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# China's Impact on Foreign Trade and Investment in Other Asian Countries

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# China's Impact on Foreign Trade and Investment in other Asian Countries

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*Abstract:* This paper examines how China's emergence as a major player in the global economy is affecting export performance of and FDI flows to its East Asian neighbours against the backdrop of the ongoing process of global production sharing. The findings indicate that the 'China threat' has been vastly exaggerated in the contemporary policy debate. China's rapid market penetration in traditional labour intensive manufactured goods has occurred mostly at the expense of the high-wage East Asian countries, without crowding out export opportunities of low-wage countries in the region. More importantly, China's emergence as a major assembly centre within global production networks has created new opportunities for the other East Asian countries to engage in various segments of the production chain in line with their comparative advantage in international production. FDI flows to the other Asian countries seem to be stimulated, rather than crowded out by FDI flows to China.

*Keywords:* China, East Asia, exports, global production sharing  
*JEL Codes:* F14, F23, O53,

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## **China's Rise: Implications for Foreign Trade and Investment in other Asian Countries**

China's emergence as a major player on the global economic scene following the market-oriented policy reforms initiated in the late 1970s has raised serious concerns in policy circles about the viability of the outward-oriented development strategy for other developing countries. In particular, increased export competition from China and the emergence of China as the premier recipient of foreign direct investment in the developing world are often emphasised as major constraints on other developing countries in achieving rapid economic growth through greater integration into the global economy. These concerns gained further 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 provided China with most-favoured nation (MFN) status in major markets but also 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. While the 'China fear' is now a universal theme in the development policy debate, naturally it has received far greater emphasis in countries in developing Asia most of which have embraced outward orientation as the basic tenant of development strategy.

The purpose of this chapter is to inform this policy debate through a comparative analysis of export performance of, and FDI inflows to, Asian economies in the wider global context, with emphasis on both alleged competition and possible complementarity arising from China's rise. The available studies of the implications of China's rise for export performance of other countries developing countries (eg. Ahearne *et al.* 2003; Eichengreen *et al.* 2007; Greenaway *et al.* 2008; IMF 2004; Lall and Albaladejo 2004) are 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. 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 (Athukorala 2005, Feenstra 1998, Jones 2000, Jones and Kierzkowski 2001). This chapter 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 as the premier final good assembler. The approach of this chapter is also novel in that it examines both facets of the debate on China competition—export competition and competition for FDI inflows—while paying attention to peculiarities of China as a host to foreign investors and the complementary between FDI inflows to China and other Asian economies within regional production networks.

The chapter is set out as follows: The next section examines the implications of China's rise for export performance of other Asian countries, focussing, in turn, on export competition in third country markets and newly emerging market opportunities in China. The following section probes China's emergence as the premier location of FDI in the developing world and the alleged crowding out effect on FDI flows to other countries in the region. The final section summarises the key findings and offers some policy inferences.

## EXPORT PERFORMANCE

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 2005/6.<sup>1</sup> 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.

China's 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 92% in 2005/6. Until about the early 1990s, traditional labour-intensive manufactures—in particular, apparel, footwear, toys and sport goods—were the prime movers of export expansion. Since then, there has been a notable shift in the export composition away from conventional labour-intensive product lines and towards more sophisticated product lines—in particular, those within the broader category of machinery and transport equipment (SITC 7) (henceforth referred to as 'machinery'). Between 1992/3 and 2005/6 the share of miscellaneous manufactures (SITC 8)—a catch-all commodity group encompassing most of the traditional labour intensive products—declined from 49% to 31% and the share of machinery increased from 17% to 44% .

The expansion of machinery exports from China has been brought about by its 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 of ICT products recorded a five-fold increase from 5% in 1992/3 to 24.1% in 2005/6. Among them the share of office machines increased from less than 2% in

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<sup>1</sup> 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.



1992/93 to over 28% in 2005/6. China is now the world's largest producer as well as the single largest exporter of personal computers falling in this commodity group. China's world market share of telecommunication and sound recording equipment (dominated by mobile phones, DVD players, and optical disc (CD) players) was 26.2% in 2005/6, up from 7.9% in 1992/3.

Trade data showing this phenomenal structural shift have been used widely interpreted as an indication of China becoming an advanced-technology superpower, with the sophistication of its export basket is rapidly approaching the levels of those of most advanced industrial nations (e.g. Rodrik 2006, Yusuf *et al.* 2007). A closer examination of data, however, suggests that such an inference is fundamentally flawed. In reality, what we observe is the rapid consolidation in China of final assembly stages of East Asia-centred global production networks of these products. Ample supply of relatively cheap and trainable labour and the scale economies arising from China's vast domestic market (which enables firms to achieve low unit costs) are contributory factors to China's attractiveness as a global assembly centre. As already noted, China's so-called 'high-tech' exports are heavily concentrated in a single product category: ICT 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 using imported high-tech parts and components; they are not 'leading edge-technology products' (Bergsten *et al.* 2006, Sung 2007).

What have been the implications of China's meteoric rise as an exporting nation and the changes in her export structure for the export performance of the other Asian countries? I now turn to addressing this question, focussing first on the comparative export performance in third country markets and then on newly emerging opportunities for other countries to export to China.

#### *Coemption in Third-Country Markets*

Table 1 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 trends 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 2. This table has been prepared by carefully separating parts and components (henceforth referred to as 'components' for short) from final (assembled) products at the 5-digit level of the Revision 3 of the Standard International Trade Classification (SITC), Rev 3) of the United Nations trade data reporting system.<sup>2</sup> The time coverage is from 1992, when China and almost all countries reporting to the UN trade system had adopted the revised reporting system, to 2006, the most recent year for which data are available for all reporting countries.

**Table 1 about here**

**Table 2 about here**

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 12.6% between 1992/3 and 2005/6. This increase mirrors a persistent decline in world market shares of Japan and the other advanced industrialised nations (represented in Table 1 by NAFTA (excluding Mexico) and EU). Contrary to popular belief, there is no evidence of a marked decline in the market share of developing East Asian countries; rather the combined market share of these countries increased from 10.6% in 1992/3 to 12.3% in 2005/6. The increase turns out to be sharper from (9.2% to 11.9%) when Hong Kong (which has experienced a massive relocation of its manufacturing base to China over the past two decades) is excluded.

At the disaggregated level, the China effect on the overall export performance of rest of Asia is clearly visible in traditional labour intensive exports (classified here under

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<sup>2</sup> For details on this decomposition procedure see Athukorala 2009, Appendix 1.

miscellaneous manufactures), particularly in the clothing subcategory therein. The corresponding market share losses have, however, 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. 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 Multifibre Arrangement. 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. Interestingly, among these 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 rate of market penetration of China in world machinery trade has been even faster than in traditional labour-intensive manufacturing. China's exports of machinery increased at a compound rate of 13.2% during 1992-2006, shifting its world market share from a mere 1.3% to 11.3%. 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 3.2% respectively). The other East Asian developing countries too have recorded increases in market shares, with the sole exception of Singapore.<sup>3</sup> 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's exports are heavily concentrated in final assembly (Table 2). The share of components in total machinery exports has increased across all East

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<sup>3</sup> 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)

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 (27.6% in 2005/6) has continued remain much smaller compared to all countries listed in the table. Almost three quarters of the increment in total machinery exports from China between 1992/3 and 2005/6 came from final assembly (that is, components accounted for 26.5%), whereas the contribution of components was much larger in other countries, including Japan. Reflecting this emerging pattern of complementary in 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 components 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 2005/6 the market share of developing East Asian countries in total machinery exports increased from 10.5% to 14.0%. When Singapore is excluded, the ASEAN market share increased from 3.7% to 5.2%.

Elsewhere I have undertaken an econometric analysis of the impact of China competition on the performance of East Asian economies in third country export markets (Athukorala 2009). The findings are remarkably consistent with the inferences of the simple analytical story presented here based on simple data tabulations; while the severity of China's competition clearly varies across commodity categories and among countries, overall there is no econometric evidence of the crowding-out by China of export performance of other Asian countries.

### *Exports to China*

Over the past one-and-a-half decades all East Asian countries have recorded rapid, persistent growth in the share of total exports destined to China. By 2005/6 nearly a third of total exports from Taiwan and Korea went to China. The figure for Japan was around

17%. The share in combined exports of ASEAN has shown the sharpest increase, although from a low base (from 2.2% in 1992/3 to 13.7% in 2005/6). 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 (3.7% in 2005/6) (Table 3).

### **Table 3 about here**

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 4, Panel A). This pattern has been dictated by a mild but persistent decline in the share of Japan (from 20.9% in the 1992/3 to 17.4% in 2005/6) and a sharp decline in the share of Hong Kong (from 17.3% 1992/3 to a mere 2.1% in 2005/6). 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 and developing East Asia increased from 3.9% to 12.6%, and 36.2% to 39.1% respectively between 1992/3 and 2005/6. The difference between these two country groups 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).

Table 4 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 nearly 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 developing East Asia in total

final goods exports declined from 49.5% to 26.5%. The shares of developed countries in China's component imports have declined persistently from 30.6% to 19.5% between 1992/3 and 2004/5 as the regional sources of procurement gained importance. 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.

A notable development is the rapid growth of the combined share of ASEAN economies in components imports of China from a mere 1.6% in 1992/3 to 16.0% 2004/5. Within ASEAN, import shares of Malaysia and the Philippines have increased at a faster rate compared to that of Singapore. By 2004/5, Malaysia's share stood at 6.8% compared to Singapore's share of 2.9%. The share of exports to China in total parts and component exports from ASEAN increased from 0.5% in 1992/3 to 36% between 1992/3 and 2005/6. The emerging patterns of China's reliance on parts and component imports from the rest of East Asia, from the ASEAN countries in particular, is clearly demonstrated by the econometric evidence presented in Athukorala (2009).

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## FOREIGN DIRECT INVESTMENT

Over the past three decades Asia, in particular developing East Asia, has been by far the most favoured regional location of FDI in the developing world. Total FDI flows to developing Asia increased sharply from an average annual level of \$7 billion during 1980-04 to \$200 billion in 2006. The share of Asia in total FDI flows to developing countries increased from 29.6% to 52.6% between these two time points. As a share of total global flows, the increase was from 9.4% to 15.3% (Table 5).

### **Table 5 about here**

A notable feature of FDI inflows to developing Asia is the dramatic increase in inflows to China. Over the past two decades China has been by far the largest developing country recipient of inward FDI. For the six years 2000-06, China has been the second largest recipient of foreign investment in the world, at about \$50 billion per annum and accounting for 7% of total gross inflows, after the USA (which has received about \$140 billion per annum, or 13% of total inflows) (UNCTAD 2006). China's share in inflows to Asian developing countries increased from 11.4% during 1980-84 to 48.5% during 2000-06, and it has accounted for well over half of the total increment in FDI inflows to the region during this period.

The dramatic growth of FDI inflows to China has been accompanied by a sharp decline in the share of almost every other country in the total regional (as well as global) inflows. These contrasting patterns, coupled with some anecdotal evidence of foreign firms relocating to China (Yususuf 2003), have led to serious concern in policy circles in the region, particularly in Southeast Asia, where the growth dynamism for over two decades had relied heavily on FDI, that 'competition' from China has begun to erode their prospects for attracting FDI, hence jeopardizing a pivotal element of their outward-oriented growth strategy.<sup>4</sup> Some of the FDI inflows to China could well have been at the expense of other countries, but it would be a mistake to overstate the 'China factor'. For

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<sup>4</sup> See for instance Freeman and Bartels (2004) Chapter 1, and the work cited therein.

a number of reasons, the interpretation of the simple, bi-variate negative relationship between FDI inflow shares of China and that of rest of Asia can be rather misleading.

First, there is some controversy over China's actual FDI inflows (Gunter 2004, Wee 2000, Pomfret 1989, Naughton 2006). Part of the reported FDI from Hong Kong, which has accounted for over 40% of total FDI inflows to China over the past ten years, is 'round tripping' capital. That is, it is investment that originated from the Mainland and returned to it in the guise of 'Hong Kong investment' to take advantage of tax, tariff and other benefits accorded to foreign-invested firms. The available estimates of the share of round tripping flows in total Hong Kong investment in China varies in the range of 15% to 40%. Also, the official Chinese statistics on FDI are believed to contain 'serious fat', arising from the competition among various regions and provinces to demonstrate their superior performance in attracting foreign investors. The comparison of FDI flows to China reported by the official sources with those reported by source countries in Table 6 is consistent with this view. Total investment from countries reported in the table excluding China during the years 2000-05 is almost 90% higher than the amount reported by the investing countries. Even if we make the heroic assumption that the FDI flows to Hong Kong eventually ended up in China, the difference is still significant, at about 16.2%.

**Table 6 about here**

Second, a comparison of FDI inflows to China, a relatively new host of DFI, with those to other countries with a longer history of MNE involvement, needs to be qualified for possible bias arising from the nature of the available FDI data, as reported in the *World Investment Report* and based on individual country balance of payments records. A well-known limitation of the FDI data for most countries in the region – perhaps all ASEAN countries other than Singapore and China – is that these data do not adequately capture investment financed through retained earnings. At the same time, there is convincing evidence that the relative importance of retained earnings compared to the other two components of FDI (that is, equity capital and intra-company borrowing) is



positively related to the duration of MNE involvement in a given host country (Lipsev 2000). This omission is therefore likely to overstate capital inflows to China and understate those to many other countries in the region, in particular the five major ASEAN countries.

Third, investors from Hong Kong and Taiwan account for a disproportional large, although declining, share of total FDI inflows to China compared to that of the other developing Asian countries. During 1990-95, the combined share of these two countries in total Chinese FDI inflows over 60%, and they still accounted for over a third even by 2000-05 (Brandt et al, 2007, Table 2.5). By contrast, over 80% of total FDI inflows to all Asian developing countries originate from developed countries. It is widely believed that FDI flows to China from Hong Kong and Taiwan (and also investment by ethnic Chinese investors from other countries such as Malaysia and Thailand) are driven largely by ethnic links, in addition to the general economic considerations impacting on overseas investment decisions (Huang 2003, Wee 2000, Pomfret 1989). Thus, even if the statistical errors noted above are incorporated and the official data are taken at face value, it is not realistic to assume that these flows are completely at the expense of other investment locations.

MNEs faced with the decision as to which country to invest in would naturally compare expected returns and risks across various investment locations. China may pose a particular difficulty because of the lack of well-defined property rights and the existence of political risk. Higher risk and lower expected returns may explain why some of the major source countries are not investing as much in China compared to norms based on various economic characteristics. This outcome can also explain why overseas Chinese such as those from Hong Kong and Taiwan seem to be investing a disproportionately high amount in China. In the absence of enforceable contracts, other informal instruments such as linguistic ties, family connections, geographical proximity, all of which facilitate the quicker acquisition of information, can serve as a means to increase the likelihood of securing a self-enforcing agreement (Fung 1998).

Fourthly, data on global investment patterns clearly indicate that the *measured* decline in the share in ASEAN in total developing country inflows was not entirely due to increased inflows to China. In fact, inflows to other developing countries (that is countries other than China and ASEAN) have increased at a much faster rate, from about 30% of total flows to developing countries to over 53% by 2002, compared to a *mild decline* in China's share from 32% to 28% between 1995 and 2002 (Table 5, Memorandum Items). In fact, these trends have prompted some authors to characterize China as an 'under-achiever' in attracting FDI, particularly from Europe. Much of these 'other developing country' flows were triggered by liberalization reforms in Eastern Europe, the formation of NAFTA (which triggered a massive relocation of production units from North America to Mexico) and regional cooperation initiated in other parts of Latin America.

Fifth, the migration of some production processes within vertically integrated high-tech industries such as electronics, motor vehicles and cameras to China does not necessarily imply a zero sum game in the competition for FDI. Rather, this process opens up opportunities for additional investment in OEM (original equipment manufacturing) and BTO (back to office) activities in the ASEAN countries for the Chinese market. For instance, recently Intel Corporation, the world's largest computer chip maker, simultaneously invested \$200 million in a second semiconductor chip assembly and testing plant in the central Chinese city of Chengdu, in addition to its \$500 million assembly and testing facility in Shanghai. However, at the same time it invested \$40 million to expand the design and development activities in its plant in Penang, Malaysia, and also announced plans to spend \$100 million a year on further expansion of R&D activities there.<sup>5</sup> More recently Intel signed an agreement with the government of Vietnam to set up a large electronics component assembly plant in that country, as the first step in linking Vietnam to its regional and global operational network (Athukorala 2007). The Intel story nicely fits within the broader picture of emerging patterns of emerging patterns of manufacturing trade in the region. There is clear evidence of the rapid expansion of components and parts exports within the broader product category of

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<sup>5</sup> *Asian Wall Street Journal*, 27 August 2003. P A1 and A4

machinery and transport equipment (SITC7) from the five major ASEAN countries to China (Athukorala 2009). That is, trade in parts and components in high-tech industries is dominated by MNEs, and the FDI flows to China and other countries in the region are ‘complementary’ rather than ‘competitive’.

Finally, as an outcome of its dramatic economic transformation over the past two decades, China itself has become an increasingly important source of FDI for the other developing countries in the region (and beyond) (Chen and Lin 2007). Resource-rich countries like Indonesia, Malaysia, Laos and Cambodia have begun to attract ‘resource seeking’ investors from China. There is also evidence that the rapid increase in wages propelled by this fast growth has already begun to erode China’s attractiveness as a low-wage investment and to entice Chinese firms involved in labour intensive manufacturing (clothing and footwear in particular) to relocate production to lower wage neighbours. For instance, Chinese investors are already the largest investors in the Cambodian garment industry and they have also begun to enter Vietnam. The imposition of punitive trade restrictions by the European Union and the USA on clothing and footwear imports from China in the mid-2005 has also driven this process.

Eichengreen and Tong (2007) have undertaken an econometric test of the impact of China’s emergence as a major destination of FDI on FDI flows to other countries using data on bilateral FDI flows between 29 source countries and 63 destination countries over the period 1988 to 2001. The finds of this study are consistent with our proposition that China’s integration into global production networks could well have resulted in complementarity in FDI inflows to China and the other East Asian countries whose production process have become increasingly interconnected within these networks. The key inference of the paper is that, while the impact of FDI inflows to China on inflows to other countries varies by region, on average the net impact is positive on inflows to other Asian countries; ‘[D]evelopments making China a more attractive destination for FDI also makes other Asian countries more attractive destinations for FDI, as would be the case if China and these other economies are part of the same global; production networks’ (Eichengreen and Tong 2007, p. 170).

## CONCLUDING REMARKS

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 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. There is clear evidence that competition from China does not necessarily imply proportionate losses in market share for all developing countries. 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, which have been rapidly losing comparative advantage in these product lines as an integral part of the export-led industrial transformation. Moreover, 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. 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 interrelations among countries in foreign trade.

As in the case of rapid export expansion from China, China's emergence as a major location of FDI does not appear to be 'zero sum proposition' from the perspective of the other countries in the region. On the contrary, China's rise seems to have added further dynamism to region-wide MNE operations. Migration of some production processes within vertically integrated high-tech industries such as electronics, motor vehicles and cameras to China does not necessarily imply a zero sum game of competing for attracting FDI. Rather, it also opens up of opportunities for producing original-equipment-manufacturer goods and back-room operations in other countries in the region. In sum, the rapid integration of China into the regional production networks is an important counterpoint to the popular belief that China's global integration will crowd out other countries' opportunities for international specialisation.

Finally, what are the implications of these findings for the contemporary policy debate on regional economic cooperation in Asia? In particular, has China's emergence as a major trading nation served to 'de-clip' Asia from the rest of the world, setting the stage for creating a China-centred regional trading block?. Many analysis who have looked at China's trading significance based on the standard trade flow analysis (which does not make a distinction between trade in parts and components and final goods) have, in fact, answered the latter question in the affirmative. However, the evidence harnessed in this paper warns that, in a context where global production sharing is becoming the symbol of economic globalization, the standard trade flow analysis leads to misleading inferences about the degree of trade integration among nations. Booming trade in parts and components has resulted in a rapid increase in China-centred intra-regional trade within regional production networks in East Asia. This does not, however, mean that the process has contributed to lessening the region's dependence on the global economy. On the contrary, the region's growth dynamism based on vertical specialisation is deeply dependent on China's extra-regional trade in final goods, and this dependence has in fact *increased* over the years. Put simply, increased participation in China-centred global production sharing has made the East Asia region increasingly dependent on extra-regional trade for its growth dynamism. Policy initiatives in the domain of regional economic integration run the risk hindering growth dynamism of these countries unless this new dimension of global integration is not specifically taken into account.

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**Table 1: World Manufacturing Imports by Source Country: Composition and Growth (%)<sup>1</sup>**

Source country /country group <sup>2</sup>	Total manufacturing (SITC 5 to 8 – 68)			Machinery and transport equipment (SITC 7) <sup>3</sup>			Information technology products <sup>4</sup>			Miscellaneous manufactures (SITC 8)			Clothing (SITC 84)		
	Share		Growth	Share		Growth	Share		Growth	Share		Growth	Share		Growth
	1992/3	2005/6	1992-6	1992/3	2005/6	1992-06	1992/3	2004/5	1992-6	1992/3	2004/5	1992-6	1992/3	2004/5	1992-6
China	3.7	12.6	8.5	1.3	11.3	13.1	2.6	22.5	13.2	11.5	2.6	6.8	14.9	27.3	5.6
EA	20.8	18.0	2.3	27.3	22.7	2.6	41.1	31.3	2.7	24.1	13.2	0.5	26.1	14.5	0.2
Japan	10.4	5.7	1.1	16.8	8.7	1.1	19.3	7.1	-0.1	5.6	2.9	0.4	0.3	0.2	0.5
DEA	10.4	12.3	3.3	10.5	14.0	4.5	21.8	24.4	4.2	18.5	10.3	0.7	25.8	14.3	0.1
Hong Kong	1.4	0.5	0.2	0.7	0.4	1.6	1.5	0.9	1.6	4.4	1.5	-0.9	8.4	3.2	-1.2
South Korea	2.2	2.8	4.1	2.0	3.8	6.2	3.8	5.3	5.4	3.7	1.0	-2.5	5.4	1.3	-3.3
Taiwan	2.5	2.7	2.5	2.8	3.2	3.8	5.3	5.6	3.8	4.3	1.6	-1.4	3.2	0.9	-2.4
ASEAN	4.3	6.3	4.0	5.0	6.6	4.4	11.4	12.5	4.6	6.1	6.2	3.3	8.8	8.8	2.4
Indonesia	0.6	0.6	3.2	0.1	0.3	7.7	0.2	0.6	7.9	1.5	1.4	2.6	2.3	2.6	2.6
Malaysia	1.1	1.8	4.8	1.5	2.5	5.2	3.4	5.1	5.7	1.0	0.8	2.4	1.6	1.2	0.7
Philippines	0.4	0.7	4.9	0.4	0.9	7.1	0.9	1.8	7.3	0.9	0.6	1.2	1.7	1.1	1.1
Singapore	1.3	1.1	2.3	2.3	1.4	1.6	5.4	2.6	1.5	0.7	0.4	0.4	0.9	0.1	-4.5
Thailand	0.9	1.7	4.3	0.7	1.4	5.6	1.5	2.3	54.0	1.8	1.5	2.3	2.0	1.8	2.3
Vietnam	0.0	0.4	13.3	0.0	0.1	10.1	0.0	0.1	27.7	0.2	1.5	12.6	0.3	2.1	10.2
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	8.3	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	5.7	3.6	5.7	5.9	2.3	3.7	5.0	1.6	3.4	5.5
NAFTA	13.8	13.1	3.4	17.6	15.8	3.2	17.1	12.6	2.7	9.5	10.5	3.4	3.1	4.4	4.2
Mexico	1.1	2.2	6.2	1.5	2.7	5.2	2.0	3.0	4.0	0.8	1.9	6.4	0.8	2.4	9.8
EU 15	50.7	45.1	3.0	48.2	42.3	3.1	34.5	27.6	3.1	38.6	31.6	2.1	28.0	18.2	0.8
World	100	100	3.5	100	100	3.6	100	100	4	100	100	3.2	100	100	2.8

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.

3 Including information technology products.

4 Office machines and automatic data processing machines (75), Telecommunication and sound recording equipment (76), and semiconductors and semiconductor devices.

Source: Compiled from Comtrade database.



**Table 2: World Imports of Machinery and Transport Equipment Disaggregated into Parts and Components (P&Cs) and Final Goods, 1992/93-2000/06<sup>1</sup>**

Source country/country group <sup>2</sup>	Total imports		Source-country composition (%)				P&C share in total imports (%)		Contribution of P&C to total imports increment (%)
			Parts and components		Final goods				1992/3 - 2005/6
	1992/3	2005/6	1992/3	2005/6	1992/3	2005/6	1992/3	2005/6	
China	1.3	12.1	0.7	7.5	1.7	15.2	21.2	27.6	26.5
EA	30.7	28.4	29.6	33	31.4	24.3	38.9	52.1	60.1
Japan	19.2	11.1	16.6	11	20.9	11.2	34.8	43.4	59.1
DEA	11.5	17.3	13	22	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	57.9	62.2
South Korea	2.0	4.4	2.2	4.5	1.9	4.4	43.8	46.2	45.6
Taiwan	3.1	3.6	3.2	5.6	3	2.2	42.1	68.5	77.8
ASEAN	5.2	8.6	6	11	4.7	6	46.3	60.2	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	3.8	1.5	2	47.8	63.2	62.6
Philippines	0.3	1.3	0.5	2.3	0.1	0.5	69.8	76.1	77.3
Singapore	2.4	2.1	2.6	2.5	2.3	1.4	43.3	61.3	74.3
Thailand	0.7	1.7	0.8	1.7	0.7	1.5	44.8	43.7	43.5
Vietnam	0	0.2	0	0.1	0	0.1	24.5	57.6	55.8
South Asia	0.1	0.2	0.1	0.5	0.1	0.2	44.1	61.4	64.6
Oceania	0.2	0.2	0.3	0.2	0.2	0.1	50	48.2	48.1
Latin America	2.9	5.1	4.1	5.4	2.3	5.2	53.3	40.5	35.7
NAFTA	17.6	15.6	19.9	17.1	16.1	15	44.7	42.3	40
Mexico	1.5	2.8	1.7	2.4	1.3	2.8	45.8	35.5	30.8
EU 15	48.2	41.5	47.8	41.6	48.5	41.8	39.2	38.4	36.6
World	100	100	100	100	100	100	39.5	39.7	39.4

## 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 negligible

Source: Compiled from UN Comtrade database.

**Table 3: East Asia – China Trade<sup>1</sup>**

	A: Geographic profile of China's imports			B: Exports to China relative to total exports by country/region		
	1992/3	2000/1	2005/6	1992/3	2000/1	2005/6
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	—	—	—

Note:

1 Covers non-oil trade (total trade net of trade reported under SITC 3)

Source: Compiled from Comtrade database.

**Table 4: Direction of China's Trade in Machinery and Transport Equipment: Destination/Source Country Composition and Growth (%)**

**A: Exports**

Designation country/region	Total	Geographic composition (%)				
		Parts and components		Final goods		
		1992/3	2004/5	1992/3	2004/5	
East Asia	58.4	47.2	66.2	64.3	55	38.1
Japan	7.8	12	13	12.9	5.5	11.4
Developing	50.6	35.2	53.2	51.3	49.5	26.5
East Asia						
Hong Kong	42.0	21.0	42.4	29.9	41.8	16.2
Korea	1.1	3.5	2.1	4.6	0.6	2.8
Taiwan	1.8	2.6	2.8	3.7	1.4	2
ASEAN	5.7	8.1	5.8	13.1	5.7	5.2
Indonesia	1.2	0.9	1.1	0.9	1.2	0.9
Malaysia	1.0	2.3	1.2	4.9	0.9	0.9
Philippines	0.3	0.6	0.3	0.8	0.4	0.5
Singapore	2.1	3.0	2.6	4.7	1.8	2.0
Thailand	1.2	1.3	0.7	1.8	1.4	1.0
Vietnam	0.2	0.5	0.2	0.4	0.2	0.5
OECD countries	35.1	46.5	31.6	45.4	35.6	54.4
Other	6.5	8.3	2.2	7.3	10.4	8.5
World	100	100	100	100	100	100

**B: Imports**

East Asia	55.1	60.3	64.8	67.7	50.4	47.8
Japan	27.4	22.9	26.8	22.6	27.7	23.4
Developing	27.6	37.4	37.9	45.1	22.6	24.4
East Asia						
Hong Kong,	13.6	3.7	24.2	4.9	8.5	1.7
Korea	2.1	9.1	3.0	9.4	1.6	8.7
Taiwan	10.8	13.1	9.1	14.9	11.6	9.9
ASEAN	1.1	11.6	1.6	16.0	0.8	4.5
Indonesia	---	0.6	---	0.6	---	0.6
Malaysia	0.2	4.3	0.2	6.8	0.1	0.2
Philippines	---	2.3	0	3.4	---	0.4
Singapore	0.7	2.7	1.2	2.9	0.5	2.4
Thailand	0.1	1.9	0.1	2.3	0.1	1.2
Vietnam	---	---	0.1	---	---	0.1
OECD	37.4	27.9	30.6	19.5	40.7	42.2
Other	7.5	11.8	4.6	12.8	8.9	10
World	100	100	100	100	100	100

Notes: --- Zero or negligible.

Source: Compiled from UN Comtrade database.

**Table 5: FDI Inflows, 1980-2006**

	1980-4 <sup>1</sup>	1985-9 <sup>1</sup>	2000-6 <sup>1</sup>	1997-9 <sup>1</sup>	2000-4 <sup>1</sup>	2005 <sup>1</sup>	2006 <sup>1</sup>
<b>(a) Value, US\$ million</b>							
World	73433	161263	248655	765814	834430	945795	1305852
Asia	7267	15460	52635	107378	126699	169965	193026
Japan	328	124	1023	6386	7589	2775	-6506
Developing Asia <sup>2</sup>	6939	15336	51612	100992	119111	167190	199531
East Asia	2692	8853	30770	68378	88480	116253	125774
China + Hong Kong	2382	6998	28429	60583	79502	106024	112360
China	772	3275	22770	43680	50894	72406	69468
Hong Kong	1610	3723	5659	16904	28608	33618	42892
South Korea	116	710	1008	5865	5978	7050	4950
Taiwan	192	987	1314	1799	2567	1625	7424
South-East Asia	4036	6098	19269	28449	24406	41071	51483
Cambodia	0	0	86	214	132	381	483
Indonesia	293	553	2714	857	-1217	8337	5556
Lao PDR	0	1	47	61	24	28	187
Malaysia	1413	998	5032	4311	2928	3965	6060
Myanmar	0	14	248	622	227	236	143
Philippines	234	561	1099	1416	1031	1854	2345
Singapore	1733	3034	6731	12548	14160	15004	24207
Thailand	358	930	2051	5822	4568	8957	9751
Viet Nam	8	6	1069	1924	1370	2021	2315
South Asia	211	386	1573	4164	6225	9866	22274
Bangladesh	5	0	51	487	414	692	625
Bhutan	0	0	1	0	2	9	6
India	67	195	964	2807	4956	6676	16881
Nepal	0	1	4	13	6	2	-7
Pakistan	80	142	433	583	633	2201	4273
Sri Lanka	57	43	113	261	201	272	480
<b>(b) Share in global flows</b>							
Developed economies <sup>3</sup>	68.1	82.6	66.0	72.1	71.4	62.4	65.7
Developing economies <sup>3</sup>	31.9	17.4	32.9	26.5	26.3	33.2	29.0
Africa and the Middle East	2.6	2.2	1.9	1.4	1.9	3.1	2.7
Latin America + Caribbean	10.8	5.2	9.1	11.4	8.9	8.0	6.4
Transition economies <sup>4</sup>	0.0	0.0	1.1	1.4	2.4	4.4	5.3
Developing Asia	9.4	9.5	20.8	13.2	14.3	17.7	15.3
East Asia	3.7	5.5	12.4	8.9	10.6	12.3	9.6
China + Hong Kong	3.2	4.3	11.4	7.9	9.5	11.2	8.6
China	1.1	2.0	9.2	5.7	6.1	7.7	5.3
Hong Kong	2.2	2.3	2.3	2.2	3.4	3.6	3.3
South-East Asia (ASEAN) <sup>5</sup>	5.5	3.8	7.7	3.7	2.9	4.3	3.9
South Asia	0.3	0.2	0.6	0.5	0.7	1.0	1.7
<b>(c) Share in inflows to developing countries</b>							
Africa and the Middle East	8.2	12.8	5.8	5.4	7.3	9.4	9.4
Latin America + Caribbean	33.8	30.1	27.6	43.1	33.7	24.0	22.1

Transition economies <sup>4</sup>	0.0	0.0	3.3	5.4	9.0	13.1	18.3
Developing Asia	29.6	54.7	63.0	49.8	54.3	53.2	52.6
East Asia	11.5	31.6	37.6	33.7	40.4	37.0	33.2
China + Hong Kong	10.2	25.0	34.7	29.9	36.3	33.7	29.6
China	3.3	11.7	27.8	21.5	23.2	23.0	18.3
Hong Kong	6.9	13.3	6.9	8.3	13.0	10.7	11.3
South-East Asia (ASEAN) <sup>5</sup>	17.2	21.7	23.5	14.0	11.1	13.1	13.6
South Asia	0.9	1.4	1.9	2.1	2.8	3.1	5.9

Notes:

- 1 Annual averages
- 2 Countries in East Asia (other than Japan), Southeast Asia (ASEAN) and South Asia.
- 3 Based on the United Nations standards classification
- 4 Transition economies in Central and Eastern Europe.
- 5 Member countries of the Association of Southeast Asian Nations.

Source: Compiled from UNCTADT World Investment database.

**Table 6: FDI flows to China as Reported by China and by Selected Investing Countries, 2000-05<sup>1</sup>**

	As reported by China (US\$ million)	As reported by investing country (US\$ million)		Percentage difference between (1) and (2)	
		China	China + Hong Kong	China	China + Hong Kong
	(1)	(2)		(3)	
France:	3,837	2,605	4,582	47.3	-16.3
Germany:	6,628	8,989	11,754	-26.3	-43.6
Italy	1,526	294	322	418.4	374.5
Japan:	28,490	18,420	22,686	54.7	25.6
Republic of Korea:	22,267	3,570	4,124	523.7	439.9
United Kingdom:	5,612	5,212	15,351	7.7	-63.4
United States	25,442	11,160	21,904	128.0	16.2
Total	93,801	50,251	80,723	86.7	16.2

1 Total for the six year period. Selection of countries was based on data availability for the entire period.

Compiled from CEIC database (China data) and OECD International Direct Investment Statistics (<http://titania.sourceoecd.org>)

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