



*Labuan Bulletin*

**OF INTERNATIONAL BUSINESS & FINANCE**

**Volume 11, 2013**

**ISSN 1675-7262**

**VERTICAL INTRA-INDUSTRY TRADE BETWEEN ASEAN-5  
AND CHINA IN SITC 8**

**Mui-Yin Chin\***

*Faculty of Accountancy, Finance and Business,  
Tunku Abdul Rahman University College.*

**Chen-Chen Yong**

*Faculty of Economics and Administration,  
University of Malaya.*

**Siew-Yong Yew**

*Faculty of Economics and Administration,  
University of Malaya.*

---

**Abstract**

*It is noticeable that international production fragmentation which give rise to vertical intra-industry trade (VIIT) has become increasing important in Asian region. Endowed with abundant labour and huge domestic market, China has emerged as the major assembly centre. As such, ASEAN-5 and China have been aggressively engaged in VIIT in manufacturing goods. This study aims to identify the niches for each ASEAN-5 member in miscellaneous manufacturing sector (SITC 8) which accounted for most of the traditional labour-intensive manufacturing products. This study analyzes the VIIT between ASEAN-5 members and China in SITC 8 at four-digit level from 1993 to 2009. The decomposition-type threshold method is employed in this study. The decomposition analysis has identified the consistent high-value vertical intra-industry (HVIIT) products for each ASEAN-5 member. These products provide synergy in strengthening the bilateral VIIT between each ASEAN-5 member and China.*

**JEL Classification:** F14, F15

**Keywords:** Vertical Intra-Industry Trade, Labour-Intensive Manufacturing Products, Niches

---

\***Mui -Yin Chin** (Corresponding author): Economics and Corporate Administration Division, Faculty of Accountancy, Finance and Business, Tunku Abdul Rahman University College, Jalan Genting Kelang, 53300 Setapak Kuala Lumpur, Malaysia. E-mail: [chinmy@acd.tarc.edu.my](mailto:chinmy@acd.tarc.edu.my).

## **1. Introduction**

Vertical intra-industry trade (VIIT)<sup>1</sup>, which encompasses international production fragmentation<sup>2</sup>, plays the pivotal role for the drastic trade expansion in East Asia (Wakasugi, 2007). The dependence of East Asia countries on international production fragmentation has strengthened the regional trade. In tandem with the augmented regional trade, China has emerged as the major assembly centre attributable to her abundant labour and vast domestic market. As such, the trade structure among Asian countries has been changed (Athukorala, 2009). More than 60% of China's imports were from Asian countries and half of the imported goods were components for reprocessing and assembly, which were subsequently sold to foreign markets (The Economist, 2009). Furthermore, manufacturing products accounted for more than 80% of total trade between East Asia and China in 2006-2007 (Athukorala, 2011).

Likewise, the integration of China into Asian region production networks has changed the trade networking between ASEAN and China. To reap the benefit of China's rise, ASEAN-China trade is focusing more on intra-industry trade in manufactured goods in 2000s (Hong Kong Trade Development Council, 2010) as ASEAN become aware that China relies on their intermediate goods (Shafaeddin, 2004).

Ample studies revealed that bilateral intra-industry trade in Asia including ASEAN and China are focusing on electrical and machinery products (Fukao, Ishito and Ito, 2003; Hurley, 2003; Ando, 2007 and Tong and Lim, 2009). However, little attention has been paid to the intra-industry trade on labour-intensive manufacturing products.

Nevertheless, ASEAN and China are getting more dependent on western markets for their exports of final goods (Gaulier, Lemoine and Unal-Kesenci, 2005 and 2007). Hence, the exports of machinery products in China decline significantly with the onset of 2008 global economic crisis (Athukorala, 2011). The external shock has put forward the argument on whether China will pass the pain to her trading partners in regional trade. On the other hand, the contraction of exports in traditional labour-intensive manufacturing products is less significant despite low demand owing to their cost effectiveness in these products (Athukorala, 2011). In addition, Athukorala (2012) noted that the share of labour-intensive manufacturing products has increased remarkably in Asian regional trade. As such, this study aims to enrich the current literature

---

<sup>1</sup> Based on OECD Glossary of Statistic (2007), VIIT refer to trade in 'vertically differentiated' products within the similar industry distinguished by quality and price.

<sup>2</sup> Production fragmentation divides the production processes into a few sequential stages in different countries depending on the differences of factor costs among countries within the production network.

by identifying the niches for each ASEAN-5 country in miscellaneous manufacturing sector (SITC 8) which accounted for most of the traditional labour-intensive manufacturing products. The outcome of this study could provide insights to strengthen the bilateral VIIT between ASEAN-5 and China. ASEAN-5 is selected in this study instead of all ASEAN members due to data unavailability for Brunei and CMLV<sup>3</sup>. Besides, 86.4% of ASEAN's total trade with China was contributed by ASEAN-5 in 2009 (ASEAN Statistical Yearbook, 2010).

This paper is organized as follows: Section 2 presents the analysis of bilateral trade between ASEAN-5 and China in miscellaneous manufacturing sector; Section 3 describes the methodology used in this study; Section 4 presents the results and Section 5 concludes the paper.

## **2. Bilateral Trade Between Asean-5 And China**

The mutually beneficial economic relationship between ASEAN-5 and China blossomed at the end of 1990 as cooperation and interaction were enhanced through the reciprocal countries' leaders visit (Lee, 2001). However, their bilateral trade share remained moderate. The share of exports from ASEAN-5 to China was about 3% annually from 1991 to 1996 (Tong and Lim, 2009). On the contrary, the 1997 Asian Financial Crisis, which started in Thailand and spread to the whole East Asian region had served as the catalyst to boost the bilateral trade between ASEAN-5 and China (Cai, 2003). ASEAN-5 was made more aware of her vulnerability to her fluctuation in the world economy. Hence, ASEAN-5 was expecting China to play an important role in Asian trade. Furthermore, China accession to the WTO in December 2001 coupled with the implementation of tariff reductions based on CAFTA agreement since July 2005 had further accelerated the trade ties between ASEAN-5 and China. Hence, the total trade between ASEAN-5 and China has surged by more than four folds from USD3130.6 billion in 2000 to USD15,422 billion in 2009 (UN Comtrade Database). With the trade volume growing exponentially, China has emerged as the top trading partner of ASEAN-5 in 2009 (ASEAN Statistics, 2010).

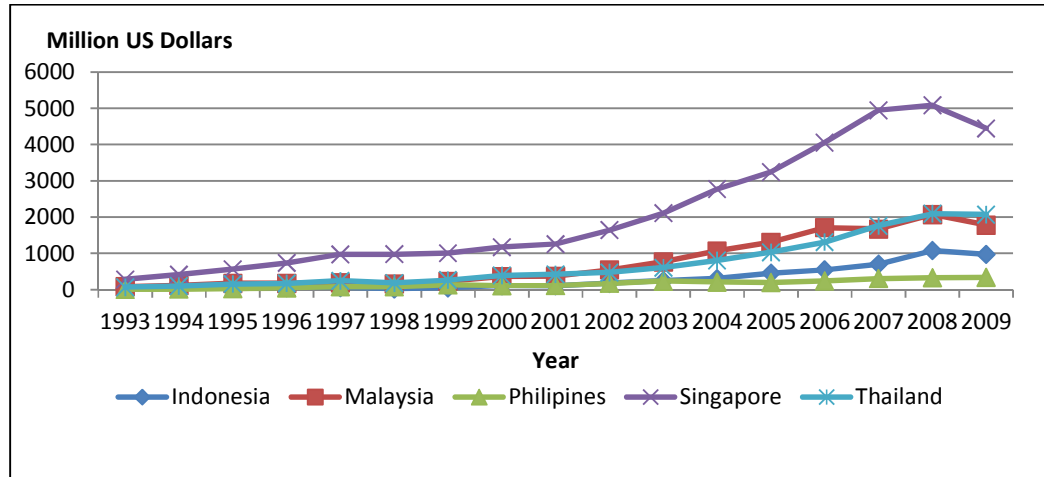
Owing to the emergence of China as the centre of East Asian production network (Tong and Lim 2009), ASEAN-5 and China are focusing more on manufacturing products instead of primary products. Based on UNCTAD statistics, the bilateral trade share of manufacturing products between China and each ASEAN-5 member, namely Indonesia, Malaysia, Philippines, Singapore and Thailand increased from 55.9%, 55.6%, 55.5%, 58.7% and 62.2% in 1993 to 46.4%, 73.4%, 75.9, 85.4% and 75.6% in 2000, respectively. With the exception of Singapore, the trade share of manufacturing products further uplifted to 58.3%, 83%,

---

<sup>3</sup> CMLV consists of Cambodia, Myanmar Laos and Vietnam.

85.8% and 83.8% in 2009, respectively for Indonesia, Malaysia, Philippines and Thailand. For the case of Singapore, the trade share has decline marginally from 85.4% in 2000 to 83.3% in 2009.

**Figure 1**  
**Bilateral Trade between Each ASEAN-5 Member and China for SITC 8**  
**during 1993-2009**



Source: UN Comtrade Database

Figure 1 depicts the bilateral trade between each ASEAN-5 member and China for SITC 8 during 1993-2009. From Figure 1, it is noticeable that the growth of bilateral trade between ASEAN-5 and China in SITC 8 was in tandem with the rising trend of bilateral trade between ASEAN-5 and China in manufacturing products. Figure 1 shows that the trade volume of SITC 8 has increased by more than eight folds for Indonesia from USD110.66 million to USD974.24 million during 2000 - 2009. Over the same study period, bilateral trade volume for Malaysia-China has surged by more than four folds from USD360.8 million to USD1782.59 million. Meanwhile, the bilateral trade volume for Philippines-China is up by more than three folds from USD108.68 million to USD337.66 million. Besides, the bilateral trade volume for Singapore-China and Thailand-China are also up by more than three folds and five folds, from USD1173.62 million and USD 388.85 million to USD 4448.71 million and USD 2071.93 million respectively although the trade volume for the case of Singapore decline by USD 637.7 million in 2009 from a year earlier. This trend implies that labour-intensive manufacturing products are still playing a vital role in bilateral trade between ASEAN-5 and China.

### 3. Methodology

This study utilizes the decomposition-type threshold method, which was developed by Fontagne and Freudenberg (1997) to compute the different extent of VIIT with the intention to identify the niches for each ASEAN-5 member in SITC 8.

Based on this method, the first step is to compute the intra-industry trade (IIT) indices in SITC 8 between each ASEAN-5 member and China in order to identify the extent of trade overlap in each product of this manufacturing sub-sector. The trade of a product is classified as intra-industry if the smaller value (either exports or imports) of the product is at least 10% or more of its larger value (either exports or imports), which serves as the evidence of significant concurrent exports and imports. The formula used to identify the extent of trade overlap in product level is as follows:

$$\frac{\text{Min}(X_{ACKit}M_{ACKit})}{\text{MAX}(X_{ACKit}M_{ACKit})} \geq 0.1 \quad (1)$$

where,

$X_{ACKit}$  = Each ASEAN-5 member, A, exports of product K of SITC 8 to China, C, at period t.

$M_{ACKit}$  = Each ASEAN-5 member, A, imports of product K of SITC 8, from China, C, at period t.

Based on the equation above, the trade of the product is considered intra-industry if the equation above holds and as inter-industry trade if otherwise.

Besides, VIIT involved substantial gap between unit values of exports and imports (Fontagne and Freudenberg, 1997 and Ito and Okubo, 2011). As such, unit values of exports and imports for each IIT product will be computed by dividing trade value by the trade quantity to identify VIIT products. The following equation with dispersion factor 25% is used to decompose IIT products into vertical intra-industry trade and horizontal intra-industry trade (HIIT)<sup>4</sup> :

$$UV^XACKit/UV^MACKit > 1.25 \quad (2a)$$

$$UV^XACKit/UV^MACKit < 1/1.25 \quad (2b)$$

where,

$UV^XACKit$  = Unit value of product K of SITC 8, exported to China, C, by each ASEAN-5 member, A, at time t.

---

<sup>4</sup> Based on OECD Glossary of Statistic (2007), HIIT refer to trade in similar products with differentiated varieties

$UV^{MAC}kit$  = Unit value of product K of SITC 8, imported from China, C, by each ASEAN-5 member, A, at time t.

The intra-industry trade of the product K is considered as vertical intra-industry trade if equation (2a) or (2b) hold and otherwise for HIIT.

Thereafter, VIIT products are further decomposed into HVIIT and LVIIT products. HVIIT refers to the exports of each ASEAN-5 member to China is of higher quality in comparison with China's exports to each ASEAN-5 member. On the other hand, LVIIT refers to the exports of each ASEAN-5 member is of lower quality in comparison with China's exports (Azhar, Elliott and Liu, 2008). As such, if equation (2a) holds, the relative unit export price to unit import price which exceeds the value of 1.25 would imply that the value-added is embedded in the exported goods (HVIIT) from respective ASEAN-5 members to China. On the other hand, the exported goods from ASEAN-5 are of lower valued-added (LVIIT) if equation (2b) holds.

Based on the analysis above, the aggregate of IIT, VIIT and HVIIT indices between each ASEAN-5 member and China in SITC 8 can be calculated for each year. The IIT, VIIT and HVIIT indices can be derived respectively by adding the trade value of IIT, VIIT and HVIIT products, and dividing by the total trade value, the value IIT and the value of VIIT, respectively. The formula to compute aggregate IIT, VIIT and HVIIT indices for each year are expressed as follows:

$$S^q = \frac{\sum_{i=1}^n (X_{ACKit} + M_{ACKit})^q}{\sum_{i=1}^n (X_{ACKit} + M_{ACKit})^r} \quad (3)$$

where  $S^q$  refers to either IIT, VIIT or HVIIT index . q indicates one of the categories (IIT, VIIT or HVIIT) while r refer to one category broader with either total trade, IIT or VIIT.

In order to identify the niches for each ASEAN-5 member in SITC 8, this study extends the concept of decomposition-type threshold method by further analyze HVIIT in products level. ASEAN-5 members should focus on the products with consistent HVIIT in most of the years during the study period, particularly recent years. These products are vital to strengthen the VIIT between ASEAN-5 and China as they can enhance the competitiveness of domestic producers of ASEAN-5.

#### **4. Definition and Source of Data**

The data of labour-intensive manufacturing products of Standard International Trade Classification 8, Revision 3 with 4-digit code are derived from UN Comtrade Database. The said data are annual statistic from 1993 to 2009. The number of products for Indonesia, Malaysia, Philippines, Singapore and Thailand are 81, 59, 63, 53 and 98, respectively. Thus, this study analyzes a total of 6,018 observations.

## **5. Empirical Results and Discussions**

The analysis reveals that the percentages of products involved in IIT in SITC 8 between ASEAN-5 members and China were in the range of 30-44% for Thailand, 19-42% for Malaysia, 11-38% for Indonesia, 13-30% for Philippines and 6-19% for Singapore during the study period, i.e. 1993 to 2009.

Based on Table 1, the IIT indices for ASEAN-5 members and China except Singapore exhibited a rising trend in 2000s, which reflects that the intensity of IIT between ASEAN-5 as a whole and China was increasing gradually in SITC 8. As such, the results imply that labour-intensive manufacturing products are still playing a vital role in bilateral trade between ASEAN-5 members and China.

### **[Table 1]**

To further analyze whether IIT between each ASEAN-5 member and China is prone to processing trade which attributable to VIIT, the IIT was further decomposed. From Table 1, although IIT index of Indonesia was relatively low, the decomposition results revealed that the VIIT index exhibited a stable trend with an average of 0.896 throughout the study period. Indonesia's VIIT index was at the minimum in 1996 with 0.571. Since then, the VIIT indices were stable from 1997 to 2004 and thereafter increased steadily from 2005 to 2009. Hence, this confirms that the IIT for Indonesia-China is prone to processing trade.

Besides, the VIIT index of Malaysia remained high throughout the study period with an average of 0.879. In addition, the trend of VIIT was found to be extremely stable with index above 0.9 from 1994 to 2001. Although it illustrated a small swing from 2001 to 2009 and two troughs were found in 2005 and 2008 with 0.72 and 0.565 respectively, it rose markedly to 0.861 in 2009. Hence, this confirms that the IIT for Malaysia-China is also processing trade in nature.

As per Philippines, the VIIT index was extraordinary high with an average of 0.919 throughout the study period. Besides, the VIIT index was above 0.98 in each year except 2002, 2006 2007 and 2009. This confirms that Philippines only focuses on processing trade in which

production fragmentation is involved. On the other hand, the performance of Singapore in SITC 8 was relatively poorer than that of other ASEAN-5 members.

Although the VIIT index for Singapore-China remained high with 0.728 on average throughout the study period and exhibited a stable trend from 1993 to 2002 with an average of 0.861, it started to swing drastically from 2003 onwards. It is noticeable that VIIT indices were below 0.5 from 2004 to 2006 and 2008. Thus, these findings confirm that although processing trade was still leading IIT for Singapore-China during the period of study, the leading position gradually deteriorated in the late 2000s in SITC 8. Having the second highest IIT index among ASEAN-5 countries in SITC 8 throughout the study period, the VIIT index for Thailand-China remained high with 0.791 on average throughout the period of study. Generally, it was more stable in 2000s than in 1990s particularly from 2002 onwards. The VIIT index was 0.831 on average from 2002-2009. Hence, similar to other ASEAN-5 members, processing trade dominated IIT for Thailand-China in SITC 8.

Consistent with the findings of Fukao et. al. (2003) and Hurley (2003), the aforementioned analysis reveals that VIIT led IIT in SITC 8. This signifies that production fragmentation plays a vital role in IIT between ASEAN-5 and China. As such, it is noteworthy to further analyze the nature of VIIT by decomposing VIIT between each ASEAN-5 member and China in SITC 8 in order to identify the niches for each ASEAN-5 member. The decomposition results (refer to Table 1) show that the HVIIT indices were quite volatile except for Philippines and Singapore. For Philippines and Singapore, the extremely high and stable HVIIT indices were attributable to the high percentage of VIIT products involved in HVIIT. Since the nature of HVIIT was different for each ASEAN-5 member throughout the period of study, this study further identified the products that appeared as HVIIT products in most of the years during the study period, particularly during 2000s. The consistently high unit export price over import price reflects the quality of the exported products from each ASEAN-5 member to China. Therefore, ASEAN-5 member has consistent price determination power on these products. As such, these products could generate new sources of growth for trade sustainability between ASEAN-5 members and China. The lists of consistent HVIIT products in SITC 8 are presented in Table 2.

**[Table 2]**



From Table 2, 10 categories of products have been identified with consistent HVIIT linkage to China in Indonesia such as sanitary fixtures; travel goods, handbags and similar containers; clothing, accessories as well as footwear. Meanwhile, only 8 categories of consistent HVIIT products have been identified for Malaysia. They are consists mainly of floor, wall or ceiling coverings, various types of pens, drawing, marking-out or mathematical calculating instruments and other more advanced manufacturing products. Besides, 12 categories of products have been identified for Philippines. They are mainly made up of clothing and accessories, followed by furniture and related goods; photographic apparatus; optical goods, printed matter and sports goods. Conversely, Singapore is not focusing on SITC 8 relative to other ASEAN-5 members. There are only 5 categories of products with consistent HVIIT linkage to China, namely meter and relevant products, office and stationery supplies and more advanced manufacturing products such as compound optical microscopes and other scientific equipments. Nevertheless, 11categories of products have been identified for Thailand in relation to China's trade. They are mostly made up of clothing and accessories, footwear, drawing, marking-out or mathematical calculating instruments, photographic apparatus, articles of plastics as well as candles, matches and related products.

Furthermore, the analysis shows that some of the ASEAN-5 members are sharing the similar HVIIT products such as footwear for Indonesia and Thailand; and scientific equipments for Malaysia, Singapore and Thailand.

## **6. Conclusion and Suggestions**

This study presents the evidence that VIIT dominates IIT between respective ASEAN-5 members and China in SITC 8 which is consistent with the findings of Fukao, Ishito and Ito (2003); Hurley (2003); Zhang, Witteloostuijn and Zhou (2005) in their studies on Asia's IIT. This finding confirms that the IIT between these two regions in SITC 8 are processing trade in nature where production fragmentation is actively taking place. This shows that ASEAN-5 members are well integrated into China's production network.

This study has further decomposed VIIT to identify the consistent HVIIT products, which provide synergy in strengthening and sustaining the bilateral trade between each ASEAN-5 member and China. By referring to the number of identified HVIIT products, Philippines topped the list with 12 categories of products. This might be owing to the trade structure of Philippines being more on labour-intensive manufacturing products. On the contrary, Singapore has the least consistent HVIIT products (5 categories) relative to other ASEAN-5

members in SITC 8, which might be attributable to the focal point of Singapore is more on high value-added manufacturing products and is moving towards service sectors as suggested by Thangavelu and Toh (2005).

The niches for each ASEAN-5 member are dependent on their respective identified HVIIT products. Hence, each ASEAN-5 member should augment the trade ties with China in the identified HVIIT products to enhance their competitiveness and sustainability. To stimulate the trade expansion, domestic producers who specialize in the identified HVIIT products should be given various incentives, which include production subsidy, tax relief or any forms of financial assistances particularly to the less advanced members such as Philippines and Indonesia. In addition to that, the policy makers should stimulate the R&D for the identified HVIIT products with due assistance such as raising the budget for R&D and enforcing a strict intellectual property right for the more advanced members, namely Singapore, Malaysia and Thailand.

Furthermore, based on the analysis, some of the identified HVIIT products are overlapped among ASEAN-5 members. As such, policy makers of ASEAN-5 should integrate the relevant industries across the region via the establishment of ASEAN Economic Community (AEC). The integration would enhance heightened efficiency level and greater product development.

### **Acknowledgements**

This paper has been presented at 2<sup>nd</sup> Applied International Business Conference (2<sup>nd</sup> AIBC2013), 7-8 December 2013.

### **References:**

- Abdul Azhar & Elliott, R.J. F. and Liu, J. (2008). On the Measurement of Product Quality in Intra-Industry Trade: An Empirical Test for China. *China Economic Review*, 19 (2), 336-344.
- Ando, M. (2006). Fragmentation and vertical intra-industry trade in East Asia. *North American Journal of Economics and Finance*, 17, 257-281.
- Athukorala, P. (2009). The rise of China and East Asian export performance: is the crowding-out effect fear warranted? *World Economy*, 32(2), 234-266.
- Athukorala, P. (2011). Production networks and trade patterns in East Asia: regionalization or globalization? *Asian Economic Papers*, 10, 65-95.

- Athukorala, P. (2012). Asian trade flows: Trends, patterns and prospects. *Japan and the World Economy*, 24,150-162.
- Cai, K. G. (2003). The ASEAN-China FTA and East Asian regional grouping. *Contemporary Southeast Asia*, 25 (3), 387-404.
- Fontagne, L. & Freudenberg, M. (1997). Intra-Industry trade: Methodological issues reconsidered. *CEPII Working Paper 97/02*. Centre d'Etudes Prospectives et d'Informations Internationales, Paris.
- Fukao, K., Ishido, H & Ito, K. (2003). *Vertical intra-industry trade and foreign direct investment in East Asia*. The Institute of Economic Research, Hitotsubashi University, Kunitachi, Tokyo, Discussion Paper Series A No.434.
- Gaulier, G.,Lemoine, F. Kesenci & Unal-Kesenci, D. (2005). China integration in East Asia: production sharing, FDI & high-tech trade. *CEPII, Working Paper No2005-09*.
- Gaulier, G., Lemoine, F. Kesenci & Unal-Kesenci, D. (2007). China's emergence and the reorganisation of trade flows in Asia. *China Economic Review*, 18, 209-243.
- Hong Kong Trade Development Council. (2010). *China-ASEAN Free Trade Area (CAFTA)-implications for Hong Kong's merchandise exports*. Retrieved March, 20, 2011, from <http://www.hktdc.com/info/mi/a/ef/en/1Xo6OJ4B/1/>
- Hurley, D T. (2003). Horizontal and vertical intra-industry trade: The case of ASEAN trade in manufactures. *International Economic Journal*, 17(4),1-14.
- Ito, T. & Okubo, T. (2011). New aspects of intra-industry trade: Evidence from EU-15 countries. *Discussion Paper Series RIEB*, Kobe University.
- Lee, L. T. (2001). China's relations with ASEAN: Partners in the 21<sup>st</sup> Century? *Pacifica Review*, 13,61-71.
- Shafaeddin, S. M. (2004). Is China's accession to WTO threatening exports of developing countries? *China Economic Review*, 15, 109-144.
- Thangavelu, S.M. & Toh, M.H. (2005). Bilateral 'WTO-Plus' Free Trade Agreements: The WTO trade policy review of Singapore 2004. *The World Economy*, 28(9), 1211-1228.

The Economists. (2009). *Asian Economies crouching tigers, stirring dragons, the Asian economies are likely to be the first to pull out of the global recession*. Retrieved July1, 2013, from <http://www.economist.com/node/13649520/print>

Tong, S.Y. & Lim, T. S. (2009). SINO-ASEAN economic integration and its impact on intra-ASEAN trade. *EAI Working Paper* No.144.

Wakasugi, C. (2007). Vertical intra-industry trade and economic integration in East Asia. *Asian Economic Papers*, 6, 26-39.

Zhang, J., Wittheloostuijn, A. V. & Zhou, C. (2005). Chinese bilateral intra-industry trade: A panel data study for 50 countries in the 1992-2001 period. *Review of World Economics*, 141(3), 510-540.

**Table 1. The Extent of Intra-Industry Trade between ASEAN-5 and China in SITC 8**

Year	Indonesia			Malaysia			Philippines			Singapore			Thailand		
	IIT	VIIT	HVIIT	IIT	VIIT	HVIIT	IIT	VIIT	HVIIT	IIT	VIIT	HVIIT	IIT	VIIT	HVIIT
<b>1993</b>	0.253	1.000	0.924	0.243	0.569	0.772	0.256	1.000	1.000	0.059	1.000	0.768	0.255	0.823	0.702
<b>1994</b>	0.076	0.882	0.437	0.263	0.929	0.470	0.194	1.000	0.879	0.083	1.000	1.000	0.311	0.530	0.516
<b>1995</b>	0.080	0.949	0.612	0.127	0.909	0.626	0.089	1.000	0.994	0.115	0.780	1.000	0.290	0.936	0.921
<b>1996</b>	0.115	0.571	0.504	0.486	0.956	0.381	0.157	1.000	1.000	0.087	0.941	1.000	0.491	0.748	0.631
<b>1997</b>	0.102	1.000	0.785	0.291	0.967	0.664	0.223	0.978	1.000	0.186	0.719	1.000	0.242	0.851	0.385
<b>1998</b>	0.235	0.917	0.942	0.472	1.000	0.273	0.149	1.000	1.000	0.164	0.656	1.000	0.391	0.886	0.822
<b>1999</b>	0.288	0.940	0.999	0.371	0.985	0.286	0.083	1.000	0.971	0.155	0.777	1.000	0.238	0.645	0.794
<b>2000</b>	0.234	0.972	1.000	0.468	0.974	0.775	0.153	1.000	0.992	0.160	0.788	1.000	0.204	0.866	0.771
<b>2001</b>	0.318	0.879	0.984	0.467	1.000	0.698	0.171	1.000	0.927	0.084	0.974	1.000	0.470	0.437	0.698
<b>2002</b>	0.266	0.891	0.860	0.501	0.844	0.957	0.182	0.550	1.000	0.067	0.975	1.000	0.503	0.853	0.302
<b>2003</b>	0.337	0.794	0.816	0.562	0.822	0.803	0.190	1.000	1.000	0.056	1.000	1.000	0.516	0.830	0.380
<b>2004</b>	0.344	0.888	0.483	0.524	0.976	0.892	0.233	1.000	1.000	0.256	0.401	1.000	0.556	0.853	0.792
<b>2005</b>	0.449	0.814	0.816	0.691	0.720	0.884	0.250	1.000	1.000	0.232	0.197	1.000	0.544	0.820	0.824
<b>2006</b>	0.355	0.895	0.533	0.691	0.943	0.547	0.373	0.740	1.000	0.217	0.465	1.000	0.609	0.731	0.964
<b>2007</b>	0.438	0.909	0.743	0.584	0.918	0.479	0.366	0.784	0.722	0.231	0.800	0.916	0.568	0.950	0.927
<b>2008</b>	0.330	0.925	0.871	0.521	0.565	1.000	0.399	1.000	0.998	0.274	0.168	1.000	0.539	0.786	0.822
<b>2009</b>	0.368	1.000	0.733	0.570	0.861	0.986	0.442	0.578	1.000	0.168	0.727	1.000	0.503	0.901	0.788

Source: Authors' Compilation

**Table 2 List of Consistent HVIIT Products between ASEAN-5 and China Bilateral Trade in SITC 8**

<b>Country</b>	<b>Product code</b>	<b>Description</b>
Indonesia	8122	Ceramic sinks, wash-basins, wash-basin pedestals, baths, bidets, water-closet pans, flushing cisterns, urinals and similar sanitary fixtures
	8319	Binocular cases, camera cases, musical instrument cases, spectacle cases, gun cases, holsters and similar cases, n.e.s.; travelling bags, toilet bags, rucksacks, shopping bags, wallets, purses, map cases, cigarette cases, tobacco pouches, tool bags, sports bags, bottle cases, jewellery boxes, powder boxes, cutlery cases and similar containers, of leather or of composition leather, of sheeting of plastics, of textile materials, of vulcanized fibre or of paperboard, or wholly or mainly covered with such materials or with paper, n.e.s.
	8454	T-shirts, singlets and other vests, knitted or crocheted
	8482	Articles of apparel and clothing accessories (including gloves), for all purposes, of plastics or of vulcanized rubber (other than hard rubber)
	8512	Sports footwear
	8514	Other footwear with uppers of leather or composition leather
	8981	Pianos and other string musical instruments
	8982	Musical instruments (other than pianos and other string musical instruments)
	8998	Smallwares and toilet articles, n.e.s.; sieves; tailors' dummies, etc.
	8999	Manufactured goods, n.e.s.
Malaysia	8414	Trousers, bib and brace overalls, breeches and shorts
	8714	Compound optical microscopes (including those for photomicrography, cinephotomicrography or microprojection)
	8741	Compasses; other navigational instruments and appliances; surveying (including photogrammetrical surveying), hydrographic, oceanographic, hydrological, meteorological or geophysical instruments and appliances; rangefinders
	8742	Drawing, marking-out or mathematical calculating instruments (e.g., drafting machines, pantographs, protractors, drawing sets, slide-rules, disc calculators); instruments for measuring length, for use in the hand (e.g., measuring rods and tapes, micrometers, callipers), n.e.s.; measuring or checking instruments, appliances and machines, n.e.s.; profile projectors; parts and accessories therefor
	8746	Automatic regulating or controlling instruments and apparatus
	8747	Oscilloscopes, spectrum analyzers and other instruments and apparatus for measuring or checking electrical quantities (other than meters of subgroup 873.1); instruments and apparatus for measuring or detecting alpha, beta, gamma, X-ray, cosmic or other ionizing radiations
	8933	Floor coverings, wall or ceiling coverings and housefold and and toilet articles of plastics
	8952	Pens, pencils and fountain-pens

**Table 2 List of Consistent HVIIT Products between ASEAN-5 and China Bilateral Trade in SITC 8 (continued)**

Philippines	8211	Seats (other than those of heading 872.4), whether or not convertible into beds, and parts thereof
	8217	Furniture, n.e.s., of other materials
	8414	Trousers, bib and brace overalls, breeches and shorts
	8426	Trousers, bib and brace overalls, breeches and shorts
	8455	Brassières, girdles, corsets, braces, suspenders, garters and similar articles, and parts thereof, whether or not knitted or crocheted
	8469	Gloves, mittens and mitts, knitted or crocheted; other made-up clothing accessories, knitted or crocheted; knitted or crocheted parts of garments or of clothing accessories
	8743	Instruments and apparatus for measuring or checking the flow, level, pressure or other variables of liquids or gases (e.g., flowmeters, level gauges, manometers, heat meters), excluding instruments and apparatus of subgroups 873.1, 874.1 and 874.6; parts and accessories
	8745	Measuring, controlling and scientific instruments, n.e.s.
	8811	Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flash bulbs (other than the discharge lamps of subgroup 778.2); parts and accessories thereof
	8841	Optical fibres and optical fibre bundles; optical fibre cables other than those of subgroup 773.1; sheets and plates of polarizing material; lenses (including contact lenses), prisms, mirrors and other optical elements, of any material, unmounted, other than such elements of glass not optically worked
	8928	Printed matter, n.e.s.
8947	Sports goods	

**Table 2 List of Consistent HVIIT Products between ASEAN-5 and China Bilateral Trade in SITC 8 (continued)**

Singapore	8714	Compound optical microscopes (including those for photomicrography, cinephotomicrography or microprojection)
	8732	Revolution counters, production counters, taximeters, mileometers, pedometers and the like; speed indicators and tachometers (other than articles of subgroup 874.1); stroboscopes
	8746	Automatic regulating or controlling instruments and apparatus
	8747	Oscilloscopes, spectrum analyzers and other instruments and apparatus for measuring or checking electrical quantities (other than meters of subgroup 873.1); instruments and apparatus for measuring or detecting alpha, beta, gamma, X-ray, cosmic or other ionizing radiations
	8959	Other office and stationery supplies
Thailand	8414	Trousers, bib and brace overalls, breeches and shorts
	8437	Shirts
	8456	Swimwear
	8458	Other garments, not knitted or crocheted
	8512	Sports footwear
	8514	Other footwear with uppers of leather or composition leather
	8742	Drawing, marking-out or mathematical calculating instruments (e.g., drafting machines, pantographs, protractors, drawing sets, slide-rules, disc calculators); instruments for measuring length, for use in the hand (e.g., measuring rods and tapes, micrometers, callipers), n.e.s.; measuring or checking instruments, appliances and machines, n.e.s.; profile projectors; parts and accessories therefor
	8746	Automatic regulating or controlling instruments and apparatus
	8811	Photographic (other than cinematographic) cameras; photographic flashlight apparatus and flash bulbs (other than the discharge lamps of subgroup 778.2); parts and accessories thereof
	8939	Articles of plastics, n.e.s.
	8993	Candles; matches, pyrophoric alloys, articles of combustible materials; smokers' requisites

Source: Authors' compilation