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Sarah Y. TONG & LIM Tin Seng*

Since initiating its economic reform and open door policy in the late 1970s, China has recorded remarkable growth while becoming increasingly integrated with the world economy. This led China to become an important regional economic power as well as a significant trading nation which in turn presents both opportunities and challenges to Asian economies. However, economies in East and Southeast Asia, including members of the Association of Southeast East Asian Nations (ASEAN), with their recent experience and success of an export-led growth, have been instrumental to engaging China. The constructive response resulted in the development of an extensive China-centric regional production network underpinned by greater integration between China and ASEAN.

This study is to provide a better understanding of the integration between ASEAN and China by illustrating how it had affected the trade pattern between China and the five original ASEAN members (ASEAN 5), namely Indonesia, Malaysia, Philippines, Singapore and Thailand. To study what impacts the blossoming ASEAN-China ties would bring to ASEAN 5, we also examine how the changes in their overall trade structure with China affect the intensity and structure of intra-ASEAN trade.

The study analyzes both China-ASEAN 5 and intra-ASEAN 5 trade data from 1991, when ASEAN established official contact with China, to 2006. The data was obtained from the United Nation's COMTRADE (Commodity Trade Statistics) database. The commodity list used in the study is based on the category of exports and imports, aggregated at the one-digit level of the Standard International Trade Classification (SITC) Revision 4. The classification arranged all categories of trade goods into 9 groups. They are food and live animals (Group 1), beverages and tobacco (Group 2), crude materials, inedible, except fuels (Group 3), mineral fuels, lubricants and related materials (Group 4), chemicals and related products (Group 5), manufactured goods (Group 6), machinery and transport equipment (Group 7), miscellaneous manufactured articles (Group 8), and finally commodities and transactions not classified elsewhere in the SITC (Group 9).

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The Burgeoning China-ASEAN Trade

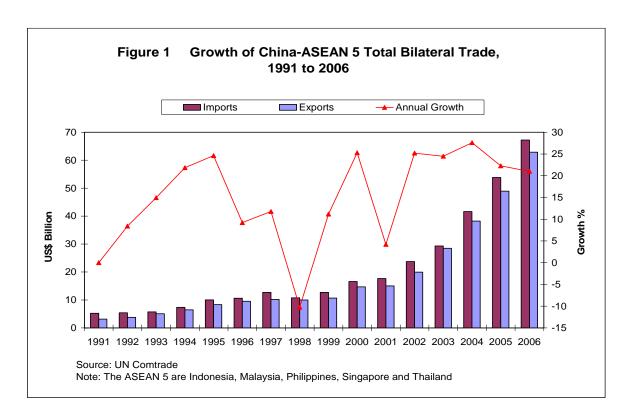
In the course of increasing regional economic integration, both China and ASEAN benefited considerably from closer economic ties, particularly in the last decade. For China, recent rapid trade expansion has been significant to sustaining high economic growth. This is also accompanied by China's increase participation in the regional division of labour for production. On the other hand, ASEAN economies have also thrived by managing and capitalizing China's growth. This was first marked by the renewed opportunities in China's massive market brought about by Deng Xiaoping's Southern Tour (nanxun) in 1992, followed by various constructive initiatives that were introduced after the outbreak of the 1997 Asian financial crisis. These include the "ASEAN-plus" framework initiated in 1997 and the signing of the China-ASEAN Free Trade Agreement (CAFTA) in 2002.

Consequently, it could be assumed that the 1997 financial crisis was the event that facilitated ASEAN's greater economic integration with China. In fact, the event, to a large extent, prompted both the original and new ASEAN members (i.e. Vietnam, Laos, Cambodia and Myanmar) to turn to regional markets, particularly China, for source of growth. More importantly, China's willingness to provide assistance to the ailing ASEAN economies during the crisis despite its developing status impressed most ASEAN leaders, leading them to change their perception of the "China threat" theory.²

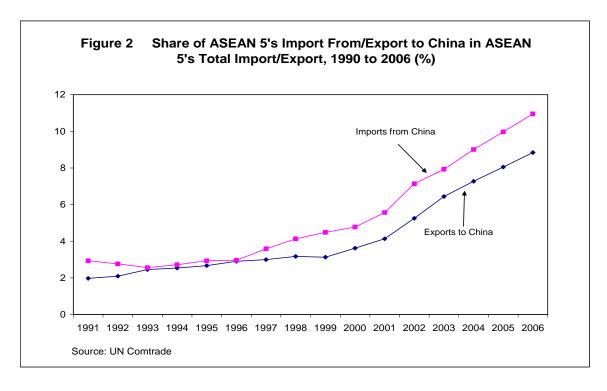
The change in ASEAN's perception of China as well as the effect of the grouping's closer relations with China could be observed in bilateral trade between China and ASEAN. After ASEAN established official contact with China in 1991, bilateral trade between the two sides has been growing. However, it was only after the 1997 financial crisis and particularly after 2002 that China's trade with ASEAN 5 began to register significant growth. Indeed, from 1991 to 1996, China-ASEAN trade grew annually at an average rate of about 16 percent. However, from 2002 to 2006, it grew at about 25 percent annually. From 1991 to 2006, total bilateral trade between China and ASEAN 5 increased nearly 16-fold from about US\$8.4 billion to more than US\$130 billion (Figure 1).

C. Fred Bergsten, Bates Gill, Nicholas R. Lardy and Derek Mitchell, China: The Balance Sheet. New York: Public Affairs, 2006, pp.133-134.

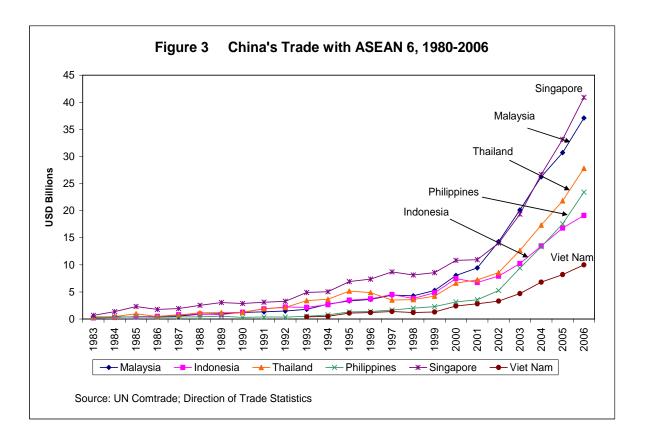
The "China threat" theory was used to explain the animosity harboured by ASEAN countries towards China's rise as not only a security threat, but an emerging competitor for foreign capital. Indeed, from the mid-1980s to mid-1990s, ASEAN's share of regional Foreign Direct Investment (FDI) inflow shrank from 42 percent to over 30 percent while China's share increased from 40 percent to over 50 percent. See John Wong and Sarah Chan, "China-ASEAN Free Trade Agreement: Shaping Future Economic Relations," Asian Survey, Vol. 43, No. 3 (May/June 2003), p. 523. John Ravenhill, "Is China An Economic Threat to ASEAN?" Asian Survey, Vol. 46, No. 5 (September/October 2006), pp.655-666.



Consequently, it is not surprising to find out that China's share in ASEAN 5's total trade only began to increase considerably in recent years. From 1991 to 1996, the share of exports to China in ASEAN5's total exports was only around three percent but it began to increase sharply after 1997, particularly after 2002. By the end of 2006, the share of exports to China in ASEAN 5's total exports was over 8 percent. Similarly, the share of imports from China in ASEAN 5's total imports jumped from about 3 percent in 1991 to 11 percent in 2006. The increase, however, also began after 1997 and accelerated after 2002 (Figure 2).



The pattern of growth in China's trade with ASEAN could also be seen by observing China's trade with individual ASEAN members. Taking Singapore, which is China's largest trading partner among the original ASEAN members, for example, bilateral trade between the two sides has been growing since economic ties were established in the early 1980s. However, trade between Singapore and China only began to register significant growth after 1997, particularly after 2002. In fact, the annual growth of Singapore-China trade was about 16 percent from 1990 to 1996. From 2002 to 2006, however, it grew at an annual rate of about 30 percent. By the end of 2006, bilateral trade between Singapore and China was worth more than US\$40 billion which was about 30 percent of the total bilateral trade between the ASEAN 5 and China (Figure 3).



Inducing trade growth has been a critical element in driving economic development in Southeast Asia. In fact, the development of most ASEAN economies was modelled after the so-called East Asian model since the 1960s which is characterized by an economy that is export-oriented and investment driven.³ China's

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The "East Asian development model" was a relabeled term for the Japanese development model or "Flying-geese model". Generally, the model has two stages: 1) the inward and 2) the outward stage. The first stage is marked by the rapid growth of industries, producing first simple labor-intensive consumer goods. This is then followed by the outward stage where domestic industries were pushed to export their products. After a period of growth, the domestic industries would reorient its focus by producing more value-added goods. Labor-intensive production will then be shifted to neighboring countries. The two stages usually required the intervention of the government. See James Fallows, *Looking at the Sun: The Rise of the New East Asian Economic and Political System.* London: Routledge, 1998, pp.352-366. Frank-Jurgen Richter, "Economic Development and Crisis in East Asia".

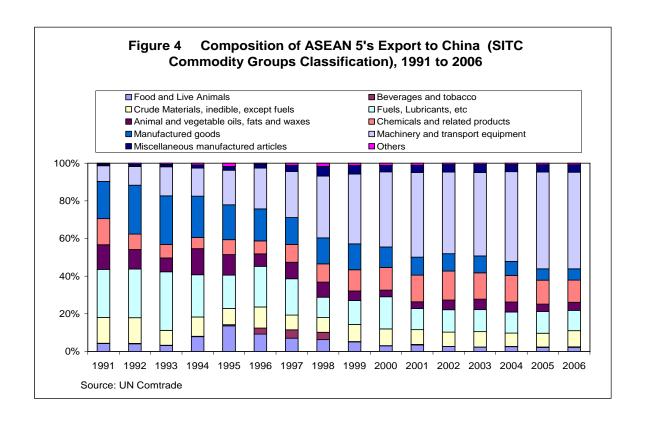
ability to present itself as a destination for ASEAN exports after 1997 allows ASEAN economies to continue their development using this model, strengthening China-ASEAN trade relations.

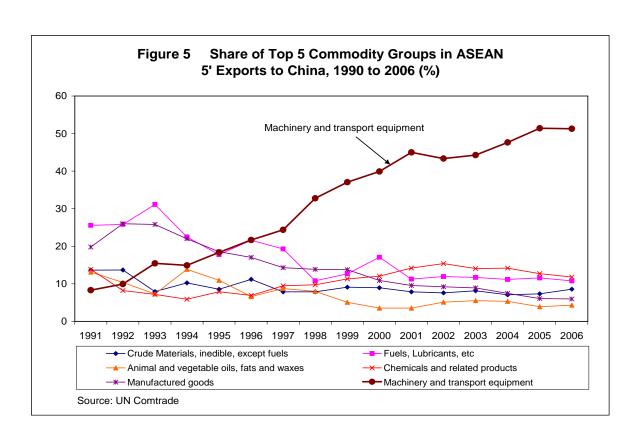
However, the increasing trade has to be met with other complementary development. As China's economy is also export-oriented, ASEAN has to change its trade composition in its trade with China. Indeed, after 1997 most ASEAN economies began exporting more component-based rather than manufactured products to China. This highlighted an important readjustment in the export strategy of ASEAN economies. Instead of competing with China for the comparative advantage in producing manufacturing goods, ASEAN economies are integrating themselves into a China-centric production network to produce component goods that are based on each country's comparative advantage and to benefit from economies of scale. This restructuring process allowed ASEAN to maintain their competiveness and economic dynamism amidst a rising China.

Trade Restructuring of ASEAN

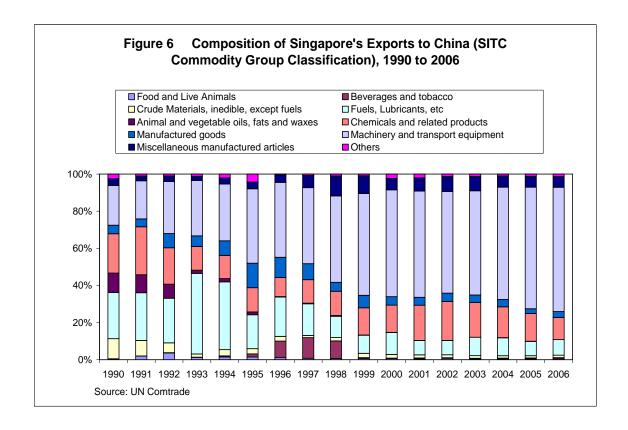
Against the backdrop of a rapidly growing China-ASEAN trade, trade structure between the two sides has also undergone considerable changes (Figures 4 and 5). For example, the share of "other manufactured goods", including wood manufactures, textile, paper, non-ferrous metals, iron and steel and non-metal manufactures, which were one of the main trade items in ASEAN 5's exports to China during the 1990s, have decreased from a high of about 26 percent in 1993 to less than 6 percent 2006. At the same time, the share of "fuel products and inedible crude materials" has also experienced a decrease during the same period but they still occupy a respectable position in ASEAN 5's total exports to China. From 1991 to 2000, the share of fuel products and crude materials decreased from 40 percent to about 18 percent and stabilized at about 15 percent thereafter from 2001 to 2006. This trend is likely to continue amid the strong performance of the Chinese economy and the maturing of the country's industrial sector. But most importantly, the share of "machinery and transportation equipment" in ASEAN 5's exports to China in total has increased substantially from about 8 percent in 1991 to more than 50 percent in 2006. This growing trend illustrates the steady economic integration between China and ASEAN 5 while recognizing China as the centre of the production network in the East Asian and Southeast Asian region. Indeed, a large portion of China's exports is made up of processed products that required labour-intensive assembling and packaging with modest degree of value-add using intermediate parts and components imported from its neighbours.

In Frank-Jurgen Richter (Ed.), *The East Asian Development Model*, New York: St. Martin's Press, 2000, pp.4-5.





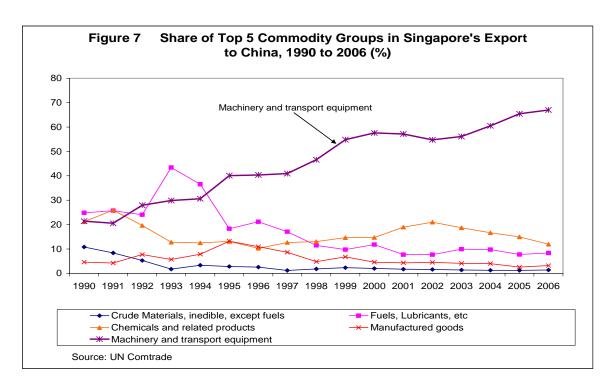
The overall structural changes of China-ASEAN 5 trade, though different at various degrees, could be seen in the trade flow between China and specific ASEAN members. For its trade with Singapore, China's biggest trading partner in ASEAN, about 65 percent of Singapore's exports to China in 2006 is made up of machinery and transportation equipment (Figures 6 and 7).⁴ This is not at all surprising as Singapore is well-known for its strong production capacity for high-tech, high valueadded intermediate goods. Still, the island-state's trade structure has changed significantly since 1991 especially after Deng Xiaoping's nanxun in 1992, when China accelerated its trade expansion especially with countries in Southeast Asia. In fact, the share of "machinery and transportation equipment" in Singapore's exports to China increased from about 20 percent in 1991 to 65 percent in 2006, while the share of "refined and chemical products", the biggest trade product between Singapore and China during the early 1990s, decreased from 60 percent to only 20 percent during the same period. The high concentration of machinery and transportation equipment also indicates that Singapore's export to China is becoming more specialized in intermediate products.



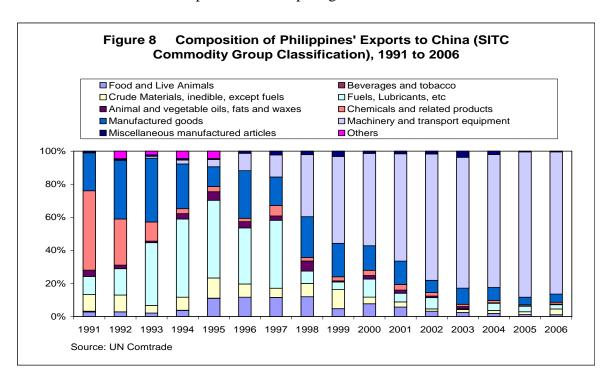
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The total volume of Singapore-China trade was US\$53.7 billion in 2006, which was about 40 percent of China's total trade with ASEAN 5 in the same year.

In 2006, the industry sector contributed to about 35 percent of Singapore's GDP.

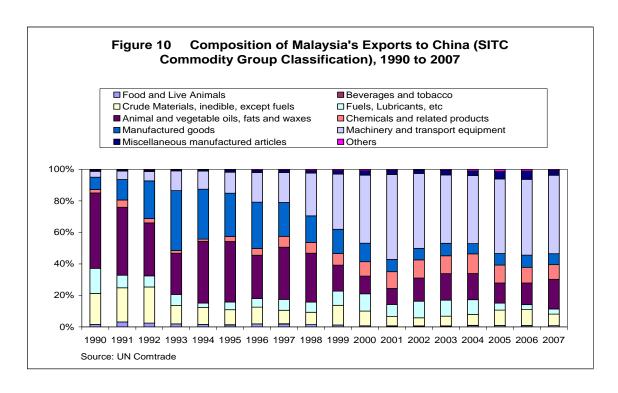


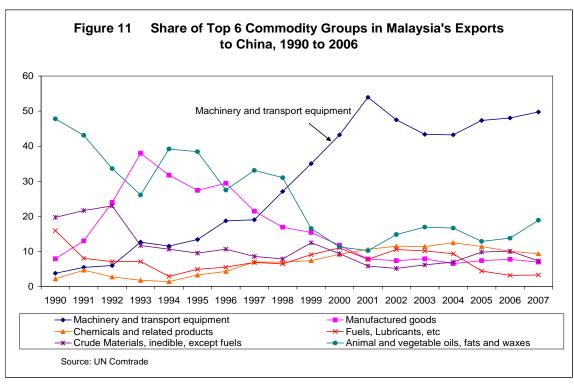
This development can also be seen in the trade flow between Philippines and China (Figures 8 and 9). Contributing to about 7 percent of China's total trade with ASEAN 5 in 2006, the Philippines is China's smallest trading partner among ASEAN 5, but one with the most significant structural change. It also has the largest share of "machinery and transport equipment" in its exports to China among all ASEAN 5 countries. In 2006, more than 80 percent of Philippines' exports to China are those of "machinery and transportation equipment", up from less than one percent in 1991. In the early 1990s, the major products exported to China included "oil and non-oil crude materials" and "chemical products and capital goods".





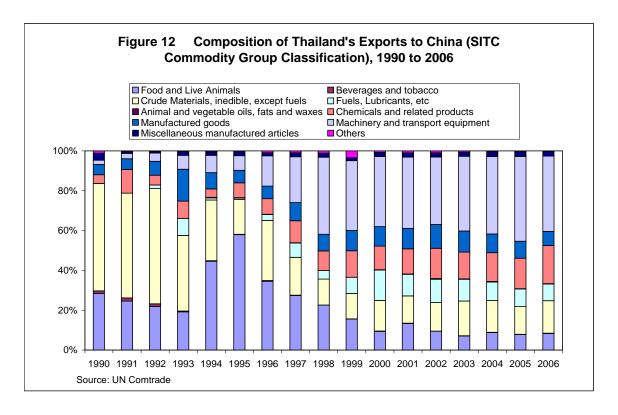
The spectacular increase in the share of "machinery and transport equipment" in China-ASEAN 5 trade can also be seen in the trade flow between China and Malaysia, its second largest trading partner in ASEAN (Figures 10 and 11). For instance, in 1991, machinery and transportation equipment comprised only about 5 percent of Malaysia's exports to China. But by 2006, its share increased to nearly 50 percent. Meanwhile, manufactured goods shrunk from a high of 38 percent in 1993 to about 8 percent in 2006, and the share of animal and vegetable oils, which was the largest exported item in Malaysia-China trade during the 1990s, also decreased from 43 percent in 1991 to only 14 percent in 2006. Similarly, the share of oil and non-oil primary commodities in Malaysia's export to China also decreased from about 30 percent in 1991 to about 13 percent in 2006. Collectively, the structure of Malaysia's exports to China reveals that despite the increase of machinery and transport equipment, it is still much diversified as more than 50 percent of the export is made up of both manufactured goods and primary products such as chemical products, fuel products, crude materials and animal and vegetable oil.

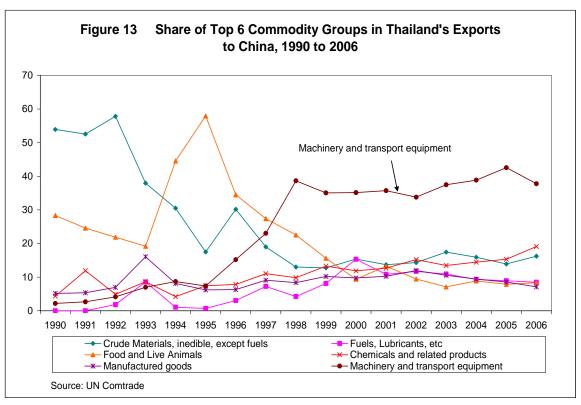




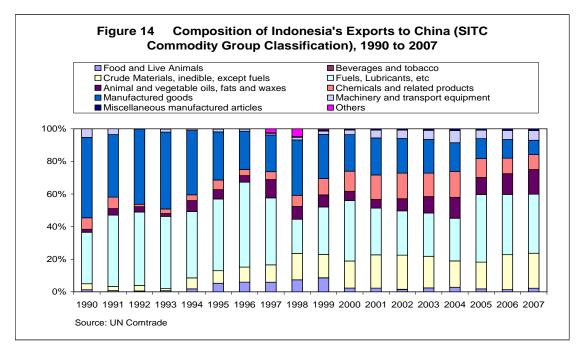
There is also a great level of diversity in Thailand's export to China. In 2006, about 65 percent of export was of not only fuel products, chemical products and crude materials, but agricultural products. However, the share of these products has decreased significantly from the levels they were at during the 1990s. For instance, food and live animals products which at one time contributed to more than 55 percent of Thailand's exports to China in 1993 had decreased to only about 8 percent in 2006, while the share of non-oil crude materials reduced from 52 percent in 1991 to a moderate level of 18 percent in 2006. The reduction is, however, understandable as

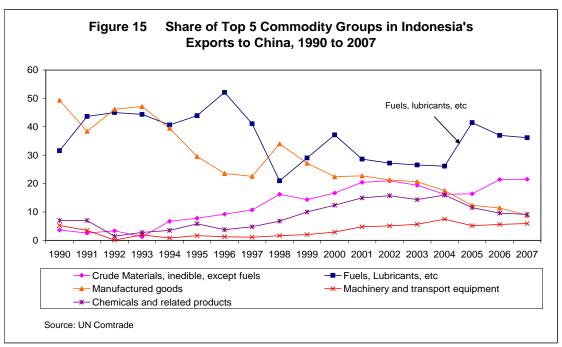
the share of machinery and transport equipment in Thailand's exports to China had increased quite sustainably from about 3 percent in 1991 before stabilizing at about 35 percent in 2006 (Figures 12 and 13).





Unlike the aforementioned ASEAN countries, the trade structure of Indonesia's exports to China is the most unique and expressed a different reaction to China's economic rise. As other ASEAN economies integrated themselves to a "China-centric" production network by changing the focus of their production output from capital goods to intermediate products, Indonesia's exports clearly showed that it did not follow this development. In 2006, the largest contribution to Indonesia's exports to China was not machinery and transport equipment but fuel products at 37 percent, followed by crude materials and vegetable and animal oil at 25 percent and 13 percent respectively. The share of machinery and transportation equipment in the same year was only about 6 percent not far off from the 1991 level of about 4 percent (Figures 14 and 15).

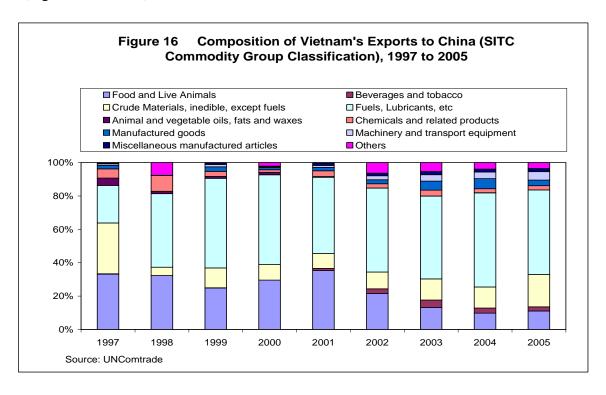


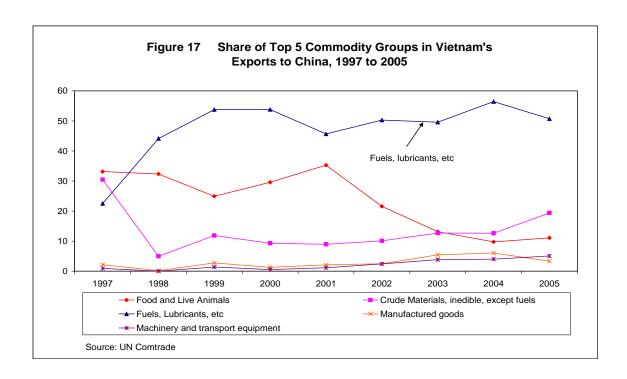


Although Indonesia's case could easily be explained by the fact that it is a primary commodity exporter, it also highlighted a negative development to the emergence of a China-centred production network. Indeed, during the 1990s, especially before the 1997 Asian financial crisis, Indonesia was among the biggest producer of manufactured goods in the region. For example, from 1991 to 1996, nearly 40 percent of Indonesia's exports to China were made up of manufactured goods. However, after 1997, the share of manufactured goods decreased from about 23 percent to only 11 percent in 2006.

The fact that the decline of the share of manufactured goods in Indonesia's exports to China is not preceded by a steady rise in the output of machinery and transportation equipment or other intermediate products, it revealed that Indonesia is finding it difficult to integrate itself into the China-centred production network. This could create trade-related friction between the two countries as both of them would be producing similar products. Nonetheless, the high composition of raw materials such as fuel products and crude materials which are highly demanded by Chinese industries, in Indonesia's exports to China could offset the negative impact of China's rise.

In fact, raw materials still play a relatively important role in trade between China and the newer ASEAN members. These members either have yet to develop their more sophisticated manufacturing sectors or are producing labour intensive, low technology content manufactured products similar to China. Consequently, they are exporting primary commodities such as food and live animals, fuel products and crude materials to China. For example, Vietnam, one of the fastest growing economies in the region which joined ASEAN in 1998, is exporting mostly fuel products and crude materials to China. In fact, from 1997 to 2005, the share of these products in Vietnam's exports to China increased from 53 percent to over 70 percent (Figures 16 and 17).





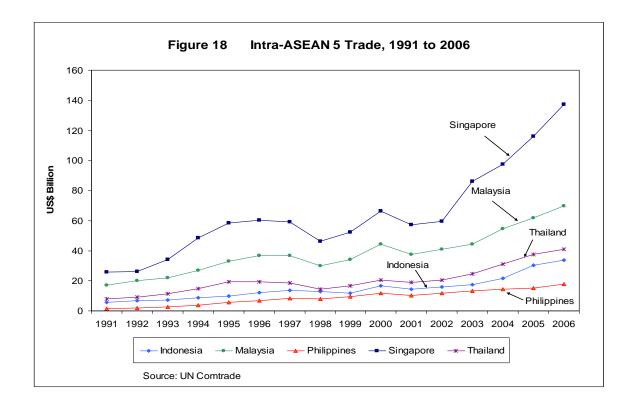
We have shown that trade expansion between China and ASEAN members is associated with significant structural changes in traded goods. Most importantly, the share of machinery and transport equipment in total export to China has risen considerably to account for more than half of ASEAN's total export to China. In contrast, the export to China of other manufactured goods, including wood manufactures, textile, paper, non-ferrous metals, iron and steel and non-metal manufactures, has seen the largest drop in share since early 1990s. To varying extent, this trend is shown in bilateral trade between China and the individual countries of ASEAN 5.

Perhaps a more important issue is how growing Sino-ASEAN trade and integration might have affected intra-ASEAN 5 trade relations and whether it has helped facilitate ASEAN economic integration. The question is whether closer China-ASEAN trade relations have served as a driving force for intra-ASEAN integration and for a wider East Asia production network. As China has become a strong competitor to ASEAN members for a large range of products, it places increasing emphasis on intra-ASEAN integration. Consequently, the overall degrees of specialization in ASEAN increases and member states trade more with each other. Certainly, member states have aspired for closer ASEAN integration to strengthen the region's competitive position, especially after the 1997 financial crisis and particularly after 2002. We address this issue in the following section.

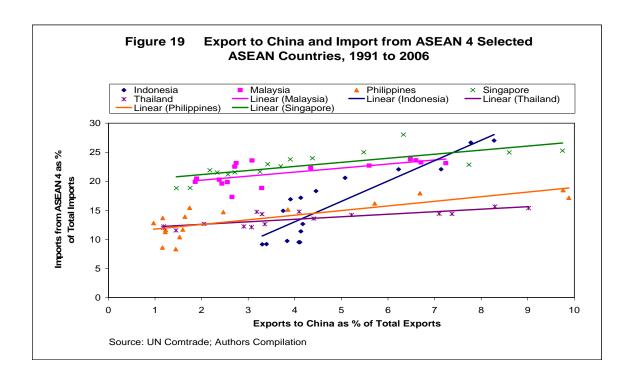
Trade with China and Intra-ASEAN 5 Trade

Just as trade between ASEAN 5 and China expanded from US\$8.4 billion in 1991 to more than US\$130 billion in 2006, trade among the ASEAN 5 members also registered a significant jump from US\$58 billion to nearly US\$3 trillion during the same period. Intra-ASEAN 5 trade has also experienced accelerated growth after

2000 at an average rate of about 15 percent annually (Figure 18). This coincided with the rapid trade expansion of about 20 percent annually between ASEAN 5 and China which came after the latter's accession to the World Trade Organization in 2001 and the signing of the ASEAN-China Free Trade Agreement in 2002.

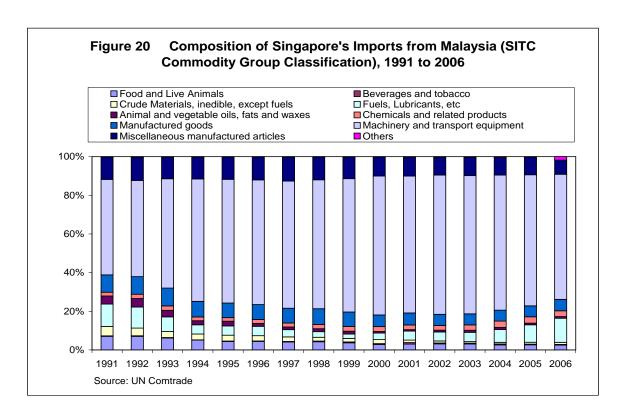


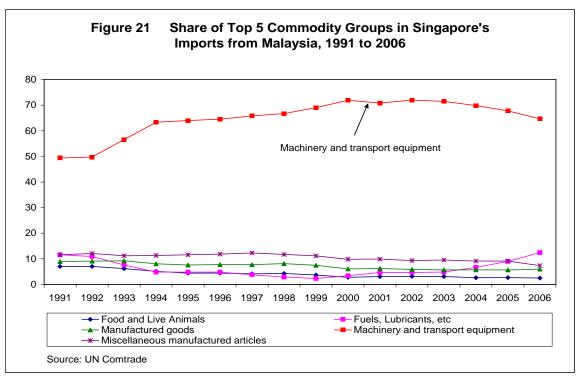
As is shown in Figure 19, for each member of the ASEAN 5, increases in export to China as a share of total export are associated with increases in import from the other four ASEAN 5. This positive correlation is particularly important for Indonesia. This suggests that closer trade relations with China have increased a member's trade with other ASEAN members, in another word higher intra-ASEAN trade. We may say that China's trade expansion and economic rise have facilitated the growth of both Sino-ASEAN and intra-ASEAN trade in recent years. This is the result of ASEAN's increasing integration with China and the consolidation of ASEAN 5's position in a China-centric production network. We now examine more closely the development of intra-ASEAN 5 trade, particularly after 2000, to understand the nature of structural changes of the region's trade.



We have shown that closer trade relations with China have been accompanied by considerable structural changes in ASEAN 5's total trade, such as higher export of machinery and transport equipment to China. China has played an important role, especially in reorganizing regional production patterns. We now examine how trade among ASEAN members has changed in composition, as a result of closer trade relations with China. For example, the share of imports for such intermediate goods as machinery and transport equipment may decrease as their respective ASEAN trading partner would be exporting these goods to China directly. In its place, there should be an increase for other trading products.

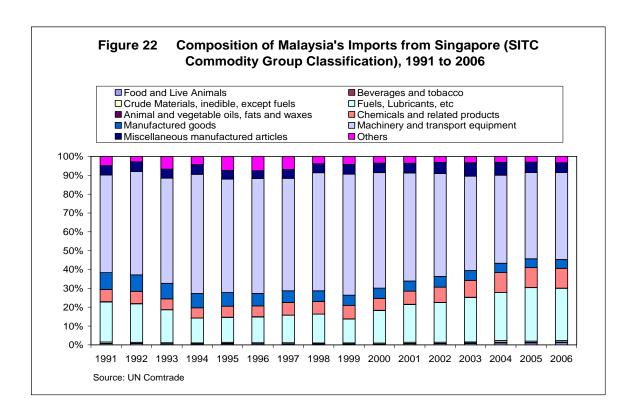
We start with Singapore as it is the biggest contributor to intra-ASEAN trade. Singapore's intra-ASEAN trade in 2006 was US\$137 billion, which was about 46 percent of total intra-ASEAN trade. Its biggest trading partner in ASEAN is Malaysia. In 2006, Singapore-Malaysia trade amounted to US\$67 billion or about 49 percent of Singapore's intra-ASEAN trade. The main import product in Singapore-Malaysia trade since 1991 has been machinery and transport equipment. In 2006, the share of this product group was about 65 percent of Singapore's imports from Malaysia. Compared to 2000, when China-ASEAN 5 trade was gaining speed, this represented a slight drop from 70 percent (Figures 20 and 21).

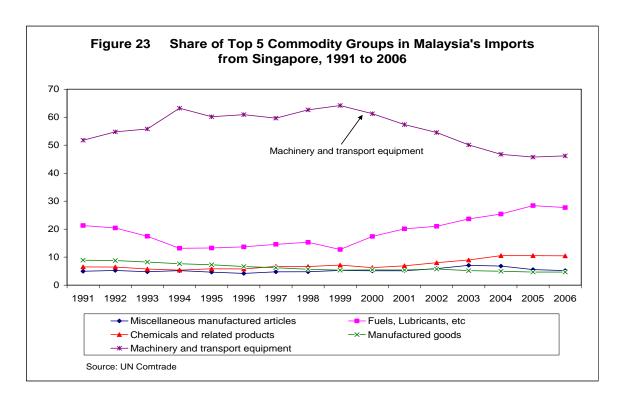




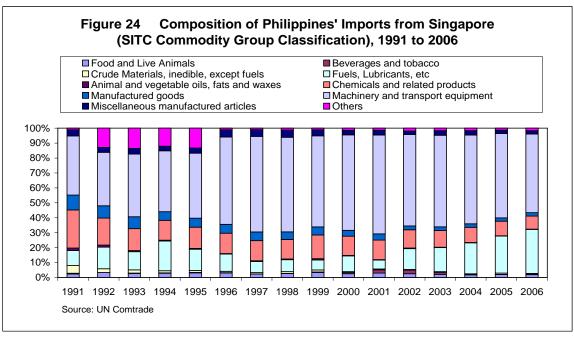
The decrease is brought about by Singapore's increase import for Malaysia's oil for refinery purposes. From 2000 to 2006, the share of fuels increased from about 4 percent to 13 percent. This could be an indication that Singapore is slowly becoming a refinery centre for fuel products within the ASEAN region. This is feasible especially when the region is exporting more oil to China to meet its energy demand.

The decreasing share of machinery and transport equipment could also be seen in the composition of Malaysia's intra-ASEAN 5 trade. Malaysia is the second largest contributor to intra-ASEAN trade. In 2006, Malaysia's intra-ASEAN trade totalled US\$70 billion or 23 percent of total intra-ASEAN trade. Malaysia's biggest trading partner in its intra-ASEAN trade is Singapore. In 2006, Malaysia-Singapore trade was worth US\$40 billion which was about 60 percent of Malaysia's total intra-ASEAN trade. The biggest trading product in Malaysia-Singapore trade was machinery and transport equipment (Figures 22 and 23). In 2006, machinery and transportation equipment comprised about 47 percent of Malaysia's imports from Singapore. However, the share of this product group has been reducing since 2000. In fact, it has decreased from about 60 percent in 2000 to the current level. This trend is similar to Singapore's and occurred along with the burgeoning China-ASEAN 5 trade. In contrast, Malaysia is importing more fuel products from Singapore. From 2000, the share of fuels jumped from 18 percent in 2000 to nearly 30 percent in 2006. As Singapore does not have any oil reserve, it could mean that Malaysia is increasing its exports of unprocessed oil to Singapore to be refined before re-exporting it to other destinations.

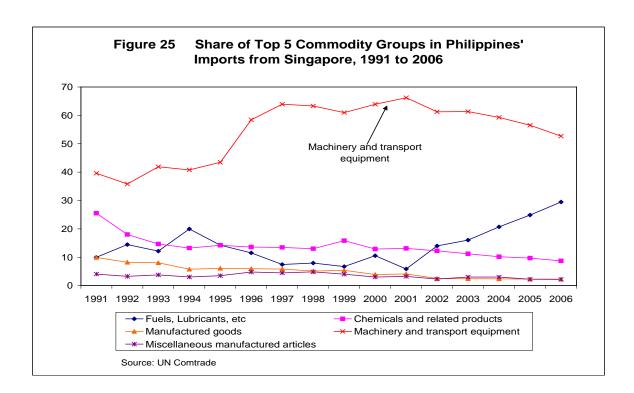




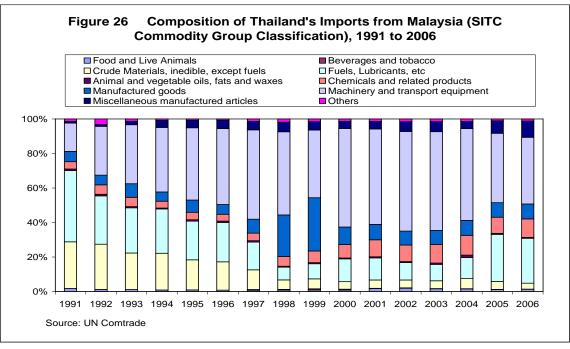
The changes in the Malaysia-Singapore trade structure are also similar to Philippines' trade with Singapore (Figures 24 and 25). Like Malaysia, Philippines' largest trading partner in its intra-ASEAN 5 trade is Singapore and the biggest trading product in Philippines-Singapore trade is machinery and transport equipment followed by fuel products. However, the share of machinery and transportation equipment has been decreasing in Philippines' imports from Singapore from about 64 percent to 52 percent. On the other hand, the share of fuels increased from about 10 percent in 2000 to 28 percent in 2006.



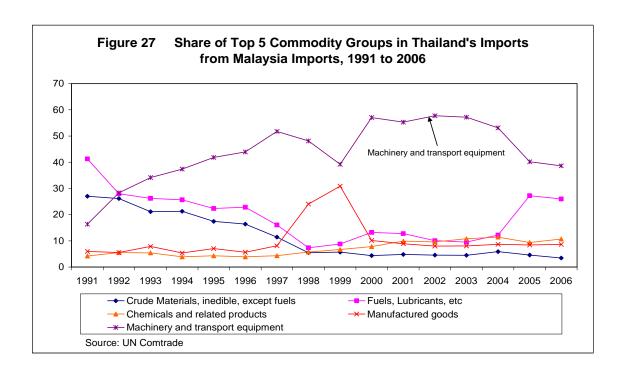
Philippines is the smallest contributor to intra-ASEAN 5 trade. In 2006, its total intra-ASEAN 5 trade was US\$17 billion which was about 6 percent of the total intra-ASEAN 5 trade volume.



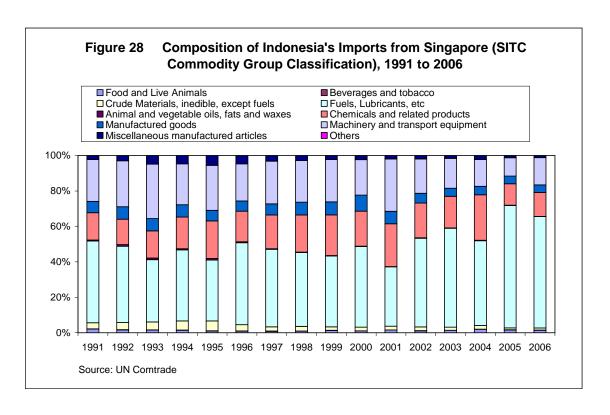
Although Thailand's biggest trading partner in its intra-ASEAN 5 trade is Malaysia not Singapore, the changes in its trade structure is also similar to the aforementioned countries. Since 2000, the share of machinery and transportation equipment, the largest trading product in Thailand-Malaysia imports, has decreased from about 55 percent to 39 percent in 2006, while fuels have increased from 13 percent in 2000 to 26 percent in 2006 (Figures 26 and 27).

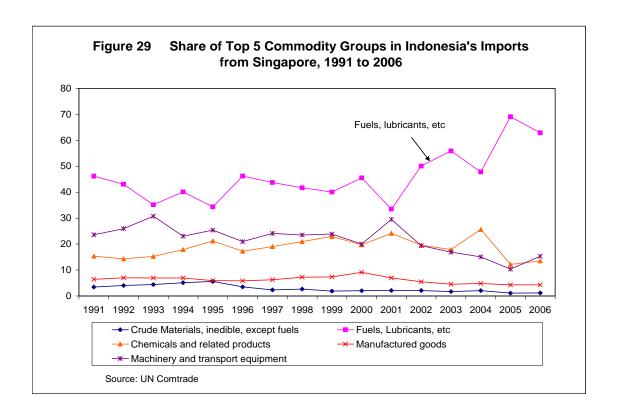


Thailand's total trade with Malaysia was US\$15 billion in 2006. Its total intra-ASEAN 5 trade in the same year was US\$40 billion, making Thailand the third largest contributor to intra-ASEAN 5 trade at about 13 percent of total intra-ASEAN 5 trade.



In the case of Indonesia, changes to its trade structure in its intra-ASEAN 5 trade are also similar to those of Malaysia, Philippines, Singapore and Thailand. Although machinery and transport equipment were not the biggest trading product in Indonesia's trade with Singapore, Indonesia's largest trading partner in ASEAN 5, its share also experienced a decrease (Figures 28 and 29). From 2000 to 2006, the share of machinery and transportation equipment in Indonesia's imports from Singapore was nearly halved from about 28 percent in 2000 to 15 percent in 2006. During the same period, share of fuels increased from 45 percent in 2000 to 63 percent in 2006.





Conclusion: Prospects and Challenges

It has been clear that China's rapid economic growth and trade expansion in recent years, in particular its deeper economic integration with economies in Southeast Asia, have led to substantial structural changes in regional production and trade. Broadly speaking, a growing and strengthening Chinese economy provides both opportunities and challenges to ASEAN countries. In response, member states have deepened their trade and investment relations with China to further intensify the extensive regional production sharing arrangement in East and Southeast Asia.

The results have been a rapid growth of intra-industry trade between ASEAN and China, reflected in the considerable increase of trade in machinery and equipment. As the same time, intra-ASEAN trade has also increased significantly, in both absolute volume and in relative share of total. Moreover, intra-ASEAN trade has also experienced structural changes in recent years. For ASEAN 5, the relative importance of goods in "machinery and transport equipment" has dropped modestly while that of raw and processed materials, such as "fuels and lubricants, etc.", has increased. This indicates a shift toward a China-centred regional division of labour in manufactures production. Nonetheless, the region continues to rely on the advanced economies of North America, Europe, and Japan for export of finished products.

There are however challenges for ASEAN countries to maintain their competitiveness and complementarity with China. With respect to ASEAN's relatively more developed economy, they face the task of industrial upgrading to maintain a technological lead over China. For ASEAN's newer members, the challenge is to develop competitive labour intensive industries. The best solution to such challenges is to pursue further regional economic integration, including most importantly intra-ASEAN and China-ASEAN economic integration.