Collect. firms	Foreign Invested firms (1)	Overseas Chinese firms (2)
Firm's size							
Number of employees per firm	168	168	167	523	84	176	158
Fixed assets by firm (yuan mns)	11	10	18	42	2	22	15
Capital intensity & labour productivity							
Fixed assets per employee (000 yuan)	62.8	58.3	108.5	80.7	23.6	123.4	94.3
Value added per employee (000 yuan)	25.2	22.8	49.6	23.6	19.7	56.9	42.5
Output/employee (000 yuan)	86.8	75.6	199.4	71.5	74.0	234.4	165.6
Output in % of fixed assets (000 yuan)	115.0	107.0	158.0	73.0	256.0	169.0	145.0
Profit indicators							
Tax and profit in % of value-added	28.9	29.1	28.0	31.6	22.6	31.5	23.5
Profit in % of value-added	8.6	7.4	13.8	4.7	8.7	15.6	11.6
Profit in % of sales	2.7	2.4	3.8	1.5	2.8	4.1	3.3
Proportion of loss-making enterprises (%)	24.0	22.0	36.0	38.0	19.0	39.0	34.
Ratio of debts to total assets (%)	64.6	65.6	59.8	65.4	70.8	74.6	48.6
Ratio of inventories to sales revenue (%)	24.5	24.8	23.3	26.7	21.4	22.1	25.0
Value added in % of output	**29.0**	**30.1**	**24.9**	**33.0**	**26.6**	**24.3**	**25.7**

*Enterprises with independent accounting system.
(1) FIEs with other partners than from Hong Kong, Taiwan and Macao.
(2) FIEs with partners from Hong Kong, Taiwan, Macao.
Source: *China Industrial Statistics Yearbook* 1998, p. 103-126, p. 76-99.

Capital intensity is an important criterion assessing the technical level of production process. In general a relatively high capital intensity is associated with high technology content of production and higher labour productivity. The indicator of capital intensity (here the level of fixed assets per employee) shows that FIEs are on average much more capital intensive than domestic firms: in 1997, the level of fixed assets per employee was

almost twice higher in FIEs than in domestic firms (1 to 1.85). FIE production thus embodies greater technology content than domestic firm production.

In fact, domestic firms are very heterogeneous and the relatively low level of capital intensity in the domestic sector is mainly due to collective enterprises which have limited capital investment, and account for 30% of output. The difference in capital intensity is thus smaller between FIEs and SOEs (1 to 1.33) than between FIEs and collective enterprises (1 to 4.5).

FIEs also are heterogeneous. Affiliates from Hong Kong and Taiwan are much less capital intensive than others. In fact, the level of fixed assets per employee in Overseas Chinese FIEs is close to that of SOEs, although higher than that of domestic firms on average. Capital intensity is not systematically related to the firm's size. The average number of employees is almost the same in affiliates from Hong Kong and Taiwan and in other FIEs, and much lower than in SOEs.

Differences in capital intensity are generally associated with large differences in labour productivity. The average labour productivity (output per employee) in FIEs is 2.5 times its average level in domestic firms and, as expected, labour productivity is lower in Overseas Chinese affiliates than in other FIEs. But disparities among Chinese firms are not large, and collective enterprises show about the same labour productivity as SOEs, although the latter have much higher capital intensity. The low level of labour productivity in SOEs can be attributed to the persistence of redundant workers, a situation they inherited from the pre-reform period and which is part of their "policy burdens" *(Lin and Tan, 1999)*. Productivity gap between FIEs and domestic firms tends to narrow over time: labour productivity in FIEs was three times higher than in domestic firms in 1992 and 2.8 times higher in 1995 *(Sun, 1998)*. However, this convergence seems to result from productivity gains in collective firms and not in SOEs.

Turning to financial indicators, FIEs show much better performance in terms of profitability than domestic firms. In 1997, the ratio of tax and profit to value added was about the same in domestic firms and in FIEs (respectively 29 and 28%), but as indirect taxes (among which VAT) seemed to be included, this ratio did not provide a relevant indicator of profitability of firms. The share of profit in value-added showed that the profit margin was significantly higher in FIEs (13.8%) than in domestic firms (7.4%). Among the latter, collective firms recorded higher profit margin than SOEs. Profitability measured by the ratio of profit to sales also provides evidence of the better performance of FIE compared to domestic firms, and of the better performance of collective entreprises compared to SOEs. More detailed data on the financial results industrial firms, provided by the 1995 Census, also indicated that the weight of profit tax was substantially heavier for SOEs profit tax represented 43% of total profit) than for FIEs (profit tax represented 13% of total profit). This hypothesis is also mentioned by *Zhang and Zheng (1998)* who found that the marginal contribution of multinational firm affiliates to tax revenue was less than that of domestic firms. Preferential tax policy aimed at attracting FDI would have thus resulted in a discriminating treatment of State-owned enterprises.

The proportion of loss-making enterprises is about the same among FIEs than among SOEs. However, data from the 1995 Census show that SOEs' losses were of the same magnitude as their total profit, while FIEs' losses represented two-thirds of their total profits. It must be mentioned that in the case of foreign affiliates, intra-firm pricing may distort the posted profit rates *(Sun, 1998)*.

2.1.3. FIE Specialisation Pattern

FDI is concentrated in a limited number of manufacturing industries. Ten sectors represented more than 64% of FIE total output in 1997.

Interestingly, FIE output encompasses relatively diversified sectors **(Table 9)**: they include not only production of traditional labour intensive industries (garments, food) but also relatively capital intensive industries (basic chemicals and transport equipment). To compare FIE production structures with domestic ones we calculated a specialisation indicator, defined as the share of an industry in total output of FIEs divided by the share of the same industry in the output of domestic firms. FIEs show their highest specialisation indexes in labour intensive industries, as well as, while lower, in some in capital and technology intensive industries (transport equipment, plastic products).

Another way to determine how FDI may influence industrial restructuring is to consider whether the distribution of FIE output by industries follows the pattern of China's present revealed comparative advantage in international trade. As a measure of revealed comparative advantage by industry we used the difference between an industry's share in total exports and its share in total imports. In 1997, FIE output was relatively less important in industries in which China had a revealed comparative *advantage* than in sectors in which it had a comparative *disadvantage*: 60% of their output was located in industries with a comparative disadvantage. FDI in sectors in which China has a comparative advantage can be expected to strengthen its current industrial specialisation, whereas FDI in sectors in which it has a comparative disadvantage is likely to induce potential changes in its current specialisation. In the latter case, the technological gap between investing and host country is presumably large, and FDI is likely to incorporate more technology transfers. Moreover, in sectors with comparative disadvantage, FIE production is aimed at supplying the domestic demand and has been encouraged as part of an import substitution policy. FIEs have contributed to the building up of modern capacities for the domestic market in several industries (for instance car industry). In the long run, FDI in the sectors which correspond to present weakness in China specialisation, may help the development of competitive production both in domestic and world markets, and hence alter the pattern of comparative advantage.

Ranking industrial sectors according to the importance of foreign firms in output shows that several industries in China now rely extensively on FDI **(Table 10)**[5]. Three broad categories can be distinguished:

1) the first category includes sectors in which FIEs account for more than 40% of total output in 1997: electronic and telecommunication, leather, sports goods, instruments, garments. Among these five industries which are heavily dependent on FIEs, electronic & telecommunication and garments are two large sectors in terms of overall output;

2) a second set corresponds to industries in which FIEs hold an above average share in output (between one fifth and one third). It includes some of China's largest industrial sectors such as food, transport equipment, electrical machinery;

Table 9 - FIE Specialisation Pattern and China's Comparative Advantage (1997)

[5] These figures overestimate the actual weight of FIEs as they are based on industrial output realised by independent accounting units. Taking into account overall industrial output (including rural industry) would reduce the relative importance of FIEs in output but not the ranking of industries with respect to FIE involvement. See box 1.

	Output breakdown by sectors* (%)		FIEs* Specialisation	Comparative advant. or disadvantge (1)
	FIEs	Domest. firms	Index	
	a	*b*	*a/b*	
Total industry	**100.0**	**100.0**	1.0	
Electric & electronic equipment	23.7	6.08	**3.9**	-0.5
Food processing and manufacturing	8.9	7.66	**1.2**	0.2
Transport equipment	6.7	5.19	**1.3**	-1.1
Textile industry	6.2	8.31	0.7	-0.8
Garments	5.6	2.84	**2.0**	16.6
Basic chemicals	4.6	6.74	0.7	-2.4
Machinery	4.4	8.35	0.5	-11.4
Leather, furs and related products	4.2	1.69	**2.5**	6.0
Metal products	4.1	3.91	1.0	1.1
Plastic products	3.3	2.41	**1.4**	-4.5
Non metal mineral products	3.0	7.86	0.4	1.7
Beverage	2.9	1.76	**1.7**	0.2
Other manufacturing	2.1	3.76	0.6	-0.1
Instruments	2.0	0.52	**3.8**	0.2
Pharmaceutical	2.0	1.41	**1.4**	0.3
Paper products	1.7	2.14	0.8	-1.9
Sports goods	1.6	0.63	**2.6**	3.9
Non-ferrous metallurgy	1.2	2.53	0.5	-1.1
Ferrous metallurgy	1.2	6.78	0.2	-1.4
Rubber products	1.2	1.10	**1.1**	-0.4
Timber processing	1.1	0.99	**1.2**	-1.1
Chemical fibres	1.1	1.28	0.9	-3.1
Petroleum and natural gaz	1.0	2.23	0.5	-4.7
Printing and recording	0.8	0.80	1.0	-0.2
Petroleum processing and cooking	0.8	3.48	0.2	0.4
Furniture	0.6	0.68	0.9	2.0
Non metal mineral mining & process.	0.1	1.33	0.1	0.7
Tobacco	0.1	1.71	0.0	0.2
Coal mining and processing	0.0	2.37	0.0	0.6
Logging and timber	0.0	0.29	0.0	0.0
Metal mining and processing	0.0	1.02	0.0	-1.7
Others	3.9	2.5	-	-
Sectors with comparative advantage	35.9	37.8	-	-
Sectors with comparative disadvantage	60.2	59.7	-	-

(1) The indicator of comparative advantage for each sector is its share in total exports less its share in total imports.
*Independant accounting units. Sectors are ranked according to their share in FIE output, descending order.
Source: *China Statistical Yearbook*, 1998; China's Customs Statistics; Authors' calculations.

Table 10 – Share of FIEs in Sectors' Output*, 1997 (in %)

	Sectoral breakdown of output, all firms*	Share of FIEs*
Total	**100.0**	**20.8**
Electronic and telecommunication	5.7	63.1
Leather, furs and related products	1.7	49.9
Sports goods	0.7	47.3
Instruments	0.9	47.3
Garments	2.7	43.3
Plastic products	2.1	32.2
Other manufacturing	1.3	31.3
Furniture	0.5	28.3
Metal products	3.0	27.8
Electric equipment	4.9	26.9
Timber processing	0.9	26.0
Beverage	2.4	25.6
Food	7.5	25.0
Transport equipment	6.0	23.1
Pharmaceutical	1.8	22.2
Rubber products	1.1	21.9
Printing and recording	0.8	19.7
Paper products	1.8	19.4
Textile industry	7.0	18.4
Chemical fibres	1.3	18.0
Basic chemicals	6.9	13.8
Machinery	7.1	12.8
Non-ferrous metallurgy	2.2	11.8
Non-metal mineral products	5.6	11.3
Petroleum and natural gaz	2.7	7.7
Ferrous metallurgy	5.6	4.4
Petroleum processing and cooking	3.8	4.4
Non-metal mineral mining&process.	0.8	3.0
Metal mining and processing	0.8	1.0
Tobacco	1.9	0.8
Other mineral mining & processing	0.0	0.2
Coal mining and processing	2.3	0.1
Logging and timber	0.3	0.1

Sectors are ranked accroding to FIE share in output, descending order.

* Enterprises with an independent accounting system.

Source: *China Statistical Yearbook*, 1998. Authors' calculations.

3) the third category encompasses sectors in which FIEs account for less than 20% of output. All of them are sectors intensive in capital or in natural resources, in which the entry of foreign investors is made difficult by both institutional and economic barriers.

A more detailed level of product classification would show that foreign firms has now dominant positions in several industries: for instance, they account for 99% of soft drink production, for 89% of soap and detergents, 68% of TV, VCR production, 43% of automobile production, etc. In these industries MNEs acquired market shares through creating joint ventures with major national firms *(Zhang and Zheng, 1998)*.

2.1.4. FIEs and Export Orientation of China's Industry

We have then estimated the export-orientation of China's industry by sectors and categories of firms **(for methodology, see box 1)**. The overall export orientation of Chinese industry (exports in percent of output) stood at a moderate level (13%) in 1997 and it did not increased from 1994 to 1997 when measured at current exchange rates, due to the real appreciation of the RMB. This average export orientation corresponds to large differences among industrial sectors, with several sectors being heavily dependent on foreign markets: garments (72%), instruments (64%), leather and shoes (53%), electric and electronic goods (28%). Despite the huge potential domestic market, exports thus account for a substantial part of total sales in major consumer good industries.

FIEs are much more export oriented than domestic firms, a feature which is generally observed in foreign firm affiliates in other countries: their respective export/output ratio was 40% and 9% in 1997 **(Table 11)**. The presence of FIEs strongly influences the pattern of China's exports and makes several segments of China's manufacturing industry highly dependant on world markets. FIEs play a major role in the most export-oriented sectors, excepted in garments **(Figure 11)**; processing operations, that is the transformation of imported intermediate goods and components to be reexported afterwards, account for 85% their total exports **(see section III)**. This means that large segments of China's manufacturing industry are now internationalised with respect to their capital, supplies and outlets.

Most clothing exports rely on Chinese firms, which should thus benefit from China's entering the WTO which is expected to give a boost to Chinese garment exports after the phasing out of MFA quota in 2005.

Box 1: Estimation of Industrial Output and Domestic Demand

Available statistics on Chinese and Foreign-invested firms in different industrial sectors are mainly circumscribed to production units having an independent accounting system, which made up 60% of the total industrial output in 1997. Data on the activity of non-independent accounting units, most of which are village enterprises, are not directly available at the sectoral level. To calculate export orientation, import penetration and domestic demand in individual industries, it was necessary to have an estimation of sectoral industrial output, including all firms. To estimate total sectoral output, we used the data provided by the Industrial census for 1995 which cover 85% of total industrial output. We applied the sectoral structure of this 1995 output to the value of industrial output in 1997 (see Appendix 1). The data concerning FIEs' sectoral output in 1997 was adjusted upwards, taking into account the fact that FIEs with independent accounting units represented 90% of all FIE output, according to the 1995 census.

On the basis of these adjusted output data and of foreign trade data, we calculated the degree of openness of China's industry by sector and by category of firms. Data on exports and imports by commodity, by category of firms and custom regime come from China's Customs Statistics (HS four digit level), and were available from the International Trade Centre (UNCTAD-WTO). Matching foreign trade and output data made it possible to estimate *1)* the apparent export orientation of individual sectors and categories of firms (exports/output), *2)* domestic demand: output less exports plus imports for domestic use (that is after subtracting from total imports the goods imported for processing and re-export), *3)* the respective share of domestic firms, FIEs and imports (excluding imports for processing) in the supply of the domestic market.

These estimations are tentative. Matching foreign trade and output statistics presents a risk of inconsistency, as classification systems are different: foreign trade (customs) statistics use a product classification while output statistics follow a classification by activity. Due to inconsistency, there are cases when the value exports exceeds that of output. Several studies analysing the openness of the China's economy pointed out this problem, which is also encountered when assessing the opening up of other transition or emerging economies *(Fukasaku and Wall, 1994; Naughton, 1997; Marczewski, 1999)*. This problem can be minimised by analysing the relations between foreign trade and output at an aggregated level of classification. Besides, the value of exports recorded by customs statistics may not be consistent with the value of exports registered by the production firms, for it includes, among other things, the margin of the trading corporations which still act as an intermediary between the production firms, which have no foreign trade rights, and foreign partners.

According to the present calculations, the overall export/output ratio in 1997 was around 13% for all industrial firms and reached 40% for foreign invested firms. This is quite consistent with the figures provided by the Industrial census of 1995,

according to which the corresponding ratios were 14% and 38.5%. Nevertheless, at the level of several sectors, there are quite large discrepancies, which can be explained by the differences in coverage (the Census data encompass only the independent accounting units), changes in export orientation since 1995, bias in matching exports and output data. Due to these limitations, the data presented in following tables are to be taken as tentative estimations and considered as order of magnitude.

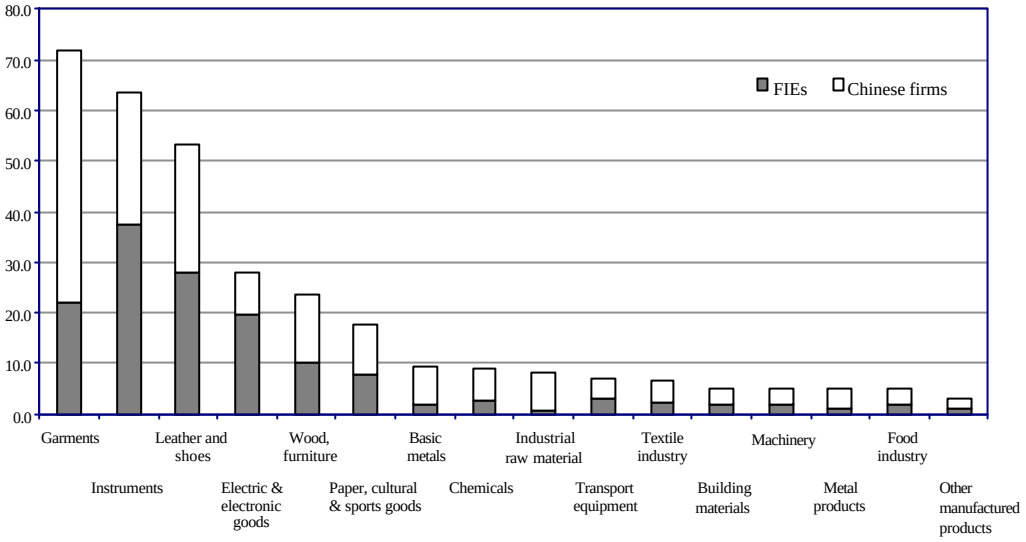
Table 11 - China's Industry: Export Orientation of FIEs and Domestic Firms, 1997

	Export orientation Exports in % of output			**FIE share in exports** In % of China's exports		**Sectors' share in exports**
	All firms	FIEs	Domestic firms	All exports	Processing	**(%)**
Total industry	**12.9**	**39.7**	**8.6**	**41.9**	**36.5**	**100.0**
Garments	**72.0**	92.3	65.5	30.8	26.9	18.4
Instruments	**63.6**	99.0	42.0	58.9	55.7	3.7
Leather and shoes	**53.1**	99.9	34.8	53.0	49.0	8.6
Electric & electronic goods	**28.1**	51.5	13.6	70.3	67.4	19.1
Wood, furniture	**23.6**	70.9	15.5	43.8	30.7	3.2
Paper, cultural & sports goods	**17.6**	50.0	11.7	44.1	41.1	5.1
Basic metals	**9.4**	47.2	7.8	20.1	15.0	6.2
Chemicals	**9.1**	25.2	7.1	30.4	24.0	11.6
Industrial raw material	**8.0**	31.7	7.4	9.8	1.3	4.1
Transport equipment	**7.0**	17.3	4.9	42.2	38.2	3.0
Textile industry	**6.7**	22.3	4.9	35.0	31.4	4.3
Building materials	**5.1**	32.8	3.4	37.5	23.7	2.9
Machinery	**5.1**	24.6	3.4	37.4	29.9	3.2
Metal products	**4.9**	8.8	4.2	25.5	19.4	1.5
Food industry	**4.8**	11.4	3.7	34.7	21.8	4.3
Other manufactured products	**3.0**	14.8	2.0	39.9	30.5	0.8

Sectors are ranked according to their export orientation (descending order).

Source: *China Statistical Yearbook*, 1998; *China's Customs Statistics*; Authors' calculations (see box 1).

Figure 11 - Export Orientation of China's Industry:
FIE and Domestic Firm Exports, in % of Sectoral Output



Source: China Statistical Yearbook, 1998; China's Customs Statistics; Authors' calculations (see the box).

2.2. FIEs and the Opening of the Domestic Market to Competition

2.2.1. Impact on Market Structures

One of the reasons why FDI positively influences economic growth in host countries is that it intensifies market competition and thus may lead to improved efficiency. The entry of foreign investors in Chinese industry has accelerated the diversification of ownership pattern which can be considered as has a factor promoting competition.

Naughton (1995) already identified different categories of sectors according to the degree of competition, as measured by the weight of State-Owned Enterprises in China's output in 1993:

1) non-competitive sectors, where SOE output was dominant and which encompassed natural resources and utilities, as well as some heavy industries; in these sectors, the entry of new producers had been hindered by both administrative regulations and economic factors;

2) sectors where SOE output was still very important due to government control of inputs and its willingness to protect revenue;

3) competitive sectors where the ownership pattern was diversified and where SOEs accounted for a small share of output. The conclusion was that the Chinese industrial pattern was converging with that of other mixed market economies, with the State sector concentrating on infrastructure and few heavy industrial sectors.

We updated this analysis for 1997 and focused on the role FIEs have played in this process. We defined as "non competitive" the sectors in which SOEs accounted for more than 55% of output in 1997. The following observations are worth noting:

- ✓ only six sectors fell into the category of "non competitive sectors": tobacco, timber, petroleum and gas extraction, petroleum processing, coal mining, ferrous metallurgy. All these sectors excepted tobacco are all typically "heavy" industries. In all other sectors SOE share fell under 55% **(Figure 12)**;

- ✓ in four "competitive sectors", FIEs overtook SOEs as well as collective enterprises as main producers and accounted for the largest share of output: this is the case of instruments, electronic goods, sports goods, leather products;

- ✓ in thirteen sectors, non-state owned domestic firms (collective and private enterprises) were responsible for more than half of industrial production. This means that in these sectors FIEs are now less in competition with SOEs, which are nearly out of the market, than with collective and private enterprises. This situation concerns sectors such as furniture, non metal mineral products, timber processing, metal products, plastic products, chemical fibers, electrical equipment, paper products, garments, machinery, textile industry.

Given the lack of systematic data, we had to use different indicators of profitability to investigate the relation between the performance of the different categories of firms and the characteristics of the sectors. The analysis led to the following observations **(Table 12)**.

In 1997, SOEs recorded much lower profitability than other categories of firms in both "competitive" and "non competitive" sectors, whatever the indicator used (pre-tax profit or after tax profit in % of value-added. The pre-tax profit rate of collective entreprises was close to that of FIEs in competitive sectors, suggesting that these two categories of firms have a similar behaviour.

From 1995 to 19997, all categories of firms registered a decline in profitability (measured by the ratio of after-tax profit to value-added) in "competitive" sectors; the decline was especially large in SOEs, which recorded negative profit in competitive sectors in 1997 (-3.6%). SOE profit rate fell only moderately in "non competitive" sectors. The profit ratio of other categories of firms declined only moderately (from 13% to 11%) in "competitive" sectors and increased in "non competitive" sectors.

Table 12 – Indicators of Profitability of FIEs and Domestic Firms

	Competitive sectors		Non competit. sectors		All sectors	
	1995	1997	1995	1997	1995	1997
Pretax profit/value-added (%)						
SOEs	21.9	16.5	38.6	44.5	34.6	31.6
FIEs	n.a.	25.7	n.a.	52.8	n.a.	28.0

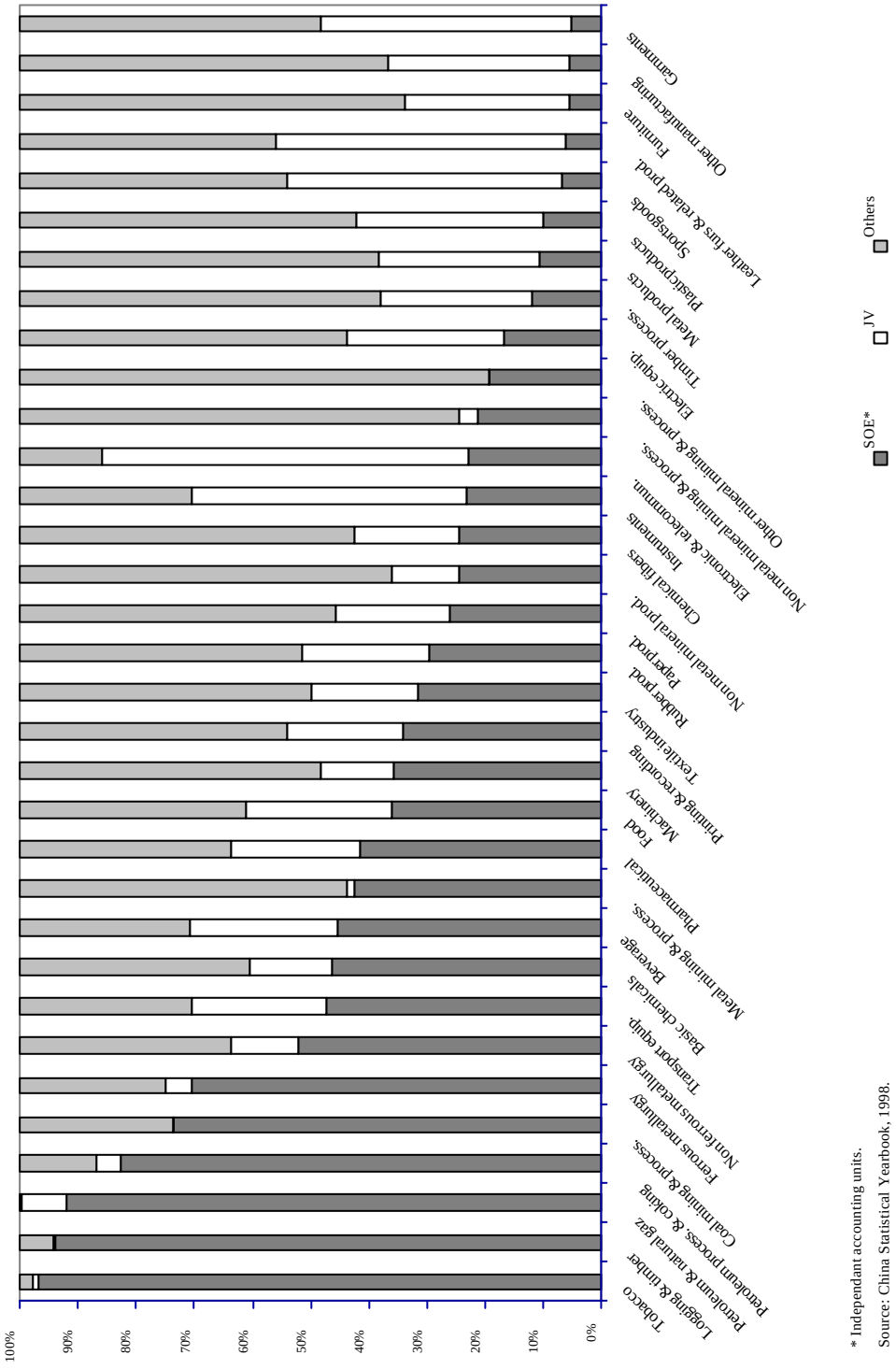
Others	33.3*	24.4	83.9*	31.3	30.5*	26.6
All firms	28.9	22.1	44.1	42.8	32.7	28.9
Profit/value-added (%)						
SOEs	2.4	-3.6	13.1	10.4	8.0	4.7
Others	13.0	10.8	11.3	13.1	13.6	12.0
All firms	9.0	6.6	12.9	10.8	10.6	8.6

* Figures include FIEs.

Source: Third National Industrial Census of the PRC in 1995, China Statistical Yearbook 1998.

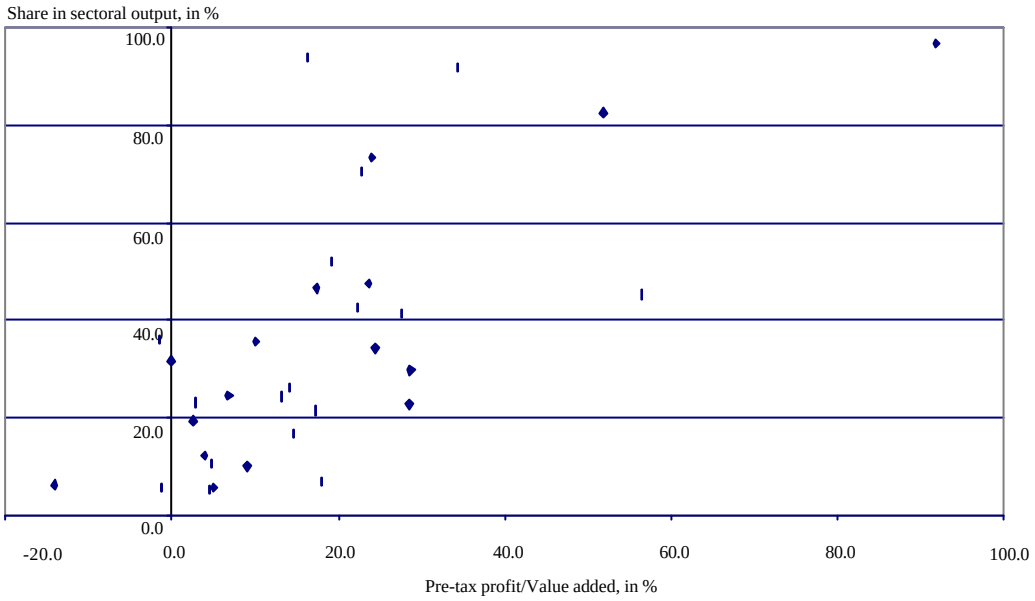
Figure 13 shows that there was a positive relationship between the weight of SOEs in output and SOE rate of pre-tax profit (the same conclusion could be drawn using after- tax profit). All these observations suggest that SOEs succeeded in maintaining their profitability in sectors in which they held large output shares, as they were able to extract rents from their monopolistic positions. Competition from other categories of firms in other sectors led to a strong deterioration in their profitability. Stronger competition resulted in State-owned enterprises having much poorer financial performance than others. Both in competitive sectors and in non-competitive sectors FIEs posted higher profit rates than SOEs, but there was no correlation between the weight of FIEs in industrial production and their rate of pre-tax profits at sectoral level **(Figure 14)**. This does seem to bear out the hypothesis that FIEs are "skimming" the most profitable sectors and crowding out SOEs.

Figure 12 - Patterns of Ownership in Industrial Sectors*, 1997



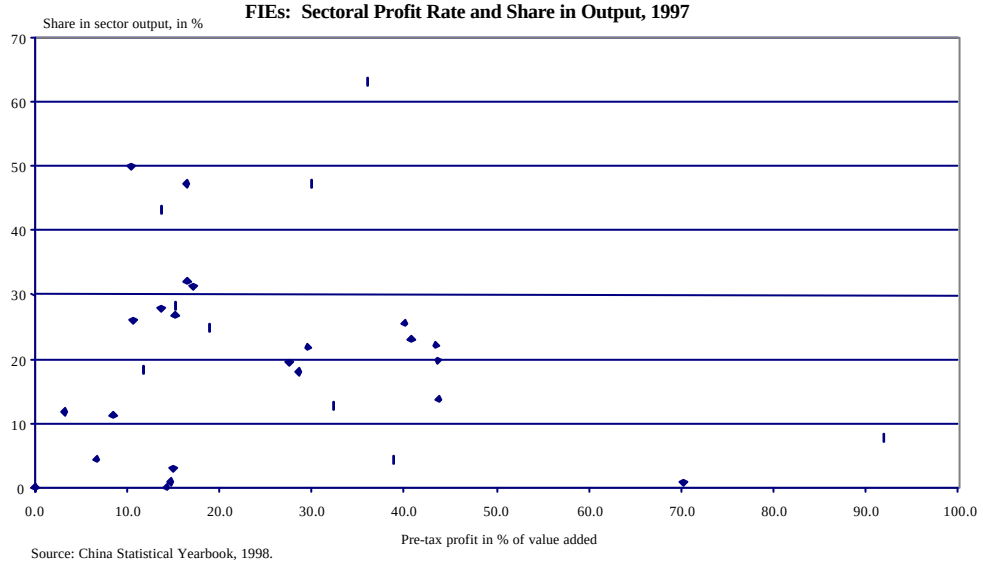
* Independant accounting units.
Source: China Statistical Yearbook, 1998.

Figure 13 - SOEs: Sectoral Profit Rate and Share in Output (1997)



Source: China Statistical Yearbook, 1998.

Figure 14
FIEs: Sectoral Profit Rate and Share in Output, 1997



Source: China Statistical Yearbook, 1998.

These observations confirm that competition matters. The rise of FIEs and of non-state firms has created competitive market structures which have forced SOEs to adjust. The

reasons for the poor financial performance of SOEs have been amply discussed (see *Lardy 1998*). Some analysis put forward the problem of corporate governance as the main reason: the reform of the State sector without privatisation failed to introduce an efficient system of corporate governance (DRC, 1999). Others underlined that State owned enterprises still face conflicting objectives, and that their social burdens (employment, social security) distort their financial results *(Lin and Tan, 1999)*.

2.2.2. Estimating the Sources of Supply for the Domestic Market

In order to measure the respective part of Chinese firms, FIEs and imports in supplying the Chinese domestic market of industrial products, we proceeded in several steps: we estimated the output directed to the domestic market by FIEs and domestic firms, the amount of imports assigned for domestic use, and finally the apparent domestic demand (output less exports plus imports for domestic use).

Production for the Domestic Market **(Table 13)**

As domestic firms and FIEs export a part of their industrial output, their respective weights in industrial output, analysed above, do not reflect their actual role in the supply of the domestic market.

Although FIEs are characterised by a relatively high export propensity, the ratio of their exports to output (almost 40%) also means that they direct the major part of their output to the domestic market. This confirms that the main goal of foreign firms which have massively invested in China since 1992 was to take advantage of the enlarged access to this fast growing market, even more than to increase their competitiveness in world markets. In most industries which account for an important share of FIE production, such as food, transport equipment, textile industry, metal products, more that three quarters of output is sold in the domestic market.

The overwhelming share of domestic firms' output (90%) is produced for domestic use, and in only in clothing industry is this share below 40%.

Import Penetration

As about half of Chinese imports is made of intermediate products to be transformed for export, we considered that it was not appropriate to evaluate import penetration of the domestic market on the basis of total imports. Imports for processing were removed from total imports in order to obtain the value of imports supplying the domestic market. This was done using customs statistics data concerning imports by commodity and custom regime **(see box 1)**.

Table 13 - FIEs and Domestic Firms:
Output for the Domestic Market, in % of Firms' Output, 1997
(Estimation)

	All firms	FIEs	Domestic firms
Total industry	**87.1**	**60.3**	**91.4**
Other manufactured products	97.0	85.2	98.0
Food industry	95.2	88.6	96.3
Metal products	95.1	91.2	95.8
Machinery	94.9	75.4	96.6
Building materials	94.9	67.2	96.6
Textile industry	93.3	77.7	95.1
Transport equipment	93.0	82.7	95.1
Industrial raw materials	92.0	68.3	92.6
Chemicals	90.9	74.8	92.9
Basic metals	90.6	52.8	92.2
Paper, cultural and sports goods	82.4	50.0	88.3
Wood, furniture	76.4	29.1	84.5
Electric & electronic goods	71.9	48.5	86.4
Leather and shoes	46.9	0.1	65.2
Instruments	36.4	1.0	58.0
Apparel	28.0	7.7	34.5

Sectors are ranked according to the share of output directed to the domestic market, all firms (descending order).
Source: *China Statistical Yearbook*, 1998; China's Customs Statistics; Authors' calculations (see box 1).

The results are shown in **Table 14**, which presents the import penetration ratios in the different sectors (imports/apparent domestic demand). By construction, these import penetration ratios are low compared with the ratios generally used to assess the degree of openness of China's economy which are based on total imports *(Yang, 1996)*. According to the present estimations, industrial imports for domestic use represented on average only 5% of domestic demand in 1997. Nevertheless, imports were relatively important in supplying the domestic market in several sectors: imported instruments accounted for 38% of the apparent domestic demand; the corresponding figures for machinery was 16%, for wood and furniture, electric and electronic goods, industrial raw materials around 10%.

It is worth stressing that in the two sectors the most import dependant (instruments and machinery), FIEs were responsible for a major part of imports. More than half of equipment imported by China in 1997 for domestic use was thus directly connected with FIE needs and not with the modernisation strategies of domestic firms. Although imports accounted for almost one sixth of domestic demand for machinery and equipment, domestic firms used less than half of these imports.

Table 14 - Import Penetration Ratio:
Imports in % of Domestic Demand*
(Estimation)

	All firms	Of which	
		FIEs	Domestic firms
Total industry	**5.6**	**2.4**	**3.2**
Instruments	**38.0**	19.5	18.6
Machinery	**15.8**	11.0	4.7
Industrial raw materials	**10.9**	1.9	9.0
Wood, furniture	**9.8**	3.3	6.5
Electric & electronic goods	**9.5**	5.1	4.4
Transport equipment	**7.1**	1.9	5.3
Chemicals	***5.0***	1.3	3.7
Basic metals	**5.0**	2.1	2.9
Paper, cultural and sports goods	**4.3**	0.8	3.4
Food industry	**2.3**	0.5	1.8
Leather and shoes	**0.8**	0.2	0.6
Apparel	**0.7**	0.3	0.3
Building materials	**0.6**	0.4	0.2
Metal products	**0.4**	0.3	0.1
Other manufactured products	**0.3**	0.0	0.3
Textile industry	**0.3**	0.1	0.2

Sectors are ranked according to import penetration, descending order.
*Domestic demand: gross value of industrial output, less exports, plus imports excluding imports for processing
Source: *China Statistical Yearbook*, 1998; *China's Customs Statistics*; Authors' calculations (see box 1).

Supply of the Domestic Market

Looking at the respective roles of Chinese firms, FIEs and imports in the domestic market, a first observation is that Chinese firms still kept dominant positions in China's market in 1997 **(Table 15)**. They provided almost 85% of the apparent domestic demand for industrial goods. Their market share was below 70% in only two sectors (instruments, electric & electronic equipment) and below 80% in two others (transport equipment and machinery). They were no more protected in all sectors from foreign competition, coming either from FIEs or from imports.

A second finding is that FIEs had a much more important part than imports in the opening up of the Chinese economy to foreign competition. FIEs supplied about 9% of the Chinese domestic demand of industrial goods, whereas imports accounted for only 5% of it. FIEs hold relatively strong positions in the domestic market in several sectors: food industry (13.3%), metal products (13.6%), transport equipment (14.1%) and electric and electronic goods (24%). Although no negative correlation could be found between the importance of

FIEs in the domestic market and the level of custom tariffs, in several sectors a relatively strong presence of FIEs in the domestic market was associated with a relatively high tariff protection. This was especially the case for two sectors, food and transport equipment, which were characterised by high nominal tariff rates and low import penetration. In these sectors, foreign investors were in position to take advantage of a protected domestic market.

Table 15 – Sources of Supply of the Domestic Market: In % of Domestic Demand*, 1997 (Estimation)

	Local production		Imports		
	FIEs	Domestic firms	All firms	FIEs	Nominal tariff rates
Total industry	**8.9**	85.5	5.6	2.4	
Electric & electronic goods	**23.5**	67.0	9.5	5.1	25.5
Transport equipment	**14.1**	78.8	7.1	1.9	44.0
Metal products	**13.6**	86.0	0.4	0.3	29.7
Food industry	**13.3**	84.4	2.3	0.5	58.3
Paper, cultural & sports goods	**9.1**	86.7	4.3	0.8	24.6
Textile industry	**8.8**	90.9	0.3	0.1	58.7
Chemicals	**8.7**	86.3	5.0	1.3	16.1
Other manufactured products	**7.1**	92.6	0.3	0.0	
Garments	**6.6**	92.8	0.7	0.3	64.5
Machinery	**5.2**	79.1	15.8	11.0	21.0
Wood, furniture	**5.0**	85.2	9.8	3.3	23.0
Building materials	**4.1**	95.3	0.6	0.4	32.3
Basic metals	**2.2**	92.8	5.0	2.1	12.0
Industrial raw materials	**1.6**	87.4	10.9	1.9	
Instruments	**0.6**	61.3	38.0	19.5	12.7
Leather and shoes	**0.1**	99.2	0.8	0.2	30.8

* Domestic demand: gross value of industrial output, less exports, plus imports excluding imports for processing

Sectors are ranked according to the share of FIEs in domestic demand, descending order.

Source: *China Statistical Yearbook*, 1998; *China's Customs Statistics*; Authors' calculations (see box 1).

Imports represented a marginal share of the apparent domestic demand for industrial products: 5% in 1997. In a number of cases, low import penetration was associated with high tariff rates, and this was especially the case in consumption goods (apparel, food). Import penetration was relatively high in two sectors: instrument and machinery. In these two sectors, the high level of imports (respectively 38 and 18% of apparent domestic demand) resulted from large imports by FIEs **(cf. Table 15)**,. This can be explained by the fact that most FIE imports of equipment is recorded as contribution to joint-venture equity and exempted from custom duties.

This section aimed at assessing the role of foreign invested firms in China's manufacturing industry leads to the following conclusions:

- ✓ foreign invested-enterprises have become major players in China's industrial modernisation. Their relatively large contribution to domestic investment and to manufacturing output, their higher capital intensity and labour productivity, compared to domestic firms, indicate potential strong effects on industrial structure and efficiency;

- ✓ FIE specialisation shows a bias in favour of labour intensive industries but nevertheless allows for their strong participation in some capital-intensive industries. Another important finding is that, while still contributing decisively to China's export performance, FIE production is now more domestic than export-oriented;

- ✓ FDI has allowed new entrants into China's industry and hence accelerated the diversification of ownership pattern, which has been part of the emergence of competitive structures. Moreover, FIE production now takes a more important part than imports in the supply of Chinese domestic demand, highlighting that FDI has been a determinant factor in the opening up of China 's economy.

The analysis also provides support for the argument that the selective opening up policy followed up to now by Chinese authorities has had adverse effects:

- ✓ preferential treatment for FDI has presumably led to unequal competition in the domestic market, as indicators tend to show that FIEs have a lighter tax burden that State-owned firms. The perverse effect of this discriminating policy is confirmed by large capital ouflows which are fueling "false" FDI;

- ✓ the low level of import penetration shows that, in several sectors, FIEs could benefit from a protected domestic market, while that tariff and non tariff barriers have strongly restricted Chinese firms' imports.

III. FDI AND CHINA'S TRADE PATTERN

Since 1980, China's foreign trade has registered an impressive growth. Between 1980 and 1998, its share in world trade trebled, from less than 1% to more than 3%; the openness of China's economy, measured by the ratio of foreign trade to GDP increased from 12% to 34%. What were the determinants of China's rise in international trade? What was the relation between FDI inflows and trade expansion? These sections analyses the factors which have driven the integration of China in the international division of labour and identifies the role played by FDI in this process.

3.1.China in the International Division of Labour

Theoretical as well empirical research on international trade has put forwards the distinction between inter-sectoral and intra-sectoral trade to identify the determinants of a country's participation in the international division of labour. In this third section, we used this distinction to characterise the nature of China's foreign trade and its evolution. Then we turned to the analytical framework which stresses the importance of international segmentation of production process, as evidenced by the importance of intermediate goods in world trade *(Fontagné, Freudenberg and Ünal-Kesenci, 1996)*. The analysis of China's specialisation profile by stage of production provides a first insight into its position in the international segmentation of production process.

3.1.1. The Evolution of China's Specialisation

Most of China's foreign trade is oriented towards economies with a high level of income. Its major trade partners, the EU-15, the US, Japan and the four New industrialised economies (Hongkong, Taiwan and South Korea and Singapore) accounted for more than three fourth of its total trade in 1998. Large disparities between the level of income in China and its partners are expected to correspond to large differences in factor endowments. According to the classical theory, these differences should reflect in trade patterns, as a country tends to export goods which embody relatively large amounts of its abundant and relatively cheap factor.

China's Strengths and Weaknesses

Empirical findings confirms that China's foreign trade pattern follows the classical theory of comparative advantage. The indicator used here to characterise China's specialisation pattern is the difference between export and import shares in each industry, which can be seen as an measure of revealed comparative advantage. A positive (negative) difference reflects a structural surplus (deficit), adjusted for total trade imbalances.

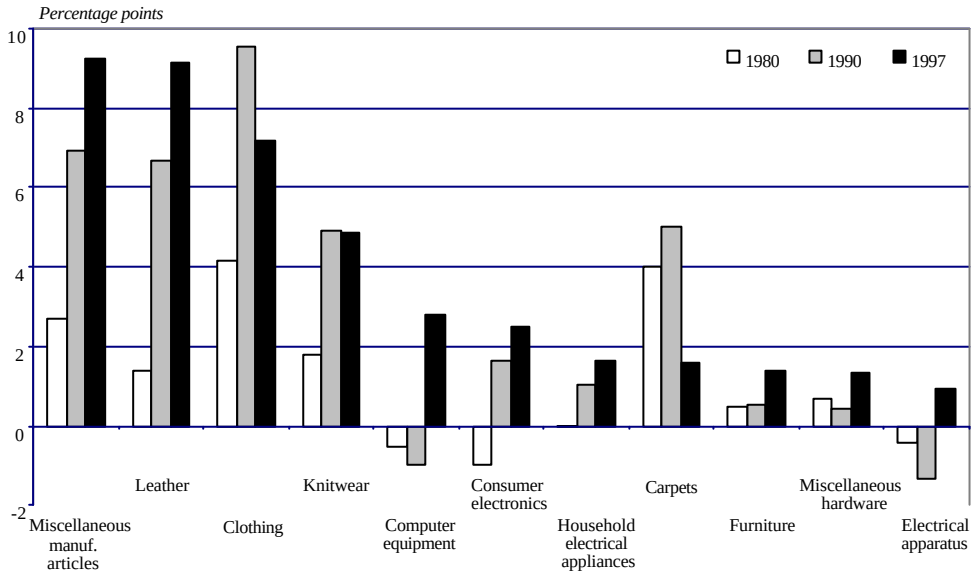
Sectors in which China had a comparative advantage accounted for 75% of Chinese exports in 1997, a proportion which fell only slightly over the last twenty years, (it stood at 80% of exports in 1980 and 1990). The rapid expansion of China's foreign trade during this period relied on inter-sectoral complementary and comparative advantage was a major determinant of China's specialisation. In 1997, China was specialised in a relatively limited number of products: ten sectors in which China had its biggest comparative advantage represented 58% of its total exports. Imports were less concentrated as ten sectors with the biggest comparative disadvantage accounted for 42% of its total imports. **Figure 15 and figure 16** present China's major comparative advantages and disadvantages in 1980, 1990 and 1997. Over the last twenty years, China's major structural strengths in the international division labour were located in labour intensive products: leather and shoes, clothing, miscellaneous manufactured products (toys, sport goods,…). Its major structural weaknesses were located in capital and technology intensive goods: machinery, engines, intermediate textile products, plastics.

Since 1980, China's specialisation has evolved. The intensity of specialisation, measured by the standard deviation index of the indicator of comparative advantage, was relatively stable

in the eighties but it tended to decline in the nineties: the index stood at 2.6 in 1980, 2.4 in 1990 and dropped to 1.4. in 1997. China's comparative advantages in traditional sectors (clothing and knitwear, carpets) levelled off in the nineties, while new comparative advantages emerged. To assess more precisely China's specialisation trends during the nineties, we distinguished three cases:

- ✓ increased specialisation occurred when revealed comparative advantages, or disadvantages, at the industry level became more pronounced between 1990 and 1997 (increase in the indicator of comparative advantage);
- ✓ reduced specialisation occurred when comparative advantages or disadvantages became less pronounced (reduction in the indicator of comparative advantage);
- ✓ shifts in comparative advantage occurred when an industry switched, either from comparative advantage to comparative disadvantage, or vice-versa.

Figure 15 - China: Evolution of Comparative Advantages*, 1980-1990-1997



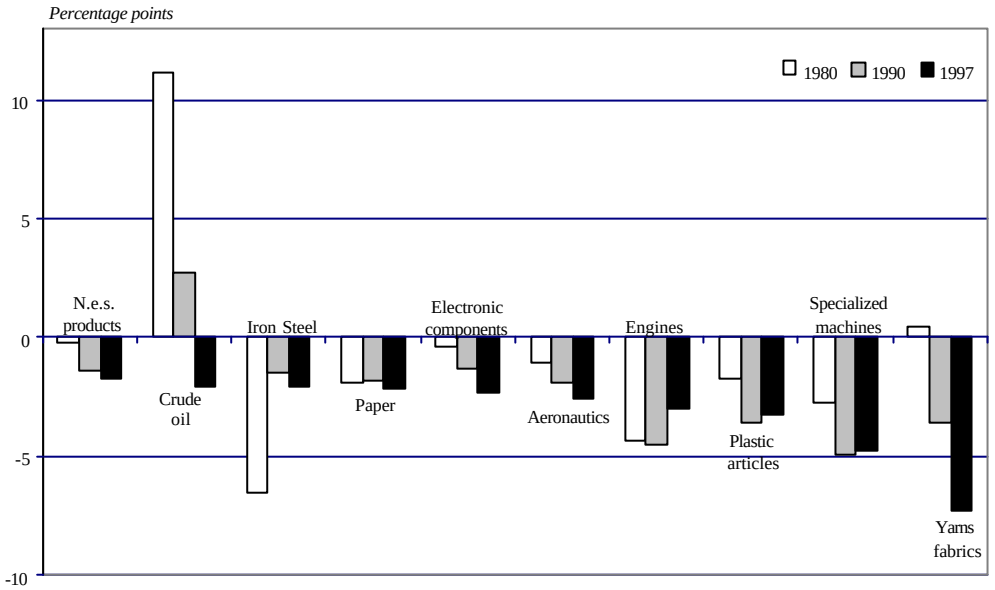
* Indicator of comparative advantage (or disadvantage): difference between the share (in %) of an industry of total exprts and its share in total imports.

Source: CEPII, CHELEM data base. Author's calculation.

The relative importance of the three cases is shown in **Table 16**. It confirms that in the nineties, China was still in a process of increasing specialisation: sectors in which specialisation increased accounted for almost half of China's total trade in 1997. Sectors in

which China's specialisation decreased accounted for one third of total trade in 1997[6]. It is interesting to consider the sectors in which specialisation shifted between 1990 and 1997. These shifts in specialisation concerned 17% of total trade, the shifts from comparative disadvantage to comparative advantage were much more widespread than the reverse and concerned 13% of total trade in 1997. During the last decade, China built up new comparative advantages in computer equipment, electrical apparatus, electrical equipment and optics, through a very rapid increase in exports **(Appendix 2)**. At the same time it gave up its comparative advantage in three sectors (among which crude and refined oil).

Figure 16 - China: Evolution of Comparative Disadvantages*, 1980-1990-1997



* For the definition of the indicator, see figure 15.
Source: CEPII, Chelem data base. Author's calculation

Table 16 - Share of Product Categories Depending on Evolution of Specialisation Between 1990 and 1997, in % of China's Trade in 1997

Increased specialisation	***49.5***
Increase in comparative advantage (CA)	24.4
Increase in comparative disadvantage (CD)	25.1
Decreased Specialisation	***33.2***
Decrease in comparative advantage	15.6
Decrease in comparative disadvantage	17.7
Shift in specialisation	***17.2***

6 The evolution of comparative advantage by product is shown in Appendix 2.

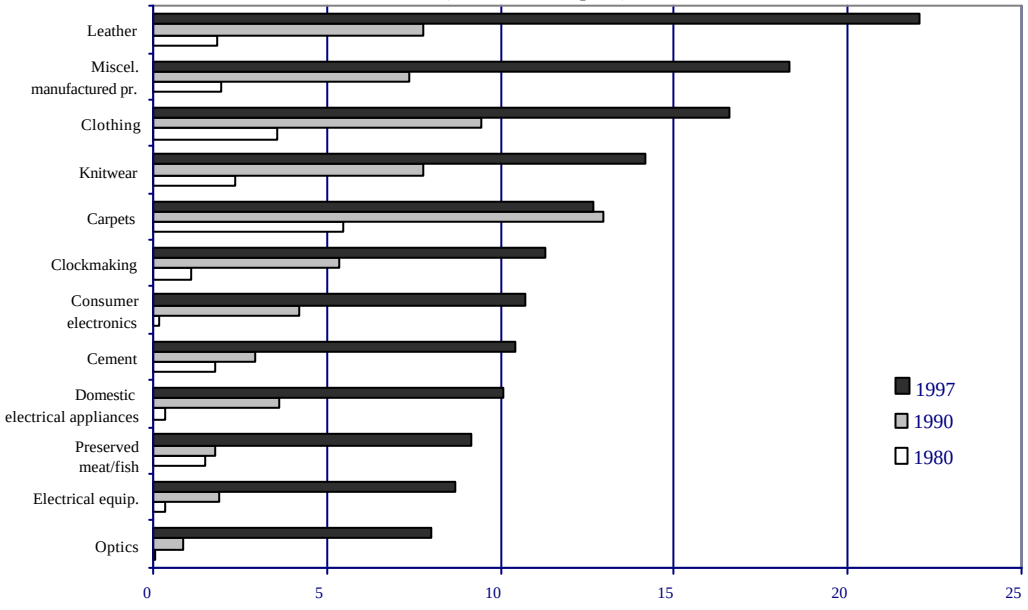
Shift from CD to CA	13.0
Shift from CA to CD	4.2

Source: CEPII, CHELEM database. Author's calculations.

Changes in comparative advantages were reflected in the evolution of China's position in world trade. In 1997, China still held its largest market shares in traditional industries: it accounted for between 12.5% and 22% of world exports of leather products, clothing, carpets, miscellaneous manufacturing **(Figure 17)**. However from 1990-1997, China increased its market shares more rapidly in other sectors, diversifying its export structure. Remarkably, it succeeded in recording large gains in the most rapidly expanding world markets (telecommunication equipment, computer equipment, electrical apparatus and equipment) **(*cf.* Appendix 3)**.

It is well known that Japan and the New industrialised Asian countries have long kept relatively strong inter-sectoral specialisation, compared to countries of the same level of income. This specialisation had nevertheless been favourable to economic growth because they succeeded in positioning themselves in the sectors for which world demand was strong *(Busson and Villa, 1994)*. According to Fontagné, Freudenberg and Ünal-Kesenci (1996), who used a very detailed level of product classification, Asian country trade with the EU was still dominated by inter-industry trade in 1992.

Figure 17 - China: Evolution of Market Shares in Manufactured products, 1980-1990-1997
(in% of world exports)



Source: CEPII, CHELEM data base. Author's calculation.

To observe the evolution of China's specialisation pattern, and compare it with that of other Asian economies, we used the Grubel-Lloyd indicator which measures the relative importance of inter-industry trade versus intra-industry trade (the higher the indicator, the more important intra-industry trade in total trade). **Table 17** presents the evolution of the indicator between 1980 and 1997 for China and several Asian economies. Interestingly, in 1980, China had a relatively high level of intra-industry trade compared with other Asian countries, but since, Asian countries' trade expansion has been associated with an increasing intra-industry trade, while China's trade expansion has taken place without significant change in the nature of trade. At the end of the nineties, China's trade was characterised by a relatively low level of intra-industry trade compared with most other Asian countries. Japan's trade was also dominated by inter-industry trade, but its intra-industry trade has increased quite substantially since 1980. Inter-sectoral specialisation seems more deeply entrenched in China's foreign trade than in the case of most other developing Asian countries. This can be explained by China's size and its large resources of cheap labour which makes it possible a continuous expansion of labour intensive exports. As China diversified its exports of labour intensive products and established competitive positions in rapidly expanding markets, it succeeded in sustaining a rapid export growth.

Table 17 - Asian Countries: Evolution of Intra-industry Trade (IIT)*

	1980	1990	1997
Malaysia	0.349	0.503	0.606
Philippines	0.235	0.453	0.563
South Korea	0.389	0.453	0.551
Taiwan	0.456	0.473	0.545
Thailand	0.219	0.397	0.520
China	**0.460**	**0.460**	**0.489**
India	0.229	0.419	0.438
Japan	0.192	0.299	0.399
Indonesia	0.160	0.273	0.386

* Grubel-Lloyd index: $1 - \frac{\sum |x - m|}{X + M}$

Countries are ranked by the importance of IIT, descending order.
Source: CEPII, CHELEM data base. Author's calculations.

3.1.2. China's Trade by Stages of Production

At the end of the nineties, sectoral complementarities thus continued to determine the largest part of China's trade. It remains to be seen whether this pattern of revealed comparative advantage results from a more in-depth specialisation according to stages of production which would reflect China's participation in the international segmentation of production.

Trade in goods belonging to a single industry but at different stages of production is part of the globalisation process which means the reorganisation of production on a world-wide basis. Production processes have become internationally fragmented and specialised firms in different countries take part in the production process of a commodity but at different stages of the value-added chain. Such an international segmentation is fostered by the search of cost minimisation and economies of scale which arise through expanding markets. Specialisation among firms across national boundaries is aimed at a better utilisation of different countries' comparative advantages. "A limited number of standardised semi-assembled goods are produced on a large scale and then combined to produce a large variety of final products" *(Fontagné, Freudenberg and Ünal-Kesenci, 1996)*. As these different components or partly assembled goods are traded prior to final assembly, intermediate goods account for an increasing part of international trade. The international splitting-up of the value added chain (*i.e.* international segmentation of production process) allows an ever more in-depth specialisation and implies specific gains, as countries specialise in the segments of production in which they have a comparative advantage.

The analysis of China's foreign trade by stage of production was carried out using CEPII data base on international trade *(CHELEM)*, which allows for products to be classified according to eight stages of production: primary products, basic manufactured, intermediate goods, equipment goods, mixed products, consumption goods and others. This classification presents some limitations, as it regroup relatively aggregated products (71 items of CHELEM nomenclature). However, as a more precise classification of China's trade by end-use categories was not available, this one provided useful insights into China's specialisation.

In China's exports by stages of production, final goods (consumption goods and capital goods) gained a dominant position: their share in total exports doubled between 1980 and 1997 and reached 55% **(Table 18)**. Exports of consumption goods (38% in 1997) were twice more important than capital goods (18%), but their respective contribution to export growth shifted over time. In the eighties, consumption goods were the main engine of export expansion but this trend has levelled off since. Among consumption goods, clothing was still the most important export item in 1997, but consumer electronics, domestic electrical appliances and instruments were the most dynamic exports. In the nineties, capital goods took the lead of export growth and their share in exports jumped from 6% to 18% from 1990 to 1997. This rise was mainly due to exports of electrical equipment and apparatus, computer equipment, telecommunication equipment. In short, within the final goods category, exports tended to shift from consumption goods to equipment goods, and from one chain of production (textile industry) to another chain of production (electric and electronic industry).

Intermediate goods and basic manufacturing accounted for about the same share of exports (around 8-10%), with not much change over the period. Mixed products represented a more important category (18%) which was also relatively stable. By contrast, the dependence of China's exports on primary product declined sharply, from almost 40% (1980) to around 7% in 1997. Products responsible for the relative contraction of primary exports were crude oil and non-food agricultural products.

On the import side, productive goods (intermediate goods, basic manufacturing and capital goods) held a dominant share with 60% of total imports in 1997 **(Table 19)**. Intermediate products accounted for the largest part of Chinese imports by stage of production in 1997 (28%), and have increased slightly faster than overall imports since 1980. Textile products made up more than one third of intermediate good imports in 1997, but since 1990 electronic components have been the most dynamic imports and reached more than 10% of intermediate imports in 1997. Equipment goods represented the second most important import category after intermediate goods and accounted for almost one fourth of imports in 1997. Machinery was the most important item while electrical apparatus and equipment, telecommunication equipment and computers were the fastest growing import sectors.

Table 18 - China's Exports by Products and Stages of Production, 1980-1997
% of Total Exports

	1980	1990 (in %)	1997		1980	1990 (in %)	1997
Consumption goods	**20.4**	**39.9**	**38.1**	**Intermediate goods**	**9.8**	**8.4**	**10.0**
Miscellaneous manuf. art.	3.1	9.2	11.0	Miscellaneous hardware	1.9	2.4	3.3
Clothing	4.4	9.9	8.1	Yarns fabrics	4.6	3.3	2.6
Knitwear	2.0	5.3	5.3	Electronic components	0.0	0.2	0.7
Consumer electronics	0.2	3.2	3.2	Engines	0.3	0.3	0.6
Carpets	4.2	5.4	2.0	Wood articles	0.3	0.4	0.6
Domestic electr. Appliances	0.2	1.5	2.0	Paints	0.9	0.6	0.5
Optics	0.0	0.4	1.9	Paper	0.8	0.5	0.4
Preserved meat/fish	0.8	0.4	1.0	Tubes	0.2	0.3	0.3
Preserved fruits	2.0	1.3	0.9	Rubber articles	0.3	0.1	0.3
Clockmaking	0.5	1.3	0.9	Metallic structures	0.1	0.1	0.2
Pharmaceuticals	1.1	0.7	0.6	Vehicles components	0.2	0.1	0.2
Cars and cycles	0.5	0.3	0.5	Fertilisers	0.2	0.1	0.1
Beverages	0.3	0.3	0.2	Plastics	0.0	0.0	0.1
Toiletries	0.9	0.4	0.2	**Basic manufacturing**	**7.1**	**6.5**	**7.8**
Cereal products	0.2	0.1	0.1	Iron Steel	1.1	1.6	1.8
Manufactured tobaccos	0.1	0.1	0.0	Basic organic chemicals	1.9	1.2	1.5
Equipment goods	**3.4**	**6.4**	**18.1**	Basic inorganic chemicals	1.5	1.4	1.3
Computer equipment	0.1	0.5	5.6	Non ferrous metals	0.9	0.8	1.1
Electrical apparatus	1.0	1.4	4.7	Ceramics	1.0	0.6	0.8
Telecommunicat. Equip.	0.1	1.5	3.1	Cement	0.5	0.4	0.6
Electrical equipment	0.2	0.8	2.4	Coke	0.0	0.2	0.4
Precision instruments	0.2	0.3	0.7	Glass	0.2	0.2	0.3
Specialised machines	0.9	0.6	0.5	**Primary**	**39.8**	**20.8**	**7.0**
Construction equipment	0.1	0.2	0.3	Other edible agricult. prod	8.0	3.8	1.8
Machine tools	0.3	0.4	0.3	Non-edible agricultural prod.	9.7	7.4	1.6
Commercial vehicles	0.2	0.2	0.2	Crude oil	17.8	6.8	1.6
Aeronautics	0.1	0.1	0.2	Unprocessed minerals n.e.s.	1.4	1.0	0.8
Ships	0.0	0.1	0.2	Coals	1.0	0.9	0.7
Agricultural equipment	0.1	0.0	0.0	Non ferrous ores	0.9	0.4	0.2
Arms	0.2	0.2	0.0	Natural gas	0.0	0.0	0.2
Mixed products	**18.1**	**16.7**	**17.6**	Cereals	1.0	0.4	0.1
Leather	2.6	8.2	11.2	Iron ores	0.0	0.1	0.0
Furniture	0.6	1.3	2.1	**NES**	**1.3**	**1.2**	**1.1**
Printing	0.6	0.7	1.5	N.e.s. products	0.4	0.7	0.6
Plastic articles	3.7	2.5	1.3	Jewellery, works of art	0.9	0.5	0.5
Refined petroleum prod.	8.5	2.0	0.5	Non-monetary gold	0.0	0.0	0.0
Electricity	0.0	0.0	0.3	**Total**	**100.0**	**100.0**	**100.0**
Fats	0.4	0.2	0.2				
Meat	1.2	0.7	0.2				
Sugar	0.5	1.0	0.2				
Animal food	0.1	0.1	0.1				

Categories are ranked by their share in exports in 1997; within each category products are ranked by their share in exports in 1997.
Source: CEPII, CHELEM database. Author's calculations.

Table 19 - China's Imports by Products and Stages of Production
In % of Total Imports

	1980	1990	1997		1980	1990	1997
		in %				in %	
Intermediate goods	**23.9**	**26.0**	**27.6**	**Primary**	**32.8**	**16.6**	**10.5**
Yarns fabrics	4.1	6.9	9.9	Crude oil	6.6	4.0	3.7
Engines	4.6	4.8	3.6	Non-edible agricultural prod.	11.5	5.5	2.5
Electronic components	0.4	1.4	3.1	Other edible agricult. Prod.	1.6	0.5	1.0
Paper	2.7	2.3	2.6	Non ferrous ores	0.4	0.7	0.9
Miscellaneous hardware	1.2	2.0	2.0	Iron ores	0.5	0.5	0.8
Plastics	2.4	1.3	1.5	Natural gas	0.6	0.6	0.7
Fertilisers	3.7	2.7	1.2	Cereals	10.6	4.3	0.5
Vehicles components	0.1	0.8	1.1	Coals	0.4	0.3	0.2
Paints	0.5	0.6	0.8	Unprocessed minerals n.e.s.	0.5	0.3	0.2
Wood articles	0.1	1.2	0.8	**Basic manufacturing**	**13.1**	**8.1**	**9.8**
Tubes	2.7	1.4	0.5	Iron Steel	7.6	3.1	3.9
Metallic structures	1.2	0.4	0.3	Basic organic chemicals	2.1	2.5	2.5
Rubber articles (incl. tyres)	0.1	0.2	0.2	Non ferrous metals	2.1	1.3	2.4
Equipment goods	**15.0**	**22.5**	**23.5**	Basic inorganic chemicals	0.9	0.5	0.4
Specialised machines	3.7	5.6	5.3	Glass	0.1	0.4	0.3
Telecommunications equip.	0.5	4.7	4.4	Ceramics	0.2	0.2	0.3
Electrical apparatus	1.4	2.8	3.8	Cement	0.1	0.1	0.1
Aeronautics	1.1	2.0	2.8	Coke	0.0	0.0	0.0
Computer equipment	0.6	1.5	2.8	**Consumption goods**	**4.5**	**10.7**	**9.6**
Electrical equipment	0.6	1.7	1.9	Miscellaneous manuf. Article	0.4	2.3	1.7
Machine tools	1.1	1.6	1.7	Optics	0.3	0.6	1.3
Construction equipment	2.5	1.1	1.6	Cars and cycles	0.5	0.9	1.2
Precision instruments	1.2	1.8	1.4	Clothing	0.2	0.4	1.0
Commercial vehicles	1.0	0.7	0.5	Toiletries	0.4	0.9	0.8
Ships	2.2	0.7	0.1	Consumer electronics	1.2	1.5	0.7
Agricultural equipment	0.2	0.1	0.1	Pharmaceuticals	0.1	0.6	0.6
Arms	0.0	0.1	0.0	Clockmaking	0.5	1.3	0.5
Mixed products	**8.8**	**11.6**	**13.5**	Knitwear	0.2	0.4	0.5
Plastic articles	2.3	4.9	5.3	Carpets	0.2	0.4	0.4
Leather	1.2	1.5	2.1	Domestic electr. Appliances	0.2	0.5	0.4
Refined petroleum products	2.3	1.8	2.0	Preserved fruits	0.1	0.2	0.2
Meat	0.2	0.3	4.8	Manufactured tobaccos	0.1	0.5	0.1
Fats	1.0	1.6	1.1	Beverages	0.0	0.1	0.1
Animal food	0.1	0.3	1.0	Preserved meat/fish	0.1	0.1	0.1
Sugar	1.1	0.4	0.4	Cereal products	0.0	0.1	0.0
Printing	0.3	0.4	0.2	**NES**	**0.8**	**2.5**	**2.8**
Furniture	0.2	0.2	0.1	N.e.s. products	0.6	2.1	2.3
Electricity	0.1	0.2	0.0	Jewellery, works of art	0.2	0.4	0.4
				Non-monetary gold	0.0	0.0	0.1
				Total	**100.0**	**100.0**	**100.0**

Categories are ranked by their share in imports in 1997, within each category products are ranked by their share in imports in 1997.
Source: CEPII, CHELEM database. Author's calculations.

The pattern of *comparative advantage* by stage of production shows that, in 1997, China's weaknesses were heavily concentrated in intermediate products and to a lesser extent in capital goods **(Table 20)**. China's strengths were concentrated in consumption goods. This pattern of specialisation by stages of production indicates that China may be involved in the international segmentation of production process and specialised in the assembly and transforming of imported intermediate goods for export. This specialisation in assembling operations was well entrenched in textile industry and has been developing rapidly in technologically more advanced industries.

Table 20 - Evolution of China's Trade by Stages of Production, 1980-1997

	1980	1990	1997
EXPORTS (IN %), A			
Total	100.0	100.0	100.0
Consumption goods	20.4	39.9	38.1
Equipment goods	3.4	6.4	18.3
Mixed products	18.1	16.7	17.6
Intermediate goods	9.8	8.4	10.0
Basic manufacturing	7.1	6.5	7.8
Primary	39.8	20.8	7.0
NES	1.3	1.2	1.1
IMPORTS (IN %), B			
Total	100.0	100.0	100.0
Intermediate goods	23.9	26.0	27.6
Equipment goods	16.1	24.5	26.3
Mixed products	8.8	11.6	13.5
Primary	32.8	16.6	10.5
Basic manufacturing	13.1	8.1	9.8
Consumption goods	4.5	10.7	9.6
NES	0.8	2.5	2.8
COMPARATIVE ADVANTAGE OR DISADVANTAGE (A-B)			
Total	0.0	0.0	0.0
Consumption goods	15.9	29.2	28.6
Mixed products	9.3	5.1	4.1
NES	0.5	-1.3	-1.7
Basic manufacturing	-6.0	-1.5	-2.0
Primary	7.0	4.2	-3.5

Equipment goods	-12.7	-18.1	-7.9
Intermediate goods	-14.1	-17.5	-17.5

Products are ranked by their share in exports/imports, or by their comparative advantage, in 1997, descending order.
Source: CEPII, CHELEM data base. Author's calculations.

Asian countries' trade shows different specialisation profiles, depending on the level of industrial development **(Table 21)**. The most industrialised countries (Japan, South Korea and Taiwan) shared a common feature: a comparative advantage in intermediate goods. They had also a large trade surplus either in capital goods (Japan, Taiwan) or in consumption goods (South Korea). The less industrialised countries had in common a large comparative disadvantage in equipment goods and a comparative advantage in consumption goods. Three of them (Indonesia, Malaysia, Thailand) had, like China, a relative trade deficit in intermediate goods. The coexistence of a comparative disadvantage in intermediate goods and of a comparative advantage in consumption goods suggests that these countries were specialised in assembling and transforming imported inputs for export. Compared with other developing Asian countries, China's specialisation was the most accentuated: it had the largest comparative disadvantage in intermediate goods and the largest a comparative advantage in consumption goods in 1997.

Table 21 - Comparative Advantage of Asian Countries by Stages of Production*

	Primary	Basic manufacturing	Intermediate goods	Equipment goods	Mixed products	Consumption goods	NES
China	**-3.5**	**-2.0**	**-17.5**	**-7.9**	**4.1**	**28.6**	**-1.7**
Thailand	-0.4	-8.5	-9.1	-5.1	10.2	13.1	-0.2
Malaysia	8.2	-6.5	-6.4	-4.2	4.1	7.4	-2.5
Indonesia	22.9	-7.8	-5.9	-22.5	5.7	9.5	-1.9
Philippines	-7.6	-5.6	0.5	3.3	1.2	8.9	-0.8
India	-4.2	-4.3	2.5	-12.8	-0.7	17.0	2.3
Taiwan	-12.7	-8.8	4.2	12.7	4.8	2.4	-2.6
South Korea	-20.4	-5.0	9.4	0.4	2.4	12.9	0.4
Japan	-27.1	0.0	14.9	18.2	-10.9	4.4	0.5

Countries are ranked according to their comparative advantage in intermediate goods, ascending order.
* Difference between each category's share in exports and in imports.
Source: CEPII, CHELEM data base. Author's calculations.

Over the period under review, China's trade was thus characterised by:

- ✓ strong sectoral complementarities;
- ✓ significant changes in commodity specialisation, characterised by the building up of new strengths in electric and electronic industries;

- ✓ a pattern of trade by stages of production which reveals that China has a comparative advantages in final the stages of production process, and disadvantages in intermediate goods; this gives some support to the hypothesis that China is participating in the international segmentation process.

3.2. The Role of Foreign Invested Firms in China's Foreign Trade

3.2.1. Impact of FDI on Host Country Foreign Trade: Some Evidence from Literature

The impact of FDI on developing country foreign trade has been amply discussed in literature. The World Investment Report *(UNCTAD, 1999)* provides a comprehensive presentation of its benefits and drawbacks. There is evidence that FDI has a positive influence on host country foreign trade: statistical analysis carried out on a sample of 52 countries demonstrated that a one percent rise in FDI per capita in developing countries leads to a 0.45% rise in exports. There are at least three reasons why FDI enhances developing country trade: *1)* FDI boosts developing country export competitiveness; foreign investment in medium and high technology sectors may help host country to diversify exports and enter world markets for technologically more advanced products, which are growing faster than markets for low-tech products; *2)* FDI expands market access for exports from host countries; Transnational corporations (TNCs) have potentially large advantages in accessing foreign markets due to their international distribution networks, brand names, and capacity to organise production on a world-wide basis; *3)* FDI may help the building of new dynamic comparative advantages in host countries, allowing them to climb up the technology ladder, shifting from the most simple manufacturing export activities to higher value-added products. Nevertheless the report also notes that FDI-assisted export strategy is not without risks and costs. The effects of FDI depend on the linkages between foreign firms' activity and the domestic economy, on the importance of spill-overs from TNCs to local firms. The sustainability of the host country's export drive also depends on the strategy of foreign firms, which may use the host country technology and skills or contribute to upgrade their level. FDI may have a negative impact on host country balance of payments as foreign affiliates have a higher import propensity than domestic firms. Their presence also makes the host country foreign trade more dependant on the global strategy of parent firms.

Blomström (1990) already observed that FDI by TNCs "created opportunities for countries to strengthen their capacity to produce, reach markets and adapt their economies to changing conditions". It distinguished two ways in which FDI influenced host country foreign trade. First, foreign affiliates had a direct impact on trade performance as they change the host country foreign trade. Second, they had an indirect effect as far as they influence domestic firm performance, through spillovers, externalities and competition effects. The direct impact can be observed looking at the importance taken by foreign firm affiliates in the host countries' foreign trade. Blomström observed that TNCs were involved in three kinds of activities: export of processed raw materials, conversion of import substituting industries into exporting ones, development of new labour intensive final products. TNC affiliates have a potential advantage in entering world market, as they have distribution networks, master industrial norms and standards, and are able to adapt to

changes in world fashions, etc. They provide host countries with links with final buyers through outward processing and subcontracting. As a result of TNC investment, host countries specialise in the export of labour intensive components within vertically integrated industries. Processing components for export brings substantial benefits to host country as it contributes to create employment, to improve skills and wages. It may also induce negative effects, as foreign affiliates are likely to be relatively "footloose", with little physical capital involved. The changes in the foreign affiliates' output in the different countries, decided by parent firms, do not necessarily take into account the interest of host countries. FDI can be expected to have a indirect impact on domestic firm export performance through several channels. Local firms are induced to imitate FIE strategies and behaviour to enter foreign markets; they benefit from infrastructures, facilities, financial services created by or for foreign investors. Furthermore, FDI creates backward and forward linkages with the rest of the economy as domestic firms supply inputs to FIEs and benefit from technological spillovers. Finally the presence of FIEs increases competition in host country, stimulates the adoption of new technologies and of efficient management practices. However these indirect effects are difficult to measure.

Turning to China's case, a number of studies have examined the role of FDI in China's foreign trade. *Zhang (1995)* and *Sun (1998)* refer to the distinction made by *Kojima (1975)* between "trade oriented FDI" and "anti-trade oriented FDI". The first category refers to FDI directed to industries in which the host country has a comparative advantage; it is expected to stimulate exports. The second category refers to FDI directed to industries in which the host country has a comparative disadvantage; it is domestic oriented and is likely to replace trade, as the increase of domestic production will substitute for imports in host country. Zhang found that, during the eighties, FDI in China was "trade promoting". The size of China's domestic market, its growth as well as cheap labour were the main determinants of FDI inflows. The distribution of FDI by home country followed China's trade direction, and supported the hypothesis of a positive relationship between FDI and trade flows. However, the analysis demonstrated that FDI from major source countries was determined by different motivations and that Japan's FDI was trade oriented whereas US FDI was anti-trade oriented. *Sun (1998)* also demonstrated that FDI played an important part in China's trade expansion during the 1978-1996 period. *Wei (1996)* examined whether foreign affiliates achieved their export performance at the expense of domestic firms' exports. He investigated the interactions between export activities of domestic and foreign firms at the city level (1988-1990) and found that the cross-city differences in export activity were not related to difference in FDI growth or stock, and could conclude that FDI did not displaced Chinese firms.

Looking at the impact of FDI on China's foreign trade balance, *Sun (1998)* observed that on the 1979-1996 period FIE trade increased China trade deficit or offset its trade surplus. This negative contribution was mainly due to foreign firm imports of equipment goods for investment. Another reason was the higher propensity of FIEs to rely on imported inputs. A third reason was that FIEs used transfer prices which undervalued exports, overvalued imports and increased China's trade deficit.

The Asian economic crisis has brought to the fore several questions about the strategy followed by Asian countries and the benefits they derived from promoting export-oriented FDI. The OECD study on the impact of FDI in Southeast Asia *(OECD, 1999b)* shows that FDI has played a leading role in bringing about rapid export-led growth in host countries (Indonesia, Malaysia, Philippines, Thailand). Export-oriented FDI led to rapid changes in the country export structures in favour of industries with rapidly expanding markets (electronics). However, FDI has not always contributed to enhance indigenous capabilities: it was associated with few technology transfers, it gave rise to export sectors which were virtually foreign enclaves. Foreign affiliate exports remained concentrated in low-value-added products, from labour-intensive assembly operations. One reason for this failure may be found in the dualistic policy of promoting export-oriented investment while protecting the local economy. The emphasis on export-oriented FDI has created special operating conditions for foreign exporters and reduced possible linkages between foreign and domestic firms. Moreover there is some evidence that foreign affiliates selling in the domestic market would have been more likely to transfer technology if they had faced competition either from imports or from other investors than in markets protected by high import barriers.

Breslin (1999) tended to play down the benefits for China of the current FDI-led export expansion. He observed that the growth in Chinese trade was for a large part the result of foreign affiliate activity. Foreign investors have established production bases in China to supply world markets and, consequently, an important part of China's exported products are "carrying foreign brand name, (are) produced with foreign materials and/or controlled by foreign managers and technicians". China serves as an assembly base for a number of Asian manufacturing firms and Chinese processed exports which account for half of total exports have a large import content. The author suggests that although China has benefited from its integration in world production network (which provided jobs), it has not gained as much as simply looking at trade figures for export growth initially suggests.

3.2.2. FIEs and China's Integration in the International Segmentation of Production Process

During the nineties, China has progressively liberalised its import policy, but its trade regime has remained dualistic. It includes preferential treatments for exporting industries and foreign invested firms. This results in a highly fragmented trade sector. Four broad segments can be distinguished in China's foreign trade:

1) ordinary trade encompasses exports and imports which are subjected to the general tariff rates;

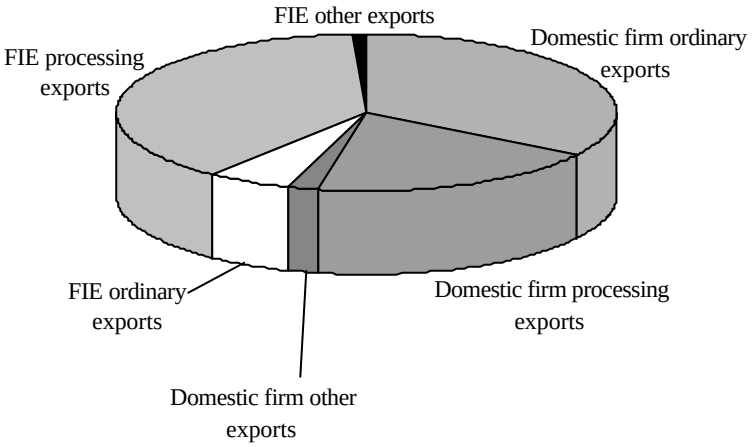
2) processing trade encompasses imports of goods to be assembled or transformed in China and re-exported. Within international assembly and subcontracting operations, these imported inputs (intermediate goods and components) are exempted from custom tariffs. Neither intermediate imported products, nor the finished goods normally enter the domestic market;

3) imports of goods by foreign invested firms as part of their initial investment. These imports are exempted from custom duties and concern mainly equipment and machinery;

4) other exports and imports, which are not subject to the general tariff regime (compensation trade, international aid, warehousing and entrepot trade).

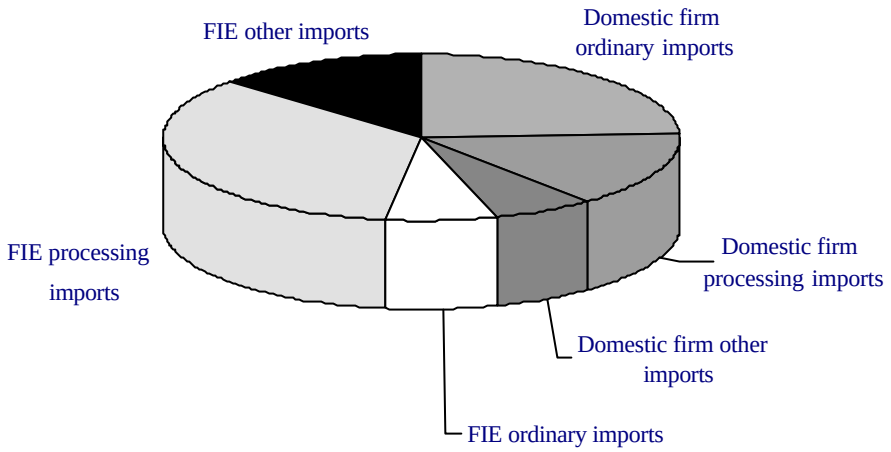
Trade figures corresponding to these different trade segments are available since 1992. Within each category it is possible to identify the respective contributions of domestic (wholly Chinese) firms and of foreign invested enterprises (FIEs) since 1994. Available China's customs statistics thus allow for a relatively in-depth investigation of foreign invested firms' role in China's foreign trade **(Figures 18 and 19)**.

Figure 18 - China's Exports by Category of Firms and Custom Regimes, 1998 (in %)



Source: China's Customs Statistics.

Figure 19 - China's Imports by Categories of Firms and by Custom Regimes, 1998 (in %)



Source:China's Customs Statistics

Over the 1992-1998 period China's foreign trade expanded rapidly: in dollar terms, exports more than doubled and imports increased by 75%. The category of firms and trade regimes which were the engine of this expansion can be clearly identified looking at **Table 22** which presents the different segments of China's trade as a share of world trade.

Total China's exports rose from 2.3% to 3.4% of world exports from 1992 to 1998. The distribution of exports by category of firms provides evidence that FIEs were responsible for almost all the variation, as their exports increased from 0.5% to 1.5% of world exports. Domestic firm exports registered some gains in the first half of the nineties but lost ground afterwards and in 1998 they hold the same share as in 1992 (1.9%). Two reasons may explain the relatively slow growth of domestic firm exports since 1994: one is the real appreciation of the Renminbi since the mid nineties; the second is the Asian economic recession in 1998. The reasons why FIE exports have been less affected by these factors will be discussed below (3.2.4).

Turning to the distribution of exports by trade regime, the very rapid expansion of processing trade comes to the fore. The share of processing exports almost doubled, from 1.1% to 1.9%, accounting for almost 80% of China's gain in world market share. "Ordinary" exports progressed moderately over the period, from 1.2% to 1.4% of world exports.

Table 22 - Evolution of China's Trade by Categories of Firms and Custom Regimes, 1992-1998, in Thousandths of World Trade

	1992	1993	1994	1995	1996	1997	1998
WORLD EXPORTS	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Total exports	22.7	24.7	28.7	29.3	28.6	33.0	33.5

Domestic firms	18.0	17.9	20.5	20.1	16.9	19.5	18.7
FIEs	4.6	6.8	8.2	9.3	11.6	13.5	14.8
Ordinary exports	11.6	11.6	14.6	14.1	11.9	14.1	13.5
Processed exports	10.6	11.9	13.4	14.5	15.9	18.0	19.0
Other exports	0.4	1.2	0.8	0.8	0.7	0.9	0.9
WORLD IMPORTS	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0	1000.0
Total imports	20.7	27.4	26.8	25.6	25.8	25.3	25.1
Domestic firms	14.1	16.6	14.5	13.4	11.7	11.5	11.4
FIEs	6.7	10.8	12.3	12.2	14.0	13.8	13.7
Ordinary imports	8.6	10.0	8.9	8.4	7.3	6.9	7.8
Imports for processing	8.1	9.6	11.0	11.3	11.6	12.5	12.3
Imports for equity in FIEs	4.0	4.4	4.7	3.6	4.6	3.2	2.6
Other imports	0.0	3.4	2.2	2.3	2.3	2.7	2.4

Source: China's Customs Statistics; IMF Direction of Trade, author's calculation.

On the import side China's rise in world trade was less impressive. As a share of world trade China's imports stood around 2.6% between 1993 and 1996 and then declined slightly to 2.5% in 1998, as a result of a slowing down of domestic demand. FIEs led import growth and their share in world imports doubled from 0.7% to 1.4%, overtaking that of domestic firms. Distribution of trade by custom regime shows that imports for processing increased much faster than ordinary imports and than world trade. From 1992 to their share in world trade increased from 0.8% to 1.2%, while the share of ordinary imports fell from 0.9% to less than 0.8% in 1997. It is worth stressing that tariff cuts which will be applied when China enters WTO concerns only ordinary trade, that is 40% of its total imports, since other import segments have benefited from tariff exemptions for a long time.

Since 1992, FIEs have thus been the engine of China foreign trade expansion. Between 1992 and 1998 their exports increased almost fivefold and their imports trebled **(Figures 20 and 21)**: FIEs' share in China's total exports rose from 26% to 44% and their share in imports rose from 32% to 55% **(Table 23)**.

What was at the root of FIEs' outstanding export performance? The answer lies in their international processing activities. Processing trade, *i.e.* the import of raw materials, intermediate products or components to be transformed and assembled and then re-exported, was at the core of FIEs' trade expansion. Processing trade was responsible for 60% of FIEs' total imports and for 85% of their total exports in 1998. Over 1994-1998 period, FIE processing activities were, by far, the most dynamic component of China's trade and they represented almost 38% of Chinese total exports and 34% of imports in 1998 (against respectively 25% and 24% in 1994) **(Table 23)**.

Figure 20 - China: FIE and Domestic Firm Exports, 1992-1998

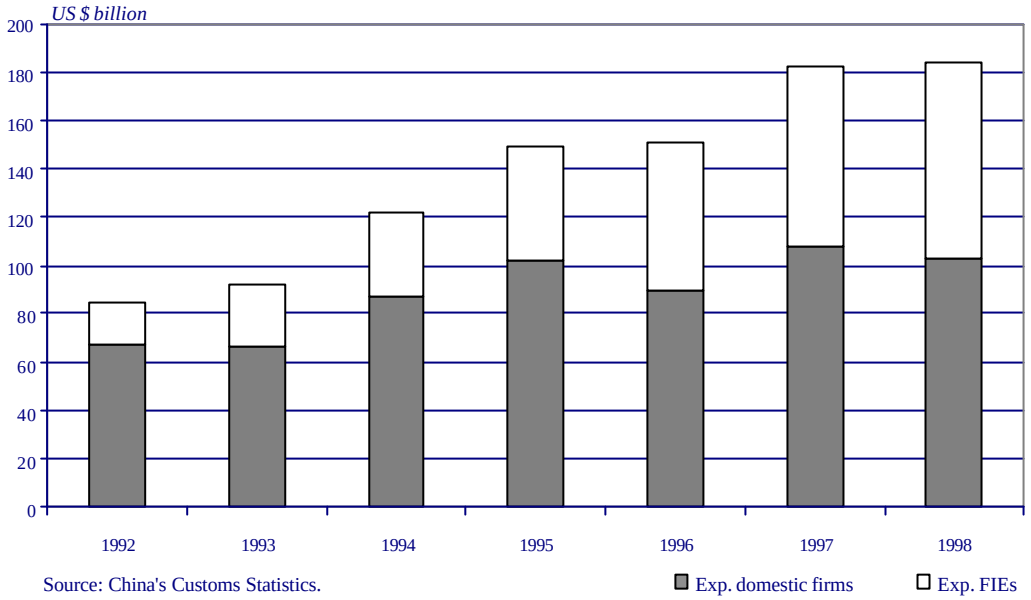


Figure 21 - China: FIE and Domestic Firm Imports, 1992-1998

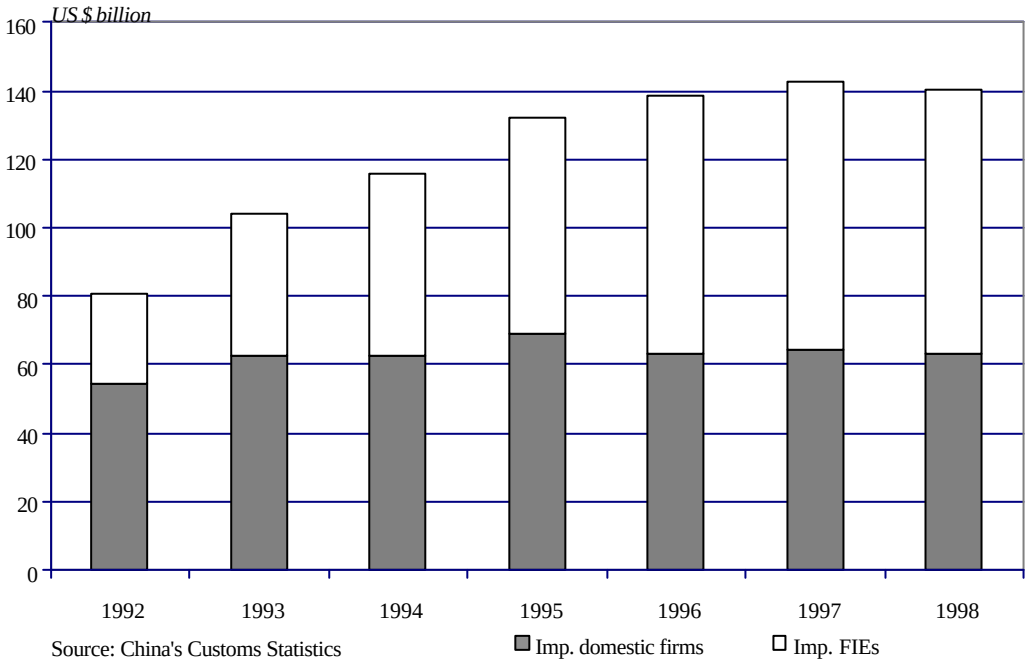


Table 23 – Foreign Trade of FIEs and Domestic Firms by Custom Regimes, 1992-1998
(in % of China's trade)

	1992	1993	1994	1995	1996	1997	1998
Total exports	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Domestic firms	79.5	72.5	71.5	68.4	59.3	59.0	55.9
FIEs	20.5	27.5	28.5	31.6	40.7	41.0	44.1
Ordinary exports	**51.4**	**47.1**	**50.7**	**47.9**	**41.6**	**42.7**	**40.4**
Domestic firms	na	na	47.4	45.0	36.6	37.3	34.8
FIEs	na	na	3.4	2.9	5.0	5.4	5.6
Processed exports	**46.6**	**48.2**	**46.5**	**49.5**	**55.8**	**54.5**	**56.9**
Domestic firms	na	na	21.5	21.2	20.7	19.6	19.2
FIEs	na	na	25.1	28.3	35.1	34.9	37.6
Other exports	**2.0**	**4.7**	**2.7**	**2.6**	**2.6**	**2.8**	**2.7**
Domestic firms	na	na	2.7	2.2	2.0	2.1	2.0
FIEs	na	na	0.1	0.4	0.6	0.7	0.8

	1992	1993	1994	1995	1996	1997	1998
Total imports	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100**
Domestic firms	67.9	60.5	54.2	52.3	45.5	45.4	45.3
FIEs	32.1	39.5	45.8	47.7	54.5	54.6	54.7
Ordinary imports	**41.7**	**36.6**	**33.2**	**32.8**	**28.3**	**27.4**	**31.1**
Domestic firms	na	na	29.2	28.8	23.4	21.5	24.3
FIEs	na	na	3.9	4.0	5.0	6.0	6.8
Imports for processing	**39.1**	**35.0**	**41.1**	**44.2**	**44.9**	**49.3**	**48.9**
Domestic firms	na	na	16.9	16.1	15.0	15.8	14.5
FIEs	na	na	24.3	28.1	29.9	33.5	34.4
Imports for equity in FIEs	**19.2**	**16.0**	**17.5**	**14.2**	**17.9**	**12.6**	**10.3**
Other imports	**0.0**	**12.4**	**8.2**	**8.8**	**8.9**	**10.7**	**9.6**
Domestic firms			8.1	7.4	7.2	8.1	6.5
FIEs			9.4	6.8	10.7	4.5	3.9

Source: China's Customs Statistics.

The overwhelming share of processing activities in foreign affiliates' trade reflects their role as production base for parent companies which have relocated segments of production in China. Foreign firms have transferred the downstream, labour intensive stages of production in China, which has thus become integrated in the international segmentation of production process. Although FDI in China has been increasingly driven by market expansion strategies, as it was showed in section II, cost considerations have remained an important motivation for foreign firms, namely Asian firms, investing in China.

3.2.3. The Reorganisation of Production within Asia

The detailed analysis of FIE processing trade provides evidence that Asian firms have taken a major part in this transfer of production capacities and that China' participation in the reorganisation of production within Asia has been a major determinant of its bilateral trade flows.

In 1997, China's imports from Asian countries relied much more extensively on FIEs than its imports from the US or the EU. Foreign affiliates were responsible for between 63% and 69% of China's imports from its major Asian partners, and for respectively 55 and 46% of its imports from the EU-15 and from the US **(Table 24)**. Moreover, the nature of imports by foreign affiliates also differed, thus highlighting the different strategies of parent firms. From Asian countries, FIEs located in China imported mainly goods to be processed and re-exported. Most of imported inputs for processing by FIEs came from Asian countries. Presumably, the largest part of these imports corresponded to the supply of inputs by parent firms to their affiliates and thus to intra-firm trade. However, imports of intermediate goods from Asia also included imports by European and American affiliates in China which source their inputs in Asian countries.

In contrast with FIE imports from Asia, FIE imports from the US and the EU-15 concerned mostly goods to be used domestically FIE imports for processing accounted for only 12% of China's imports from EU-15. FIE imports of machinery and electrical machinery from the EU were mostly capital goods, and only a small fraction was made up of components and parts to be assembled **(Table 25)**. The importance of machinery in China's imports from the EU (36%) was directly connected with equity investment by European firms in their local affiliates. This confirms that European FDI was oriented towards relatively capital intensive projects. FIE imports for processing accounted for one fifth of China's imports from the US, meaning that American firms used their affiliates as production bases for exports more extensively than European firms did, although much less than Asian countries did. It is worth noting that that arms' length trade was still relatively important in China's imports from the US, due to their commodity composition (aircrafts, fertilisers, agricultural products).

The strategy of foreign investors had hence a direct impact on home country export performance in China. Asian investment tends to generate continuous flows of intermediate products supplied by parent firms to local affiliates. The share of Asian countries in China's imports thus did not reflect their capacity to enter the domestic market but the fact that China had become a production base, relying on supplies of intermediate goods from the region. European and American investment tends to give rise to exports of equipment goods by parent firms, corresponding to "once for all" operations, linked to equity investment.

Table 24 - FIEs in China's Bilateral Trade Flows, 1997 (in %)

	World	EU 15	US	Japan	Hongkong	Taiwan	Korea
CHINA'S EXPORTS							
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FIEs	41.0	38.4	51.6	50.3	41.9	47.0	34.4
FIE processed exports	34.9	32.8	46.8	40.5	36.8	39.4	27.7
CHINA'S IMPORTS							
All firms	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FIEs	54.8	55.4	46.8	67.3	63.4	68.9	64.1
FIE imports for process.	33.6	12.2	20.7	43.8	51.9	53.4	47.9
BALANCE ($ million)							
All firms	41 035	4 634	16 526	2 845	36 841	-13 043	-5 803
FIEs	-2 748	-1 483	9 303	-3 492	13 933	-9 725	-6 424
FIE processing trade	16 207	5 471	11 949	194	12 497	-7 437	-4 625

Source: China's Customs Statistics. ITC. Author's calculations.

Table 25 - FIEs in China's Imports from Main Partners, 1997

	Sector share in China's imports In %	FIE share	of which for processing
		in % of sector imports	
IMPORTS FROM THE EU-15			
Total	**100,0**	**55,4**	**12.2**
Machinery	36,4	64,3	2.1
Electrical machinery	18,5	57,0	9.3
Aircraft,	7,2	6,3	0.0
Vehicles	4,3	74,3	2.7
Instruments	3,0	46,2	4.7
IMPORTS FROM THE US			
Total	**100**	**46,8**	**20.7**
Machinery	20,4	62,0	6.4
Electrical machinery	12,8	57,8	33.9
Aircraft,	10,3	10,4	0.0
Fertilisers.	6,9	12,1	0.0
Plastics	5,6	64,8	49.0
IMPORTS FROM JAPAN			
Total	**100,0**	**67,3**	**43.8**
Electrical machinery	24,6	72,4	59.9
Machinery	22,9	73,4	15.3

Iron and steel.	8,0	57,8	42.4
Plastics	7,6	63,6	56.7
Instruments	4,7	72,9	48.5
IMPORTS FROM HONGKONG			
Total	**100**	**63,4**	**51.9**
Electrical machinery	27,4	74,9	62.7
Machinery	10,2	65,4	19.0
Cotton.	7,1	65,5	65.4
Plastics	4,7	58,7	54.5
Man-made filaments.	4,5	52,0	51.7
IMPORTS FROM TAIWAN			
Total	**100,0**	**68,9**	**53.4**
Machinery	16,6	79,2	14.2
Electrical machinery	15,8	71,7	65.6
Plastics	15,3	58,1	55.6
Man-made filaments.	7,0	61,2	59.7
Iron and steel.	4,8	69,0	54.9

…/…

Table 25 (continued)

IMPORTS FROM SOUTH KOREA			
Total	**100,0**	**64,1**	**47.9**
Plastics	14,8	48,4	43.5
Electrical machinery	13,5	85,1	72.6
Machinery	9,1	91,7	16.8
Man-made filaments.	7,5	58,3	55.7
Mineral fuels,	6,7	25,3	1.4

Source: China's Customs Statistics. ITC. Author's calculations.

As processed exports were geographically more evenly distributed than imports, processing trade strongly influenced bilateral trade balances **(Table 24)**. In 1997, China's large trade surpluses with the EU and the US were mainly due FIE processing trade: if processing trade was excluded, China's surplus with the EU would turned to deficit and its surplus with the US would be reduced by four-fifths. China's large trade surpluses with these countries were thus due to the relocation strategy of foreign firms investing in China. FIE processing trade with Japan was relatively balanced, suggesting that a relatively important part of Japanese affiliates' output was directed to home country and that intra-firm trade played a large part in Japan-China two-way trade. By contrast, FIE processing trade generated large deficit with Taiwan and South Korea, thus indicating that these countries transferred production capacity to China in order to maintain their competitiveness in world markets. FIE

processing trade surplus with Hongkong resulted from indirect bilateral trade flows passing through the Territory. According to Hongkong trade statistics, China's trade flows passing through Hongkong show a surplus with the EU and the US and a deficit with Japan, South Korea and Taiwan.

The commodity composition of FIE processing trade shows that China was involved in the reorganisation of production within Asia in two broad sectors: first, machinery, electric and electronic goods, which taken together represented one third FIE imports for processing, 43% of FIE exports after processing and generated 70% of FIE processing trade surplus; second textile industry which represented about 20% of FIE processing trade and 10% of processing trade surplus. The development of FIE processing activities in the sector encompassing machinery, electrical and electronic goods, were almost entirely based on inputs coming from Asian countries (73%), and mainly from Japan (37.6%). **Table 26**. The US and the EU-15 received 40% of processed goods, 50% if one takes into account processed goods exported through Hongkong. Trade surpluses with the EU and the US and trade deficit with the Asian region clearly show the fact that China has become an assembly base for Asian affiliates producing for Western markets. In the textile industry, the transfer of production to China appeared to be led by the New industrialised economies (mainly Taiwan and South Korea) which supplied half of intermediate inputs. Interestingly the largest export market for FIE processed goods was Japan (40% of FIE processed exports), and then the US and the EU-15. As a result of the reorganisation of production within Asia, China thus recorded a processing trade surplus in textile with Japan, but still deficits with NIEs.

Table 26 – FIEs' Processing Trade in Textile and Machinery, by Major Partners (1997)

	World	EU 15	US	Japan	Hongkong	Taïwan P.	S. Korea
Textile Industry							
Exports from China	100,0	2,9 (10,4)	3,5 (14,5)	39,9 (43,9)	36,7 (13,5)	0,9 (1,4)	5,5 (5,9)
Imports to China	100,0	2,1 (2,8)	2,8 (3,3)	24,0 (24,6)	11,1 (4,8)	20,8 (23,7)	18,6 (20,2)
Balance (US$ million)	1825,0	140 (960)	132 (1405)	2342 (2757)	3276 (1120)	-2002 (-2237)	-1227 (-1343)
Machinery, Electrical and Electronic Products							
Exports from China	100,0	16,50 (21,9)	23,4 (30,2)	17,5 (19,3)	22,2 (7,1)	2,8 (3,3)	3,9 (4,2)
Imports to China	100,0	3,2 (4,3)	5,9 (7,1)	37,6 (41,3)	9,7 (2,1)	14,3 (15,7)	11,1 (11,5)
Balance (US$ million)	11221	4027,4 (5356)	5506 (7177)	-1336 (-1338)	4551 (1626)	-1571 (-1625)	-734 (-724)

Figures in brackets correspond to bilateral trade ajusted to take into account flows passing through Hongkong.
Source: China's Customs Statistics. Hongkong Trade Statistics. Author's calculations.

FIE processing activities have had a direct impact on the commodity pattern of China' exports and imports. In 1997, China's leading export sectors were heavily dependant on FIE processing activities which accounted for more than 60% of its exports in electrical machinery, machinery, footwear, instruments; the only remarkable exceptions were the most traditional export sectors which remained for their largest part in the hands of Chinese firms (apparel, iron & steel, fuels) **(Table 27)**. China's performance in world markets should be appreciated in this perspective, as processed exports were characterised by a high import content and resulted from a vertical division of labour between China and Asian industrialised countries.

3.2.4. FDI-Led Trade and Competitiveness

Building Dynamic Specialisation

FIE processing trade has thus been the major factor behind the diversification of China's manufactured exports in favour of more technologically advanced products, with rapidly expanding markets (electrical machinery, instruments). The most important changes in the commodity structure of China's total exports from 1993 to 1997 can be explained by FIE export performance **(Table 28)**. FIE processing activities facilitated structural changes in China's trade in two ways. First, foreign firms which have relocated the final stages of production in China, have transferred foreign markets together with production capacities. In fact exports from foreign affiliates substituted to exports from parent firms, and China's exports substituted to home countries' exports *(Liu Ligang and alii, 1999; Lemoine, 1999)*. Second, foreign direct investment, driven by cost considerations, has induced China to build up comparative advantages in new manufacturing sectors, based on an in-depth specialisation along production process: China became specialised in the downstream segments of production (assembly) in which it has a comparative advantage, relying on imports of intermediate goods and components. China does not master all the production process in these industries but has established its specialisation in labour intensive stages of production.

Table 27 - FIEs in China's Exports, 1997

	Structure of China's exports *In %*	FIE processing exports *as % of sector exports*	FIE total exports
All products	**100.0**	**34.9**	**41.0**
Electrical machinery	13.4	64.0	66.6

Apparel, not knitted	9.3	34.1	37.2
Machinery	7.5	58.7	64.0
Apparel, knitted	6.4	19.0	23.9
Footwear	4.7	56.2	60.3
Toys, games	4.1	40.5	43.6
Mineral fuels	3.8	1.4	12.8
Articles of leather	3.1	38.1	41.4
Plastics	2.7	47.6	51.3
Instruments	2.2	64.0	67.8
Articles of iron or steel	2.1	21.0	30.4
Iron and steel	2.1	4.7	6.7
Furniture	2.1	35.5	45.2
Organic chemicals	1.9	5.4	15.4

14 Top exporting industries, ranked by their share in China's exports, descending order.

Source: China's Customs Statistics. ITC. Author's calculations.

FIEs have strongly influenced China's export structure but what impact had they on the nature of China's trade (intra-versus inter industry trade)? In 1997, inter-industry trade was dominant in all segments of China's trade, but processing trade was characterised by a higher degree of intra-industry trade than other trade flows **(Table 29)**. At this relatively aggregate level, intra-industry trade presumably corresponded to the simultaneous export and import of products belonging to the same industry but at different stages of production. The nature of FIEs processing trade strongly differed from that of ordinary trade which was mostly inter-industry trade, no matter what category of firms was involved, domestic firms or FIEs. Ordinary trade represented the most traditional part of China's trade, based on inter-sectoral complementarity, without participation in the new forms of division of labour.

Table 28 - Contribution of FIEs to China's Export Growth, from 1993 to 1997

	China's exports, variations from 1993 to 1997	FIE processing exports	FIE total exports
	Percentage points	*Contribution to export growth, in %*	
All products	**0.0**	**46.8**	**54.6**
Machinery	2.9	70.4	77.2
Electrical machinery	2.9	76.9	80.6
Iron and steel.	1.2	3.8	6.0
Instruments	1.0	71.2	75.8
Apparel, knitted	0.9	18.8	21.5
Plastics and articles thereof	0.7	54.5	59.5
Ships, boats	0.6	6.3	6.5

Articles of iron or steel	0.5	25.3	38.4
Railw/tramw locom.	0.3	79.9	80.2
Woven fabrics	0.2	18.0	23.1
Man-made filaments	0.2	65.6	69.6
Aluminium&articles thereof	0.2	47.3	50.5
Ceramic products	0.2	9.4	29.6
Organic chemicals	0.2	7.6	23.9

Industries selected by the importance of variations from 1993 to 1997, descending order.
Source: China's Customs Statistics. ITC. Author's calculations.

FIEs processing trade generated substantial trade surpluses, which were more than offset by FIE imports of equipment and materials as investment. The latter were responsible for most of FIEs' trade deficit and corresponded to an inflow of foreign capital in China's balance of payments **(Figure 22)**.

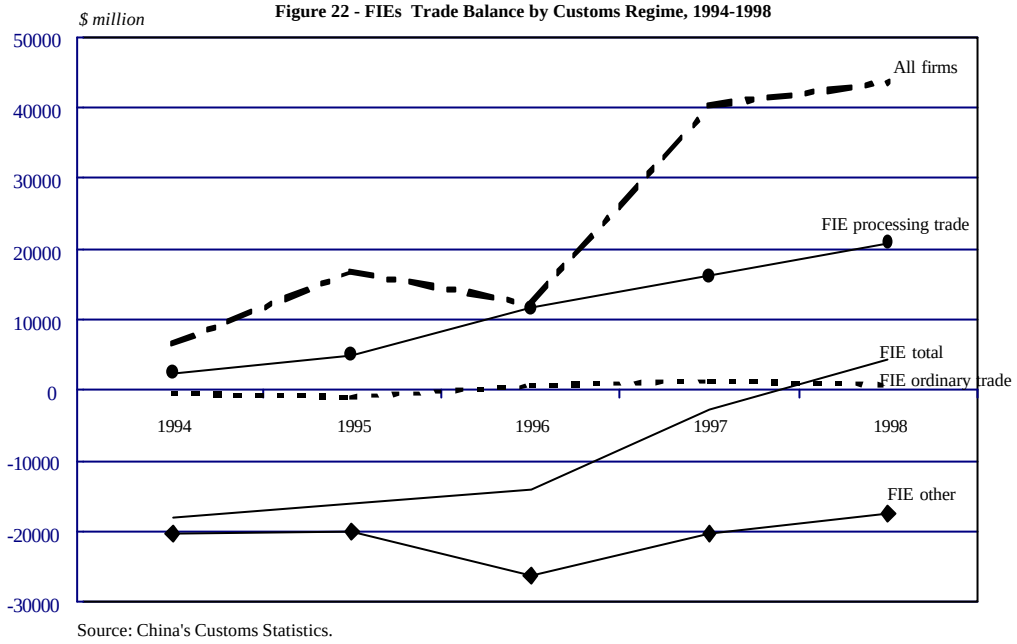
Table 29 - Intra- and Inter-industry Trade According to Trade Regimes and Categories of Firms* in 1997

FIEs, all trade	0.36
FIEs, processing trade	0.36
Domestic firms, all trade	0.28
Domestic firms, processing trade	0.25
Domestic firs, ordinary trade	0.19
FIEs, ordinary trade	0.18

*Grubel-Lloyd index $1 - \frac{\sum |x - m|}{X + M}$

Calculated at four-digit level of HS product classification.
Source: China's Customs Statistics. Author's calculations.

Figure 22 - FIEs Trade Balance by Customs Regime, 1994-1998



Source: China's Customs Statistics.

Rising Local Content

Since 1994, processing trade has been responsible for a growing part of China's trade surplus. The ratio of exports after processing to import for processing steadily increased, from 1.20 to 1.50 from 1994 to 1998-1999 **(Table 30)**. This processing trade surplus can be seen as an indicator of the value added in China. Several factors may explain the rise of the ratio. First, the share of profit margin and/or wage costs may have increased more rapidly than inputs costs, especially due to the real appreciation of the yuan since 1994. Second, the value added realised in China may also have increased as a result of the growing integration of the production process in the mainland: the value-added chain has possibly included more stages of production and related services (packaging, marketing) which used to be made outside mainland. The declining role of Hongkong in China's exports, which means that products made in China are now more directly sold in world markets, seems to confirm this interpretation.

It is worth stressing that domestic firms' processing trade generated relatively more apparent value added than FIEs': the ratio of processing exports over imports was 1.74 in processing trade carried out by domestic firms, 1.42 in the case of foreign firms. There are several possible explanations for the higher local content of domestic firm processing exports. First, domestic firms may source more inputs in the domestic market while FIEs have traditionally a higher propensity to import intermediate goods. Second, domestic firms may also sell in the domestic market part of their production, in principle assigned for exports. Third, since foreign affiliates are driven into China by cost considerations, they may tend to concentrate their activities in the most simple manufacturing industries and in the

most basic production stages. Finally, the practice of intra-firm pricing, analysed by Sun (1998), may well explain the relatively low share of "value-added" in FIE processing trade.

Table 30 - Processing Trade: Ratio of Exports to Imports (in %)

	1994	1995	1997	1998	1999
Exports after processing/imports for processing, all firms	**119**	**126**	**142**	**152**	**151**
Domestic firms	136	149	174	173	174
FIEs	109	113	134	143	142

Source: China's Customs Statistics. ITC. Author's calculations.

FIE Export Competitiveness and Exchange Rate Policy

Processing exports have a large import content and their competitiveness should thus be relatively less sensitive to exchange rate policy than ordinary exports. For firms involved in processing trade, the favourable impact of a real devaluation on export price is partly offset by its impact on the cost of imported inputs. Conversely, the negative consequence of a real appreciation on export competitiveness is partly offset by its favourable effect on the costs of imported inputs. Faced with a currency appreciation, these exporting firms may be able to maintain export prices without a reducing their profit margin. In fact, exchange rate variations only affect the value added in China. During the Asian financial crisis, the Chinese currency strongly appreciated, in real terms, against most Asian currencies and this raised the fear that China would have to devalue or would incur large trade deficit. In fact, while "ordinary" exports declined by 5% in 1998, FIE processing exports continued to rise (+8%). To a large extent the resilience of Chinese exports during this period can be traced back to processing trade and especially to FIEs processing trade. It could be argued that a devaluation would have had a limited effect on processing exports *(Dées and Lemoine, 1999)*.

3.2.5. Impact on Domestic Capabilities

Domestic Firms' Trade: Lagging Behind

The directs effects of FIEs exports and imports on China's foreign trade structures can be quite well documented and analysed. It is much more difficult to assess the indirect impact of FDI on domestic firms' foreign trade activities. At least, it is possible to compare their respective performance.

Since 1992 domestic firm trade has clearly lagged behind. A possible reason why domestic firms exports increased relatively slowly may lie in the nature of trade. Domestic firms were mainly involved in ordinary trade which was sluggish compared to processing trade. In fact comparing the performance of the two categories of firms demonstrates that in both trade segments, domestic firm exports have lagged behind. From 1994 to 1998, ordinary exports

by domestic firms almost stagnated since (+10%) while FIEs ordinary exports surged (+150%). Although ordinary exports from FIEs were still small (about 12% of their total exports in 1998), they were on the rise, providing evidence that foreign affiliates had succeeded in developing competitive exports based on local supplies. Domestic firms have also developed sub-contracting arrangements with foreign partners[7]. Processing trade represented the most dynamic segment of their exports and accounted for one third of their total exports and one third of all processing exports in 1998. However, from 1994 to 1998, their processing exports increased by 35%, much slower than FIE processing exports (+125%). This suggests that FIE export drive did not have a stimulating effect on domestic firm exports.

Domestic firms may have suffered from the competition of FIEs which possibly displaced their exports. The commodity structure of domestic firm's and FIEs' exports, which appeared to be rather similar, gave some support to this hypothesis **(Table 31)**. However at a sectoral level no statistical correlation could be found between FIE export performance and that of domestic firms from 1994 to 1998. In fact, over the recent period, domestic firms kept their strong positions in the most traditional exporting sectors (apparel, iron and steel, organic chemicals) while FIEs developed export capacities in new sectors. The similarity index between domestic firms' and FIEs' exports declined between 1993 and 1997, indicating that their respective specialisation followed diverging trends.

Table 31 - Domestic Firms and FIEs:
Similarity of Export Structures*

	1993	1997
All exports	68.5	65.8
Processing exports	77.4	71.8

*Finger index. $\Sigma_i \min(x_i(FIE), x_i(DF))$, where $x_i(FIE)$ is the share of product *i* in FIE exports; $x_i(DF)$ the share of product *i* in domestic firm exports.
Source: China's Customs Statistics. Author's calculations.

Unequal Access to Investment Goods Imports

An explanation for the difference in the competitiveness of the two categories of firms can be found in China's trade policy which has maintained relatively high import barriers to protect the domestic market. Import restrictions have led to a very unequal access to foreign equipment and technology, and has affected mainly domestic firms. FIEs were responsible for 71% of China's total imports of machinery in 1997. Most of these imports corresponded

[7] Under these arrangements, foreign partners provide the Chinese firms the materials to be transformed, pay them a processing fee and keep the property of the imported inputs and the finished products. Such processing trade is thus directly connected with the strategies of foreign firms.

to their initial equity investment and, as such, was exempted from import duties (in **Table 32,** they are recorded in the last column, as "other imports"). This means that domestic (wholly Chinese) firms, which accounted for more than 80% of industrial production, accounted for only a small fraction of machinery imported for investment. This unequal access to imported equipment, resulting from high tariff and non tariff barriers applied to ordinary imports, is likely have widened the gap between the performance of FIEs and domestic firms. This may explain, at least partly, the competitive disadvantage of domestic firms and may be an obstacle to their catching up.

Table 32 - FIEs in China's Imports, 1997

	All firms	FIEs share in China's imports (%)			
	Import structure	Total	Processing	Ordinary	Other
All products	**100.0**	**54.6**	**33.5**	**6.0**	**15.2**
Machinery	17.4	71.0	14.5	4.4	52.1
Electrical machinery	15.5	68.7	50.1	8.6	9.9
Mineral fuels	7.3	20.4	4.6	10.1	5.7
Plastics	7.2	54.9	48.8	2.9	3.2
Iron and steel	4.3	52.0	35.0	5.8	11.2
Man-made filaments	2.7	61.8	59.9	0.2	1.7
Cotton	2.6	57.7	56.9	0.4	0.4
Instruments	2.6	62.2	31.7	4.8	25.7
Paper & paperboard	2.4	44.6	37.6	5.0	2.0
Man-made staple fibres	2.3	56.3	53.2	0.3	2.9
Aircraft	2.3	8.1	0.0	0.6	7.5
Organic chemicals	2.2	40.6	22.7	9.3	8.6
Fertilisers	2.1	16.0	0.3	5.6	10.1

Top importing industries, ranked by their share in China's imports, descending order.
Source: China's Customs Statistics. ITC. Author's calculations.

Regional Disparities in Opening up to FDI and Foreign Trade

The above analysis amply showed that there was a close relationship between FDI and foreign trade in China. This relationship has strongly influenced the economic openness of the different Chinese regions, as FDI was heavily concentrated in the coastal provinces, and especially in five of them. This concentration has been increasing over time: from 1992 to 1997, coastal provinces received 80% of FDI (against 70% in 1979-1991). Foreign trade were even more concentrated in coastal provinces which were responsible for more than 90% of foreign trade (88% in 1992).

At the end of the nineties, non-coastal provinces were still closed economies, as evidenced by the ratio of foreign trade and FDI in GDP, whereas several areas of Eastern China were becoming internationalised economies (Guangdong, Fujian, Tianjin, and Shanghai)

(Table 33). The rapid expansion of export oriented industries based on imported inputs had accelerated the integration of coastal economies in international trade and production networks but this had possibly been achieved at the expense of backward and forward linkages with the rest of the economy and especially at the expenses of inland economies *(Gipouloux 1998)*. The lack of data on inter-provincial trade makes it impossible to investigate whether the accelerated growth of coastal provinces international trade led to a trade disruption among Chinese provinces. To be sure, the protection measures in force at the provincial level to limit competition from outside (although domestic) producers, as well as inadequate transport infrastructures have also been obstacles to a more balanced and integrated development of China's economy.

Table 33 –Degree of Openness of Provincial Economies , 1997

	In % of GDP			Share of FIEs in foreign trade (%)	
	Exports	Imports	FDI*	Exports	Imports
China	**20.6**	**16.1**	**5.9**	**41.0**	**54.6**
Coastal provinces	**31.6**	**25.3**	**7.5**	**44.7**	**56.4**
Tianjin	34.6	36.9	16.8	68.1	79.0
Guangdong	86.1	64.2	14.3	48.4	57.8
Fujian	30.4	22.8	11.6	48.1	63.6
Shanghai	36.4	38.5	10.4	47.4	61.5
Beijing	26.7	44.8	7.3	19.8	23.9
Jiangsu	17.9	13.6	6.7	46.5	68.4
Liaoning	19.3	15.8	5.6	43.5	58.1
Shandong	14.6	10.3	3.5	43.9	54.5
Zhejiang	19.2	9.8	2.7	22.9	40.7
Hebei	5.5	2.8	2.3	2.4	4.2
Others	**5.9**	**3.7**	**3.7**	**14.5**	**38.2**

* Provinces are ranked by the share of FDI in GDP.

Sources: China statistical yearbook, 1998; China's Customs Statistics

Preliminary analysis of the impact of China's accession to WTO on provincial economies tends to indicate that further trade liberalisation will possibly increase regional inequality *(Li and Zhai, 1999*). The coastal provinces which are important producers of labour intensive manufactured products and the most export-oriented will benefit from China's increased specialisation in accordance with its comparative advantage. Inland provinces are, on average, more specialised in capital intensive goods and in grain production and thus more vulnerable to increased import competition. In this perspective, the Chinese government recently launched a strategy aimed at speeding up the development of Central and Western regions, which includes increased public spending for the modernisation of infrastructure in and preferential policies to attract FDI.

The results of the analysis carried out in this section can be summarised as follows:

- ✓ China's international trade is still characterised by strong inter-sectoral complementarities, in contrast with other developing Asian economies which have been increasingly involved in intra-industry trade. However, while maintaining its strong specialisation in traditional industries (clothing), China has succeeded in building up new comparative advantage in technologically more advanced sectors (electric and electronic goods);

- ✓ in fact, over the nineties, foreign affiliates located in China have been responsible for virtually all its gains in world market share and for the diversification of its exports in favour of more technological sectors. They have established manufacturing bases in China, deeply integrated in the international segmentation of production processes. As a result China's has become specialised in the downstream stages of production in which it has a comparative advantage. Although China does not master the whole production process in these industries, the local content of these processed exports has tended to increase over recent years. These export-oriented and import-dependant industries have helped China's foreign trade to resist the impact of the Asian crisis;

- ✓ China's large trade surpluses with the EU and the US were mainly due FIE processing trade: if processing trade was excluded, China's surplus with the EU would turned to deficit and its surplus with the US would be reduced by four-fifths. In recent years, China's large trade surpluses were thus due to the relocation strategy of foreign firms investing in China;

- ✓ However, the strategy of FDI-led trade has had apparently limited effect on domestic export capabilities as Chinese firms have recorded only modest export performance since 1992. This support the argument that the internationalised sector, isolated from the rest of the economy, has failed to enhance the global competitiveness of China's industry;

- ✓ a major reason why domestic firm exports lagged behind can be found in the dualistic trade regime which has strictly limited their access to foreign equipment and technology.

CONCLUSION

This study has provided ample evidence of the substantial benefits China has derived from FDI and the significant structural changes brought about in its manufacturing industry and international trade. It has also highlighted the distortions built into the segmented approach to foreign trade and investment liberalisation which has been implemented up to now. This analysis highlights what is at stake for China in entering the WTO.

China's entry into the WTO signals the end of its strategy of selective trade liberalisation and hence will help to reduce distortions associated with this approach. As a result, China's

trade regime will become less fragmented and allow for a more equal access to foreign goods; Chinese firms which have had a limited access to imported machinery and equipment, should take advantage of lower tariff and non-tariff barriers to proceed with their technical modernisation and enhance their competitiveness in domestic and world markets.

As China' trade is characterised by strong sectoral specialisation, it is generally considered that trade liberalisation will lead to important reallocations of resources within the domestic economy. It will strengthen its comparative advantage in labour intensive activities such as the clothing industry. In capital intensive industries, both Chinese and FIEs will have to adjust to stronger competition in the domestic market *(DRC, 1998*).

However, trade liberalisation is likely to enlarge China's participation in the international splitting-up of production process. Asian FDI, especially from Hongkong and Taiwan, will increase and help China's industry evolve towards high-tech and high value-added products in electrical and electronic industry. Trade liberalisation should also make it possible for multinational firms to integrate China in their regional and global production networks.

It is worth stressing that China's commitments related to tariff reductions concern a trade segment which, presently, accounts for only 40% of total imports, as processing trade has benefited from tariff exemptions already for a long time. Tariff reduction will thus have a marginal impact on tax revenue. They will induce a rise in imports fuelled by domestic demand and presumably a decline in China' trade surplus. In this case the Chinese authorities may have to use a flexible exchange rate policy to maintain the external balance.

Attracting large inflows of FDI remains a major objective in China's strategy. In the process of WTO negotiations China has offered foreign investors new opportunities in the service. FDI in manufacturing industry is expected to slowdown as several sectors are now saturated and suffer from over-capacity. In these industries, investment in capacity (greenfield FDI) will level off, but foreign investment may help the rationalisation programme currently implemented, as the opening the capital of State-owned firms is now being considered as a means to boost investment in mergers and acquisitions, which have become the most dynamic part of world-wide FDI. Such an evolution can take place only if the obstacles associated with the lack of an adequate legal and regulatory framework as well as with political oppositions are progressively lifted

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APPENDIX 1
Estimation of Industrial Output by Sectors in 1997

	Industrial Output,1995		Estimation of 1997 Industrial Output by Sectors	1997 Industrial Output by sectors
	All entreprises with sales above yuan 1 million		All firms	Independant accounting units
	yuan million	%	yuan million	yuan million
Total	6 963 096	100.0	11373300.0	6 835 268.0
Coal mining and dressing	142 216	2.0	232291.1	153 863.0
Petroleum and natural gaz extraction	143 722	2.1	234751.0	187 510.0
Metal mining and dressing	61 208	0.9	99975.2	55 494.0
Non metal mineral mining&dressing	81 026	1.2	132345.3	53 774.0
Logging	17 557	0.3	28677.0	17 485.0
Food	545 509	7.8	891017.1	509 502.0
Beverage	133 358	1.9	217822.7	161 960.0
Tobacco	103 571	1.5	169169.6	129 608.0
Textile industry	557 822	8.0	911128.7	476 028.0
Garnments	224 163	3.2	366140.7	184 528.0
Leather. furs and related pro.	141 484	2.0	231095.5	118 636.0
Timber processing	70 499	1.0	115150.8	62 636.0
Furniture	46 621	0.7	76149.3	32 020.0
Paper products	145 043	2.1	236908.6	124 443.0
Printing and recording	55 656	0.8	90906.7	57 441.0
Cultural & sports goods	53 390	0.8	87205.5	49 022.0
Petroleum processing and coking	216 650	3.1	353869.2	256 900.0
Basic chemicals	448 286	6.4	732216.1	472 237.0
Charmaceutical	103 309	1.5	168741.6	126 224.0
Chemical fibers	87 390	1.3	142740.1	86 198.0
Rubber products	77 812	1.1	127095.7	78 177.0
Plastic products	176 042	2.5	287541.4	144 247.0
Non metal mineral products	500 903	7.2	818159.1	382 758.0
Ferrous metallurgy	418 733	6.0	683945.2	385 632.0
Non ferrous metallurgy	163 723	2.4	267420.0	147 000.0
Metal products	273 886	3.9	447356.7	207 810.0
Machinery	543 257	7.8	887338.7	488 437.0
Transport equipment	375 537	5.4	613390.2	412 310.0
Electric machinery	322 213	4.6	526292.5	336 609.0

Electronic and telecommunication	270 187	3.9	441314.9	392 103.0
Instruments	50 448	0.7	82400.162	59 995.0
Other manufacturing	245 648	3.5	401233.646	90 623.0

The sectoral distribution of 1997 total industrial output was estimated by using the sectors' share in 1995 (see box 1).

Source: Third National Industrial Census of the PRC in 1995, China Statistical Yearbook 1998.

APPENDIX 2

Evolution of China's Specialisation from 1990 to 1997

	Changes in CA 1990-1997 (b-d)-(a-c)	Share in exports 1990 a	Share in exports 1997 b	Share in Imports 1990 c	Share in Imports 1997 d
All products	0	100	100	100	100
Increase in comparative advantage (CA)		**28.8**	**36.7**	**10.1**	**8.4**
Leather	2.42	8.2	11.2	1.5	2.1
Miscellaneous manuf. articles	2.32	9.2	11.0	2.3	1.7
Miscellaneous hardware	0.91	2.4	3.3	2.0	2.0
Furniture	0.87	0.7	1.5	0.2	0.1
Consumer electronics	0.85	3.2	3.2	1.5	0.7
Domestic electrical appliances	0.64	1.5	2.0	0.5	0.4
Preserved meat/fish	0.52	0.4	1.0	0.1	0.1
Clockmaking	0.34	1.3	0.9	1.3	0.5
Coke	0.28	0.2	0.4	0.0	0.0
Cement	0.17	0.4	0.6	0.1	0.1
Ceramics	0.12	0.6	0.8	0.2	0.3
Jewellery, works of art	0.08	0.5	0.5	0.4	0.4
Cereal products	0.07	0.1	0.1	0.1	0.0
Increase in comparative disadvantage (CD)		**17.3**	**12.3**	**33.2**	**41.8**
Yarns fabrics	-3.72	3.3	2.6	6.9	9.9
Non-edible agricultural prod.	-2.78	7.4	1.6	5.5	2.5
Electronic components	-1.06	0.2	0.7	1.4	3.1
Non ferrous metals	-0.82	0.8	1.1	1.3	2.4
Aeronautics	-0.66	0.1	0.2	2.0	2.8
Iron Steel	-0.61	1.6	1.8	3.1	3.9
Sugar	-0.55	0.7	0.2	0.4	0.4
Iron ores	-0.42	0.1	0.0	0.5	0.8
Construction equipment	-0.40	0.2	0.3	1.1	1.6
Paper	-0.40	0.5	0.4	2.3	2.6
Non ferrous ores	-0.39	0.4	0.2	0.7	0.9
Vehicles components	-0.26	0.1	0.2	0.8	1.1

Paints	-0.18	0.6	0.5	0.6	0.8
Cars and cycles	-0.14	0.3	0.5	0.9	1.2
Plastics	-0.13	0.0	0.1	1.3	1.5
Non-monetary gold	-0.09	0.0	0.0	0.0	0.1
Machine tools	-0.09	0.4	0.3	1.6	1.7
Toiletries	-0.04	0.4	0.2	0.9	0.8
Precision instruments	0.86	0.3	0.7	1.8	1.4

…/…

	Changes in CA 1990-1997 (b-d)-(a-c)	Share in exports 1990 a	Share in exports 1997 b	Share in Imports 1990 c	Share in Imports 1997 d
Decrease in CA		**32.8**	**23.2**	**4.0**	**5.7**
Carpets	-3.42	5.4	2.0	0.4	0.4
Other edible agricultural prod	-2.64	3.8	1.8	0.5	1.0
Clothing	-2.34	9.9	8.1	0.4	1.0
Meat	-2.06	2.5	1.3	0.3	1.2
Preserved fruits	-0.41	1.3	0.9	0.2	0.2
Unprocessed minerals n.e.s.	-0.16	1.0	0.8	0.3	0.2
Basic inorganic chemicals	-0.09	1.4	1.3	0.5	0.4
Beverages	-0.07	0.3	0.2	0.1	0.1
Pharmaceuticals	-0.06	0.7	0.6	0.6	0.6
Arms	-0.05	0.2	0.0	0.1	0.0
Knitwear	-0.04	5.3	5.3	0.4	0.5
Coals	-0.02	0.9	0.7	0.3	0.2
Decrease in CD		**7.1**	**10.2**	**36.7**	**27.4**
Cereals	3.45	0.4	0.1	4.3	0.5
Telecommunications equip.	1.87	1.5	3.1	4.7	4.4
Engines	1.50	0.3	0.6	4.8	3.6
Fertilisers	1.48	0.1	0.1	2.7	1.2
Tubes	0.93	0.3	0.3	1.4	0.5
Wood articles	0.62	0.4	0.6	1.2	0.8
Fats	0.47	0.2	0.2	1.6	1.1
Plastic articles	0.36	1.3	2.1	4.9	5.3
Manufactured tobaccos	0.34	0.1	0.0	0.5	0.1
Basic organic chemicals	0.29	1.2	1.5	2.5	2.5
Printing	0.25	0.1	0.1	0.4	0.2
Commercial vehicles	0.25	0.2	0.2	0.7	0.5
Metallic structures	0.20	0.1	0.2	0.4	0.3
Glass	0.18	0.2	0.3	0.4	0.3
Specialised machines	0.14	0.6	0.5	5.6	5.3
Natural gas	0.09	0.0	0.2	0.6	0.7
Agricultural equipment	0.05	0.0	0.0	0.1	0.1
CD to CA		**3.5**	**15.3**	**7.8**	**10.0**
Computer equipment	3.81	0.5	5.6	1.5	2.8
Electrical apparatus	2.30	1.4	4.7	2.8	3.8

Electrical equipment	1.43	0.8	2.4	1.7	1.9
Optics	0.88	0.4	1.9	0.6	1.3
Ships	0.64	0.1	0.2	0.7	0.1
Electricity	0.45	0.0	0.3	0.2	0.0
Rubber articles (incl. tyres)	0.10	0.1	0.3	0.2	0.2
CA to CD		**9.7**	**2.3**	**6.2**	**6.8**
Crude oil	-4.82	6.8	1.6	4.0	3.7
Refined petroleum products	-1.70	2.0	0.5	1.8	2.0
Animal food	-1.50	1.0	0.2	0.3	1.0

APPENDIX 3 - EVOLUTION OF WORLD TRADE AND OF CHINA'S MARKET SHARES

	China's Share in World Exports			World Exports: Commodity Breakdown		
	in % of world trade			in % of world trade		
	1990	1997	Changes	1990	1997	Changes
	a	b	b/a	d	e	e/d
Electronic components	0.14	0.74	5.14	1.82	3.56	1.96
Telecommunications equip.	1.45	4.44	3.07	1.71	2.48	1.45
Pharmaceuticals	1.17	1.49	1.28	1.07	1.55	1.45
Computer equipment	0.25	4.02	16.00	3.46	4.99	1.44
Electrical equipment	1.90	8.72	4.59	0.74	1.00	1.35
Electrical apparatus	0.83	4.69	5.63	2.91	3.63	1.25
Knitwear	7.76	14.18	1.83	1.16	1.36	1.17
Cereal products	0.51	1.18	2.31	0.29	0.33	1.14
Toiletries	0.57	0.63	1.11	1.04	1.17	1.13
Wood articles	1.26	3.75	2.98	0.51	0.56	1.10
Optics	0.87	8.03	9.24	0.78	0.85	1.09
Furniture	1.41	5.83	4.15	0.88	0.95	1.08
Precision instruments	0.28	1.31	4.66	1.74	1.85	1.06
Preserved fruits	3.33	4.83	1.45	0.66	0.70	1.06
Paints	1.04	2.09	2.01	0.89	0.94	1.05
Engines	0.15	0.70	4.60	3.03	3.17	1.05
Leather	7.77	22.07	2.84	1.77	1.83	1.03
Rubber articles (incl. tyres)	0.32	1.41	4.38	0.74	0.76	1.03
Domestic electric. appliances	3.65	10.06	2.76	0.70	0.72	1.03
Miscellaneous hardware	1.40	3.97	2.84	2.91	3.00	1.03
Miscellaneous manuf. Art.	7.37	18.31	2.48	2.10	2.17	1.03
Plastic articles	0.77	2.63	3.41	2.82	2.88	1.02
Vehicles components	0.06	0.28	4.35	2.46	2.48	1.01
All products	**1.69**	**3.61**	**2.14**	**100.00**	**100.00**	**1.00**
Clothing	9.45	16.60	1.76	1.77	1.77	1.00
Cars and cycles	0.10	0.32	3.13	5.28	5.27	1.00
Commercial vehicles	0.26	0.57	2.19	1.58	1.58	1.00
Manufactured tobaccos	0.32	0.21	0.66	0.28	0.27	0.98

Fats	0.36	0.75	2.10	1.01	0.98	0.97
Basic organic chemicals	0.89	2.33	2.64	2.38	2.30	0.97
Animal food	3.17	1.29	0.41	0.51	0.49	0.96
Yarns fabrics	2.34	4.17	1.78	2.41	2.29	0.95
Aeronautics	0.05	0.37	7.44	2.27	2.13	0.94
Construction equipment	0.32	1.09	3.42	1.22	1.14	0.93
Other edible agricult. prod	2.77	2.95	1.07	2.33	2.16	0.93

…/…

	Evolution of World Trade and of China's Market Shares					
	China's Share in World Exports in % of world trade			World Exports: Commodity Breakdown in % of world trade		
	1990 a	1997 b	Changes b/a	1990 d	1997 e	Changes e/d
Beverages	0.72	1.22	1.70	0.78	0.73	0.93
Cement	2.92	10.40	3.56	0.24	0.22	0.92
Glass	0.84	2.44	2.89	0.48	0.44	0.92
Ceramics	1.73	5.62	3.24	0.60	0.54	0.91
Metallic structures	0.47	2.00	4.24	0.41	0.37	0.90
Preserved meat/fish	1.78	9.15	5.15	0.42	0.38	0.90
Non ferrous metals	0.61	1.99	3.26	2.20	1.95	0.89
Meat	2.51	3.16	1.26	1.68	1.48	0.88
Specialized machines	0.38	0.78	2.05	2.75	2.42	0.88
Agricultural equipment	0.17	0.33	1.94	0.47	0.41	0.88
Printing	0.24	1.13	4.79	0.54	0.47	0.88
Plastics	0.11	0.60	5.54	0.38	0.33	0.87
Iron Steel	1.10	2.97	2.70	2.53	2.16	0.85
Consumer electronics	4.21	10.74	2.55	1.28	1.09	0.85
Machine tools	0.60	1.30	2.17	1.09	0.92	0.85
Paper	0.37	0.74	1.98	2.41	2.02	0.84
Carpets	12.94	12.66	0.98	0.70	0.58	0.82
Tubes	0.78	2.14	2.74	0.66	0.54	0.81
Fertilizers	0.29	0.97	3.30	0.63	0.49	0.78
Ships	0.25	0.95	3.79	0.84	0.65	0.78
Basic inorganic chemicals	2.88	6.97	2.42	0.84	0.65	0.78
Jewellery, works of art	0.48	1.55	3.23	1.72	1.26	0.74
Non-edible agricultural prod.	5.19	3.41	0.66	2.39	1.74	0.73
Clockmaking	5.36	11.31	2.11	0.42	0.29	0.69
Refined petroleum products	1.06	0.80	0.75	3.16	2.15	0.68
Arms	1.21	0.52	0.43	0.22	0.15	0.67
Cereals	0.70	0.46	0.66	1.06	0.68	0.65

Sugar	1.86	1.72	0.93	0.65	0.42	0.64

Source: CEPII, CHELEM Database. Author's calculations.
Products are ranked according to changes in world trade. Descending order.

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