THE AUSTRALIAN NATIONAL UNIVERSITY

Working Papers in Trade and Development

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September 2007

Working Paper No. 2007/10

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The Rise of China and East Asian Export Performance: Is the Crowding-out Fear Warranted?

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Abstract: This paper examines the effects of China's rapid integration into the global economy on export performance of its East Asian neighbours against the backdrop of ongoing changes in patterns of international production. Following a stage-setting overview of trends and patterns of China's export performance since the early 1990s, it probes two key themes central to the current policy debate, namely China competition in third country markets and emerging patterns of East Asian exports to China. The statistical analysis places particular emphasis on the supply-side complementarities between China and its East Asian neighbours resulting from China's rapid integration into regional production networks. The findings suggest that the fear of export crowding-out has been vastly exaggerated in the contemporary policy debate on the implications of China's rise.

Keywords: China, export performance, production fragmentation
JEL Codes: F14, F23, O53,

The Rise of China and East Asian Export Performance: Is the Crowding-out Fear Warranted?*

I INTRODUCTION

Ever since China began to emerge as a major trading nation in late 1970s, there has been a growing concern in policy circles in East Asian countries that competition from China could crowd-out their export opportunities. Initially, the 'China fear' was mainly related to export competition in standard labour-intensive manufactured goods (clothing, footwear, sport goods), but soon it turned out to be pervasive as China begun to rapidly integrate into global production networks in electrical and electronics products through an unprecedented increase in foreign direct investment in these industries. Rapid increase in China's world export share in these product lines, coupled with some anecdotal evidence of multinational enterprises (MNEs) operating in other countries in the region relocating to China, has led to concern that China is posing a serious threat to export performance not only of low-income countries but also of newly industrialised economies (NIEs), Japan and other advanced industrialised nations. This concern has gained impetus from China's recent accession to the WTO and the integration of textile and apparel products into the tariff based system following the termination of the Multi-fibre Arrangement (MFA) with effect from January 2005. The WTO accession not only provides China with most-favoured nation (MFN) status in major markets but enhanced China's attractiveness to export-oriented investment by reducing country risk. In the lead-up to the expiry of the Multifibre Arrangement in January 2005 there was much anxiety (and confusion) in policy circles in second-tier exporting countries in the region about the future of their textile and apparel exports (Kiem 2006, Ravenhill 2006).

The purpose of this paper is to examine China's emerging trade patterns and their implications for export conformance of the other East Asian countries with a view to placing the

* Revised version of a paper presented at the conference on *Reforms for Korea's Sustained Growth* organized by the East West Centre and Korea Development Institute, Honolulu, July 12-13, 2007. I am grateful to Sanghhoon Ahn, JunTaik Hyun, Anne Kruger, Jungho Yoo and other conference participants, and to Max Corden, Satish Chand, Sisira Jayasuriya, Henryk Kierzkowsky and Rod Tyers for their valuable comments. Nobuaki Yamashita provided invaluable research assistance.

policy debate on a firm factual and analytical footing. Much has been written about the implications of China's rise as a major trading nation and its implications for the rest of the world, and in particular for export performance of other Asian countries (IMF 2004, Eichengreen *et al*. 2007, Ahearne *et al*. 2003, Lall and Albaladejo 2004, Dimaranan *et al.* 2007, Rodrik 2006). However, this literature is based on the traditional notion of horizontal specialisation in which countries trade goods that are produced from start to finish in just one country. So far little attention has been paid to the growing complementarity of production processes across countries in the region arising from China's rapid integration into global production networks as a major assembly centre (Athukorala and Yamashita 2007, Borrus et al. 2000, Dean and Tam 2005, Naughton Chapters 16&17). This is a serious omission because the on-going process of production fragmentation—cross-border dispersion of component production/assembly within vertically integrated manufacturing industries—opens up opportunities for countries to specialise in different slices (different tasks) of the production process depending on their relative cost advantage and other relevant economic fundamentals (Feenstra 1998, Grossman and Rossi-Hansberg 2006, Jones 2000, Jones and Kierzkowski 2001). This paper aims to fill this gap in the literature by undertaking a detailed comparative analysis of both China's export performance in the global context and emerging market opportunities in China, while paying particular attention to possible complementarities arising from China's rapid integration into global production networks.

In order to assess the magnitude and patterns of trade arising from cross-border production networks, it is necessary to separate parts and components (henceforth referred to as 'components' for short) from final (assembled) products in reported trade data. I do this through a careful disaggregation of 5-digit level data based on the Revision 3 of the Standard International Trade Classification (SITC, Rev 3) of the United Nations trade data reporting system (See Appendix 1). The data are for the period from 1992, when China and almost all countries reporting to the UN trade system had adopted the revised reporting system, to 2005, the most recent year for which data are available for all reporting countries. East Asia is defined to include Japan, and developing East Asia which covers the newly industrialised economies (NIEs) of North Asia (South Korea, Taiwan and Hong Kong), China and members of the Association of Southeast Asian Nations (ASEAN). Among the ASEAN countries, only the six largest economies —Indonesia, Malaysia, the Philippines, Thailand, Singapore and Vietnam— are covered; Brunei, Cambodia, Laos and Myanmar are ignored because of lack of data. The East Asian experience is examined in the wider global context, focusing specifically on the

comparative experiences of the North American Free Trade Agreement (NAFTA) and the European Union (EU). The findings suggest that the fear of export crowding-out has been vastly exaggerated in the contemporary policy debate on the implications of China's rise. China's rapid integration into cross-border production networks of vertically integrated global industries as a major assembly centre has opened up new opportunities for the other East Asian countries to specialise in parts and components production and assembly. Moreover, China's rapid world market penetration in traditional labour intensive manufactured goods has occurred largely at the expense of the high wage East Asian NIEs.

The paper is organized in four main sections. Section 2 examines critical facts and dynamics underlying China's rapid export expansion to set the stage for a better understanding of the nature of the 'China challenge' and its likely evolution and impact. Section 3 examines the impact of China's export expansion on exports of other countries in third country markets. Section 4 takes a similar approach to examining newly emerging market opportunities in China and comparative performance of East Asian countries in exploiting these market opportunities. The final section summarises the key findings and offers some policy inferences.

2. CHINAS' TRADE PERFORMANCE: AN OVERVIEW

The rise of China as a major trading nation is one of the most momentous developments in the post-Second World War era, surpassing even the stunning rise of Germany and Japan. Total merchandise exports from China increased from US$ 8 billion (around 1% world exports) in 1978/9 when the process of liberalization reforms started to US$1442 billion (13.4%) in 2004/5.[1] In 2006 China was the second largest exporting nation in the world after Germany, and assuming the current growth rates continue, will become the largest in about ten years. Rapid export expansion has been reflected in a dramatic increase in the degree of export dependence of China to levels exceptional for a large, continental economy. China's exports to GDP ratio stood at 33% compared to an average level of around 10% for other major continental economies such as the US, Japan, India and Brazil.

[1] The data reported in the paper, unless otherwise stated, come from UN Comtrade database. Throughout the paper inter-temporal comparison calculations are made for the two-year averages relating to the end points of the period under study so as to reduce the impact of year to year fluctuations of trade flows.

This phenomenal export expansion has been underpinned by a shift in the commodity composition of exports away from primary products and towards manufacturing. The share of manufactures in China's total merchandise exports increased from less than 40% in the late 1970s to nearly 80% in the early 1990s and to 91% in 2004/5. For more than a decade during the post-reform era, conventional labour-intensive manufactures, particularly apparel, footwear, toys and sport goods were the prime movers of export expansion. By the mid-1990s, miscellaneous manufacturing (SITC 8), a catch-all commodity group encompassing most of these products, accounted for almost half of total merchandise exports and nearly two-thirds of total manufacturing exports. Since then there has been a notable shift in the composition of manufacturing exports away from conventional labour-intensive product lines and towards seemingly more sophisticated product lines, in particular those within the broader category of machinery and transport equipment (SITC 7) (machinery for short). Between 1992/3 and 2004/5 the share of miscellaneous manufactures in total exports declined from 49% to 31% and the share of machinery and transport equipment increased from 17% to 44%.

The expansion of machinery exports has been brought about by China's highly publicised export success in a wide range of 'information and communication technology' (ICT) products (falling under SITC categories 75, 76 and 77). China's world market share in office machines increased from less than 2% in 1992/93 to over 28% in 2004/5. Today China is the world's largest global producer as well as the single largest exporter of personal computers falling under this commodity group. The world market share of telecommunication and sound recording equipment (dominated by mobile phones, DVD players, and optical disc (CD) players) increased from 8% in 1992/3 to 26% between these time points. The conventional labour intensive exports have continued to maintain impressive growth throughout. Among them, clothing exports received a fillip from the termination of the MFA on 31 December 2004; the annual average growth increased from 4% during 1992-00 to 7% during 2000-2005. However, the combined share of miscellaneous manufacturing has continued to decline reflecting the faster growth of new seemingly sophisticated exports and giving a 'high-tech' image to China's export structure. Trade data showing this structural shift have been widely used, not only in the popular press and policy reports of agencies involved in promoting R&D activities but also in some scholarly writings, to argue that China is rapidly becoming an advanced technology superpower and the sophistication of its export basket is rapidly approaching the levels of those of most advanced industrial nations (Hausman *et al*. 2006, LADB 2006, Albaladejo and Lall (2004), Rodrik 2006, Yusuf *et al*. 2007,). A closer examination of data, however, suggests that such an inference is fundamentally flawed.

As already noted, China's so-called 'high-tech' exports are heavily concentrated in a single product category – information and communication products. The bulk of these products (such as note book computers, display units, mobile phones, and DVD and CD players) are simply 'mass-market commodities' produced in huge quantities and at relatively low unit cost; they are not 'leading edge-technology products' (Bergesten et al. 2006 p. 105; Schott 2006). Virtually all of these products are assembled by affiliates of multinational enterprises (MNEs) ('foreign invested enterprises, FIEs') from imported components within their global production networks (Naughton, 2007; Sung, 2007). The share of FIEs in total exports from China increased from less than 2% in 1980 to over 58% by 2005. They accounted for 88% of total information technology products exported from China in 2005 (Naughton 2006, p. 386). The FIEs in China are mostly wholly foreign-owned, and their activities in China are overwhelmingly concentrated on the final assembly stage of production which is the most labour intensive layer in production process spread over many countries. Basic research and product design, and capital and human capital intensive stages of the production process are carried out in home countries of MNEs or in other Asian countries which are in an advanced stage of industrial development compared to China.[2] Ample supply of relatively cheap and trainable labour and the scale economies arising from China's vast domestic market[3] (which enables firms to achieve low unit costs are contributory factors to China's attractiveness as a global assembly centre.

The share of components in total machinery imports of China increased from 32.5% in 1992/3 to 63.4% in 2004/5, with the import shared of the three ICT products (SITC 75, 76 and 77) recording a much faster growth (Table 2).[4] By contrast final goods (total exports minus

[2] For instance, the typical notebook computer made in Taiwanese-owned factory in China has processing chips made by Intel in Malaysia, an operating system made by Microsoft, a CD display screen sourced from Taiwan or Korea, and hard-disk drives sourced from Japan. Domestic value added (the cost of labour, components sourced within China, and the profit earned by foreign owned companies in China) is only one-third of the value of output. By 2004, three-fourths of the total production of Taiwanese computer makers came from fully-Taiwanese owned factories in China (Dean and Tam 2005). .

[3] According to available estimates 70% or more of assembled products are sold domestically (Bergesten *et al*. 2006, p. 90)

[4] Semiconductors and microprocessors best exemplify China's dependence on imported components. China has surpassed the US and Japan to become the world's largest market for semiconductors largely because they are assembled in the electronic and information technology products exported in such large volumes.

components) have continued to dominate the export composition. Over the past decade the share of final goods in total machinery exports has remained around 75%, with only minor year-to year changes. Given the fact that the production of parts and component is generally more capital- and technology- intensive than final assembly, these figures clearly suggest that China's export success has so far been underpinned largely by its comparative advantage in international production arising from labour abundance. When components are netted out, more than 80% of total Chinese manufacturing exports from China can still be treated as labour-intensive products.

In sum, the mere fact of rapid growth of final goods (end products) exports in highly fragmented high-tech industries does not necessarily imply that China is rapidly gaining maturity as a sophisticated high-tech exporting country. In a context where international fragmentation of production is becoming a symbol of economic globalization, the classification of final commodities by factor intensity is not the same as the classification of the production process occurring in these countries by factor intensity. The ongoing process of production fragmentation and China's increased integration into global production networks as an assembly centre has opened up opportunities for other countries in the region to benefit from China's rapid export expansion as participants in these networks. Bearing in mind this context, I now turn to examining the implications of China 'competition' for export performance of other East Asian countries, focussing first on export performance in third country markets and then on the new market opportunities in China.

3. CHINA COMPETITION IN WORLD TRADE

Table 3 provides data on China's comparative performance as a source of manufacturing imports to the rest of the world. Based on the survey of China's export tends in the previous section, data are reported separately for transport equipment (with information and communication technology products identified as a separate category) and miscellaneous manufacturing (with clothing identified as a separate category). In order to delineate the implication of China's emergence as a major processing/assembly centre in global production networks for export performance of other countries, the data on total (reported) imports of machinery are further disaggregated into components and final goods (reported trade – components) in Table 4.

In 2004, China's imports accounted for one-third of global semiconductor output of $213 billion (SIA 2005).

The share of imports from China in total manufacturing imports of the rest of the world (total world imports less imports of China) increased from 3.7% to 12.3% between 1992/3 and 2004/5. This increase mirrors a persistent decline in world market shares of Japan and the other advanced industrialised nations (represented in Table 3 by NAFTA (excluding Mexico) and EU). Contrary to popular belief, there has not been a marked decline in the market share of developing East Asian countries. The combined market share of these countries increased from 10.6% in 1992/3 to 12.1% in 2004/5. The increase turns out to be sharper when Hong Kong (which has experienced a massive relocation of its manufacturing base to China over the past two decades) is excluded; it rises from 9.2% to 11.5%.

At the disaggregated level, the China effect is clearly visible in traditional labour intensive exports (classified here under miscellaneous manufactures), particularly in the clothing subcategory therein. However, the corresponding market share losses have come predominantly from the three North Asian NIEs - Hong Kong, Korea and Taiwan. Labour intensive product lines in these countries rapidly 'migrated' to China through strong investment links from the late 1980s. This structural shift in international production was driven by the rapidly diminishing comparative advantage of these countries resulting from both structural transformations in their domestic economies and China competition. As discussed below, the export contraction experienced by these countries in these product lines could have been much sharper if it were not for the quota protection provided under the MFA. Among the other developing East Asian countries, Vietnam recorded a persistent increase in market share reflecting its late-comer advantages (in spite of high tariffs faced in developed country markets as a non-WTO member country as well as a non-market economy). The degree of severity of China competition experienced by each of the remaining countries seems to have varied depending on their stage of industrial advancement.

The rate of market penetration of China in machinery trade has been even faster than in traditional labour intensive manufacturing. China's exports of machinery increased at a compound rate of 12.7% during 1992-2005, shifting its world market share from a mere 1.3% to 11.1%. The corresponding market share losses have come solely from Japan and other developed countries. Interestingly, Korea and Taiwan have recorded increases in market shares in these product categories (from 2.0% to 3.8%, and 2.8% to 3.1% respectively). All other East Asian developing countries too have recorded increases in market shares with the sole exception of

Singapore.[5] The patterns are similar, but much clearer, for export trade in information technology products. All in all, there appears to be clear complementarity, rather than competition, in export performance among China and the other developing East Asian countries.

When total machinery exports are disaggregated into components and final products, it is clear that China is predominantly engaged in final assembly (Table 4). The share of components in machinery exports has increased across all East Asian countries reflecting the involvement of countries at different stages (at different slices) of the production process and the related cross-border trade, which normally involves multiple border crossings of components. However, the component share of China's total exports (27.7% in 2004/5) has continued remain much smaller compared to all countries listed in the table. Of the total increment in total machinery exports from China between 1992/3 and 2004/5, 72% came from final assembly (that is, components accounted for 28%), whereas the contribution of components was much larger in other countries, including Japan. Reflecting this complementarity in emerging patterns of global production sharing, market shares of developing East Asian countries in component trade have generally *increased* in the face of China's rise as a major player in world machinery trade, while most countries have experienced some erosion or slower growth in market shares of final goods trade. Overall, market share gains in parts and component have overwhelmed erosion in market shares in final goods to yield a notable increase in market shares in the total machinery exports of all developing East Asian countries (with the exception of Singapore). Between 1992/3 and 2004/5 the market share of developing East Asian countries in total machinery exports increased from 11.5% to 17%. For ASEAN countries the increase was from 5.2% to 8.1%.

Finally, has the termination of the Multifibre Arrangement (MFA) with effect from 1 January 2005 begun to have a noticeable impact on China's relative export performance in world textile and clothing markets? In the lead-up to the expiry of MFA there was much anxiety (and confusion) in policy circles about the future of textile and apparel exports from developing countries. The widely-held view in East Asia was that low-income countries such as Indonesia, Vietnam and Cambodia would be highly vulnerable to export contraction in the new quota free markets to competition from China. It was also speculated that some competitive pressure would

[5] Singapore's role in global production networks in high-tech industries shows a palpable shift in the standard assembly and testing activities to product designing and undertaking capital and technology intensive tasks in the production process, and providing head-quarter services. Some, and perhaps most, of these activities are not captured in the data on merchandise trade (Athukorala 2007)

come from African countries which enjoy privileged market access to the USA under the African Growth Opportunity Act (AGOA), and various other developing countries which had entered into preferential trading agreements with the USA and EU.

The data on clothing imports to the USA, by far the largest single market which absorbs nearly 40% of total world exports and over a half of Indonesian exports of this product, are not consistent with this pessimistic prediction (Table 5).[6] Naturally, high-cost clothing producing countries in the region, in particular Taiwan and Korea whose export had been kept artificially high levels by the MFA quota regime, recorded huge market share losses following the abolition of MFA quota. Interestingly, exports from the major low-wage exporting countries in the regions – Indonesia, Cambodia, and Vietnam - have grown impressively. In order to place these figures in context, it is important to note that most of the low-cost producers in the wider Asian region (such as Bangladesh, India, Laos and Sri Lanka) also posted impressive growth in exports to the US in 2005. On the other hand, Mexico, which had been predicted to be a big gainer from MFA abolition, experienced a 7.3% export contraction notwithstanding market access privileges under the North American Free Trade Agreement (NAFTA). Disaggregated data from the same source (not reported here) also indicate that total exports from Sub-Sahara Africa declined by 12.5% (with only one country, Botswana, reporting significant positive growth) in spite of duty free access to the US market under the African Growth Opportunity Act (AGOA). It seems that in the post MFA era preferential market access privileges are not a substitute for comparative advantage in achieving export success.

One can of course cast doubts on the above inferences for two reasons. First, it may be too early for the full effect of quota elimination to be reflected in reported data. Second, MFA abolition did not usher in a completely free trade regime for China in global clothing and textile markets; the EU and US imposed punitive import restrictions on some selected imports from China with effect from mid-2005. On the first point, it is important to note however that MFA abolition was not a 'policy surprise'. The phasing out and the subsequent abolition of MFA quotas was announced at the time of signing the WTO Agreement on Textiles and Clothing in 1995. International buyers could well have factored the possible implications into their decisions well before the demise of MFA in January 2005.

[6] We do not consider textile imports here because the US in not a major market for textile exports from Indonesia. In 2005, exports to the US accounted for less than 8% of total textile exports from developing Asian Countries.

Related to the second point, it should be noted that the post MFA era was never meant to be an 'era of free trade' in textile and apparel for China. The conditionality built into China's accession to the WTO had provided developed countries with the right to impose punitive tariff on imports from China in the event of 'excessively high' import growth. Mindful of this possibility, international buyers would have presumably continued to maintain the procurement networks formed during the MFA by and large intact notwithstanding the MFA phase-out. In any case, given the obvious country-risk considerations, it is unlikely that international buyers would 'put all their eggs in one (Chinese!) basket' even in an entirely free market setting.

China Competition: An econometric test

It is clear from the discussion in the previous section that the widely held view that China's rapid world market penetration is at the expense of export opportunities of the other countries in East Asia (and other developing countries) is not consistent with the actual trade data. A negative impact was visible only in traditional labour intensive products, but this impact seems to be country specific depending on the degree of comparative advantage in labour intensive production. In machinery exports the impact appears to be more complementary than competing, presumably reflecting supply-side complementarities within regional production networks. I now turn to a more formal examination of the implications of these patterns for the export performance of Japan and other East Asian countries in the broader context of China's integration into global production networks.

The analytical tool used for this purpose is the gravity equation, which has established itself as the dominant empirical framework for analysing bilateral trade flows.[7] This application of the gravity equation builds on that of Eichengreen *et al*. (2007) who examine the impact of China on export performance of 13 Asian countries using the conventional commodity classification of consumer, intermediate and investment goods, with components (together with the related final products) subsumed under the third category. The major novelty of the present analysis lies in the specific emphasis placed on delineating the implications for export performance of other countries of China's rapid integration into regional production networks. This is done by carefully decomposing machinery and transport equipments exports into

[7] On the theoretical foundation of the gravity equation see Anderson (1979), Deardorf (1998) and Bergstrand (1985). For recent applications of gravity equation for trade for analysis and extensive listing of the related literature see Anderson and Marcouiller (2002), Rose (2003), and Eichengreen *et al*. (2007).

components and final goods and then estimating separate export equations for these categories. My approach also differs from that of Eichengreen *et al*. (2007) in that the relationship between China's export market penetration and export performance of Asian countries is examined in a broader global context, rather that focussing specifically on selected Asian countries. This is done in order to examine whether the degree and nature of China's impact on East Asian countries is different from the overall impact at the global level (the average global picture).

The analysis is carried out in two steps. First, the basic gravity is augmented by incorporating a number of explanatory variables suggested by recent theoretical and empirical advances in the emerging literature on international production fragmentation and then add China's export to the same third country markets (*CHXP*) as an additional explanatory variable. This is the benchmark specification of our analysis. The coefficient on *CHXP* in the estimated model provides a measure of the effect of China's exports over and above that of the other relevant influences captured in the model variables on export performance of the countries covered by our analysis. The second stage of the analysis involves re-estimating the model by interacting *CHXP* with dummy variables specified for countries/country groups of interest to examine whether China's emergence as a major player has the same or differential effects on their export performance.

The benchmark model is,

$$lnEXP_{i,j} = \alpha + \beta_1 lnGDP_i + \beta_2 lnGDP_j + \beta_3 lnPGDP_i + \beta_4 lnPGDP_j + \beta_5 lnDST_{i,j} + \beta_6 ADJ_{i,j} + \beta_8 lnRULC_{i,j} + \beta_9 lnRER_{i,j} + \beta_{32} CHXP_j + \gamma T + \varepsilon_{ij} \quad (1)$$

where subscripts *i* and *j* refer to the reporting (exporting) and the partner (importing) country and the variables are listed and defined below, with the postulated sign of the regression coefficient for the explanatory variables in brackets.

EXP	Bilateral exports between *i* and *j*
GDP	Real gross domestic product (GDP) (+)
PGDP	Real GDP per capita (+)
DST	The distance between the economic centres of *i* and *j* (-)

ADJ	A binary variable assuming the value 1 if *i* and *j* share a common land border and 0 otherwise (+)
RULC	Relative unit labour cost in manufacturing between *j* and *i* (+)
RER	An index of bilateral real exchange rate which measure the international competitiveness of country *i* against country *j* **(+)**
CHXP	China's exports (+ or -)
T	A set of time dummy variables to capture year-specific 'fixed' effects
α	A constant term
ε	An stochastic error term, representing the omitted other influences on bilateral trade

The first four explanatory variables (*GDP*, *GDPP*, *DST* and *ADJ*) are the standard gravity-model arguments which do not require further discussion. Among the remaining variables, relative unit labour cost (*RULC*, relative manufacturing wage adjusted for labour productivity) is presumably a major factor impacting on the global spread of fragmentation-based specialisation (Jones 2000, Jones an Kierzkowski 2001). In a context where both capital and components have become increasingly mobile, relative cost of production naturally becomes an important consideration in cost-border production. The inclusion of real exchange rate, *RER*, which captures international competitiveness of traded-goods production, is based on similar reasoning. Another important determinant of trade flows suggested by the theory of production fragmentation is the cost of 'service links' connecting 'production blocks' in different countries (Jones an Kierzkowski 2001). There is no unique measure of the cost of service links. However, in our model, distance (*DST*) and adjacency (*ADJ*), and per capital income (*PGDP*) capture certain aspects such costs. Technological advances during the post-war era has certainly contributed to a 'death of distance' (*a la* Cairncross 1997) when it comes to international communication cost. However, there is evidence that the geographical 'distance' is still a key factor in determining international transport cost, in particular shipping cost, and delivery time (Evans and Harrigan 2003). Timely delivery can in fact be a more important influence on vertical trade compared to final trade because of multiple boarder-crossing involved in the value added chain. The common border dummy (*BRD*) captures possible additional advantages of proximity that are not captured by the standard distance measure (the greater cycle distance between capital cities). Inclusion of *PGDP* as an explanatory variable allows for the fact that more developed countries have better ports and communication systems and other trade-related infrastructure as well as better institutional arrangements for contract enforcement that facilitate trade by reducing

the cost of maintaining 'services links'. Finally, the time-specific fixed effects (T) are included to control for general technological change and other time-varying factors.[8]

The model was estimated using annual data over the period 1992-2004 for all countries each of which accounted for 0.1% or more of manufacturing trade in 2000/1. There were 42 countries which satisfied this criterion. Of these countries, Hong Kong was deleted from the country coverage because of its peculiar trade links with China. It was not possible to cover Taiwan because of the unavailability data on bilateral trade flows. As exports from China form the key explanatory variable in the model, our data set relates to 39 countries. Data on bilateral exports are compiled from the importers' records (CIF) of the UN Comtrade database. The data were disaggregated into components and final products as detailed in Appendix 1. The data source for other variables and methods of variable construction are explained Appendix 2.

In estimating the model it was important to take into account the possible endogenously of Chinese exports (*CHXP*) in an equation designed to explain bilateral export flows among other countries. There are potential unobserved factors, such as improvement in production technology that enable firms to further disintegrate production and reduction in the cost of services links that impact on export performance of China and other countries. Should this be the case, *CHEXP* may be correlated with the disturbance term, thereby biasing the estimated coefficient on this variable. Mindful of this possibility, I estimated the model using instrumental variable (two-stage Least Squares) technique. I used three instrumental variables: the distance between China and the given export market (that is, the importing country in each bilateral trade pair), common language, and MNE presence in Chinese exports (*MNESH*, proxied by the share of FIEs in total manufacturing

[8] To be consistent with recent gravity equation applications to trade flow modelling, in experimental runs we also included binary dummy variables to represent common language, common colonial relationship, landlockness , and island status of countries. These were subsequently omitted because statistical insignificance and erratic sign changes among alternative specifications. We also tested two variables, telephone mainlines per 1,000 people (TELE) and per capital electricity production in kilo-watts (kwh) (ELET), to represent infra-structure related trade cost, and an institutional quality variable (the index of institutional quality recently constructed by Kaufmann *et al* 2006) to capture transaction costs associated contract enforcement. These variables were found to be highly correlated with PGDP. A binary dummy variable included to capture the possible trade effects of membership in regional trading agreements also fount to be statistically insignificant throughout. Exclusion of these variables (jointly and individually) was supported by the standard variable deletion (*F*) test.

exports from China). The first two instruments are suggested by the standard gravity model as applied to Chinese exports and they are thus potentially correlated with *CHXI,* but not with the dependent variable (Frankel and Romer 1999). The choice of the third variable is based on the recent literature on the role of MNEs in export performance in China. I believe that it is a suitable instrumental variable because it is difficult to think that MNE presence in China could have significant direct effect on export performance of other countries except through its impact on China's trade to third country markets.[9] All four variable also easily pass the exclusion restriction of instrumental variable choice; that is, they do not belong in the equation explain bilateral export flows between other countries.

The regression results are reported in Table 6.[10] The bench mark estimates (Equation 1 to 4), which capture the overall impact of exports from China on all countries covered in the study, are reported in Panel A. The next two panels contain alternative estimates undertaken to examine whether the impact varies among East Asia and other major country groups (Panel B), and among individual East Asian countries (Panel C). For the purpose of this comparison I have delineated four regional groups - East Asia (*EA*), Latin America (*LATM*), Central and Eastern Europe (*CEEU*), and the member countries of a Organisation for Economic Cooperation and Development (OECD). The OECD is the base dummy, so the difference between the coefficient on CHXP and each interaction variable indicates the extent to which the individual country-group's experience differs from the OECD level. The final set of regressions contains interaction dummies for the individual countries in East Asia.

First consider the bench mark regressions (Table 6A). As in many other applications of the gravity model to bilateral trade flows, in all regressions the coefficients on the central gravity variables – GDP, per capital GDP and the distance – have the expected signs (positive and negative, respectively) and are significant at the 1% level. The two variables added to the standard gravity formulation (relative wage, RWG and the real exchange rate, RER) have helped in improving the explanatory power of the estimated equation. The coefficients of both variables are statistically significant at the 1% level with the expected signs.

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[9] Following Eichengreen et al. (2007), we experimented with China's GDP (and also per capital GDP) as alternatives to MNESH, but NMESH was found to be superior in terms of the smaller standard error of the estimated coefficient on the IV candidate (*CHXP*)

[10] Results for the time dummies and the intercept dummies for the country groups are not reported.

The coefficient of the key explanatory variable, *CHXP*, is *positive* and statistically significant in all equations. The interpretation is that, on average, China's export expansion has not been associated with an absolute contraction in exports from other countries in third-country markets. On the contrary, China has gained market share in an expanding market. However, the magnitude of the estimated coefficient on *CHXP* is significantly below unity in all cases. This suggests that China's export expansion has perhaps had some dampening effect (though not a crowding out effect) on export growth of other countries. The coefficient in the total manufacturing equation suggests that, after controlling for the other relevant variables, a one percentage point increase in exports from China was associated with 0.54% increase in exports from other countries. As anticipated, the magnitude of the coefficient is significantly different among equations for the five export categories. The coefficient is smallest in the equation for miscellaneous manufacturing which encompasses various standard labour intensive products such as clothing, footwear, toys, and sport and travel goods. The coefficient in the equation for machinery and transport equipment (0.70) is much larger than the coefficients of miscellaneous manufacturing (0.34) and other manufacturing (0.36).[11] This result is consistent with our observation based on simple inspection of trade patterns in the previous section that the shift in China's export composition away from the other product categories and toward machinery has brought about increased complementarity in export performance between China and the other countries.

Are there notable differences in the way China competition is felt by East Asian countries as a group compared to the other country groups covered in the study? Does the impact vary among countries in East Asia? According to the second set of regression results (Table 6B), on average, the performance record of East Asia in withstanding China competition in global markets has been much superior to that of OECD countries and countries in Central and Eastern Europe (CEEU). A one percent increase in total manufacturing exports from China is associated with 0.63 percentage point increase in exports from the East Asian region (including Japan), compared to 0.60 from the OECD countries (excluding Japan, Mexico and Korea) 0.48 from countries in the Central and Eastern Europe. The associated export growth rate of LATM (0.71) is, however, much larger compared to the other three country groups. This mostly reflects the fact that exports from these countries have been increasing from a rather low base. Also, given the relatively high manufacturing wages in Latin American countries, presumably there is no

[11] The coefficients do not overlap within the three standard error band.

significant overlap between tasks performed in these countries within global production networks and those undertaken in China and other second-tier exporting countries in East Asia (IADB 2006). At the disaggregated level, East Asia's relatively superiority in withstanding China competition (compared to OECD and CEEU) seems to lie predominantly in component trade. The severity of import competition faced by the East Asian countries as a group in both miscellaneous manufacturing and final machinery products is clearly shown by the results.

The results for individual East Asian countries in Table 6C clearly illustrate the large differences among countries in terms of the degree of export growth associated with a given percentage point increase in China's exports. For miscellaneous manufacturing, the sharp contraction in market shares of East Asian NIEs and upper-middle income countries in the face of China's rapid export expansion is clearly seen. In Machinery exports, growth rates of ASEAN countries are higher compared to Japan and Korea. This superior export performance is clearly visible for both components and final goods. With the exception of Japan, Korea and Singapore in miscellaneous goods markets, in none of the product categories is the 'total' coefficient (that is, the coefficient of CHEP plus that of the slope interaction dummy) negative for East Asia or the other two country groups. Put simply, while the severity of China competition clearly varies cross commodity categories and among country groups, there is evidence of complementarity in export performance rather than of export crowding-out.

4. CHINA AS A NEW EXPORT MARKET

The share of imports from East Asia in total non-oil imports of China has remained around 56% over the past two decades with only minor year to year fluctuation (Table 7, Panel A). This pattern has been dictated by a mild but persistent decline in the share of Japan (from 21.8% in the early 1990s to 16.6% in 2005) and a sharp decline in the share of Hong Kong (from 12.9% 1990s to a mere 2% in 2005). All other countries, with the exception of Indonesia (which experienced supply-side problems in export expansion during the post-Asian crisis era) have recorded increases in market shares, though at varying degrees. The combined share of ASEAN increased continuously from 4.7% in 1992/5 to 12.9% in 2005. Korea's share increased from 11.3% to 12.4%. The share of Taiwan however varied in the narrow range of 11.3% to 13.7% without any discernible trend. The difference between these two countries in the degree of market penetration in China (through direct exports) seems to lie in the well-known differences in the degree of relocation of their domestic production bases to China. Relocation of production to China has

taken place at a much faster rate in Taiwan compared to Korea (Naughton 2007, Chapters 15 and 16).

The share of exports to China in total merchandise exports increased in all East Asian countries over the past one-and-a-half decades (Table 7, Panel B). By 2005 nearly a third of total exports from Taiwan and Korea went to China. The figure for Japan was around 15%. The share in combined exports of ASEAN has shown the sharpest increase, although from a low base (from 2.5% during 1992-95 to 14.5% in 2005). The relative importance of exports to China in total exports is much higher for all East Asian countries compared to the average level for the rest of the world.

Data on the direction of trade disaggregated by commodity category (not reported here for brevity) clearly point to the growing importance of manufactured goods, in particular machinery and transport equipment and the parts and components therein, in China's trade with the East Asian countries. The share of East Asia in total merchandise exports from East Asia declined from 56.8% to 54.9% between 1989/90 and 2004/5. This decline emanated from China's increased reliance on extra-regional sources for primary imports; the share of East Asia in total primary imports to China declined from 31.4% to 20.9% between these two time points. By contrast East Asia's share in total Chinese manufacturing continued to remain over 60%. The share of developing East Asia to total manufacturing imports increased from 37.3% to 41.9%. Interestingly, within ASEAN, export shares of Thailand, Malaysia and the Philippines have increased at a faster rate compared to that of Singapore. By 2003/4, Malaysia's share stood at 6.9% compared to Singapore's share of 2.9%. The share of machinery and transport equipment in total East Asian manufacturing exports to China increased from 45% in 1992/3 to 85% in 2004/5.

Table 8 provides data on the growing importance of East Asia in China's machinery trade, while focussing separately on components and final products. The data clearly reflect China's evolving role as an assembly centre within the East Asian region. The share of East Asia in total parts and component imports to China has increased sharply. By 2004/5 over two thirds of total components imports to China originated in the region. By contrast, China's final goods exports are heavily concentrated in extra-regional markets, particularly in industrialised countries in Europe and North America. Between 1992/3 and 2004/5, the share of Chinese exports to East Asia in total final goods exports declined from 49.5% in 1992/3 to 26.5% while exports to OECD

countries (excluding Japan and Korea) increased from 29.3% to 50.1%. There is a close similarity between the country composition of China's components imports and exports, with East Asia accounting for the lion's share on both sides. This reflects the multiple border-crossing of components between China and the other countries in the region at different stages of the production process.

China's Import Propensity: An Econometric Test

This section aims to quantify the impact of China's economic expansion on export performance of other countries operating though its own import demand by fitting a modified version of the gravity equation used in the previous section. Alternative formulations of the gravity model estimated for this purpose are reported in Table 9. Note that the key issues of interest here are (a) the degree to which import flows are related to China's economic expansion measured by GDP, and (b) how the magnitude of the measured relationship varies among commodity categories and trading partners once we control for the other relevant variables. In the preliminary regression runs China's GDP and per capita GDP variables were found to be highly correlated. So the final estimates reported here contain only the GDP variable and the related country/country group slope interaction dummies. The coefficient of GDP in each equation shows the average degree of import elasticity of China's economic expansion. The estimated coefficient of a given interaction variable indicates the degree to which the degree of elasticity of imports from the particular country group/country deviates from that average level.

The results suggest that China's economic expansion has been accompanied by an increase in total non-oil merchandise imports at a rate of over one-and-a-half times that of average GDP growth (9%) in the country during the period under study (Table 9B). Among the broader commodity categories considered here, the sharpest rate of expansion was in machinery components. Imports of this commodity category grew at a rate of more than twice of the GDP growth rate. The results for the GDP interaction dummy for the three country groups suggest that the rate of growth of imports from East Asia associated with one percentage point increase in GDP in China was about 0.70 percentage points higher compared to imports from OECD countries, after controlling for other relevant determinants. The results show a much greater propensity for importing from Latin American countries, but as already noted this probably reflects the rather low initial base of imports from these countries. The results for machinery imports, disaggregated into components and final goods, confirm our earlier inference about China's heavy reliance on parts and component imports from the region for domestic output

expansion. The results for the slope dummy variables reported in Table 10B point to the emerging patterns of increasing reliance on parts and component imports from ASEAN countries. Overall, across all product categories, the degree of propensity to import from Korea is greater compared to imports from Japan.

5 CONCLUDING REMARKS

The evidence harnessed in this paper supports the view that, in a context where international fragmentation of production is becoming the symbol of economic globalization, the standard trade flow analysis leads to misleading inferences about the sophistication of China's emerging export patterns. Although China has displayed a rapid increase in exports of high-tech products in recent years, the actual value added in China is generally not in high-tech activities. When components are netted out, the bulk of Chinese manufacturing exports from China can still be treated as labour-intensive products.

The emergence of China as a major exporter has obviously begun to have considerable impact on the trading environment faced by other countries in the region. However, the gloomy predictions of the implications of increased Chinese competition may be misleading. There is clear evidence that competition from China does not necessarily imply proportionate losses in market share for all developing countries. China's rapid integration into cross-border production networks of vertically integrated global industries as a major assembly centre, has created new opportunities for the other East Asian countries to specialise in parts and components production and assembly. This development is an important counterpoint to the popular belief that China's global integration would crowd out other countries' opportunities for international specialization. Moreover, China's rapid world market penetration in labour intensive manufactured goods has occurred largely at the expense of the high-wage East Asian NIEs, which have naturally been rapidly loosing comparative advantage in these product lines as part of the export-led industrial transformation.

The increasing intra-regional economic interdependence in East Asia through international product fragmentation does not, however, mean that the process has contributed to lessening the regions dependence on the global economy. The region's growth dynamism based on this new form of specialisation continues to depend on its extra-regional trade in final goods, and this dependence has in fact *increased* over the years. Put simply, growing trade in components has made the East Asia region increasingly reliant on extra-regional trade for its

growth dynamism. Based on this finding, one can make a strong case for re-examining the economic implications of the so-called 'ASEAN + 10' which aims to bringing together the ten nations of Southeast Asia with Japan, Korea, and China into a broader 'East Asian Community'. This new form of international specialisation cannot be sustained purely as an East Asian phenomenon because of the growing importance of extra-regional markets for final products. Moreover, regional trade liberalization initiatives are unlikely to make much (if any) difference to cross-border trade in components because this trade takes place entirely under zero-duty concessions. In this context, these countries would be better off upholding universal principles of economic openness.

Is China's reliance on other countries in the region for sourcing components for its burgeoning electronics and electrical industries a structural feature of the ongoing process of its rapid economic integration or simply a passing phenomenon which would last only until China develops its own domestic production capabilities? Some analysts have alluded to the latter possibility, arguing that China has the potential to build a strong electronics industry based predominantly on locally produced components within its boundaries (eg. Lall and Albaladejo 2004, Kiem 2006, Yusuf et al 2006, Freeman 2005). This is of course an interesting issue for further study, but there is ample evidence that that firms involved in vertically integrated global industries tend to rely increasingly on international networks of production, which embrace different territories and different forms of cooperation to optimise their competitiveness. Because of technological complexities and intrinsic country-specific cost advantages, countries are becoming specialised in specific activities in the value chain and in certain kinds of products. Moreover, over a long period of time many MNEs (particularly US-based MNEs) have significantly upgraded the technical capabilities of their regional production networks in other East Asian countries and have assigned global production responsibilities to affiliates located in more mature countries in the region Naturally country risk considerations would have a much greater bearing on any corporate decision to deviate from these well established global practices compared to simple relative cost considerations. Furthermore, China is still at a very early stage of developing private property rights, respects for intellectual property and venture capital financing practices which are important long-run contributors to converting scientific and technological innovations into successful commercial ventures (Huang 2003, Gilboy 2004).

Given the current state of China's factor market conditions (as surveyed in a number of recent studies, including Blanchard and Giavazzi 2006, Hu 2006, Cooper 2006, Meng and Bai

2007, Naughton 2007), one can speculate that China's trade patterns are unlikely to change dramatically in the short to medium run. China still has about half of its labour force in agriculture where its productivity is, on average, barely one-eighth of that in industry and about a quarter of that in the service sector. Agriculture still accounts for over 45% of total employment in the country even though agriculture's share in GDP is only 13%. GDP per worker in the economy as a whole is three times the value added per worker in agriculture. The country still remains very rural, with a rate of urbanization of about 40% of the total population, much lower than a 'normal' level of 60% consistent with Chin's income level. These features, coupled with the high skilled-unskilled wage differential (which, according to some estimates, has risen from 1.3 to 2.1 over the past decade according to some estimates) suggest that China still has much potential for moving unskilled workers out of agriculture and into manufacturing and other productive urban sector activities. For this to materialise, the global trading environment would need to remain accommodative and Chinese policies receptive to gains from specialisation on the basis of comparative advantage.

APPENDIX 1:

Trade Data

The data for this chapter are compiled from the UN Comtrade database, based on Revision 3 of the Standard International Trade Classification (SITC, Rev. 3). They cover the period from 1992 to 2004. The year 1992 was selected as the starting point because by this time countries accounting for over 95 per cent of total world manufacturing trade had adopted the revised data reporting system. The analysis ends in 2004, the most recent year for which data are available for all reporting countries.

Despite its significant improvement over the previous version, SITC Revision 3 does not provide for the construction of data series covering the entire range of fragmentation-based trade. Data reported under SITC 7 provide a comprehensive coverage of fragmentation-based trade, but data for SITC 8 do not seem to fully capture fragmentation-based trade within that commodity category. For instance, for some products – such as clothing, furniture and leather products – in which outsourcing is prevalent (and perhaps has been increasing), some related components (for example, pieces of textiles, parts of furniture, parts of leather soles) are presumably recorded under other SITC categories. Moreover, there is evidence that production fragmentation has been spreading beyond SITC 7 and 8 to other product categories such as pharmaceutical and chemical

products (falling under SITC 5) and machine tools and various metal products (SITC 6). Assembly activities in software trade, too, have recorded impressive expansion in recent years. These are lumped together with 'special transactions' under SITC 9. As a result, my tabulations of the magnitude of fragmentation-based trade are downward biased. However, the magnitude of the bias is unlikely to be substantial because fragmentation-based international specialisation is predominantly concentrated in the machinery and transport equipment category (SITC 7) (Yeats 2001, Feenstra 1998).

The data are tabulated using importer records, which are considered to be more appropriate for analysing trade patterns than are the corresponding exporter records. Data from importer records are presumably less susceptible to double counting and erroneous identification of the source/destination country in the presence of entrepot trade than are data based on reporting country records (for example, China's trade through Hong Kong and Indonesia's trade through Singapore) (Ng and Yeats (2003: Appendix 1) and Feenstra *et al*. (1999). Also, some countries fail to properly report goods shipped from their own export-processing zones; they simply lump these exports into one highly aggregated category of 'special transactions' under SITC 9. There is no fully satisfactory solution for these problems, but it is generally believed that data compiled from importer records are less susceptible to recording errors and reveal the origins and composition of trade more accurately than other records, because there are normally important legal penalties for incorrectly specifying this information on customs declarations. Among the East Asian countries, Taiwan is not covered in the UN data system; Vietnam has not yet begun to make data available using the standard UN format; and Singapore did not report data on its bilateral trade with Indonesia, for political reasons. In these cases, I filled the data gaps using the corresponding trading partner records. Most of the Comtrade import data are reported C'if; For few countries for with data are available on both FOB and CIF, CIF figures are used for consistency

APPENDIX 2: Definition of Variables and Data Source

Label	*Definition*	*Data Source/variable construction*
EXP	Value of bilateral exports in US$ measured at constant (2000) price.	Exports (at CIF price, US$): compiled from importer records of UN-COMTRADE, online database (http://www.bls.gov/ppi/home.htm). Exports value series was deflated by the machinery and transport equipment sub-index of the US producer price index.
GDP,GDPP	Real GDP, and real per capita GDP (at 1995 price)	World Development Indicator, The World Bank
DIST	Distance. The Great Circle distance from capital city to capital city	Rose (2002) dataset, http://faculty.haas.berkely.edu/arose/RecRes.htm
ADJ	A binary dummy variables which take value 1 for countries which share a common land border and 0 otherwise	Rose (2002) dataset, http://faculty.haas.berkely.edu/arose/RecRes.htm
INSTQ	Institutional quality. An index which measures the extent to which agents have confidence in and abided by the rule of society, based on perceptions of the incidence of crime, the effectiveness and predictability of the judiciary, and the credibility of contracts. The index ranks from 0 to 2.5, with a higher number indicating better rules of law enforcement.	Kaufmann, Kraay and Mastruzzi (2006).
RULC	The ratio of unit labour cost in country j and country i. Unit labour cost is measured as the ratio of the average manufacturing wage to manufacturing value added per worker. By construct, an increase (a decrease) in *RULC* indicates an improvement (a deterioration) in i's cost competitiveness relative to j.	Annual manufacturing wages data for USA: 'Interactive database of National Income and Product Accounts Tables' at http://www.bea.gov/bea/dn/nipaweb/SelectTable.asp?Selected=N#S6 under Section 6 - Income and Employment by Industry All other countries: US Bureau of Economic Analysis (BEA) online database, 'Survey of U.S. Direct Investment Abroad' http://www.bea.doc.gov/bea/uguide.htm#_1_23
RER	Real exchange rate: $RER_{ij} = NER * \frac{P^{W}{}_{i}}{P^{D}{}_{j}}$ where, *NER* is the nominal bilateral exchange rate index., P^{W} in price level of country j measured by the producer price index and P^{D} is the domestic price index of country I measured by the GDP deflator. By construct, an increase (decrease) in RER_{ij} indicates a an improvement (deterioration) in *i*'s competitiveness in traded-goods production vis a vis *j*	Constructed using data obtained from World bank, World development Indicators database. Following Soloaga and Winters (2001), mean-adjusted RER is used in the model. This variable specification assumes that countries are in exchange rate equilibrium at the mean.
EAS, LATM, CEEU, OECD	Dummy variables to identify whether the given country belongs to East Asia (EAS), Latin America (LATM), Central and Eastern Europe (CEEU), or the Organization of Economic Corporation and Development (OECD).	In constructing these variables Japan and Korea are classified under EAS, and Mexico under LATM,

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Table 1: China's Merchandise Exports: Composition, Growth and World Market Share, 1992/3 – 2004/5

	Composition (%)			Growth (%)			World market share (%)		
	1992/3	2000/1	2004/5	1992-00	2000-05	1992-05	1992/3	2000/1	2004/5
Primary products	13.6	7.9	6.0	3.3	7.9	4.2	0.7	0.7	0.8
Food, beverages and tobacco (0+1)	6.8	3.7	2.4	3.0	5.4	3.4	3.1	3.7	3.8
Minerals/crude material (2+68)	3.6	2.3	2.0	4.0	10.3	5.3	2.2	2.8	3.5
Oil and gas (3)	3.2	1.9	1.6	3.5	9.2	4.7	1.4	1.2	1.2
Agricultural Raw material (4)	0.1	0.0	0.0	0.4	7.1	2.2	0.9	0.7	0.6
Manufacturing (5 to 8 – 68)	82.1	89.7	90.7	7.5	12.4	8.1	4.5	8.0	12.0
Chemicals and related products (5)	3.2	3.2	3.3	6.8	12.9	7.8	1.4	2.2	2.9
Resourced based manufacturing (6-68) [1]	12.7	11.8	11.8	6.4	12.2	7.4	3.6	6.6	9.5
Machinery and transport equipment (7)	17.1	32.9	44.6	11.3	17.3	11.8	1.9	5.5	11.4
Power generating machines (71)	0.7	1.1	0.9	9.3	9.5	8.5	1.3	2.7	3.7
Special industrial machinery (72)	0.5	0.6	0.8	7.2	18.1	9.4	0.7	1.5	3.1
Metalworking machinery (73)	0.2	0.2	0.2	5.6	13.1	7.1	1.1	1.7	2.8
General industrial machinery (74)	1.4	2.0	2.8	9.4	17.7	10.7	1.4	3.7	7.4
Office machines (75)	1.9	8.9	14.5	17.6	20.5	16.7	1.7	10.1	28.2
Telecommunication and sound equipment (76)	6.6	9.1	12.7	9.1	17.7	10.5	7.9	13.1	26.2
Electrical machinery, apparatus and parts (77)	4.7	9.8	11.3	11.8	14.6	11.4	2.8	6.9	12.4
Road vehicles (78)	0.8	1.1	1.2	8.8	13.9	9.3	0.4	0.8	1.3
Other transport equipment (79)	0.2	0.2	0.2	7.0	15.3	8.6	0.3	0.6	1.4
Miscellaneous manufactured articles (8)	49.1	41.8	31.0	5.8	7.5	5.7	13.9	21.6	24.8
Clothing and accessories (84)	18.9	13.3	9.6	4.6	7.0	4.8	19.1	26.3	31.8
Footwear (85)	7.4	5.2	3.3	4.6	4.9	4.3	27.6	42.0	44.2
Baby carriages toys and games (894)	8.6	7.9	5.2	6.4	5.7	5.6	32.5	54.9	61.5
Total merchandise exports	100.0	100.0	100.0	6.9	12.2	7.7	4.0	6.7	9.6
US$ billion	136	403	897						

Source: Compiled from UN Comrade database.

Table 2: Share of parts and components in China's Machinery and Transport Equipment Trade

		Exports			Imports		
		1992/3	1999/0	2004/5	1992/3	1999/0	2004/5
71	Power generating machines	16.5	18.4	22.7	60.0	63.7	55.5
72	Special industrial machinery	17.9	27.9	33.0	11.5	14.1	13.5
73	Metalworking machinery	21.8	27.5	28.5	13.1	16.6	16.8
74	General industrial machinery	12.6	29.2	38.5	23.8	31.5	36.8
75	Office machines	25.2	35.5	36.7	51.5	54.7	47.9
76	Telecommunication and sound equipment	40.9	42.6	35.1	48.5	61.4	74.0
77	Electrical machinery, apparatus and parts	15.0	23.9	24.4	70.3	80.8	87.5
78	Road vehicles	27.3	38.3	52.5	26.3	64.8	57.9
79	Other transport equipment	16.5	18.4	22.7	16.9	23.1	14.5
7	Total	22.3	34.7	36.7	32.5	56.6	63.4

Source: Compiled from UN Comrade database.

Table 3: World Manufacturing Imports by Source Country: Composition and Growth (%)[1]

Source country /country group	Total manufacturing (SITC 5 to 8 – 68)			Machinery and transport equipment (SITC 7)			Information technology products (SITC 75+76+77)			Miscellaneous manufactures (SITC 8)			Clothing (SITC 84)		
	Share		Growth	Share		Growth	Share		Growth	Share		Growth	Share		Growth
	1992/3	2004/5	1992-05	1992/3	2004/5	1992-05	1992/3	2004/5	1992-05	1992/3	2004/5	1992-05	1992/3	2004/5	1992-05
China	3.7	12.2	8.5	1.3	11.1	12.7	2.6	21.4	13.0	11.5	25.2	6.3	14.9	26.8	5.0
EA	21.0	17.9	2.3	27.2	22.7	2.7	41.2	30.1	2.7	24.0	13.2	0.6	26.1	14.2	0.2
Japan	10.4	5.8	1.1	16.8	8.9	1.1	19.3	7.0	-0.1	5.6	2.9	0.4	0.3	0.2	0.5
DEA	10.6	12.1	3.2	10.4	13.8	4.5	21.9	23.1	4.2	18.4	10.3	0.7	25.9	14.0	0.1
Hong Kong	1.4	0.6	0.0	0.7	0.4	1.7	1.5	0.9	1.6	4.4	1.6	-0.9	8.4	3.2	-1.2
South Korea	2.2	2.7	4.1	2.0	3.8	6.3	3.8	5.3	5.3	3.7	1.0	-2.1	5.4	1.3	-3.1
Taiwan	2.5	2.6	2.5	2.8	3.1	3.8	5.3	5.6	3.7	4.3	1.6	-1.0	3.2	0.9	-2.2
ASEAN	4.3	6.1	4.0	5.0	6.5	4.4	11.2	12.3	4.4	6.0	6.1	3.0	8.9	8.6	2.4
Indonesia	0.6	0.7	3.3	0.1	0.3	7.5	0.2	0.7	8.1	1.5	1.3	2.6	2.3	2.5	2.5
Malaysia	1.0	1.7	4.7	1.5	2.5	5.2	3.4	4.8	5.4	1.0	0.8	2.4	1.6	1.0	0.8
Philippines	0.4	0.7	4.9	0.4	0.9	6.9	0.9	1.8	7.0	0.9	0.6	1.2	1.7	1.1	1.0
Singapore	1.3	1.0	2.3	2.3	1.4	1.6	5.2	2.8	1.6	0.7	0.4	0.4	0.9	0.1	-4.6
Thailand	0.9	1.5	4.3	0.7	1.3	5.5	1.5	2.1	5.3	1.8	1.5	2.3	2.0	1.9	2.3
Vietnam	0.0	0.3	12.9	0.0	0.1	9.8	0.0	0.1	27.7	0.2	1.4	12.5	0.3	2.0	10.0
South Asia	0.9	1.2	4.8	0.1	0.2	7.7	0.1	0.2	9.3	2.1	3.1	4.7	5.4	8.4	4.4
Oceania	0.2	0.2	3.7	0.2	0.2	2.9	0.1	0.1	4.1	0.1	0.2	5.1	0.1	0.1	3.8
Latin America	2.4	4.1	5.6	2.9	5.2	6.0	3.6	5.7	5.9	2.3	3.7	5.0	1.6	3.4	5.5
NAFTA	13.8	13.2	3.4	17.6	15.8	3.2	17.1	12.6	2.7	9.5	10.5	3.4	3.1	4.4	4.0
Mexico	1.0	2.1	6.1	1.5	2.7	5.2	2.0	3.1	4.1	0.8	1.9	6.7	0.8	2.5	9.7
EU 15	50.7	45.1	3.0	48.2	42.3	3.1	34.5	27.6	3.1	38.6	31.6	2.2	28.0	18.1	0.8
World	100	100	3.5	100	100	3.6	100	100	4.0	100	100	3.0	100	100	2.6

Notes: 1. Manufactures cover all products belonging to SITC Sections 5 through 8 less 68 (non-ferrous metals). The SITC codes of manufactures are given in brackets. The data reported here do not include imports to China.

2 EA: East Asia (excluding China); DEA: Developing East Asia (excluding China); ASEAN: Association of Southeast Asian Nations NAFTA North American Free Trade Area; EU: The 15 initial member countries of the European Union.

… Zero or negligible.

Source: Compiled from Comtrade database.

Table 4: World Imports of Machinery and Transport Equipment Disaggregated into Parts and Components (P&Cs) and Final Goods, 1992/93-2000/05[1]

(a) Machinery and transport equipment (SITC 7)

Source country/country group[2]	Source-country composition (%)						P&C share in total imports (%)		Contribution of P&C to total imports increment (%)
	Total imports		Parts and components		Final goods				
	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3 - 2004/5
China	1.3	11.1	0.7	7.9	1.7	13.1	21.2	27.7	28.0
EA	30.6	28.1	29.6	32.9	31.4	24.3	38.9	52.0	60.1
Japan	19.2	11.1	16.6	11.0	20.9	11.2	34.8	44.0	58.0
DEA	11.5	17.0	13.0	21.9	10.5	13.1	45.6	57.2	60.8
Hong Kong	1.2	0.7	1.6	0.9	0.9	0.5	54.7	57.8	62.2
South Korea	2.0	4.5	2.2	4.6	1.9	4.4	43.8	45.3	45.6
Taiwan	3.1	3.8	3.2	5.7	3.0	2.2	42.1	67.5	77.7
ASEAN	5.2	8.1	6.0	10.7	4.7	5.9	46.3	59.0	62.8
Indonesia	0.1	0.5	0.1	0.6	0.1	0.5	30.9	49.7	51.1
Malaysia	1.7	2.8	2.0	3.8	1.5	2.0	47.8	60.3	63.7
Philippines	0.3	1.2	0.5	2.1	0.1	0.5	69.8	75.7	76.3
Singapore	2.4	2.0	2.6	2.7	2.3	1.4	43.3	61.0	74.3
Thailand	0.7	1.5	0.8	1.4	0.7	1.5	44.8	43.7	43.5
Vietnam	0.0	0.1	0.0	0.1	0.0	0.1	24.5	55.4	55.8
South Asia	0.1	0.2	0.1	0.4	0.1	0.2	44.1	61.4	64.6
Oceania	0.2	0.2	0.3	0.2	0.2	0.1	50.0	49.0	48.1
Latin America	2.9	5.2	4.0	5.3	2.3	5.1	53.3	39.8	35.7
NAFTA	17.6	15.8	19.9	17.1	16.1	15.0	44.7	42.1	40.0
Mexico	1.5	2.7	1.7	2.4	1.3	2.9	45.8	34.8	31.7
EU 15	48.2	42.3	47.8	41.8	48.5	42.6	39.2	38.4	37.8
World	100.0	100.0	100.0	100.0	100.0	100.0	39.5	38.9	38.5

Table 4 continued

(b) Information technology products (SITC 75+76+77)

Source country/country group[2]	Total imports		Source-country composition (%) Parts and components		Final goods		P&C share in total imports (%)		Contribution of P&C to total imports increment (%)
	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3 - 2004/5
China	2.6	21.4	1.1	13.3	3.8	26.9	20.0	25.5	25.7
EA	43.17	38.19	43.32	46.61	43.04	28.92	48.7	63.9	71.4
Japan	20.70	9.68	19.93	12.14	21.43	6.98	46.7	65.7	77.0
DEA	22.47	28.50	23.39	34.47	21.61	21.93	50.5	63.4	67.2
Hong Kong	2.27	1.28	2.96	1.49	1.61	1.05	63.5	60.8	57.9
South Korea	3.60	6.19	3.96	6.80	3.27	5.52	53.3	57.6	58.4
Taiwan	5.20	6.48	5.29	9.09	5.11	3.60	49.4	73.5	80.9
ASEAN	11.41	14.56	11.18	17.10	11.62	11.76	47.6	61.5	65.7
Indonesia	0.19	0.88	0.12	0.81	0.25	0.96	30.8	47.9	49.1
Malaysia	3.83	5.42	3.93	6.31	3.74	4.43	49.8	61.0	64.0
Philippines	0.70	2.37	1.00	3.48	0.41	1.15	69.7	77.0	77.6
Singapore	5.18	3.55	4.70	4.28	5.64	2.74	44.1	63.2	77.4
Thailand	1.51	2.22	1.42	2.08	1.58	2.38	45.9	49.0	49.8
Vietnam	---	0.11	0.00	0.13	0.00	0.09	37.6	61.9	62.0
South Asia	0.1	0.2	0.1	0.3	0.0	0.1	54.9	59.7	60.2
Oceania	0.1	0.1	0.1	0.2	0.1	0.1	44.4	49.7	52.6
Latin America	3.6	5.7	4.6	5.5	2.8	5.8	57.3	39.2	33.6
NAFTA	17.1	12.6	20.6	15.0	14.3	10.9	54.4	48.7	42.8
Mexico	2.0	3.1	1.7	2.1	2.2	3.8	39.7	27.8	24.1
EU 15	34.5	27.6	35.1	28.1	33.9	27.3	46.1	41.5	37.5
World	100.0	100.0	100.0	100.0	100.0	100.0	45.2	40.8	38.2

Notes

! The data reported here do not include imports to China.

2 EA: East Asia (excluding China); DEA: Developing East Asia (excluding China); ASEAN: Association of Southeast Asian Nations NAFTA North American Free Trade Area; EU: The 15 initial member countries of the European Union.

--- Zero or neglegible

Source: Compiled from UN Comtrade database.

Table 5: US Apparel Imports from Selected Developing Countries

	Import volume , Million SQ meters				*Post-MFA Import increment*	*Import value, Million US$*				*Post-MFA Import increment*
	2003	2004	2005	2006		2003	2004	2005	2006	
China	2290	2973	5883	6506	135.44	7258	8928	15143	18517	108.0
Cambodia	528	635	710	843	33.58	1240	1429	1713	2136	44.2
Hong Kong	785	739	597	523	-26.53	3702	3849	3511	2811	-16.3
Korea, RP	576	624	359	309	-44.26	1806	1809	1155	913	-42.8
Taiwan	591	572	391	359	-35.44	1611	1549	1134	1005	-32.3
Indonesia	618	703	823	1013	38.99	2158	2403	2875	3670	43.5
Malaysia	191	211	211	243	13.08	686	712	678	686	-2.4
Philippines	546	514	519	589	4.59	1853	1786	1830	2002	5.3
Singapore	58	47	29	28	-45.97	270	242	157	146	-40.9
Thailand	496	533	537	566	7.18	1712	1799	1808	1840	3.9
Vietnam	739	777	801	947	15.33	2375	2562	2725	3222	20.5
Bangladesh	913	942	1125	1307	31.11	1848	1978	2372	2914	38.2
India	532	609	790	840	42.85	2002	2217	2976	3187	46.1
Pakistan	444	519	578	673	29.88	1015	1138	1259	1412	24.0
SRI Lanka	395	415	454	451	11.63	1436	1549	1650	1682	11.6
Mexico	1977	1896	1703	1477	-17.89	6904	6685	6078	5297	-16.3
World	18864	19951	22010	22539	14.77	61162	64768	68713	71630	11.4

Note:

1. Data relate to product covered by the Multifibre Arrangement.
2. Exports in 2005 and 2006 as a percentage of exports in the two previous years.

Source: Compiled from US Department of Commerce, OTEXA Data

Table 6: Regression Results: The Impact of China's Exports on Exports from Other Countries, 1992-2004

Table 6A: Base-line Estimates: Impact on all Countries

Explanatory Variable	Machinery and transport equipment (SITC 7)						Miscellaneous		Other Mfg		Total Mfg	
Explanatory Variable	Parts and Components		Final prod		SITC 7		Mfg (SITC 8)				(SITC 5 to 8 – 68)	
	Coef..	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	S.E
Log GDP, exporter	0.91	0.01	0.93	0.01	0.89	0.01	0.94	0.01	0.96	0.01	0.91	0.01
Log per capita GDP, exporter	0.35	0.01	0.42	0.01	0.38	0.01	0.04	0.01	0.06	0.01	0.11	0.01
Log GDP, importer	0.24	0.02	0.23	0.03	0.19	0.03	0.58	0.06	0.57	0.02	0.35	0.03
Log per capita GDP, importer	0.05	0.01	-0.05	0.02	-0.04	0.01	0.20	0.05	-0.05	0.01	-0.04	0.01
Log distance	-0.99	0.01	-1.05	0.01	-0.99	0.01	-1.09	0.01	-1.21	0.01	-1.00	0.01
Adjacency dummy	0.54	0.05	0.24	0.04	0.36	0.04	0.32	0.04	0.35	0.03	0.38	0.03
Log real exchange rate	0.30	0.02	0.20	0.02	0.24	0.02	0.13	0.02	0.05	0.02	0.13	0.01
Log Relative unit labour cost	0.57	0.04	0.10	0.05	0.40	0.04	-0.27	0.04	-0.43	0.03	0.06	0.03
Asian crisis dummy	0.06	0.05	0.08	0.05	0.04	0.05	0.26	0.05	0.24	0.05	0.22	0.04
China's exports (*CHXP*)	**0.64**	**0.02**	**0.65**	**0.03**	**0.70**	**0.03**	**0.34**	**0.07**	**0.36**	**0.03**	**0.54**	**0.03**
Constant	-21.30	0.49	-21.20	0.58	-19.60	0.49	-25.70	1.11	-22.10	0.40	-19.20	0.42
R^2	0.64		0.641		0.659		0.69		0.76		0.738	
RMSE	1394		1418		1483		1771		2168		2125	
Number of Obs.	1.61		1.62		1.52		1.46		1.15		1.17	
	17489		17438		17532		17475		17436		17556	

Note:

1 The standard errors (SEs) of the regression coefficients have been derived using the Huber-While consistent variance-covariance ('sandwich') estimator.

Table 6B: Impact on exports from Major Regions

Explanatory Variable	Machinery and transport equipment (SITC 7)						Miscellaneous Mfg. (SITC 8)		Other Mfg.		Total mfg. (SITC 5 to 8 – 68)	
	Parts and Components		Final prod		SITC 7							
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	S.E
Log GDP, exporter	0.78	0.01	0.83	0.01	0.78	0.01	0.79	0.01	0.94	0.01	0.82	0.01
Log per capita GDP, exporter	0.25	0.01	0.32	0.01	0.28	0.01	-0.11	0.01	0.01	0.01	0.03	0.01
Log GDP, importer	0.22	0.02	0.20	0.03	0.15	0.02	0.32	0.06	0.51	0.02	0.28	0.02
Log per capita GDP, importer	0.04	0.01	-0.06	0.02	-0.05	0.01	-0.01	0.05	-0.05	0.01	-0.06	0.01
Log distance	-0.94	0.01	-0.94	0.01	-0.92	0.01	-1.01	0.01	-1.11	0.01	-0.92	0.01
Adjacency dummy	0.72	0.05	0.50	0.05	0.57	0.05	0.60	0.04	0.47	0.03	0.56	0.04
Log real exchange rate	0.30	0.02	0.21	0.02	0.25	0.02	0.18	0.02	0.08	0.02	0.15	0.01
Log relative unit labour cost	0.65	0.05	0.29	0.05	0.53	0.04	-0.04	0.04	-0.28	0.03	0.18	0.03
Asian crisis dummy	-0.10	0.05	-0.10	0.05	-0.13	0.05	-0.07	0.05	0.07	0.05	0.04	0.04
China's exports (*CHXP*)	0.66	0.02	0.67	0.03	0.71	0.02	0.60	0.07	0.42	0.02	0.60	0.03
EA*CHXP	0.02	0.02	-0.04	0.03	-0.02	0.03	0.00	0.02	0.14	0.02	0.03	0.02
LATM*CHXP	0.16	0.03	0.10	0.03	0.18	0.03	0.09	0.02	-0.01	0.03	0.11	0.02
CEEU*CHXP	-0.11	0.02	-0.07	0.02	-0.07	0.02	0.14	0.02	-0.22	0.02	-0.12	0.02
Constant	-16.80	0.48	-17.80	0.54	-15.30	0.47	-15.90	1.01	-21.10	0.40	-15.70	0.40
R^2	0.682		0.70		0.71		0.76		0.79		0.78	
RMSE	1.52		1.48		1.41		1.27		1.08		1.07	
Number of Obs.	17489		17438.00		17532.00		17475		17436		17556.00	

Note:

1 The standard errors (SEs) of the regression coefficients have been derived using the Huber-While consistent variance-covariance ('sandwich') estimator.

Table 6C: The Impact on Exports from Individual East Asian Countries and other Regions

	Machinery and transport equipment (SITC 7)						Miscellaneous Mfs (SITC 8)		Other Mfg		Total manufacturing (SITC 5 to 8 – 68)	
	Parts and components		Final goods		Total							
	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	S.E
Log GDP, exporter	0.97	0.01	1.00	0.01	0.94	0.01	0.91	0.01	0.98	0.01	0.93	0.01
Log per capita GDP, exporter	0.47	0.01	0.53	0.01	0.49	0.01	0.08	0.01	-0.04	0.01	0.11	0.01
Log GDP, importer	0.22	0.02	0.20	0.02	0.15	0.02	0.20	0.05	0.50	0.02	0.27	0.02
Log per capita GDP, importer	0.00	0.01	-0.11	0.01	-0.10	0.01	-0.15	0.05	-0.05	0.01	-0.10	0.01
Log distance	-1.08	0.01	-1.09	0.01	-1.07	0.01	-1.10	0.01	-1.11	0.01	-1.01	0.01
Adjacency dummy	0.48	0.05	0.25	0.05	0.33	0.04	0.41	0.04	0.45	0.03	0.41	0.03
Log real exchange rate	0.26	0.02	0.18	0.02	0.21	0.02	0.19	0.02	0.08	0.02	0.14	0.01
Log relative unit labour cost	0.36	0.04	-0.02	0.04	0.22	0.04	-0.01	0.04	-0.26	0.03	0.02	0.03
Asian crisis dummy	-0.32	0.05	-0.34	0.04	-0.35	0.04	-0.28	0.05	0.03	0.04	-0.12	0.04
China's PCs exports (*CHXP*)	0.65	0.02	0.65	0.03	0.70	0.02	0.72	0.06	0.41	0.02	0.60	0.02
Japan*_CHXP_	0.01	0.02	-0.04	0.02	-0.03	0.02	-0.04	0.02	0.10	0.02	0.02	0.02
Korea*_CHXP_	-0.07	0.03	-0.09	0.03	-0.09	0.03	-0.07	0.03	-0.07	0.03	-0.09	0.03
Singapore* _CHXP_	0.02	0.03	0.00	0.03	0.00	0.03	-0.06	0.03	0.30	0.04	0.06	0.03
Indonesia*_CHXP_	0.31	0.03	0.29	0.03	0.28	0.02	0.23	0.03	0.15	0.02	0.16	0.02
Thailand*_CHXP_	0.18	0.03	0.26	0.02	0.22	0.02	0.22	0.03	0.13	0.03	0.17	0.02
Malaysia*_CHXP_	0.17	0.03	0.19	0.03	0.18	0.03	0.21	0.03	0.22	0.03	0.22	0.03
Philippines*_CHXP_	0.29	0.04	0.42	0.03	0.39	0.04	0.33	0.03	0.29	0.04	0.34	0.03
LAM*_CHXP_	0.20	0.03	0.14	0.03	0.22	0.03	0.12	0.02	0.02	0.03	0.14	0.02
CEEU*_CHXP_	-0.05	0.02	-0.01	0.02	-0.01	0.02	0.17	0.02	-0.20	0.02	-0.08	0.02
Constant	-22.30	0.45	-22.50	0.50	-20.00	0.43	-17.3	0.953	-21.2	0.402	-18.10	0.37
R^2	0.74		0.76		0.77		0.79		0.81		0.82	
RMSE	1.36		1.31		1.25		1.2		1.04		0.987	
Number of Obs.	17489		17438		17532		17475		17436		17556	

Note: 1 The standard errors (SEs) of the regression coefficients have been derived using the Huber-While consistent variance-covariance ('sandwich') estimator. Intercept dummies for the countries/regions are not reported.

Table 7: East Asia – China Trade[1]

	A: Geographic profile of China's imports			B: Exports to China relative to total exports by country/region		
	1992/3	2000/1	2004/5	1992/3	2000/1	2004/5
East Asia	57.1	55.5	56.5	7.2	10.5	19.3
Japan	20.9	19.5	17.4	5.4	9.5	16.6
Developing East Asia	36.2	36.0	39.1	7.9	9.8	21.6
Hong Kong	17.3	4.3	2.1	29.6	18.6	19.5
Korea	4.3	9.9	11.9	5.7	14.5	26.2
Taiwan	10.7	12.2	12.5	10.2	16.8	30.6
ASEAN	3.9	9.6	12.6	2.2	6.0	13.7
Indonesia	1.0	1.5	1.1	3.9	7.0	8.6
Malaysia	1.0	2.5	3.3	2.0	5.5	12.8
Philippines	0.2	0.8	2.0	1.2	4.3	19.0
Singapore	0.8	2.0	2.3	1.7	5.5	12.0
Thailand	0.6	1.9	2.2	1.6	6.2	11.4
Vietnam	0.1	0.1	0.1	2.4	2.3	3.5
Other countries	42.8	44.5	43.6	1.5	2.2	3.7
World	100.0	100.0	100.0	2.7	3.9	6.7
US$ billion	175.2	430.5	1109.2	—	—	—

1 Covers non-oil trade (total trade net of trade reported under SITC 3)
Source: Compiled from Comtrade database.

Table 8: Direction of China's Trade in Machinery and Transport Equipment: Destination/Source Country Composition and Growth (%)

8A: Exports

Designation country/region	Total exports		Geographic composition (%) Parts and components		Final goods		P&C share in total exports/imports (%)		Contribution of P&C to total export/import increment
	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3	2004/5	1992/3-2004/5
East Asia	58.4	47.2	66.2	64.3	55	38	34.3	47.7	48.5
Japan	7.8	12	13	12.9	5.5	11.5	50.5	37.6	37.3
Developing East Asia	50.6	35.2	53.2	51.3	49.5	26.5	31.8	51.0	52.3
Hong Kong	42.0	21.0	42.4	29.9	41.8	16.2	30.6	49.9	51.7
Korea	1.1	3.5	2.1	4.6	0.6	2.8	57.8	46.0	45.9
Taiwan	1.8	2.6	2.8	3.7	1.4	2	47.1	49.8	49.9
ASEAN	5.7	8.1	5.8	13.1	5.7	5.4	30.8	56.6	57.5
Indonesia	1.2	0.9	1.1	0.9	1.2	0.9	27.8	35.0	35.5
Malaysia	1.0	2.3	1.2	4.9	0.9	0.9	36.3	74.6	75.4
Philippines	0.3	0.6	0.3	0.8	0.4	0.5	30.3	46.7	47.1
Singapore	2.1	3.0	2.6	4.7	1.8	2.1	37.5	54.9	55.4
Thailand	1.2	1.3	0.7	1.8	1.4	1.0	17.7	48.5	49.8
Vietnam	0.2	0.5	0.2	0.4	0.2	0.5	30.3	28.0	28.0
Other	41.6	52.8	33.8	52.7	46.0	62.0	49.0	50.6	50.9
World	100	100	100	100	100	100	30.3	35.0	35.2
US$ bln.	14.2	325.8	4.3	114.1	9.9	211.6			

8B: Imports

Source country/region									
East Asia	55.1	60.3	64.8	67.7	50.4	47.8	38.1	70.8	75.1
Japan	27.4	22.9	26.8	22.6	27.7	23.4	31.7	62.2	67.8
Developing East Asia	27.6	37.4	37.9	45.1	22.6	24.4	44.4	76.0	79.3
Hong Kong,	13.6	3.7	24.2	4.9	8.5	1.7	57.6	83.5	106.8
Korea	2.1	9.1	3.0	9.4	1.6	8.7	46.2	65.1	65.7
Taiwan	10.8	13.1	9.1	14.9	11.6	9.9	27.3	71.7	77.0
ASEAN	1.1	11.6	1.6	16.0	0.8	4.5	47.1	87.0	87.4
Indonesia	---	0.6	---	0.6	---	0.6	---	63.0	63.0
Malaysia	0.2	4.3	0.2	6.8	0.1	0.2	32.4	97.2	98.3
Philippines	---	2.3	0	3.4	---	0.4	---	93.2	93.2
Singapore	0.7	2.7	1.2	2.9	0.5	2.4	55.5	67.7	68.1
Thailand	0.1	1.9	0.1	2.3	0.1	1.2	32.4	76.3	76.6
Vietnam	---	---	0.1	---	---	0.1	---	---	---
OECD	37.4	27.9	30.6	19.5	40.7	42.2	26.5	44.1	47.7
Other	7.5	11.8	4.6	12.8	8.9	10	19.8	68.4	72.7
World	100	100	100	100	100	100	32.4	63.0	67.6
US$ bln.	37.7	292.2	12.2	184.2	25.4	108.4			

Notes: --- Zero or negligible.
Source: Compiled from UN Comtrade database.

Table 9: Regression Results: Determinants of China's Non-oil Imports from Major Regions Disaggregated by Commodity and Exporting Country/Region (1992-2004)

(a) Imports from Major Regions

Explanatory Variable	Machinery and transport equipment (SITC 8)						Miscellaneous mfg (SITC 8)		Other mfg		Total Mfg		Primary products		Total exports	
	Parts and components		Final goods		SITC 7											
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Log GDP, exporter	0.97	0.06	1.02	0.05	0.94	0.05	1.12	0.05	1.10	0.05	1.02	0.04	1.27	0.05	1.03	0.04
Log per capita GDP, exporter	0.89	0.09	0.88	0.10	0.90	0.09	0.80	0.08	0.20	0.07	0.43	0.07	-0.50	0.08	0.24	0.07
Log GDP China (**GDPCH**)	2.08	0.29	1.00	0.25	1.47	0.27	2.24	0.23	1.40	0.20	1.53	0.20	1.92	0.32	1.56	0.19
Log distance	-2.42	0.28	-2.00	0.26	-2.14	0.26	-2.27	0.30	-1.55	0.26	-1.61	0.22	-1.13	0.32	-1.40	0.22
Log real exchange rate	0.65	0.23	0.40	0.22	0.66	0.25	0.39	0.23	-0.28	0.13	-0.13	0.13	0.08	0.14	-0.08	0.12
Log relative wage index	0.10	0.26	0.05	0.22	0.18	0.24	0.20	0.20	0.00	0.17	0.21	0.18	0.15	0.23	0.26	0.16
Asian crisis dummy	0.92	0.33	0.43	0.28	0.70	0.30	0.24	0.19	0.43	0.32	0.42	0.23	0.45	0.22	0.33	0.21
EA*Log GDPCH	2.02	0.48	1.79	0.44	2.01	0.45	0.22	0.37	0.04	0.38	1.06	0.36	-0.57	0.43	0.71	0.32
LATM* Log GDPCH	3.71	1.08	2.59	0.72	3.39	0.91	1.76	0.73	-0.53	0.62	1.94	0.62	-0.12	0.61	1.66	0.51
CEEU* Log GDPCH	-0.35	0.68	-0.37	0.62	-0.84	0.61	1.35	0.69	-0.59	0.49	-0.47	0.42	-0.15	0.62	-0.32	0.39
Constant	-57.70	7.69	-31.80	6.94	-41.10	7.17	-67.50	6.37	-42.40	5.62	-43.90	5.51	-58.70	8.96	-44.80	5.33
R^2	0.75		0.75		0.76		0.84		0.77		0.80		0.70		0.81	
RMSE	1.39		1.29		1.28		1.13		1.03		0.98		1.37		0.93	
Number of Obs.	486		483		486		483		482		489		487		489	

Note: 1 The standard errors (SEs) of the regression coefficients have been derived using the Huber-While consistent variance-covariance ('sandwich') estimator.

(b): Imports from Individual East Asian Countries and other Major Regions

Explanatory Variable	Machinery and transport equipment (SITC 8)						Miscellaneous mfg (SITC 8)		Other manufacturing		Primary products		Total exports (Non-oil and gas)		Total exports	
	Parts and components		Final goods		SITC 7											
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Log GDP, exporter	1.24	0.06	1.26	0.05	1.18	0.05	1.32	0.05	1.24	0.05	1.18	0.04	1.45	0.05	1.20	0.04
Log per capita GDP, exporter	1.28	0.10	1.41	0.11	1.38	0.11	1.21	0.10	0.27	0.11	0.69	0.10	-0.34	0.11	0.44	0.09
Log GDP China (**GDPCHN**)	2.20	0.26	1.18	0.23	1.64	0.24	2.22	0.21	1.45	0.19	1.61	0.19	1.89	0.31	1.60	0.18
Log distance	-3.20	0.35	-2.83	0.35	-2.98	0.35	-3.54	0.37	-2.05	0.35	-2.36	0.31	-1.13	0.43	-1.96	0.31
Log real exchange rate	0.55	0.19	0.34	0.15	0.58	0.22	0.43	0.17	-0.21	0.14	-0.09	0.13	0.01	0.12	-0.06	0.10
Log relative wage index	0.31	0.24	0.29	0.19	0.44	0.22	0.32	0.19	0.06	0.15	0.36	0.17	0.17	0.23	0.37	0.15
Asian crisis dummy	0.27	0.12	-0.22	0.09	0.02	0.11	-0.17	0.10	0.07	0.07	-0.06	0.11	-0.05	0.09	-0.13	0.09
Japan* Log GDPCH	**-0.06**	**0.26**	**-0.21**	**0.33**	**0.03**	**0.30**	**-0.42**	**0.27**	**-0.44**	**0.19**	**-0.14**	**0.23**	**-0.41**	**0.28**	**-0.09**	**0.23**
Korea* Log GDPCH	**0.21**	**0.29**	**0.10**	**0.33**	**0.31**	**0.32**	**-0.06**	**0.44**	**-0.38**	**0.23**	**0.03**	**0.26**	**-0.67**	**0.32**	**0.11**	**0.25**
Singapore* Log GDPCH	**-0.03**	**0.38**	**0.41**	**0.32**	**0.36**	**0.37**	**-0.24**	**0.28**	**0.05**	**0.22**	**0.30**	**0.23**	**-1.69**	**0.33**	**0.20**	**0.21**
Indonesia* Log GDPCH	**3.64**	**0.63**	**2.48**	**0.47**	**2.59**	**0.56**	**-1.04**	**0.33**	**-0.37**	**0.30**	**0.08**	**0.30**	**0.34**	**0.35**	**0.34**	**0.26**
Thailand* Log GDPCH	**2.67**	**0.44**	**2.35**	**0.30**	**2.68**	**0.35**	**0.44**	**0.28**	**1.13**	**0.26**	**1.96**	**0.29**	**-0.74**	**0.30**	**1.05**	**0.17**
Malaysia* Log GDPCH	**2.61**	**0.34**	**1.66**	**0.33**	**2.57**	**0.35**	**0.61**	**0.29**	**-0.33**	**0.21**	**1.27**	**0.20**	**-1.31**	**0.32**	**0.46**	**0.17**
Philippines* Log GDPCH	**5.33**	**0.47**	**4.04**	**0.30**	**4.89**	**0.32**	**1.90**	**0.36**	**-1.00**	**0.36**	**3.34**	**0.58**	**-0.58**	**0.30**	**2.37**	**0.45**
LATM* Log GDPCH	**3.95**	**1.12**	**2.76**	**0.75**	**3.57**	**0.95**	**1.87**	**0.76**	**-0.53**	**0.62**	**1.85**	**0.63**	**-0.09**	**0.60**	**1.60**	**0.53**
CEEU* Log GDPCH	**-0.47**	**0.63**	**-0.64**	**0.60**	**-1.05**	**0.57**	**1.25**	**0.68**	**-0.70**	**0.49**	**-0.64**	**0.43**	**-0.12**	**0.59**	**-0.44**	**0.38**
Constant	-65.30	7.39	-41.10	6.83	-49.70	6.88	-65.70	6.22	-43.80	5.79	-46.80	5.67	-64.30	9.21	-47.60	5.50
R^2	0.82		0.81		0.82		0.87		0.83		0.86		0.74		0.85	
RMSE	1.19		1.12		1.09		0.99		0.88		0.84		1.29		0.81	
Number of Obs.	486		483		486		483		482		489		487		489	

Note: 1 The standard errors (SEs) of the regression coefficients have been derived using the Huber-While consistent variance-covariance 'sandwich') estimator.