

Trade Liberalization and Poverty Reduction in China and ASEAN*

Shunli Yao

Institute for Applied International Trade, Beijing

shunliyao@yahoo.com

Yunhua Tian

University of International Business and Economics, Beijing

Loitongbam Bishwanjit Singh

University of International Business and Economics, Beijing

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Summary

China - ASEAN bilateral trade liberalization is further integrating the region along the line of global value chains. This gives high hope that the low income and poor in the region can be included into world trading system and be lifted out of poverty.

This paper first reviews China's experience in trade liberalization and poverty reduction. In agriculture, because the "grain self-sufficiency" policy and the stringent sanitary and phyto-sanitary (SPS) standards imposed by its main trading partners, China's agricultural trade liberalization has not lead to substantial labor intensive horticultural exports to high end market. Its impact on poverty reduction is limited. However, its innovative processing trade regime has generated millions of manufacturing jobs for unskilled migrant workers and is regarded as a success in poverty reduction.

ASEAN countries are not homogeneous. This paper examines the evolving trade patterns since 1997 between China and ASEAN countries in electronics and machinery, and the textile and clothing sectors, the two sectors that are most fragmented in production. It finds that high-income ASEAN countries are specializing towards R&D intensive parts production with China as an assembly center. At the same time, the low-income ASEAN countries are becoming the assembly center for China made parts. This suggests the opportunities of labor intensive assembly jobs in the two manufacturing sectors for the unskilled low income and poor labor in ASEAN.

The shift of Chinese labor intensive assembly operations towards the low-income ASEAN countries has implications for poverty reduction in the region. Given that the large scale processing trade is crucial for effective poverty alleviation, China's innovative processing trade customs arrangement shall be introduced to the new host countries. In this regard, there is much scope for China to beef up its aid for trade programs to help poverty reduction in the region.

I. Introduction

Ever since Deng Xiaoping's South Tour in early 1992, China has embarked on a road to open up its foreign trade and investment regime. Its foreign trade has been increasing with the inflow of export-oriented FDI. This development was accelerated after the Asian financial crisis in 1997 when FDI started to shy away from the crisis-stricken ASEAN and flocked to China. China's WTO accession in 2001 secured its access to the US market and the subsequent domestic reform to conform with the WTO rules helped improve the investment environment, leading to another wave of FDI-induced export surge. The slowdown of the US and EU economies as a result of the 2008 global financial crisis pushes the Southeast Asia to turn towards alternative export markets within the region in search for new growth engine.

The FDI movement in the region and the refocus on growth opportunities within the region has strengthened the production linkage and the increasingly finer production fragmentation has made it possible to better explore the comparative advantage within the diverse Southeast Asia.

The establishment of the China-ASEAN Free Trade Area (CAFTA) in 2002 is a landmark event in the integration of China and ASEAN economies. CAFTA reduces the tariffs, and for some least developed ASEAN countries, China has even offered duty free access to its market. This lowers the cost of cross border merchandise movement and represents further deepening of economic and social integration between China and ASEAN.

Trade liberalization generally improves the efficiency of the economy and hence the welfare of the country. At the same time, Southeast Asia is a key part of the global value chains. The increasing fragmentation of production process creates more opportunities for the unskilled poor who would otherwise have to master the whole production process. As such, trade deepening induced by lower tariffs and production fragmentation has the potential to help fight poverty. While China and ASEAN countries have made remarkable progress in reducing income and non-income poverty in recent years, trade liberalization has played different roles. The development of

China's processing trade regime has helped create labor intensive manufacturing jobs for unskilled migrant workers and lifted millions of rural poor out of poverty. ASEAN countries have relied more heavily on national anti-poverty programs, and the potentials of trade opportunities have not yet been fully exploited. One of the reasons is the export constraint on the part of ASEAN members, especially the least developed members, reflected in their weak trade policy governance capacity and poor infrastructure. As a result, the poor and low income people often benefit little from trade liberalization in the region.

To find a solution to this problem, we need to have a good understanding of the evolving trade patterns between China and ASEAN. ASEAN countries are not homogeneous. The patterns of their production linkage with China are evolving in different ways. While high income members (Singapore and Malaysia) are increasingly specializing in R&D intensive parts production for assembly in China, low income members (Vietnam, Cambodia, Laos and Myanmar) are becoming host of labor intensive assembly operations for China made parts. The patterns are consistent with the evolution of global value chains in line with the comparative advantage in the region. Their implications for poverty reduction in the region are clear, as the assembly operations create jobs for the unskilled labor who are mostly poor. China's successful experiences in managing trade liberalization to fight poverty and her emergence as a major donor qualify her as a key contributor to the aid for trade programs in ASEAN.

In section II, this paper will first review China's experience in managing trade liberalization in fighting poverty in both agriculture and manufacturing sectors. The dilemma between trade reform and poverty reduction in agriculture has largely been overcome by the innovative manufacturing trade promotion in the form of processing exports. Section III examines the distinctively different patterns of closer production linkages of high versus low income countries with China. In view of this, priority areas for foreign aid are identified. Finally in section IV, the paper evaluates China's foreign aid practice and argues for a proactive Chinese aid for trade program in ASEAN.

II. Trade liberalization and poverty reduction: China's experience

Most of China's poor live in the rural areas. Rural poverty alleviation in China has benefited from reform in agriculture and in other areas of the Chinese economy in the past thirty seven years. Agricultural reform has reduced distortions inherited from the era of central planning and early industrialization that discriminate against agriculture and farmers, and the livelihood of Chinese farmers have been improved. In the 1980s, the emergence of the township and village enterprises led to rural income improvement. In 1992 when Deng Xiaoping made his tour to the south to re-activate China's reform, foreign direct investment (FDI) in China started to gain its momentum. In the coastal cities, foreign funded enterprises have set up processing and assembly operations for exports and this has created job opportunities for millions of rural migrant workers. Thus, Chinese trade reform in manufacturing is believed to have been helpful with rural poverty alleviation.

In contrast, agricultural trade reform is generally perceived as being detrimental to rural development at least in the short run. Due to WTO and FTA negotiations and water shortage in China's grain belt (Murphy, 2004), market access for grain imports is expected to improve leading to agricultural production adjustment, but this will not happen in a significant way in the short run. Food security will continue to be a major concern and dominate agricultural trade policy debate in China. As a result, to fight poverty through labor intensive horticultural export is not a realistic option.

2.1 Agriculture trade liberalization and poverty reduction

Chinese agriculture trade reform¹

Before reform started in 1978, Chinese agricultural sector was depressed. Within agricultural sector, grain production was emphasized to ensure adequate food supply for the country. On the international trade front, the US-led UN embargo against the new communist regime in the 1950s and the policy-induced 1958-60 famine reinforced the conviction of the Chinese leadership that "grain self-sufficiency"

¹ For detailed discussion on Chinese agricultural trade reform, please see Yao (2007).

should become the principle of utmost importance in agricultural trade policy making. Implementation of China's WTO accession commitments has made China one of the most liberalized countries in agricultural trade. Grain TRQs are expanded, and both in-quota and out-quota rates are lowered. Cotton and soya imports have been opened up to meet the rising domestic demand.

Agricultural trade liberalization has unleashed the potentials of labour-intensive production in agriculture. Development of horticulture, poultry, dairy and animal husbandry sectors has helped increase farmers' income and thus contribute to poverty reduction. However, "grain self-sufficiency" is still the priority in agriculture. Agriculture trade liberalization only slightly relaxed it from 100% down to 95%.

For Chinese agriculture, domestic liberalization has left market as the sole regulator of grain production, and WTO accession commitments have opened the door (up to TRQ limits) for imports. However, the ongoing WTO and FTA negotiations, which have been stalled or slowed down, are unlikely to further liberalize agricultural trade. In the Doha WTO negotiations, the most contentious issue is agriculture market access, which China has been resisting any further concessions. China's FTA with ASEAN (CAFTA), and its ongoing negotiations with Australia, all have significant agricultural components. However, rice is excluded in CAFTA. In the prolonged ongoing China-Australia FTA talks, China is under pressure from Australia to open up its grain trade, but has been reluctant to do so.

All these developments would make it difficult to maintain sufficiently high domestic grain prices. To boost grain production through farm subsidies, though allowed under China's accession protocol, was not a financially viable option, given the sheer size of the grain sector, and become constrained today by the 8.5% cap for allowed domestic support. Therefore, farmers can hardly become rich through growing land-intensive grain.

China is abundant in farm labors but scarce in arable land. Under free trade, China would become a net importer of grain and other land intensive crops and net exporter of horticultural and other labor intensive agricultural products. But recent

developments (or lack of development) in WTO/FTA negotiations would not significantly further liberalize grain trade either. Without a dramatic transformation of Chinese agricultural trade, labor-intensive horticultural exports would not have a chance to grow. Meanwhile, agriculture market access reform in other countries will not help with China's horticultural exports very much, as tariffs for horticultural products have been low and the key hurdles for China's agricultural exports has been sanitary and phyto-sanitary (SPS) requirements, or disguised protectionism in the form of SPS. Since SPS is not on the WTO/FTA negotiation agenda, the prospects of Chinese agricultural exports are not promising, unless resources are unlocked from the grain sector and efforts are made to upgrade the quality of its products, much of which are grown with heavy use of pesticides and other farm chemicals.

Implication for Poverty Alleviation²

The expansion of horticultural exports would create more rural employment opportunities. The nature of being labor intensive does not mean that horticultural production and exports can be done with only labor input. Rather, capital input is critical to ensure the quality of the horticultural products to meet the SPS requirement, to maintain a well-functioned quality certification system and to provide efficient logistics to deliver the products to both domestic and overseas high-end markets. Clearly, capital injection into the horticultural sector would bring high income to the labors employed. Indeed, high quality Chinese horticulture has witnessed significant expansion to high-end overseas markets and domestic markets in metropolitan areas, thanks to Japanese and Korean investment in Shandong province and industrialization of the sector led by large domestic agric-business groups in the southern provinces. Horticultural growers generally earn more than they did in the traditional grain production. However, the horticultural sector has not fulfilled its potential in international trade and in poverty alleviation due to the following reasons:

(1). Lack of funding. Horticultural production is labor-intensive, but also requires access to land, quality seeds, market information and marketing channels. Except foreign investors and domestic large agri-business groups, ordinary farmers often are

² Case studies on horticultural production and poverty reduction in China can be found in Yao (2009).

constrained by lack of funds for initial investment, which usually takes years to show any return. The horticultural sector, dominated by smallholders and private businesses, does not have the political status as the grain sector. Therefore, the horticultural sector is not in a position to compete for funding with the grain sector. As a result, it is not a surprise to see poverty boxes in the grain belt in central China (French, 2008). This situation is very much like the small and medium-sized enterprises in China's export oriented labor intensive manufacturing sectors.

(2). Low quality. Unlike manufacturing exports, however, horticulture faces much tougher quality standards known as SPS in high-end overseas market. In cross country comparison, for per unit output, China uses more farm chemicals than EU and US. In China, the use of pesticides and other farm chemicals in horticulture is heavier than in grain production. This has not only contributed to rural environmental deterioration, but has also made it difficult for Chinese horticultural products to enter overseas market. To improve the quality of Chinese horticultural exports to meet the SPS standards in developed countries is very challenging given that the sector itself is under-funded.

(3). Lack of strict enforcement of quality certification system. China does have a strict testing and certification system in place for organic, green and non-hazard agricultural and food products. Due to lax enforcement, however, one can actually buy a certificate. That's one of the reasons domestic horticultural products can not sell for a good price in major Chinese cities, even though there are consumer groups who are willing to pay more for organic and green produce. Lack of strict enforcement not only raises the food safety concern, but also denies the genuinely good producers of the growth space at home market before they go overseas.

(4). Volatile prices. Compared to grain, horticulture is cash crops. It is also a risky business. Over years, the prices have been declining, as more farmers and companies are entering the business. Moreover, susceptible to weather conditions, the prices are also volatile. All these make it costly to run a successful business in horticultural export.

In short, horticultural exports have the potentials to pull the Chinese farmers out of low-income trap and thus help with poverty alleviation, according to the principle of comparative advantage. However, domestic policy distortion and stringent foreign SPS requirements, among others, make it unlikely to happen. On the other hand, despite similar unfavorable policy distortions, Chinese labor intensive manufacturing has taken full advantage of China's abundant labor resource and has become a star performer in world trade, thanks to production fragmentation, manufacturing market access liberalization by OECD countries, as well as China's own innovative customs arrangement, known as processing trade regime, that helps facilitate the country's participation in global value chains.

2.2 Manufacturing trade liberalization and job creation for migrant workers

China's open-door policy has ushered in foreign competition to sectors traditionally dominated by the state-owned enterprises (SOEs). Its promotion of export sectors, on the other hand, has helped absorb the SOE lay-offs and more than that, create job opportunities in the cities for rural surplus labors.

Lin *et al* (2003) has famously described China's development strategy in the reform era as comparative advantage complying. In foreign trade, Chinese manufacturing export expansion is fueled by export-oriented FDI, mostly engaged in processing trade -- importing parts and components from abroad and exporting the finished goods. Foreign investors has come to China to exploit the opportunities of labor intensive manufacturing exports, while Chinese funds have been largely channeled to SOEs in the import competing sectors, which are mostly capital intensive (Huang, 2003). This furthers the scarcity of capital in a sector that it would receive a high return anyway. As such, local governments have been giving additional concessions or preferential policies to FDI, particularly the exporting foreign funded enterprises, through cheap loans, free land use, subsidized energy supply and lax enforcement of environmental law, etc., and they serve as additional incentives for export-oriented FDI to go to China.

Chinese customs regimes can be broadly grouped into three categories: normal, processing and all other trade regimes. Normal trade is the trade that does not benefit from special customs regimes and tariff preference, unlike the processing trade regime

that was set up in early years of the Chinese reform when the country was eager to promote exports to earn foreign currencies. Under the processing trade regime, goods are allowed to enter China duty free, but the processed goods cannot be sold in China and must be exported.

The broad processing trade regime consists of two customs arrangements: “processing and assembling (P&A)” and “processing with imported materials (PWIM).” The key distinctions between the two are as follows:

(1) Under P&A, also called *lailiao jiagong* in Chinese, “the factory in China plays a fairly passive role, taking orders and receiving materials from foreign trading companies;” under PWIM, also called *jinliao jiagong* in Chinese, “the factory in China purchases the imported materials and organizes production and trade on its own.”³

(2) Imported materials used for P&A are provided by the foreign firms with the Chinese side spending no foreign exchange for imports, while materials for PWIM are imported by Chinese firms to meet their own needs for processing.

(3) The proprietary rights of the imported materials for P&A and the selling rights of the finished products belong to foreign firms, while the proprietary rights of the imported materials for PWIM and the selling rights of the finished products belong to the Chinese side.

(4) In P&A, the Chinese side only takes responsibility for processing and assembling the imported materials according to the requirements of foreign firms. The Chinese side takes no responsibility for the profits or losses in selling the subsequent products. But in PWIM, Chinese enterprises shall arrange the processing themselves and shall take sole responsibility for their own profits or losses.

Processing trade contributes half of Chinese trade growth. The scale is unprecedentedly large compared to similar export processing program in other countries. This is not because of preferential or concessionary policies towards FDI and export, but because the special customs arrangement that make it possible to monitor and facilitate the processing trade operations in a large geographic area. This point is very well made by Naughton (1996, 302):

³ Quotes come from Naughton (1996), page 300.

“None of the concessions are unique. All are observed elsewhere in East Asia and, indeed, around the globe. The scale on which these provisions are introduced in China, however, is unusual. In most countries, such concessionary provisions are only applicable within a strictly policed processing zone. In essence, China created a kind of gigantic export processing zone, defined not geographically, but by juridical status of the enterprise involved. Although the SEZs attracted a lot of attention and were located near important economic centers in southern coastal China, they did not determine the extent of the export processing regime: export-oriented FIEs qualified, whether they are located in SEZs or not.”

In that sense, the processing trade regime itself is an institutional innovation by China. It enables the formation of labor intensive assembly and processing operations across the country. It is a nationwide export promotion arrangement that has created jobs for millions of migrant workers from inland rural areas. It is a good example of inclusive trade growth that brings the poor into the global value chains.

2.3 Problems with Chinese experiences and lessons for ASEAN

This success story in manufacturing export, however, is not without problems, largely because of financial constraint facing the labor intensive manufacturing sector caused by China’s biased industrial policy in favor of SOEs in the strategic import competing sectors. These problems include:

(1). Low value added. About half Chinese exports constitutes processing exports. According to China customs data, during 2001-2008, processing imports account for 56%~68% of total processing exports, implying that domestic value added in processing exports is no more than 32%~44%. Calculations based on China input-output table put the share of domestic value added in overall exports at 59% for 2007 (Chen *et al*, 2012). This implies that the real intensity of Chinese export is much smaller than the customs export data suggests.

(2). Low end and low sophistication. Chinese manufacturing exports are large in volume but with dubious quality. There is no controversy regarding the low end

products in textile and clothing, which is China's largest surplus sector in trade with the world. But views are different on Chinese electronics and machinery exports, the fast growing export sector with the largest share in total exports. In a cross country study, Rodrik (2006) finds Chinese exports are highly sophisticated such that they cannot be explained by its economic fundamentals. Yao (2009) argues that the seeming anomaly is due to China's participation in global value chain. The electronics and machinery are the most fragmented sector, has the longest global value chain and dominates Chinese exports. The fact that the sector enjoys the largest surplus only with the US and is almost balanced in trade with the world is a reflection that Chinese valued added in exports are nothing but low end labor intensive operations.

(3). Low wage income. Wage rate is determined by labor productivity, which in turn depends on training, production equipment and technology, the activities that normally require heavy investment. Under-funding of China's processing trade sector only creates unskilled jobs and leads to low wage income for migrant workers. The recent rise in wage rate in coastal cities is a long overdue correction in wage rate when the sector is becoming more productive and the country's demographic structure has resulted in a labor shortage.

(4). Limited interregional spillovers. With 40% of total population and 30% of total land area, the coastal regions host 90% of the country's foreign direct investment (FDI) and exports. It is well understood that FDI and exports benefit the local economies, but there is no consensus that they will necessarily benefit other less developed regions, as their positive spatial spillovers may be offset by the negative impacts of their competition for talents and resources with inland regions which have higher poverty incidences. In fact, because of the weakness in Chinese processing exports mentioned above, coastal exports have little positive impact on inland economies, though FDI in the format of cooperative joint ventures does, which are the main producers of processing exports (Ouyang and Yao, 2013).

What can ASEAN learn from Chinese experiences? First of all, the economic logic of poverty reduction through trade liberalization is to foster an export sector intensively employing unskilled labor. This creates job opportunities for the poor and helps lift

them out of poverty. In this regard, phase out of the MFA in 2006 was a good policy reform. However, it was not the initiative of a national government. Rather, it was the result of multilateral trade negotiations in the Uruguay Round. The liberalization of textile and clothing trade certainly helps the poor. But it is the processing trade regime itself that qualifies as a genuine institutional innovation by China and can serve as a template for the similar policy experiment in ASEAN. Given that it covers the processing trade all over the country, it requires special customs arrangement in monitoring and management, which is more complicated than a small confined export processing zone.

Secondly, jobs for unskilled labor are meant to be low-paying. However, mechanism shall be in place to upgrade their skill and technological content, and to improve the wage over time. Unfortunately, high savings of Chinese households are channeled by the state-owned banks to politically connected SOEs in sectors that do not necessarily have a comparative advantage. Thus, even simple processing and assembly operations lack domestic funding to expand, and have to resort to FDI to form a cooperative joint venture, as evidenced by the prevalence of PWIM. Chinese firms are not prepared to engage in higher value added production and to participate in procurement and marketing activities. Thus, their ability to move up the value chains is greatly constrained by distortions in China's financial system.

III. Evolving trade patterns between China and ASEAN and the global value chains

Prolonged engagement in low end and low value added manufacturing exports with low profit margin makes Chinese firms vulnerable to overseas market downturns. The 2008 global financial crisis originated in the US and the EU, China's two main overseas markets, is the latest and the most powerful warning to Chinese policy makers that change has to be made to the country's export strategy. The same policy movement is also happening in some ASEAN countries.

Economic development in China is not even across the country. ASEAN is not homogeneous either. Table 1 lists the per capita GDP for ASEAN members. One should be aware that although Brunei enjoys the second highest per capita GDP

among ASEAN members, its economy is highly dependent on oil production and its per capita GDP is not a good indicator of the country's real economic and social development level. Except Brunei, the per capita GDP numbers can divide ASEAN members into three categories: high-income countries (Singapore and Malaysia), mid-income countries (Thailand, Indonesia and the Philippines), and low-income countries (Vietnam, Laos, Cambodia and Myanmar).

[Insert Table 1 here]

When Chinese coastal firms are starting parts and components production, its inland provinces are welcoming the traditional processing and assembly businesses. Similarly, when Singapore and Malaysia sees more MNC move in their R&D centers⁴, the low income ASEAN members are embracing the opportunities out of the industrial adjustments in China and high income ASEAN countries. This increasingly finer division of labor within China and ASEAN is reflected in the changing patterns of trade in parts and components in electronics and machinery, and textile and clothing sectors, as shown in the following tables. In organizing the COMTRADE data, we use the United Nations Broad Economic Categories (BEC) classification to define parts and components.

[Insert Table 2 here]

Table 2 lists China's imports of electronics and machinery products for total value and for share of parts and components over 1997-2013 from high-income and mid-income ASEAN countries. While the total imports of the products from the two groups of countries are skyrocketing, the shares of parts and components are changing in different direction. As expected, the share of parts in imports from Singapore and Malaysia has increased from lower 70s to mid 80s in percentage, up by more than 10%. In contrast, the same share for parts in imports from Thailand, Indonesia and Philippines are declining in trend from 70s to 50s in percentage, down by 20%. Clearly, there is a divergence for the two groups of countries within ASEAN in their roles of production sharing with China in electronics and machinery sector. In relation

⁴ This development is documented in Athukorala (2013).

with China in electronics and machinery trade and production, the former is specializing towards R&D intensive parts and components production, while the former is becoming less so. This pattern suggests that China is adjusting into somewhere between high-income ASEAN and mid income ASEAN for its position in global value chains in the said sector.

[Insert Table 3 here]

Table 3 lists China's exports of parts and components in two sectors, electronics and machinery, and textile and clothing, to the low income ASEAN counties (Vietnam, Laos, Cambodia and Myanmar). Again, trade volumes are skyrocketing, but the shares of parts and components exhibit quite different patterns. For electronics and machinery, the share has experienced a sharp jump from merely 14% in 1997 to 51% in 2013, up by 37%!

For textile and clothing sector, an upward trend is also showing up, though at a much modest pace. The share was on rise from 58% in 1997 until 2006 reaching its highest 92%, and then started to decline reaching 61% in 2013. It is not clear what causes the up and down pattern. Given that 2006 was the year the MFA was phased out, we speculate that this has something to do with the MFA quota. When the MFA quota was expanding prior to 2006, China's rising share of parts and components exports to low income ASEAN could be its strategy to take advantage of their cheap labor and newly acquired market access in US and EU, and to concentrate its resources to high value production in parts and components. After 2006 when MFA was phased out but EU and US signed respectively with China special safeguard treaties as a new mechanism to restrict Chinese textiles and clothing exports to the two big markets. The decline of the importance of parts and components in post 2006 years may indicate a correction to development in previous years. However, in terms of total volume, parts and components exports have been rising consistently over 1997-2013. Certainly, China has been helping set up sewing and assembly businesses in textile and clothing sector in these countries.

[Insert Table 4 here]

For electronics and machinery parts and components, are there any differences between China made ones and those made in high income ASEAN made countries? Intuitively, we believe the former would be less technological sophisticated. To verify this, we compare the unit value of the same products, i.e., the same 6-digit HS codes, in Chinese exports to low income ASEAN countries and Singaporean and Malaysian exports to China. Table 4 list the results, as well as the number of products compared. Indeed, Chinese prices are consistently lower than those for the ones made by high income ASEAN countries. This is reflected in the share of products with a smaller than one ratio, ranging from the lowest 69%, to the highest 88%. On average over 1997-2013, there are 81% of the common products, i.e., electronics and machinery parts and components, for which China has a lower unit value.

IV. Implication for China's foreign aid in poverty reduction in ASEAN

Electronics and machinery, and textile and clothing are the two most outsourced sectors. Changing trade patterns in parts and component for the two sectors between China and ASEAN suggests that high-income ASEAN countries are increasingly specializing in R&D intensive operations in the value chains *vis-a-vis* China, and so is China *vis-a-vis* low income ASEAN countries. The consolidation of China as a processing and assembly center for high income ASEAN parts and components, and the emergence of similar partnership between low-income ASEAN countries and China are an indication of more job opportunities being created for unskilled labors, though at different levels in China and low income ASEAN countries. For China, the new processing and assembly jobs can be easily incorporated into its existing processing trade regime. For Vietnam, Laos, Cambodia and Myanmar, to set up a processing zone in a confined area to accommodate the new assembly jobs would be meaningful only for the purpose of policy experiment. To extend the opportunities to all low income population would require the policy to cover a much larger geographic area and at the same time to ensure that they do not generate shocks to domestic markets. To this end, they will need to establish a processing trade regime like the one that has been working so well in China. Therefore, China's aid is much needed to build the capacity of these countries in the area of customs administration.

Traditionally, China's aid to low income ASEAN countries has been largely in infrastructure development. Though this aid strategy will eventually improve the countries' trade performance and benefit the poor, aid directed towards trade bottlenecks and help bring the low income population into the global trading system would generate long lasting and sustainable impacts on poverty reduction. This is the rationale for the aid for trade program launched at the 2005 WTO ministerial meeting in Hong Kong. China's successful processing trade regime, its emergence as a major donor and the emergence of the low income ASEAN countries as the processing and assembly centers for China made parts and components call for Chinese projects through aid for trade program specifically designed to help establish the processing trade regimes in Vietnam, Laos, Cambodia and Myanmar. These projects have a good chance to succeed also because of their small sizes so that trade benefit could easily disseminate to other parts of the countries despite the low value added of the processing trade, and because of less financial distortions caused by vested interests in their import competing sectors so that move up in the value chains over time is a real possibility.

V. Conclusion

China - ASEAN bilateral trade liberalization is further integrating the region along the line of global value chains. This gives high hope that the low income and poor in the region can be included into world trading system and be lifted out of poverty.

China's experience in poverty reduction through trade liberalization is a good example. By setting up an innovative processing trade regime, China has been very successful in creating low-skilled manufacturing jobs on the assembly lines for its unskilled migrant workers. This helps raise income of the rural poor population. The electronics and machinery sectors have been the star performer in Chinese processing exports, largely because they are the most outsourced and highly fragmented in production.

Processing export is not unique to China. China's innovation is to extend it beyond a

confined zone and effectively creates a gigantic export processing nation. Key to its success is the innovative customs arrangements that allow duty free import of parts and components and at the same time strictly police the “no domestic sale” policy to ensure they are eventually exported. This processing trade regime is efficient enough to facilitate large scale movement of parts and components across border and creates massive processing and assembly jobs.

Since 1997, the low-income ASEAN countries, namely Vietnam, Cambodia, Laos and Myanmar, are becoming the assembly center for China made parts. This is especially the case for electronics and machinery sectors. Like China in its pre-reform era, most of the poor in low income ASEAN countries are in rural area where about 70% of the population lives. As the processing and assembly operations are shaping up, these countries are poised to replicate China’s success in poverty reduction through trade liberalization. A similar processing trade regime shall be in place to manage this export promotion program.

Traditionally, China’s aid to low income ASEAN countries has been mostly in infrastructure development. However, aid that is directed towards trade bottlenecks and helps bring the low income population into the global trading system would generate long lasting and sustainable impacts on poverty reduction. This is the rationale for the aid for trade program launched at the 2005 WTO ministerial meeting in Hong Kong. The emergences of China as a major donor and the low income ASEAN countries as the processing and assembly centers for China made parts and components justify more projects through aid for trade program that are specifically designed to help establish similar customs arrangements in Vietnam, Laos, Cambodia and Myanmar, to facilitate large scale processing and assembly operations in these countries. This is important for poverty reduction in the region.

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Appendix

Table 1. ASEAN Per capita GDP, selected years at current USD

	1997	2000	2003	2006	2009	2012	2013
Brunei	16,227	12,751	12,973	31,452	28,454	42,445	39,678
Cambodia	320	293	314	515	735	977	1,047
Indonesia	1,128	731	1,141	1,636	2,362	3,578	3,467
Lao PDR	336	333	364	576	913	1,394	1,505
Malaysia	4,672	3,874	4,150	6,160	7,216	10,338	10,407
Myanmar	100	184	179	233	538	861	916
Philippines	1,157	980	976	1,408	1,829	2,565	2,707
Singapore	25,147	22,757	22,076	33,089	37,961	52,069	55,183
Thailand	2,656	2,026	2,239	3,162	3,947	5,391	5,678
Vietnam	361	403	487	732	1,129	1,596	1,909

Source: ASEAN Macroeconomic Database

**Table 2. Chinese electronics & machinery imports:
total and share of components, 1997–2013, US\$**

Year	Singapore and Malaysia		Thailand, Indonesia and Philippine	
	Total	Share	Total	Share
1997	2,473,665	75	665,924	70
1998	3,162,320	73	1,257,820	81
1999	3,635,103	70	1,813,598	75
2000	5,620,990	71	3,363,350	78
2001	6,347,620	75	3,962,382	80
2002	9,334,555	76	5,867,400	76
2003	14,626,641	73	10,741,213	69
2004	19,667,705	74	15,124,575	69
2005	24,253,822	77	20,794,834	67
2006	26,692,954	78	27,177,642	69
2007	29,013,142	78	35,184,507	71
2008	30,226,313	76	34,522,304	64
2009	29,898,793	79	25,716,588	53
2010	45,693,785	81	32,106,585	56
2011	52,680,807	80	33,687,027	55
2012	50,510,017	82	33,619,388	52
2013	52,100,644	86	28,808,834	60

Source: COMTRADE

Table 3. Chinese exports to Vietnam, Cambodia, Laos and Myanmar
total and share of components, 1997–2013, US\$

Year	electronics & machinery		textile & clothing	
	Total	Share	Total	Share
1997	271,599	14	384,747	58
1998	343,633	19	394,813	53
1999	262,603	19	340,887	66
2000	323,138	25	331,176	88
2001	517,579	34	341,145	91
2002	752,497	39	582,435	85
2003	909,567	39	835,752	83
2004	1,143,743	39	1,077,106	88
2005	1,370,289	36	1,417,777	90
2006	2,026,148	36	1,813,211	92
2007	3,700,063	33	2,546,995	89
2008	5,417,107	33	3,330,831	84
2009	6,318,347	32	3,968,419	73
2010	8,496,394	35	6,325,552	76
2011	10,875,649	37	8,695,420	76
2012	12,657,988	46	11,239,111	62
2013	19,236,707	51	16,090,113	61

Source: COMTRADE

Table 4. Price comparison: electronic & machinery parts

China made / high income ASEAN made

Year	number of common HS6	number of HS6 w/ price ratio < 1	share of HS6 w/ lower price
1997	118	92	78
1998	138	113	82
1999	134	93	69
2000	191	164	86
2001	202	168	83
2002	223	185	83
2003	229	185	81
2004	227	179	79
2005	222	177	80
2006	227	187	82
2007	211	171	81
2008	221	186	84
2009	213	154	72
2010	218	173	79
2011	224	198	88
2012	201	168	84
2013	155	136	88
Average			81

Source: authors' calculation based on COMTRADE data