CHAPTER 6

New Division of Labor between Thailand and CLMV Countries: The Case of Automotive Parts Industry

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CHAPTER 6

NEW DIVISION OF LABOUR BETWEEN THAILAND AND CLMV COUNTRIES: THE CASE OF AUTOMOTIVE PARTS INDUSTRY

Kriengkrai Techakanont

INTRODUCTION

In the past two decades, intra-regional trade among developing countries has been growing rapidly due to the expansion of international production fragmentation, i.e., cross-border dispersion of production of parts and components within vertically integrated production chains. This has been an important phenomenon within productive integration in East Asia (Kimura and Ando 2005, Athukorala and Yamashita 2006). The process has been enhanced due to industrial collaboration in the form of production and intra-industry trade (Ng and Yeats 2001, Athukorala and Yamashita 2006), the proliferation of free trade agreements (FTAs) and the role of foreign direct investment (FDI) in the region (Kawai and Wignaraja 2007). Through FDI, the Multinational Enterprises (MNEs), can facilitate industrialization because they bring capital and technology into the host economies (Hoekman and Javorcik 2006). Japanese FDI in the region has long played an important role in the agglomeration or industrial clusters in several countries. In other words, MNEs are lead firms and in this

process of ‘division of labour,’ they chose to locate their manufacturing activities according to comparative advantage. According to Kimura (2006) the intra-industry trade for East Asian countries, particularly in machinery parts and components, has been increasing since the 1990s.

Athukorala (2008) found that Japan’s trade decreased over time because of the relocation of manufacturing and FDI to other countries. Kawai and Wignaraja (2007) reported that Japan and Asian NIEs have been major sources of FDI inflows into developing countries in East Asia, especially China, and play an important role in productive integration in this region. Production relocation of MNEs into this part of the world explains the intensive agglomeration of manufacturing in Asian countries. Previous studies found that Japanese FDI has been playing a crucial role in both global production sharing (Ng and Yeats 2001, Athukorala and Yamashita 2006) and the skill development of local firms in host economies (Techakanont and Terdudomtham 2004, Yamashita 2008). This evidence suggests that FDI and trade are complementary and developing countries can promote not only industrialization but also productive and trade integration.

Techakanont (2011) discussed the experience of Thailand’s development in the auto parts industry and intra-regional trade integration. Although the main focus was on Thailand’s auto parts industry, the paper also touched on the integration of Thailand with ASEAN and Asian countries. Product fragmentation tended to increase in the past decades, as shown by the expansion of trade in parts and components. As in the case of Thailand, the Thai government had clear policies and strategies and have always been flexible and aligned with the interests of multinational firms. Japanese assemblers were crucial in bridging productive resources among countries via their international

production network. Therefore, this paper aims at analyzing the pattern of intra-industry trade in automotive industry and focuses on Thailand and Vietnam. In order to examine trade and the degree of intra-regional trade, this study makes use of data from the UN Comtrade database, based on Revision 3 of the Standard International Trade Classification (SITV Rev.3).[1]

Here is the organization of this paper: The next section provides an overview of Thailand's automotive integration with ASEAN and East Asia. Section 2 explains the intra-industry trade of the automotive industry (automotive products and auto parts) of Thailand and Vietnam with other countries. Section 3 reports case studies about the production and division of labour in the automotive industry. Concluding remarks are in Section 4.

1. INTEGRATION OF THAILAND'S AUTOMOTIVE INDUSTRY WITH EAST ASIA

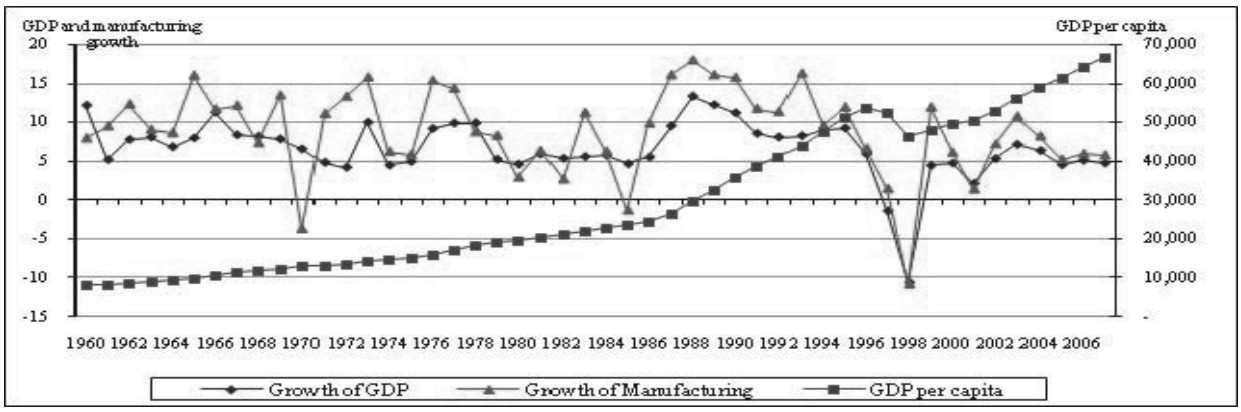
Thailand has seen a remarkable economic growth and industrialization in the past three decades. The average growth rate of real GDP during 1961-1996 was higher than 7%. In addition, until 1997, there was no reduction in real GDP per capita, see Figure 1. Economic growth was interrupted by the financial crisis in 1997, which caused a serious impact on the economy and manufacturing sector, as indicated by negative growth rate in 1998. However, the economy was resilient and rebounded quickly, attaining a growth rate of around 5 to 10% in the past five years. This section will discuss Thailand's economic, industrial, and trade policies implemented over the past

[1] The list of products in automotive industry is in Appendix 1.

four decades. These were of great importance in helping its integration with East Asia.

Since the 1960s, a time when the nation experienced the early stages of industrialization, the structure of the Thai economy has changed dramatically. The share of the manufacturing sector as a component of GDP continually increased and overtook the share of the agricultural sector in 1977, increasing from around 15% in 1961, to 26.7 and 36% in the 1980s and 1990s, respectively. In 2007, the share of manufacturing was 39.6. Similar to output share, Thai exports have shifted from agricultural towards more manufacturing-related products since the latter half of the 1970s. Manufacturing exports grew rapidly in the 1980s, and their share reached 88.3% in 2007. Based on export data from the Ministry of Commerce, Thailand's main exports are manufacturing products, including electrical and electronics goods, vehicles and parts, machinery, rubber products, and chemical products. Together they accounted for more than USD 78 billion in 2010 (Table 1).

Figure 1. Economic Growth, GDP per Capita and Manufacturing Growth (1960-2007)



Note: GDP per Capita (1988 constant price) and the unit is the local currency (baht).
Source: National Economic and Social Development Board (NESDB), on-line database, available at www.nexdb.go.th and UNCTAD, available at www.unctad.org.

Table 1. Main Export Products (2007-2010)

Description		Value : million US$			
		2007	2008	2009	2010
1	Automatic data processing machines and parts there of	17,331.6	18,384.2	16,017.4	18,836.8
2	Motor cars, parts and accessories	12,978.1	15,585.5	11,120.7	17,712.3
3	Precious stones and jewellery	5,381.8	8,270.1	9,761.3	11,651.8
4	Electronic integrated circuits	8,418.1	7,241.3	6,444.6	8,066.2
5	Rubber	5,640.0	6,791.7	4,305.8	7,896.0
6	Refine fuels	4,097.1	7,913.2	5,428.4	7,071.9
7	Rubber products	3,653.7	4,549.8	4,487.6	6,434.0
8	Polymers of ethylene, propylene, etc in primary forms	5,212.3	5,520.0	4,457.2	6,343.7
9	Chemical products	3,920.1	4,309.4	4,466.1	5,778.3
10	Rice	3,467.4	6,204.1	5,046.5	5,341.1

Source: Ministry of Commerce.

The economic and industrial structure of Thailand has developed remarkably in the past two decades. This is attributable to FDI from Japan and other countries and regional and global integration through trade. However, the roles of MNEs that helped improve Thailand's dynamic comparative advantage were shaped by a series of streamlined government policies. These included national economic development plans, specific sets of policies directed towards specific manufacturing sectors (Techakanont and Terdudomtham 2004), political and macroeconomic stability infrastructure and trade liberalization that spurred the process of regional integration (Poapongsakorn and Techakanont 2008).

According to Techakanont and Charoenporn (2011), government policies underlying the success of industrialization can be traced back to the early stage of Thai industrialization, in which market imperfections prevailed. With a virtually nonexistent industrial background, streamlined and coherent rationalized policies were important to correct market imperfections and bottlenecks. Thailand has relied heavily on foreign

investment to promote manufacturing activities and upgrade local firms. As a result, Thailand has gradually been transformed into an export-oriented country within four decades. However, a gradual shift in the policy regime towards private-led industrialization and trade liberalization was an important reason for this success.

Thailand's automotive industry has been particularly fortunate that policy makers took a series of progressive steps to liberalize the automotive industry at the right time. Because the Thai government is committed to promoting FDI and uses it as a catalyst to strengthen the growth of local supporting industries, economic and political stability, readiness of infrastructure, and a pool of skilled labour were crucial in attracting FDI. As reported in Techakanont (2011), regional development policies were imperative for the agglomeration of automotive firms in the central and eastern part of Thailand. The process was shaped by the regional-based investment incentive scheme and the development of infrastructure.

FDI-led growth among East Asian countries is a key factor underlying regional integration. MNEs' decision to expand production in the region is subject to demand conditions, level of development and availability of supporting or related industries. With several initiatives such as the development of key groupings ASEAN+3 and ASEAN+6 to integrate East Asian countries over the past two decades, international production network can be linked and the evidence has been observed by the increase in degree of intra-industry trade in parts and components through both intra-firm and inter-firm trade (Kimura and Ando 2005). Rapid integration into the regional production networks of China as a major final assembler, based on intermediate inputs (parts and components), makes the region become more dynamic in vertical specialization (Athukorala 2008).

In the case of automotive industry, trade data clearly confirms this statement. The trade value of China's automotive industry grew sharply in the past decade. As shown in Table 2, Chinese exports grew from USD 20 billion in 2002 to USD 120 billion in 2008, while imports from USD 30 to 130 billion. For ASEAN, trade value also grew significantly during the same period. As explained in Techakanont (2011), there exists asymmetry of intra-regional imports and exports of ASEAN and ASEAN+3. Thailand became export-oriented in automobiles. This was due to the Japanese carmakers' strategy to use Thailand as their export base for pickup trucks and to link with production bases in Malaysia, Indonesia, the Philippines, and other ASEAN countries especially Vietnam. From Table 2, we can see that Thailand's exports increased significantly from USD 5.96 to 24.7 billion during 2002 and 2008. Indonesian exports also grew from USD 1.44 to 4.9 billion during the same period. Recently, Vietnam's automotive industry has been growing with many new investments flowing in.. Exports increased from USD 0.29 to 1.56 billion, while imports increased from USD 2.46 to 8.12 billion. Not only exports but also the import value in this industry expands considerably and this reflects the increase in intra-industry trade among these countries. This point will be discussed in the next section.

Table 2. World Trade in Automotive Industry (1992 – 2008)

Country/region	Exports ($ billion)				Imports ($ billion)			
	1992	1996	2002	2008	1992	1996	2002	2008
ASEAN	6.55	12.98	18.70	63.91	26.08	45.32	34.19	89.27
Thailand	1.04	2.63	5.69	24.70	6.07	11.87	7.41	19.15
Indonesia	0.24	0.64	1.44	4.80	4.81	7.52	4.48	16.07
Malaysia	1.02	2.20	3.10	7.21	5.26	9.98	7.40	14.74
Philippines	0.09	0.52	1.27	2.61	1.45	3.75	2.16	3.46
Vietnam			0.29	1.56			2.46	8.12
ASEAN+3	130.19	163.97	203.00	513.38	60.81	105.99	104.49	271.95
Japan	114.56	128.24	141.49	262.70	14.28	26.33	25.80	46.99
China	3.47	7.27	20.42	120.92	10.31	15.70	30.77	103.25
Rep. of Korea	5.60	15.47	22.40	65.85	10.14	18.64	13.72	32.44
ASEAN+6	132.96	168.60	209.16	533.30	71.59	124.45	124.67	333.51
$ billion	618.38	834.47	1,065.04	2,259.05	593.59	826.48	1,074.30	2,189.92

Country/region	Exports (%)				Imports (%)			
	1992	1996	2002	2008	1992	1996	2002	2008
ASEAN	1.06	1.56	1.76	2.83	4.39	5.48	3.18	4.08
Thailand	0.17	0.32	0.53	1.09	1.02	1.44	0.69	0.87
Indonesia	0.04	0.08	0.14	0.21	0.81	0.91	0.42	0.73
Malaysia	0.17	0.26	0.29	0.32	0.89	1.21	0.69	0.67
Philippines	0.01	0.06	0.12	0.12	0.24	0.45	0.20	0.16
Vietnam			0.03	0.07			0.23	0.37
ASEAN+3	21.05	19.65	19.06	22.73	10.25	12.82	9.73	12.42
Japan	18.53	15.37	13.28	11.63	2.41	3.19	2.40	2.15
China	0.56	0.87	1.92	5.35	1.74	1.90	2.86	4.71
Rep. of Korea	0.91	1.85	2.10	2.91	1.71	2.25	1.28	1.48
ASEAN+6	21.50	20.20	19.64	23.61	12.06	15.06	11.60	15.23
World	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Compiled from UN Comtrade database.

2. REGIONAL INTEGRATION OF THAILAND AND VIETNAM AUTOMOTIVE INDUSTRY

Thailand is one of the leading countries that established the Association of South East Asian Nations (ASEAN) in 1967. In addition, there have been several initiatives to integrate East Asian countries over the past two decades, such as the development of

key groupings ASEAN+3, ASEAN+6 (East Asia Summit), and APEC (Kawai and Wignaraja 2007). Cooperation among the governments of ASEAN members over the past three decades became more intense in the 1990s, when they initiated the core of ASEAN economic and regional integration, ASEAN Free Trade Area (AFTA). Since ASEAN came into effect in 1992, we have calculated the trade data in four periods, 1992, 1996, 2002, 2008, in order to explain the intra- and inter-regional productive integration of ASEAN, ASEAN+3 and Thailand.

In the automotive industry, Japanese assemblers have long been investing in Asian countries in order to penetrate the domestic markets. Around the end of the 1990's, the American and European carmakers along with the Japanese assemblers made a strategic decision to integrate the production facilities in the region to form their production network. Since then, Thailand is increasingly being integrated within the region. For instance, Thailand and Indonesia were selected to be production hubs of the Toyota IMV project, which is a good example of a GPN because production started at almost the same time at its four main production bases of Thailand, Indonesia, Argentina and South Africa. However, the key production bases are Thailand and Indonesia with Thailand producing four models of new Hilux Vigo and Indonesia specializing in one model, Innova. Honda uses Thailand for passenger cars (City, Jazz, Civic and Accord) and uses Indonesia for sport utility vehicles (Stream). Ford and Mazda expand their operations in Thailand for new models of passenger cars and pickup trucks. It should be noted that the pickup truck production in Thailand has a very high localization rate. Almost all important parts can be produced locally in order to ensure just-in-time delivery and minimize time and logistic costs. Thailand is also supplying automotive parts to other plants in the international production network of

assemblers.

Since Japanese firms have long been dominant in the region, division of labour in the automotive industry depends strongly upon their strategy. Thailand is a part of the Japanese global production network. Hence, to analyze the division of labour between Thailand and CLMV, we may have to indirectly look at the trade statistics in detail and interview Japanese investors in both the countries. As can be seen from Table 2, trade data for the automotive industry of several countries reveals the increase of ASEAN trade, both export and import. For latecomers like CLMV countries, one may envisage that they have disadvantages in some of these aspects: political and economic instability, small domestic market, lack of skilled labour and underdeveloped supporting industries. As a result, automotive related industries in these countries are very small, with the exception of Vietnam.[2] As discussed earlier, Vietnam's automotive industry exports increased significantly, especially for motorcycles and parts. To view details of trade linkages of both the countries to other regions, we will classify into two types; automotive products (including motor vehicles and motorcycles) and automotive parts, see Appendix 1.

[2] Vietnamese automotive industry was promoted in 1990s so it has a relatively short experience in development compared to ASEAN-4 countries. However, motorcycle industry has potential for development because of the large domestic market. Domestic sales for motorcycles were more than two million units per annum, which is sufficient for firms to reap economies of scale. Over the past two decades the industry has expanded considerably in both final products and parts, see Takayasu (1998), Ohno and Cuong. (2004), Hoang (2007) and Anh (2007).

Table 3. Value of Thailand and Vietnam Automotive Products Trade (1992 - 2008)

Exports		Exports: Automotive product [$ billion]								
		ASEAN	Thailand	Vietnam	ASEAN+3	Japan	China	Rep. of Korea	ASEAN+6	World
ASEAN	1992	0.34	0.03	0.05	0.39	0.03	0.02	0.01	0.40	1.01
	1996	0.92	0.01	0.17	1.08	0.09	0.06	0.01	1.12	1.95
	2002	0.70	0.06	0.12	0.92	0.16	0.05	0.01	1.35	3.41
	2008	4.86	0.32	0.27	5.32	0.31	0.15	0.01	8.18	16.78
- Thailand	1992	0.06	-	0.01	0.07	0.01	0.002	-	0.07	0.15
	1996	0.34	-	0.12	0.36	0.01	0.01	0.001	0.38	0.59
	2002	0.38	-	0.07	0.50	0.10	0.01	0.001	0.88	2.33
	2008	3.10	-	0.19	3.22	0.09	0.02	0.002	5.96	12.24
- Vietnam	1992	-	-	-	-	-	-	-	-	-
	1996	-	-	-	-	-	-	-	-	-
	2002	0.01	0.002	-	0.02	0.01	0.001	0.003	0.02	0.15
	2008	0.10	0.03	-	0.11	0.01	0.001	0.0001	0.11	0.19
World	1992	1.01	0.15	-	69.78	65.22	0.65	2.91	70.58	253.80
	1996	1.95	0.59	-	69.29	55.71	1.03	10.61	70.70	329.78
	2002	3.41	2.33	0.15	97.22	75.83	3.15	14.82	99.56	441.41
	2008	16.78	12.24	0.19	212.16	139.61	20.88	34.89	219.46	862.60

Table 3 (continued)

Imports		Imports: Automotive products [vehicles] [$ billion]								
		ASEAN	Thailand	Vietnam	ASEAN+3	Japan	China	Rep. of Korea	ASEAN+6	World
ASEAN	1992	0.14	0.01	-	3.54	3.32	0.02	0.07	3.59	4.80
	1996	0.29	0.08	0.001	6.11	5.37	0.05	0.40	6.20	8.81
	2002	0.75	0.40	0.01	4.63	3.11	0.27	0.50	4.68	6.02
	2008	4.87	3.15	0.09	11.69	5.27	0.90	0.65	12.03	15.09
- Thailand	1992	0.01	-	-	0.99	0.95	0.001	0.03	1.00	1.43
	1996	0.00	-	0.000002	0.93	0.84	0.002	0.08	0.96	1.75
	2002	0.05	-	0.001	0.28	0.20	0.01	0.02	0.28	0.42
	2008	0.35	-	0.03	1.05	0.55	0.13	0.02	1.08	1.39
- Vietnam	1992	-	-	-	-	-	-	-	-	-
	1996	-	-	-	-	-	-	-	-	-
	2002	0.19	0.13	-	0.79	0.23	0.13	0.24	0.79	1.09
	2008	0.19	0.16	-	0.93	0.16	0.33	0.25	0.93	1.40
World	1992	4.80	1.43	-	13.15	5.47	2.58	0.30	17.23	245.25
	1996	8.81	1.75	-	21.85	11.22	1.07	0.75	28.86	319.25
	2002	6.02	0.42	1.09	17.81	7.44	3.41	0.93	27.15	438.65
	2008	15.09	1.39	1.40	43.27	9.16	15.61	3.40	66.74	822.12

Source: Calculated by the author based on UN Comtrade database.

Table 4. Value of Thailand and Vietnam Automotive Parts Trade (1992 - 2008)

Exports		Exports: Automotive parts [$ billion]								
		ASEAN	Thailand	Vietnam	ASEAN+3	Japan	China	Rep. of Korea	ASEAN+6	World
ASEAN	1992	1.91	0.42	0.02	2.90	0.73	0.11	0.15	3.13	5.54
	1996	4.98	0.99	0.15	6.80	1.21	0.34	0.27	7.26	11.03
	2002	5.59	0.93	0.25	8.92	1.82	1.06	0.45	9.59	15.29
	2008	17.34	2.73	1.14	26.81	5.05	3.00	1.42	30.02	47.13
- Thailand	1992	0.21	-	0.002	0.54	0.30	0.002	0.02	0.55	0.89
	1996	0.68	-	0.02	1.28	0.51	0.05	0.04	1.30	2.05
	2002	1.19	-	0.07	2.08	0.64	0.16	0.09	2.21	3.36
	2008	3.97	-	0.46	6.67	2.00	0.52	0.18	7.57	12.46
- Vietnam	1992	-	-	-	-	-	-	-	-	-
	1996	-	-	-	-	-	-	-	-	-
	2002	0.02	0.01	-	0.07	0.03	0.004	0.01	0.07	0.15
	2008	0.20	0.07	-	0.87	0.58	0.06	0.03	0.89	1.37
World	1992	5.54	0.89	-	60.41	49.35	2.82	2.69	62.39	364.58
	1996	11.03	2.05	-	94.67	72.54	6.24	4.86	97.90	504.69
	2002	15.29	3.36	0.15	105.79	65.65	17.26	7.58	109.60	623.63
	2008	47.13	12.46	1.37	301.22	123.09	100.04	30.96	313.84	1,396.46

Table 4 (continued)

Imports		Imports: Automotive parts [$ billion]								
		ASEAN	**Thailand**	**Vietnam**	**ASEAN+3**	**Japan**	**China**	**Rep. of Korea**	**ASEAN+6**	**World**
ASEAN	1992	1.26	0.22	0.001	10.54	8.63	0.32	0.33	10.83	21.28
	1996	2.81	0.64	0.01	19.75	15.38	0.82	0.75	20.30	36.52
	2002	3.78	1.10	0.04	15.05	9.12	1.46	0.68	15.44	28.17
	2008	12.10	3.93	0.27	42.34	19.23	8.77	2.23	43.67	74.17
- Thailand	1992	0.18	-	0.0001	3.10	2.79	0.06	0.07	3.14	4.64
	1996	0.49	-	0.002	7.15	6.36	0.17	0.14	7.22	10.12
	2002	0.71	-	0.02	4.81	3.72	0.26	0.13	4.86	6.99
	2008	2.33	-	0.13	12.69	8.15	1.56	0.66	12.94	17.76
- Vietnam	1992	-	-	-	-	-	-	-	-	-
	1996	-	-	-	-	-	-	-	-	-
	2002	0.22	0.03	-	0.72	0.21	0.17	0.12	0.73	1.37
	2008	1.24	0.53	-	4.96	1.22	1.90	0.60	5.00	6.72
World	1992	21.28	4.64	-	47.67	8.82	7.72	9.85	54.36	348.33
	1996	36.52	10.12	-	84.14	15.11	14.63	17.88	95.59	507.23
	2002	28.17	6.99	1.37	86.68	18.36	27.36	12.80	97.52	635.65
	2008	74.17	17.76	6.72	228.68	37.83	87.65	29.03	266.77	1,367.80

Source: Calculated by the author based on UN Comtrade database.

Results are shown in Table 3 to Table 4. In Table 3, intra-ASEAN trade values (export plus import) in automotive products surged from USD 1.45 billion to USD 9.72 billion during 2002 and 2008. During the same period, intra-ASEAN trade in automotive parts grew from USD 9.37 to 29.44 billion (Table 4). The volume of trade in automotive parts is far more than that of automotive products. This is thus an evidence of product fragmentation in automotive parts industries. Carmakers based their production in several countries in order to sell in the domestic market. In some countries, with small domestic market, firms may rely on imported parts and components for final assembly. However, the extra-regional market, countries other than ASEAN+6, was still the main export market for automotive products for ASEAN (about 50%). In terms of imports, the share of intra-regional trade within ASEAN has increased overtime and its reliance on China has been gaining ground.[3] Consequently, ASEAN has become more integrated within ASEAN+3 in terms of imports as well as total trade.

Thailand has trade surplus in automotive products but trade deficit in automotive parts. This shows that Thailand is a production and export hub in ASEAN and uses parts from the Japanese international production network within ASEAN and ASEAN+3. In contrast, Vietnam has trade deficit in both automotive products and automotive parts, reflecting the different status of industrial development. The structure of import and export in automotive industry of both countries during 2000 and 2008 is shown in Figure 2. We can see that Thailand had trade surplus, while Vietnam had trade deficit in automotive industry. Thailand's export structure had

[3] It is clear in 'automotive parts' industry, the value of imports from China increased from USD 1.46 billion to USD 8.77 billion, during 2002 and 2008. However, if we look at the total value, Japan has long been the largest source of import for production in ASEAN. This is consistent with our argument on the dominant role of Japanese FDI in ASEAN.

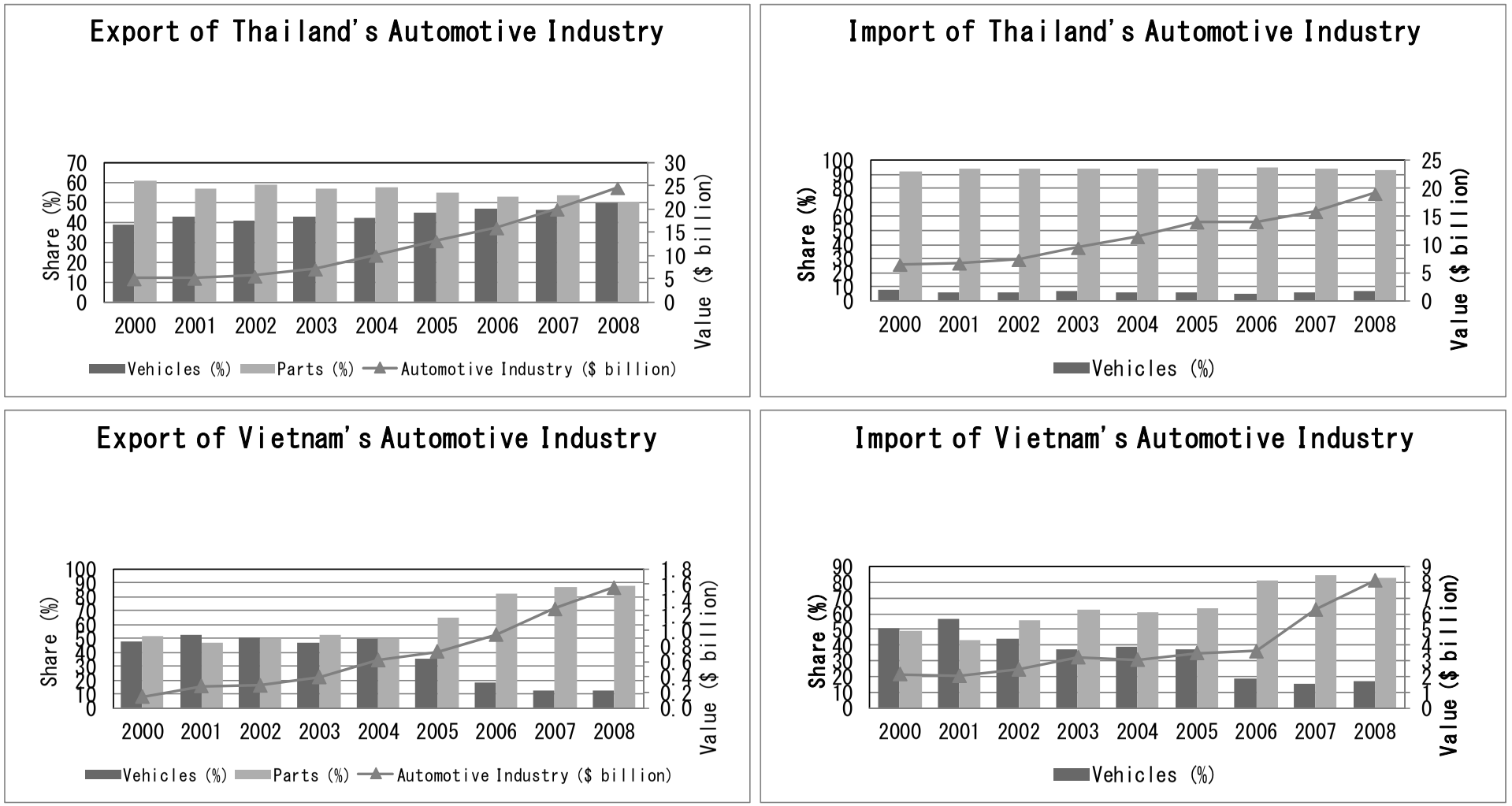
gradually transformed from part exports to vehicle export, during the period. In contrast, Vietnam's export structure gradually shifted towards automotive parts and at the same time, the import of automotive parts grew sharply. From Table 3 and Table 4, we can see that, in 2008, Japan was the major trade partner of Vietnam for automotive parts, both for export and import. The structure of products accounted for trade for both the countries is shown in Figure 3 (Thailand) and Figure 4 (Vietnam). Main exports for automotive products of Thailand were passenger cars (781) and pickup trucks (782), and automotive parts were part accessories (784) and engine parts (713). Thailand's import products were similar to export, i.e., the intra-industry trade. For Vietnam, the key export products were motorcycles (785), electric parts (716) and part accessories (784), while the key import products were motor vehicles (781, 782, 783), part accessories (784), electric parts (716) and engine parts (713).[4]

Based on these statistics, we can see that the division of labour in automotive parts between Thailand and Vietnam is determined by the regional strategy of MNEs. Thailand is specialized in automobile production and auto parts. This is because of the nature of car production that requires proximity with part makers. Agglomeration of part suppliers in the same country enables the just-in-time delivery to carmakers. In contrast, Vietnam's car market is rather small and supporting industries are not well developed. Hence, it is not economical for assemblers to procure parts locally. Most assemblers import parts and do some assembly stage in-house, with some parts from local suppliers. The story is different in motorcycle industry, whereas Vietnamese market is sufficiently large. Part suppliers can achieve economies of scale in their

[4] Findings are consistent with Chairattananon et.al. (2008). They found that Japanese motorcycle assemblers in Vietnam procure engine parts from Thailand (47.3%), while most of the electronic parts can be sourced locally (about 96%).

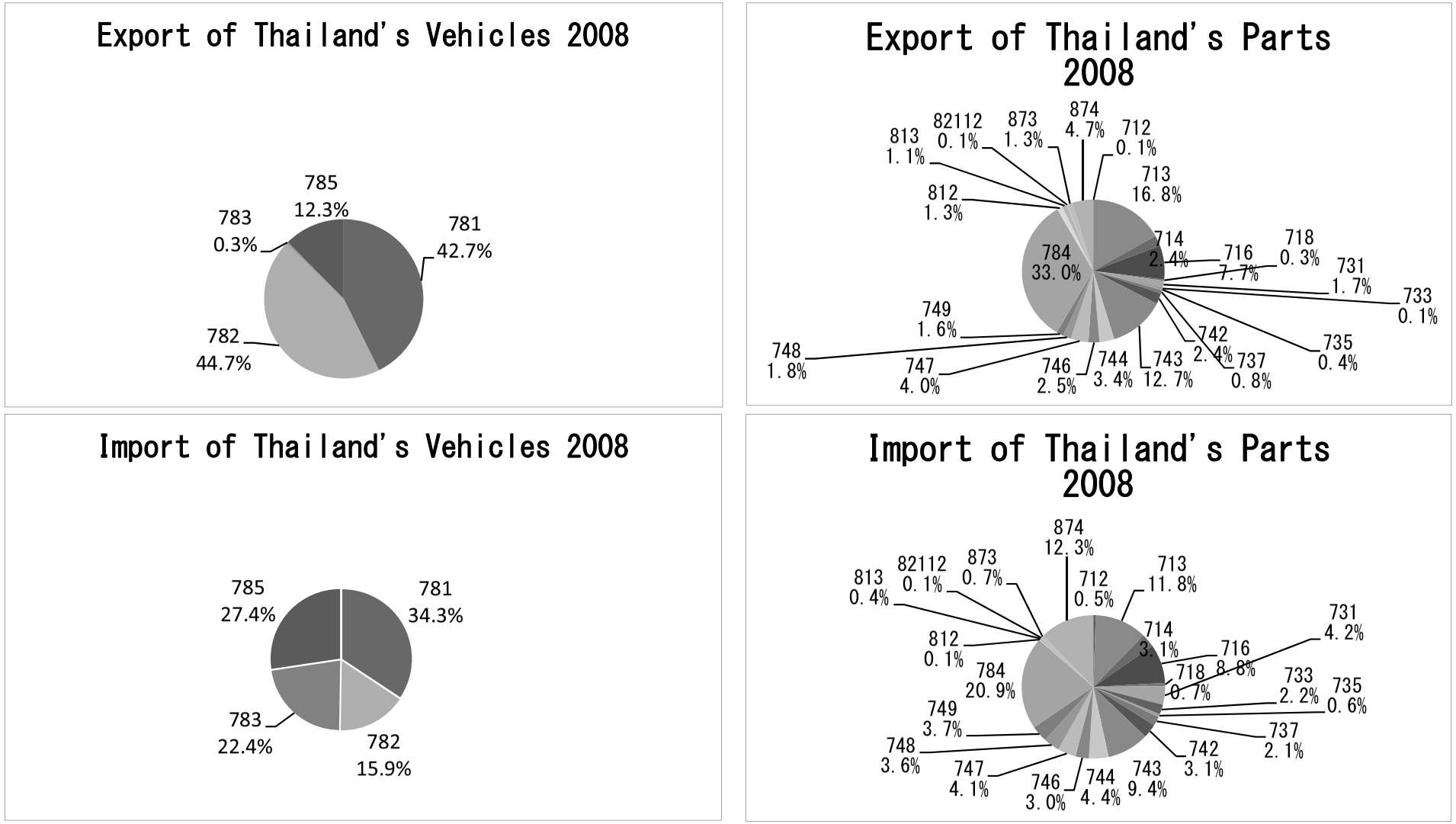
operation. Thus, localized ratio is rather high for motorcycles. Since wage rate in Vietnam is still lower than Thailand and ASEAN-4, firms may be better off moving labour-intensive industries to Vietnam and re-exporting to other destinations. We may be able to predict that Thailand may shift some portion of labour-intensive operations to Vietnam or some production that Vietnam has strong demand for, such as motorcycles parts, while maintaining production for automotive parts locally and exchanging parts through intra-industry trade with other production bases in the region, i.e., ASEAN and ASEAN+6.

Figure 2. Trade Structure in Automotive Industry of Thailand and Vietnam (2000 – 2008)



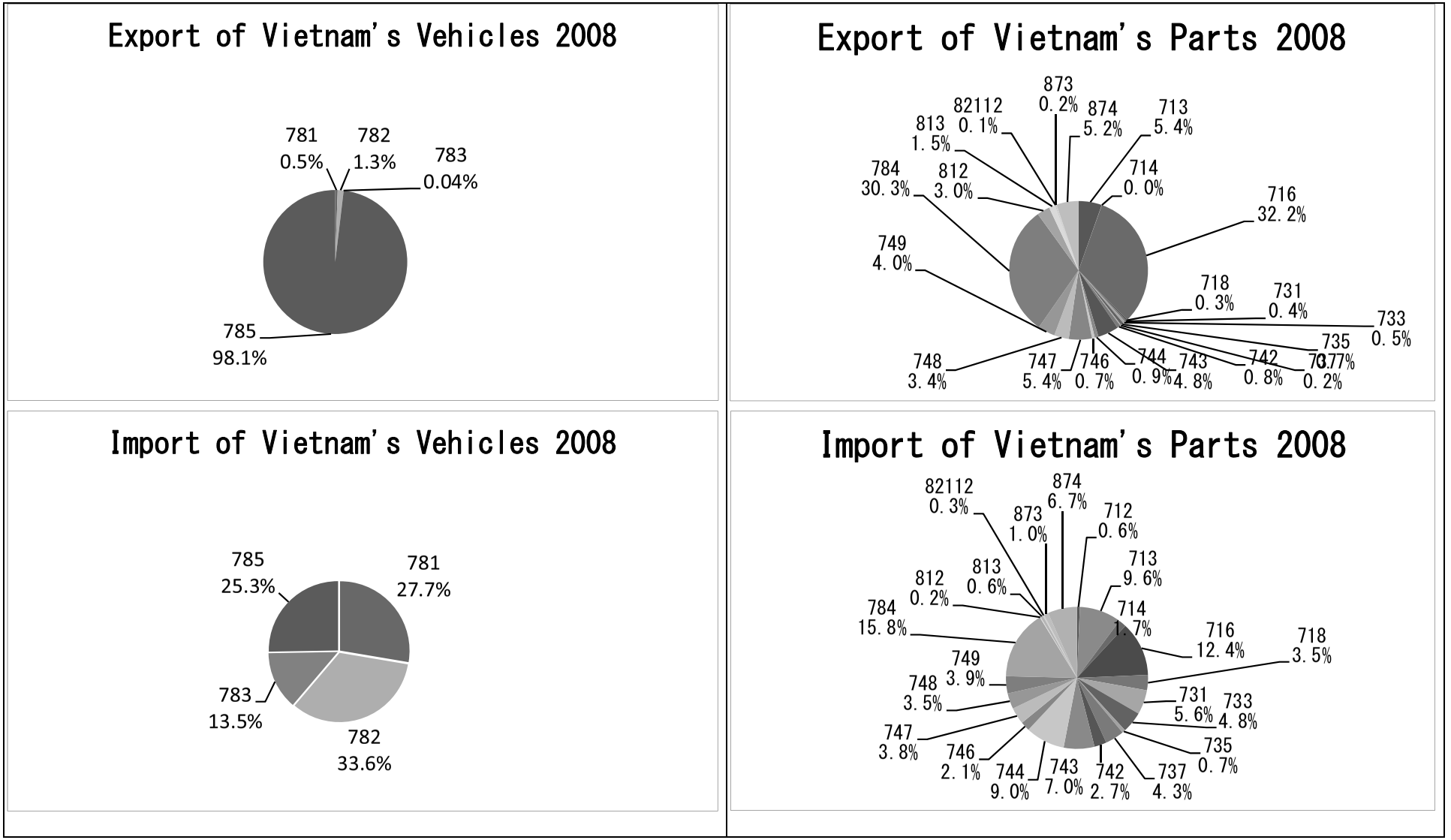
Source: By the author based on UN Comtrade database.

Figure 3. Thailand's Automotive Industry Import and Export (2008)



Source: By the author based on UN Comtrade database.

Figure 4. Vietnam's Automotive Industry Import and Export (2008)



Source: By the author based on UN Comtrade database.

3. CASE STUDIES – THAILAND AND VIETNAM AUTOMOTIVE PARTS FIRMS

In the previous section, we reported the different pattern in trade structure in the automotive industry (both products and parts) of Vietnam and Thailand. We found evidence of intra-industry trade in ASEAN and the link with ASEAN+3. In addition, the trade pattern also suggests each country's comparative advantage in different products. Thailand is specialized in automobile and automotive parts. This is because of a long experience in industrialization and a big market for automobiles. Vietnam is specialized in motorcycles and parts. However, in order to see the new division of labour among Thailand and Vietnam, we need some in-depth views from suppliers who invested in both the countries. In this section, we will present some case studies, based on field survey by this author and IDE-JETRO.[5] There are three cases, one is a Thai firm and two are Japanese firms.

Case 1: Supplier A

Supplier A established in 1977, as a small enterprise. Its main business lines were plastic and metal products for motorcycle parts, auto parts, and electronics and electrical parts. Its development started with an order from two Japanese motorcycle manufacturers to produce seats. At the time it was established, it had investment capability; thus, the buyers provided the technical assistance necessary for the production technology. Later on, this supplier diversified to produce other plastic parts for motorcycles and electronics and electrical appliances parts, and auto parts. It

[5] The author would like to thank Mr. Minoru Makishima and Mr. Yasushi Ueki for sharing information about factory visits in Vietnam.

acquired the necessary technology through technical assistance agreements or by forming new businesses through joint ventures with Japanese firms that specialized in particular products. The company has grown and gone on to become one of the biggest Thai auto parts groups, the T-group business. In 2011, the group had revenue over 50 billion baht, 75% came from Thailand operation and 25% from overseas operations. Supplier A conglomerate has more than 40 joint venture companies but it still keeps Supplier A firm as an independent Thai firm. It used to have an R&D section for the development of auto parts and motorcycle parts. Later, this section became a company to provide engineering supports (especially process engineering and die manufacturing) for the business of Supplier A.

The president of Supplier A always has a vision to be a global part supplier. Technological upgrading can be achieved by having technological licensing agreements or taking over some leading companies. In 2009, this supplier spent more than 10 billion baht to take over a world-class Japanese independent supplier of automotive press tooling to the world's car industry. In addition, in the past five years, Supplier A had expanded to other countries, such as India, Malaysia, Indonesia, China and Vietnam. It established a motorcycle parts (wheel) in Indonesia in 2007 and has a new stamping plant to serve Nissan's new Van production line in 2012. This new plant in Indonesia has an investment of more than one billion baht (approximately USD 330 million). In India, there is one automotive part factory and six motorcycle parts factories. In Malaysia, there is one factory producing motorcycle seats and five metal stamping factories. In China, Supplier A has one auto part factory and currently has a plan to establish a new one to serve growing demand.

For CLMV countries, Supplier A anticipated the potential of Vietnam, especially

the big market for motorcycle. Therefore, it established the first factory in Vietnam (Noi Bai Industrial Park) in 2007 to supply motorcycle parts to local producers. The products produced are the same as in Thailand. With its own R&D unit, all engineering tasks have been done in Thailand and operations were carried out in Vietnam. The president realized the potential of the Vietnamese motorcycle market; hence, he made a plan to add more investment (about one billion baht) to expand its operation during 2010 and 2014. A Thai general manager at Vietnam office commented that rules or regulations in Vietnam can be changed and the process is rather short. Thai businessmen may not be able to adjust their operations in time.

Case 2: Supplier B

Supplier B is a Japanese wire harness producer. It invested extensively in Asia in order to supply parts to customers in each location. This firm invested in Thailand in 1960s and later on expanded business to have four factories and one office in Thailand. Its main products are wire harness for automotives. It supplies to almost all carmakers in Thailand. In Vietnam, there are two plants in Binh Duong and Haiphong.

The second factory in Haiphong has investment equity from Japan 62.5% and Thai (its affiliate in Thailand) 37.5%. In 2005, there were 2,500 employees and in 2011 it increased to 5,000 employees. The company received another license to expand a new factory. The new factory is located in Thai Binh, which is about one hour away from Haiphong plant. Main customers are Toyota (export to Japan and North America), Nissan (for South America and Japan), Mitsubishi (Japan), and to domestic carmakers such as Toyota Vietnam, Honda Vietnam and UD Automobile.

A careful observation of the sales structure reveals that a majority was for export

to two main customers, i.e., Toyota Japan (48.3%) and Nissan (47.9%). Only 4% is supplying to local assemblers. Therefore, it can be said that the investment strategy of Supplier B is to utilize Vietnam's comparative advantage, especially in low labour cost. Wire harness is a labour-intensive product and this firm made a clear position for Vietnam plants to be key export bases for many Japanese firms. Most of them import materials from other plants, especially from Japan, Thailand, and China, and do assembly processes in Vietnam. Import lead time from Japan to Haiphong is about 13 days and export lead time from Haiphong to the US is about 25 days.

Considering plants in Vietnam and Thailand, we can see that the Thai factories are mainly for domestic producers, because of sufficient domestic demand with annual production volume 1.6 million units in 2010. On the contrary, Vietnam automobile production is still small, it is economical to use production base in Vietnam for export purpose. However, we still do not find a link between Vietnam and Thailand plants. Wire harness manufacturing is labour-intensive and does not require 'strict just-in-time' on the production line of customers. In sum, wire harnesses are likely an auto part product for Vietnam for some period. This is because raw material can be imported from the region and the production does not require advance equipment. As regards potential locations in other CLMV countries, Cambodia may be appropriate because of cheap labour costs and its location between Vietnam and Thailand. Laos still has a limitation in manpower and infrastructure (outside Vientiane).

Case 3: Supplier C

Supplier C is a Japanese firm and its main products are gasket, FFA joining sheet and industrial packing. It has many plants overseas, including China, India, Indonesia,

Malaysia, Thailand, Pakistan, Brazil and the United States. In Thailand, the factory is located in Songkhla and its main customers are Thai Honda Manufacturing, Thai Suzuki Motors, Thai Yamaha Motors, and Honda Automobile. The Thai factory obtained the Supplier Award from Asian Honda Motor and the Quality Improvement Award from Thai Honda. Because this firm has a close business relationship with Honda, it expanded its business to supply to Honda Vietnam.

The factory in Vietnam has the equity investment from Japan (Headquarter) 50% and Thai (Company in Thailand) 50%. It started production in 2007. They purchase raw material from Thailand, India and Japan. Lead time from Thailand is 7 days, India 30 days, Japan 15 days. It has a division of labour between Thailand, Vietnam and India. Each location will supply to domestic producers, indicating horizontal division of labour. Main customers are Honda (40%), Yamaha (40%), Suzuki (1.4%), VMEP (5%) and export to customers in China. For Honda Vietnam Automobile, the plant procures gaskets from the factory in Thailand, not from Vietnam, which is specialized only in motorcycle parts. Vietnam still has an advantage in labour cost, which is not the case in Thailand, especially in the south. In addition, we can see that the plant in Thailand is specialized in both motorcycle and automotive parts, while Vietnam is in motorcycle parts.

4. CONCLUDING REMARKS

This paper discussed trade integration of Thailand with ASEAN and Asian countries. By using UN Comtrade data for automotive industry, contribution to world trade by ASEAN has been increasing. At the same time, intra-industry trade in automotive

industry tended to increase in past decades, shown by the expansion of trade in parts and components. This study found that the division of labour in automotive parts within ASEAN and with other regions is determined by the regional strategy of MNEs. Thailand is a production and export base in automobiles, which uses locally produced auto parts. This is because of the nature of car production that requires proximity and just-in-time delivery. Parts were exported in the form of CKD to other plants in the global production network of assemblers. They go to both intra- and extra-ASEAN. For Vietnam, the motorcycle industry seems to have high potential for future growth.

Trade integration among ASEAN would be intensified when the AEC came into effect. In 2018, car manufacturers in Vietnam will face fierce competition with car imports, due to the commitment with ASEAN to reduce import tax for cars with less than nine seats to zero (Vietnam Business News, December 28, 2011). Based on the three case studies, these facts were confirmed. New division of labour in automotive parts industry between Thailand and CLMV is currently carried out in Vietnam. In the future, the division of labour may expand to Cambodia and Laos. Possible products would be labour-intensive and mature technology (or equipment). For instance, wire harness is a leading automotive part exported for Vietnam. For CLMV, as regards the possibility of participating in the global production network, the countries need to specify their key industries to promote, depending on their competitive advantage, the readiness of infrastructure, human capital and clear industrial policies.

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Appendix 1. List of Automotive products and Automotive parts SITC Rev. 3

SITC (Code)	Products
	Automotive products (vehicles)
781	Motor cars and other motor vehicles principally designed for the transport of persons
782	Motor vehicles for the transport of goods and special-purpose motor vehicles
783	Road motor vehicles, n.e.s.
785	Motor cycles (including mopeds) and cycles, motorized and non-motorized; invalid carriages
	Automotive parts
712	Steam turbines and other vapour turbines, and parts
713	Internal combustion piston engines, and parts
714	Engines and motors, non-electric parts
716	Rotating electric plant, and parts
718	Power-generating machinery, and parts
731	Machine tools working by removing metal or other material
733	Machine tools for working metal
735	Parts, n.e.s.: for mach-tools
737	Metalworking machinery and parts
742	Pumps for liquids and parts
743	Pumps, air or other gas compressors and fans, and parts
744	Mechanical handling equipment, and parts
746	Ball- or roller bearings
747	Taps, cocks, valves and similar appliances for pipes
748	Transmission shafts and cranks
749	Non-electric parts and accessories of machinery
784	Parts and accessories of the motor vehicles
785	Motor cycles and cycles
812	Sanitary, plumbing and heating fixtures and fittings
813	Lighting fixtures and fittings
82112	Seats of a kind used for motor vehicles
873	Meters and counters, n.e.s.
874	Measuring, checking, analysing and controlling instruments and apparatus, n.e.s.

Source: UN Comtrade database (SITC Rev.3)