Chapter 11

Possibility of Relocation or Fragmentation from Advanced ASEAN Countries to CLMV Countries: Summary of Survey Results

Masami Ishida
Bangkok Research Center, IDE-JETRO

March 2010

This chapter should be cited as
Ishida, M. (2010), 'Possibility of Relocation or Fragmentation from Advance ASEAN Countries to CLMV Countries: Summary of Survey Results', in Banomyong, R. and M. Ishida (eds.), *A Study on Upgrading Industrial Structure of CLMV Countries*. ERIA Research Project Report 2009-7-3, Jakarta: ERIA. pp.421-470.

CHAPTER 11

POSSIBILITY OF RELOCATION OR FRAGMENTATION FROM ADVANCED ASEAN COUNTRIES TO CLMV COUNTRIES: SUMMARY OF SURVEY RESULTS

Masami Ishida

Abstract

Do firms of electronics and automotive industries in the advanced ASEAN countries make the decisions for relocation or fragmentation to Cambodia, Lao PDR, Myanmar and Vietnam (the CLMV countries)? What are needed for the CLMV countries in order to attract more foreign direct investment (FDI)? This paper tries to answer these questions by analyzing the survey results of seven countries (Indonesia, Thailand, Malaysia, Cambodia, Lao PDR, Myanmar and Vietnam). Based on the analysis, it is shown that relocation or fragmentation of the electronics industry to Vietnam has already been undertaken and will be increasing. On the other hand, no firms in the three advanced ASEAN countries intend to make a decision for relocation or fragmentation to the CLMV countries. However, this should not provide a pessimistic note to the CLMV countries because there could be measures for them to take. These countermeasures in order for them to attract FDI in the electronics and automotive industries in the future are presented in this paper.

INTRODUCTION

Investment in Vietnam has generally been considered through a concept of “China plus one” after it has been deemed risky to solely concentrate investments in China. Investments in Cambodia and Lao PDR have also been increased through a smaller concept of “Vietnam plus one.” Looking at the industrial structures, however, of Cambodia, Lao PDR and Myanmar (CLM Countries), it seems that the manufacturing industries of these countries are more dependent on garment and agro-based industries, with electronics and automotive industries being rare. The industrial structure of Vietnam is shown to be more diversified although its supporting industries are assessed as being “immature” as yet.

In order to attract investment categorized as “upgrading”, receiving substantial foreign direct investment (FDI) is necessary. In fact, advanced ASEAN countries like Malaysia, Thailand and Indonesia have experienced remarkable economic growth since the second half of the 1980s by receiving FDI. These countries have also participated in the production network of electric, electronics and automotive industries in the East Asia region.

These ASEAN countries, however, have faced tough competition from China since the mid-1990s. Looking at the data of imports of the United States, the European Union (EU) and Japan, it is evident that their imports from the ASEAN countries were surpassed by their imports from China, with the former’s share being reduced and the growth rate becoming negative from 1995 to 2000 in sundries, textile and its products, food and animal oil items. From 2000 to 2002, general machinery, electric machinery, non-metallic materials and mining fuels also showed similar trends. However, chemical

products and precision machinery in Singapore, and transport vehicles in Thailand showed high competitiveness vis-à-vis similar products from China (Ishida, 2006, pp.49 – 52).

In the advanced ASEAN countries' domestic markets, there has been a surge in the volume and sale of products made in China since 2000. For instance, in 2000, the share of sales of motorcycles made in China increased to 18 percent in Indonesia where more than 90 percent of motorcycle sales had traditionally been captured by Japanese manufacturers. However, the boom in the sale of Chinese-made motorcycles ended in 2003 and the Japanese manufacturers' share recovered once again to 90 percent (Ishida, 2007, p.119). In Thailand, the imports of apples, pears and garlic from China soared at the end of 2003, soon after the removal of the import tariffs on agricultural products with the launching of the "early harvest" program (Higashi, 2004, pp. 282-283).

In the face of such tough competition from products made in China in the advanced ASEAN countries' domestic and foreign markets, some firms withdrew or relocated their factories to other countries. In the case of multinational firms, most of them expanded in the sectors which have higher competitiveness and withdrew from those which have lost their competitive edges. On the part of China, its wage level has been competitive compared with those of Malaysia and Thailand and its supporting industries are more abundant than those in Indonesia, the Philippines and Vietnam. And even if the wage level is lower than that in China for some manufacturing firms, the total cost still becomes higher if these firms are highly dependent on imports of intermediate goods. As a matter of fact, not a few garment factories at Bandung in Indonesia had stopped production since November 2001 because of this (Ishida, 2002, p.99). In 2004, 21 Japanese firms in relatively labor-intensive electric and electronic

appliances sectors also withdrew from Malaysia (Nishi, 2007, pp.82-83). Earlier in 2002, stories of Japanese firms' relocation of production bases from ASEAN countries to China have likewise been reported in newspapers (Ishida, 2003, p. 434).

On the other hand, fragmentation behavior, aside from relocation, has also been reported in East Asia. Fragmentation refers to a firm behavior of cutting one or two production blocks out of a whole production process from upstream to downstream and moving the blocks to another location (Kimura, 2009, p.29). An electronics company which operated in some cities in Thailand, for one, moved a production block, which consisted of putting legs on simple semi-conductors, to Vientiane.[1] A Japanese wire harness firm also supplied funds to an owner in Lao PDR to set up a factory and outsourced one of its production blocks to the factory; the Japanese firm supplies semi-finished part materials from Thailand to the factory and then imports semi-finished products from this Lao PDR factory (Keola, 2008, p. 123).

Given the above background developments, the purpose of this paper is to examine the possibilities of relocation or fragmentation of electronics, automotive, and spinning and weaving industries from the advanced ASEAN countries to the CLMV countries and the challenges for the CLMV countries to attract FDI from the advanced ASEAN countries by analyzing the firm survey results conducted in three advanced ASEAN countries (Indonesia, Thailand and Malaysia) and in the CLMV countries. The number of samples is shown in Table 1. In terms of the structure of the paper, the first section examines the possibilities of relocation or fragmentation from the three ASEAN countries to the CLMV countries based on the perceptions of the firms in the advanced ASEAN countries on the CLMV countries. The second section compares some

[1] Based on an interview with a manager of an electronics factory in Vientiane on November 6, 2009.

Table 1: The Number of Samples by Countries and Industries

(Unit: Number of Samples)

	Cambodia	Lao PDR	Myanmar	Vietnam	Indonesia	Thailand	Malaysia
Agro	1	4	2	3	0	0	0
Fishery	0	0	5	0	0	0	0
Food Processing	0	1	2	0	0	0	0
Wood Processing	0	3	0	1	0	0	0
Garment & Knitting	14	8	5	8	3	0	0
Weaving & Spinning	0	1	0	1	6	0	0
Footwear	3	1	5	4	0	0	0
Cement, Chemical, Plastics & Metal Processing	3	7	5	0	0	0	1
Electric & Electronics	1	6	5	2	8	10	13
Automotive	1	6	2	0	3	5	0
Machinery	0	0	0	0	0	0	1
Others	0	0	0	2	0	0	0
Existing Industries	18	18	19	17	9	0	0
New Industries	5	19	12	7	8	15	15
Total	23	37	31	24	17	15	15

Note: The “existing industries” are composed of agro-industry, fishery, food processing, wood-processing industry, garment, knitting, weaving, spinning and footwear. The “new industries” are composed of non-metal processing, metal processing, plastics processing, electric and electronics and automotive industries.

Source: The author summarize based on survey results.

indicators like wage, education level, distances to ports and harbors, lead time, customs clearance and the electricity situation between the advanced ASEAN countries and the CLMV countries. The third section shows the needs and demands of firms for soft and hard infrastructure in the CLMV countries. And finally, the concluding section summarizes the discussions and presents policy recommendations for the CLMV countries.

1. RELOCATION OR FRAGMENTATION FROM ADVANCED ASEAN COUNTRIES TO CLMV COUNTRIES

1.1. Toughness of Competition

As described in the introduction, the manufacturing firms of many sectors in advanced ASEAN countries have been faced with competition from China since the mid- 1990s. Table 2 shows the number of respondents who answered the question on whether the competitive environment is tough or not.

More than 60 percent of the firms in the electronics industry in Malaysia and all the respondents of other industries (chemical and machinery) answered that the competitive environment is tough. On the other hand, the proportions of respondents from electronics industries in Thailand who answered "not tough," "fair" and "tough" are equally divided. The proportion of the respondents who answered "not tough" is more in the automotive and its related industries (60.0%). This response from the automotive and its related industries is consistent with the results that the imports of

Table 2: Competitive Environment in Thailand and Malaysia

(Unit: Number of Respondents)

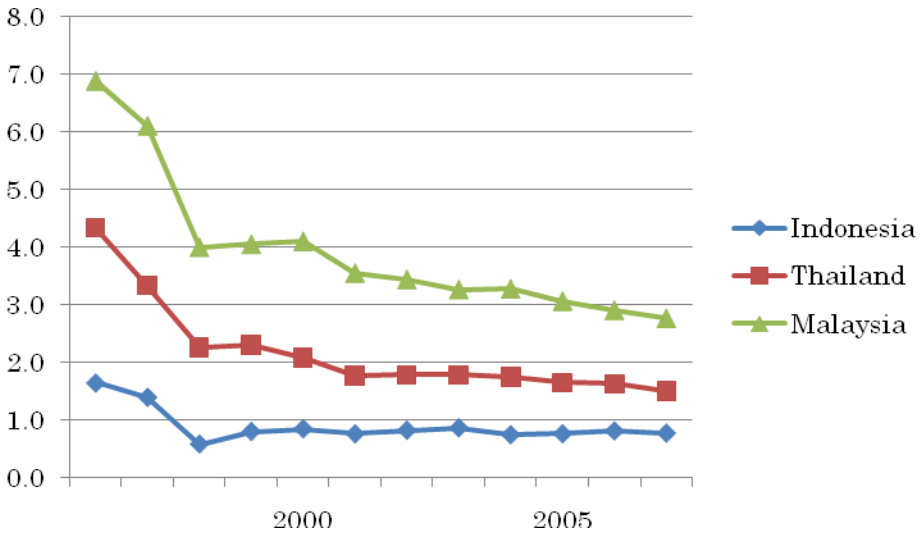
	Not Tough	Fair	Tough	No Answer	Total
Thailand					
Electronics	3 (33.3)	3 (33.3)	3 (33.3)	0 (0.0)	9 (100.0)
Automotive	3 (60.0)	0 (0.0)	1 (20.0)	1 (20.0)	5 (100.0)
Total	6 (42.9)	3 (21.4)	4 (28.6)	1 (7.1)	14 (100.0)
Malaysia					
Electronics	1 (7.7)	2 (15.4)	8 (61.5)	2 (15.4)	13 (100.0)
Others	0 (0.0)	0 (0.0)	2 (100.0)	0 (0.0)	2 (100.0)
Total	1 (2.3)	2 (4.7)	10 (23.3)	2 (4.7)	43 (100.0)

Note: The number in parentheses means the percentage share of each answer.
Source: Semi-structured survey of ERIA 2009 -10.

transport vehicles and their parts and components in the United States, the EU and Japan from Thailand showed competitiveness against the imports from China in 1995-2002 (Ishida, 2006, pp.49 – 52). In Thailand, automotive industry clusters composed of some layers of parts and components industries have been formed and the automotive manufacturers in Thailand can get the supply of many kinds of parts and components without importing. Some parts and components can also be supplied to electronics industries in Thailand, thereby raising the industrial complex's level of competitiveness.

While the automotive and its related industries as well as the precision machinery and chemical industries in Singapore are among the special cases, the reality of many other industries in the advanced ASEAN countries, however, is likely to be closer to the situation of the electronics industries in Malaysia where competition is, as mentioned, said to be tough. Figure 1 compares the ratios of GDP per capita (as a substitution variable of wage) of Indonesia, Thailand and Malaysia with that of China. As shown, the ratios fell as a result of the Asian currency crisis in 1997, with Indonesia's ratio being lower than 1.0 since 1998. It is said that the competitive environment in Indonesia has been very tough in many industries. As far as the situation in Thailand is concerned, on the other hand, the affluence of the parts and components industries is one of the important factors for its competitiveness. The difference between the GDP per capita or wage level of Malaysia and Thailand and that of China is likely to be lower. Nevertheless, the toughness of the competition between the ASEAN countries and China is not likely to decline because the affluence of the parts and components industries in China is seen to further improve.

Figure 1: The Ratio of GDP per Capita of the Advanced ASEAN Countries with China



Note: The data of Indonesia between 1996 and 1999 are based on the data of Central Statistical Agency (BPS).
Source: Web Site of ASEAN Secretariat Statistical Year Book of China (Various Years)

1.2. Relocation, Fragmentation and Expansion

(1) Experience of Relocation

The respondent firms in Thailand and Malaysia were asked whether they have experienced the relocation of factories or not. In Thailand, nine out of the ten respondents of electronics industries answered that they have experienced relocation. Among them, four firms have experienced relocation to China, two have experienced relocation to Japan, one to Singapore and Malaysia, and another, to Hungary and Germany. The ninth respondent firm answered that it has experienced relocation to Germany, Japan, Taiwan and China. On the other hand, there are no respondents of automotive industries who have experienced relocation.[2]

[2] As for five out of ten firms of the electronics industry in Thailand, the countries of destination coincide with the production points in other countries answered in other questions. There are possibilities that

In Malaysia, five out of 13 firms of the electronics industry answered that they have experienced relocation. Three out of the five firms have experiences of relocation to Vietnam and one of the three firms also has an experience of relocation to China. Another firm out of the five electronics firms has an experience of relocation to Thailand and another has experiences of relocation within Malaysia.

In sum, the cases of the electronics industry in Thailand include cases of relocation to China and developed countries while the cases of Malaysia, on the other hand, are directed toward China and other ASEAN countries, with Vietnam being considered by more firms.

(2) Experience of Considering Relocation

The respondent firms in Thailand and Malaysia were also asked whether they have considered relocation or not. Five out of the ten firms of electronics industries in Thailand answered that they have considered relocation to other places. Two firms have considered relocation to China and another two firms have considered moving to Vietnam. Of these latter two, one has also considered the relocation to India while the other company has likewise considered relocation to Pakistan. Another (the fifth) answered that the firm has considered relocating to Central and Southern America, including Brazil.

Four out of the five firms of automotive and its related industries answered that they considered relocating their factories to other places; two firms to Vietnam, one firm to Pakistan and one firm to India, China, South Africa and Vietnam. A common

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some of the respondents enumerated all the production points instead of the countries of destination for the relocation. On the other hand, there are not such cases in Malaysia because other countries are also enumerated as production points in all the following cases.

denominator of these countries listed as possible relocation sites is their bigger population than Thailand. Another common denominator is that all the three advanced ASEAN countries have considered relocation to Vietnam.

In Malaysia, only one firm out of 13 in the electronics industry and one firm in the chemical industry answered that they have considered relocation. The destinations mentioned, however, are not foreign countries but other places in Malaysia.

1.3. Priorities

What kind of investment climate elements do the firms give priority to in making decisions regarding relocation or fragmentation? In order to get the answer to this question, the researchers asked the respondent firms to rank the following nine elements:

a) land price for owning or leasing.
b) wage level for workers
c) price of energy and electricity
d) price of water for industrial use
e) access to ports and markets
f) educational level of workers
g) population and GDP per capita of the country
h) incentives like tax holidays
i) others [specify]

As examples shown to some firms, the following elements were listed:

a. quality and cost of logistics services
b. quality of suppliers and services
c. time to go through customs

d. level of unseen cost

e. availability of managerial and technical staff

f. ease of getting expatriate working visas

g. ICT availability

h. political stability

i. risks to production delays

In case there are no elements that fit into the factors being thought of by the respondents, then they were told that they could specify other elements. Table 3 shows the average value of the ranks as "score" and the rank of scores among the eight elements (not including "others"). As for the "other elements," the number of respondents who enumerated this and the average rank are shown at the lower part of the table.

The firms of the garment industry in Indonesia give the highest priority to energy price,[3] followed by land price and incentives like tax holidays. The reason why the firms give high priority to land price is because the larger one- storey factory needs vast land area. The population and GDP per capita of the country as representative indicators of market size is not indicated as a factor because the three sample firms interviewed are all export-oriented. Water price which is not also mentioned as an element to consider is given lower ranks by firms in other countries. On the other hand, access to ports and markets is unexpectedly ranked lower by the garment industry firms compared with the electronics and automotive industries in Indonesia. The education level of workers is also ranked lower although actually, the education level of workers

[3] Since the onset of the Asian currency crisis, the situation of electricity in Indonesia is said to have reached the level of "electricity crisis."

Table 3: Priorities on Conditions for Decision Making of Locations of Manufacturing Factories

<Ranks of Eight Given Elements>

	Indonesia						Thailand				Malaysia			
	Garment		Textile		Electronics		Electronics		Automotives		Electronics		Others	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank	Score	Rank
1 Land Price	2.5	2	2.7	2	4.5	4	7.7	7	8.2	8	5.0	6	3.0	2
2 Wage of Workers	4.0	4	2.5	1	2.6	1	4.7	4	5.8	5	1.7	1	1.5	1
3 Energy Price	2.0	1	4.2	3	5.1	5	5.8	5	7.0	6	4.2	5	5.5	6
4 Water Price			5.7	6	7.7	8	7.8	8	7.7	7	5.5	7	7.0	7
5 Access to M. & P.	4.7	5	5.7	6	2.8	2	3.8	2	3.8	2	3.8	3	4.0	4
6 Education Level	5.3	6	5.4	5	7.0	6	3.6	1	5.4	4	3.5	2	3.0	2
7 Market Size			8.0	8	3.0	3	6.4	6	3.2	1	8.3	8	8.0	8
8 Incentives	3.7	3	5.3	4	7.3	7	4.3	3	4.2	3	3.8	4	4.0	4

<Other Elements Specified by Firms>

	Indonesia						Thailand				Malaysia				Total	
	Garment		Textile		Electronics		Electronics		Automotives		Electronics		Others			
	Num.	Score	Num.	Score	Num.	Score	Num.	Score	Num.	Score	Num.	Score	Num.	Score	Num.	Score
9 Quality of Supplier	2	4.5					1	5.0			7	5.9	1	4.5	11	5.4
10 Logistics	2	8.0									1	4.0			3	6.7
11 Political Stability	2	8.0			2	5.0	7	2.0	3	1.7					14	3.2
12 Infrastructure							3	1.7	1	3.0					4	2.0
13 Interest Rate					1	2.0									1	2.0

Notes: 1) The samples firms of Indonesia, Thailand and Malaysia.

2) The score is the averaged value of the ranks and the rank was given in accordance with the value of scores.

3) "Num" means the number of respondent firms which specified the concerned elements.

Source: Survey results.

in the garment sector of Indonesia is higher than the high school completion as shown in the next section. For the other elements, two firms specified quality of supplier, quality and cost of logistics service and political stability, respectively. Quality of supplier is ranked higher than the other two elements.

The firms of weaving and spinning industries ("textile" in the table) give the highest priority to the wage level for workers. As for the other elements, the answers and rankings are similar. Land price and energy price are also ranked relatively higher by firms in the garment industry while market size, water price and access to ports and markets are ranked lower.

As for the electronics industry, the firms of Indonesia and Malaysia give the highest rank to wage level of workers. In Thailand, this element ranks fourth. The education level of workers is ranked highly in Thailand and Malaysia while it only ranks sixth in Indonesia. Nonetheless, one notes that the average education level of workers in the firms of the electronics industry in Indonesia is higher than high school graduates. The levels in Malaysia and Thailand are lower. In order to attract the electronics industry to relocate from the advanced ASEAN countries to the CLMV countries, the latter should thus consider the need to have a higher level of education (higher than completing middle high school) for workers. Access to ports and markets, meanwhile, is ranked either second or third in all the three ASEAN countries. For Indonesia, market size ranks third while it is ranked lower in Thailand. The average export ratio of the electronics industry in Indonesia is 55.9 while in Malaysia and Thailand, the figures are 90.0 and 83.6, respectively. Hence, the firms are more domestic market-oriented in Indonesia. In terms of other elements, seven out of ten electronics firms in Thailand and two out of eight electronics firms in Indonesia listed

political stability, with the average rank in Thailand being higher than any of the eight elements while in Indonesia, the average rank is 5.0. Looking at the rankings of the elements, therefore, one notes that the wage and education level of worker, access to ports and markets, and political stability are the most important elements in attracting direct investment in the electronics industry.

In terms of the automotive industry in Thailand, the rank of market size is the highest because the industry's domestic market orientation is higher there. For the electronics industries in Thailand and Malaysia, though, market size is ranked lower. Again in Thailand, the second highest element mentioned is access to ports and markets, followed by incentives like tax holidays, education level of workers, wage level, and energy price. On the other hand, the rank of land price and water price is evaluated lower. Regarding the other elements, three respondent firms enumerated political stability and one specified infrastructure. In particular, the average rank of political stability is higher than any of the other eight elements. Finally, for the automotive industry, the size of the domestic market, access to ports and markets, education and wage level of workers, and incentives like tax holiday are especially important.

1.4. Perceptions on CLMV Countries

(1) Knowledge about CLMV Countries

The respondent firms were first asked whether or not they know about the CLMV countries before being asked on their perceptions on these countries. Table 4 shows the number of respondents who answered the question. Indonesia and Malaysia have higher percentage shares of the respondents who know the CLMV countries. The automotive industries of Thailand also show a higher number of those familiar with the CLMV

Table 4: Answers on Whether Know or Do Not Know CLMV Countries

(Unit: Number of Respondents)

	Yes		No		No Answer		Total	
Indonesia								
Garment	3	(100.0)	0	(0.0)	0	(0.0)	3	(100.0)
Weaving & Spinning	5	(83.3)	1	(16.7)	0	(0.0)	6	(100.0)
Electronics	7	(87.5)	1	(12.5)	0	(0.0)	8	(100.0)
Thailand								
Electronics	2	(20.0)	7	(70.0)	1	(10.0)	10	(100.0)
Automotive	4	(80.0)	1	(20.0)	0	(0.0)	5	(100.0)
Malaysia								
Electronics	11	(84.6)	2	(15.4)	0	(0.0)	13	(100.0)
Others	2	(100.0)	0	(0.0)	0	(0.0)	2	(100.0)

Note: The number in parentheses means the percentage share of each answer.
Source: Semi-structured survey of ERIA 2009 -10.

countries. On the other hand, though, 70 percent of the respondents of the electronics industries in Thailand answered that they do not know the CLMV countries.

(2) Evaluation on CLMV Countries

After answering the first simple question, the respondent firms were then asked whether investing in each of the CLMV countries is good, fair or bad. This was done after they were shown a table of basic information on investment climate in CLMV countries (see Appendix Table). Table 5 shows the results.

According to the table, only Vietnam got good evaluations between 1.0 (good) and 2.0 (fair) from the firms in the three advanced ASEAN countries, with the exception of some firms of the textile industry in Indonesia which also gave good evaluations to Cambodia and Lao PDR. Among the firms that gave high evaluation to Vietnam, the higher scores came from firms in the electronics and automotive industries. These results indicate that Vietnam has already been well-developed to receive the "new

Table 5: Evaluation on CLMV Countries by Firms in Advanced ASEAN Countries

	Cambodia	Lao PDR	Myanmar	Vietnam
Garment in Indonesia	2.3	2.3	3.0	1.7
Textile in Indonesia	2.4	2.8	2.8	2.2
Electronics in Indonesia	2.8	2.8	2.5	1.1
Electronics in Thailand	2.6	2.8	2.6	1.3
Automotive in Thailand	3.0	3.0	2.5	1.0
Electronics in Malaysia	2.6	2.8	2.8	1.2
Others in Malaysia	3.0	3.0	3.0	1.0

Notes: 1) After showing the basic information on investment climate in CLMV countries, the respondent was asked to evaluate CLMV countries.
2) Each level of evaluation is:
1= Good 2= Fair 3= Bad

Source: Survey results.

industries" like electronics and automotive industries.

In contrast, the firms' evaluations on Cambodia, Lao PDR and Myanmar (CLM countries) were lower than 2.0 (fair). In particular, the evaluations on Cambodia and Lao PDR by automotive industries in Thailand and the ratings on all the CLM countries by the "other" industries in Malaysia, which are composed of chemical and machinery industries, scored 3.0 (bad). However, there were also firms that gave higher scores to the CLM countries. For instance, the evaluations on Cambodia and Lao PDR by garment industries in Indonesia and on Cambodia by textile (weaving and spinning) industries in Indonesia were better at 2.5. This thus shows that the possibilities of relocation for these industries still exixt.

(3) Advantages and Disadvantages of Cambodia

The next question asked the respondents was to enumerate the advantages and disadvantages of each of the CLMV countries. Table 6 shows the responses of the respondent firms in the advanced ASEAN countries for Cambodia.

Table 6: Perceptions of Firms in Advanced ASEAN Countries on Cambodia

<Advantages> (Unit: Number of Firms)

	Lower Wage	Available Labor	Good Incentives	Good Education	Good quality of people	Good Labor skill	Large Local Market	Good Infra.
Garment in Indonesia	3							
Textile in Indonesia	5							
Electronics in Indonesia	4		3					3
Electronics in Thailand	3		1			1		
Automotive in Thailand	1	1	2			1		
Electronics in Malaysia	3	7						
Others in Malaysia	1	1						
Total	**20**	**9**	**6**			**2**		**3**

<Disadvantages> (Unit: Number of Firms)

	Lower Education Level	Poor Infra.	Political Problem	Distance to Ports	Policy Problems	Higher Export Cost	Poor SCM	Lower Market Potential
Garment in Indonesia		2						
Textile in Indonesia			1					
Electronics in Indonesia			2	2				
Electronics in Thailand	2	3	6	1				
Automotive in Thailand		1	1					2
Electronics in Malaysia	7	10					1	
Others in Malaysia	2	2						
Total	**11**	**18**	**10**	**3**			**1**	**2**

Notes: 1) After showing the basic information on investment climate in CLMV countries, the respondent was asked to evaluate CLMV countries.

2) Each item of advantages and disadvantages is enumerated by respondents. The number in the table means the number of respondents who enumerated each item of advantages and disadvantages.

Source: Semi-structured survey of ERIA 2009 -10.

As to advantages, 20 firms listed “lower wages”, with more firms from Indonesia mentioning this. Nine firms, including the seven firms in the electronics industry in Malaysia, enumerated “available labor” as one of the advantages. However, considering the low population of Cambodia (181 thousand as of 2008), there is a possibility that

some of the answers given were based on certain misperceptions of the firms. Three firms of the electronics industries in Indonesia and one electronics firm and two automotive firms in Thailand listed “good incentive” as one of the advantages. Indeed, this may be due to recent developments seen. For one, the government of Cambodia has recently announced the grant of 3 to 9 years of tax holidays and the implementation of one-stop services in the special economic zones (SEZs) in Cambodia (Chapter 2). These developments are supposed to have been reflected in the evaluations.

In terms of disadvantages, “poor infrastructure” and “lower education level of workers” are noted to be the outstanding problems in Cambodia, especially as perceived among the firms of the electronics industries in Thailand and Malaysia. These responses contradict with the answers listed by three firms of the electronics industry in Indonesia which gave “good infrastructure” as an advantage. They also contradict with the answer of each of the firms in the electronics and automotive industries in Thailand which listed “good labor skill” as one of the advantages. These evaluations may not coincide with one another because the answers are supposed to be based on individual experiences and reasons of the respondent firms. Also in terms of disadvantages, ten firms -- seven of which are based in Thailand -- enumerated political problems or instability of politics. This result reflects the recent rift in the political relationship between Cambodia and Thailand. Other disadvantages mentioned included “poor supply chain management” and “lower market potential”, as given by one electronics firm in Malaysia and two automotive firms in Thailand. While these answers are minor in the table, supply chain management, however, is one of the important elements for electronics manufacturers in Malaysia, suggesting as well that the population size of Cambodia is small for automotive industries to decide to invest. Nevertheless, considering the

situation that several motorcycle firms operate and one motorcycle firm plans to operate in Cambodia, this result does not deny the possibilities of the motorcycle industries investing in Cambodia.

(4) Advantages and Disadvantages of Lao PDR

Table 7 shows the advantages and disadvantages of Lao PDR as enumerated by the firms in advanced ASEAN countries. As advantages, the most outstanding is "lower wage." "Good quality of people" is enumerated by electronics firms and automotive

Table 7: Perceptions of Firms in Advanced ASEAN Countries on Lao PDR

<Advantages> (Unit: Number of Firms)

	Lower Wage	Available Labor	Good Incentives	Good Education	Good quality of people	Good Labor skill	Large Local Market	Good Infra.
Garment in Indonesia	1							
Textile in Indonesia	4							
Electronics in Indonesia	3							3
Electronics in Thailand	5	1			4	1		
Automotive in Thailand		1			1	1		
Electronics in Malaysia	9							
Others in Malaysia	2							
Total	**24**	**2**			**5**	**2**		**3**

<Disadvantages> (Unit: Number of Firms)

	Lower Education Level	Poor Infra.	Political Problem	Distance to Ports	Policy Problems	Higher Export Cost	Poor SCM	Lower Market Potential
Garment in Indonesia		2		1				
Textile in Indonesia				6		5		
Electronics in Indonesia		2		3				
Electronics in Thailand	1	3					1	
Automotive in Thailand								2
Electronics in Malaysia	5	9					2	
Others in Malaysia	2	2						
Total	**8**	**18**		**10**		**5**	**3**	**2**

Notes: as same as Table 6.

Source: Semi-structured survey of ERIA 2009 -10.

firms in Thailand.

In terms of the disadvantages, “poor infrastructure” and “lower education level” are the first and second factors cited. These are similar with the results for Cambodia although the number of the firms which enumerated “lower education” is smaller than in the case of Cambodia. The answers, “distance to ports”, “higher export cost” and “poor supply chain management” are reflected by the fact that Lao PDR is a landlocked country, with the distance to Khlong Toey and Laemchabang being 600–700 km. The “lower marker potential” response enumerated by two automotive firms in Thailand is reflected in the population size of Lao PDR (56 thousand as of 2008) just like in the case of Cambodia.

(5) Advantages and Disadvantages of Myanmar

Table 8 shows the advantages and disadvantages on Myanmar as enumerated by the firms in advanced ASEAN countries. Regarding the advantages, “lower wage” is the major answer given by majority of the respondent firms composed of electronics industries. This also coincides with the answers given in the cases of Cambodia and Lao PDR. “Good quality of people” is also enumerated by electronics and automotive firms in Thailand, again a similar response with that given for Lao PDR (Table 7).

As for the disadvantages, “political problem” or “political instability” is the outstanding factor cited, reflecting the current political situation in Myanmar. The number of firms which enumerate “poor infrastructure” is the second largest while the factor, “lower education level” was cited by the third largest number of firms. However, the number of firms which enumerated “lower education” as a disadvantage is smaller than in the cases of Cambodia and Lao PDR.

Table 8: Perceptions of Firms in Advanced ASEAN Countries on Myanmar

<Advantages> (Unit: Number of Firms)

	Lower Wage	Available Labor	Good Incentives	Good Education	Good quality of people	Good Labor skill	Large Local Market	Good Infra.
Garment in Indonesia	1							
Textile in Indonesia	4							
Electronics in Indonesia	3							3
Electronics in Thailand	4				1			
Automotive in Thailand	1	1			1			
Electronics in Malaysia	9	1						
Others in Malaysia	2							
Total	**24**	**2**			**2**			**3**

<Disadvantages> (Unit: Number of Firms)

	Lower Education Level	Poor Infra.	Political Problem	Distance to Ports	Policy Problems	Higher Export Cost	Poor SCM	Market Potential
Garment in Indonesia		2	1					
Textile in Indonesia			4					
Electronics in Indonesia		1	5	2				
Electronics in Thailand	1	1	5	1	1			
Automotive in Thailand		1	4		2			
Electronics in Malaysia	2	10	10				1	
Others in Malaysia	1	2	2					
Total	**4**	**17**	**31**	**3**	**3**		**1**	

Notes: as same as Table 6.

Source: Semi-structured survey of ERIA 2009 -10.

(6) Advantages and Disadvantages of Vietnam

For the evaluation on Vietnam, the answers given are shown in Table 9. “Lower wage,” “available labor,” “good incentives,” and “good education” are enumerated by many firms, mainly by electronics firms of Malaysia, as advantages. And while two electronics firms enumerated “lower education level” as a disadvantage, the number of firms which enumerated “good education” as an advantage is clearly more. “Large local market” is enumerated by two automotive firms in Thailand as another advantage,

Table 9: Perceptions of Firms in Advanced ASEAN Countries on Vietnam

<Advantages> (Unit: Number of Firms)

	Lower Wage	Available Labor	Good Incentives	Good Education	Good quality of people	Good Labor skill	Large Local Market	Good Infra.
Garment in Indonesia	1		1					
Textile in Indonesia	3							
Electronics in Indonesia	4		3				1	2
Electronics in Thailand	4	1		1	4	1		
Automotive in Thailand	1	2	1		1	2	3	
Electronics in Malaysia	11	9	3	4			1	
Others in Malaysia	2	1						
Total	**26**	**13**	**8**	**5**	**5**	**3**	**5**	**2**

<Disadvantages> (Unit: Number of Firms)

	Lower Education Level	Poor Infra.	Political Problem	Distance to Ports	Policy Problems	Higher Export Cost	Poor SCM	Market Potential
Garment in Indonesia		1						
Textile in Indonesia								
Electronics in Indonesia		1		2	1			
Electronics in Thailand		4			1			
Automotive in Thailand		2			2			
Electronics in Malaysia	2	10	1		2		1	
Others in Malaysia		2						
Total	**2**	**20**	**1**	**2**	**6**		**1**	

Notes: as same as Table 6.

Source: Semi-structured survey results of ERIA 2009 -10.

clearly in contrast to the cases of Cambodia and Lao PDR where firms cited "lower market potential" as one of the disadvantages. "Good quality of people" and "good labor skill" are also enumerated by electronics and automotive firms in Thailand as advantages. An electronics firm of Indonesia enumerated "higher discipline of people" while an automotive firm in Thailand enumerated "closeness to China," as other advantages of Vietnam.

As disadvantages, many firms, mainly the electronics firms in Malaysia,

enumerated “poor infrastructure.” In addition, “policy problems,”[4] are mentioned by electronics firms in Indonesia, Thailand and Malaysia and by two automotive firms in Thailand. The challenges for Vietnam are clearer than for the CLM countries as far as the perceptions of the advanced ASEAN countries are concerned.

2. COMPARISON OF INVESTMENT CLIMATES

2.1. Wage and Education Level of Labor Force

As seen in section 1, the wage and education levels of workers are the important elements for investors in deciding the location of factories. Table 10 shows the wage and education levels of workers, middle managers and engineers by industry in the CLMV and three advanced ASEAN countries.

Looking at the average wage of workers in each of these countries (specified as “total” in Table 10), the wage level increases in the following sequence: Myanmar, Cambodia, Lao PDR, Vietnam, Indonesia, Malaysia and Thailand. The wage levels of workers in Myanmar, Cambodia and Lao PDR are less than US$ 100, those in Vietnam and Indonesia are between US$ 100 and US$ 150, and those in Malaysia and Thailand are higher than US$ 200. The wage levels in the CLMV countries, especially in the CLM countries, are clearly lower and these results coincide with the perceptions of the firms of the advanced ASEAN countries enumerated as advantages of the CLMV countries. In terms of the difference of the wage levels with the minimum wage, it

[4] In the survey, the firms evaluated that policy reforms are needed.

increases in the following sequence: Indonesia (US$ 19.6), Cambodia (US$ 23.1), Vietnam (US$ 40.1), Lao PDR (US$ 44.2) and Thailand (US$ 78.1). The scale of the difference can be said to be partly affected by the supply and demand gap of workers in the respective countries.

As for the education level of workers, Cambodia has the lowest and the average exists between completing elementary school and junior high school level. The average educational levels of workers in Myanmar, Lao PDR, Thailand and Malaysia are between completing junior high school level and high school level while those of Vietnam and Indonesia are higher than completing high school. In order to attract foreign direct investment in the

Table 10: Wage and Education Level of CLMV and Advanced ASEAN Countries by Industries (Continues)

	Worker				Middle Manager				Engineer			
	Ave.	**Min.**	**Max.**	**Edu.**	**Ave.**	**Min.**	**Max.**	**Edu.**	**Ave.**	**Min.**	**Max.**	**Edu.**
Cambodia (US$ 50)												
Agro Industry (1)	55.0	55.0	55.0	2.3	200.0	200.0	200.0	5.8	-	-	-	-
Garment & Knitting (14)	64.5	52.5	105.0	2.2	265.4	70.0	700.0	5.2	731.1	180.0	1,750.0	5.2
Footwear (3)	58.5	45.0	70.5	2.3	156.7	100.0	250.0	4.7	225.0	100.0	350.0	
Cement, Plastics & Metal (3)	115.8	67.5	180.0	3.6	358.3	325.0	400.0	5.3	800.0	500.0	1,300.0	5.2
Electronics (1)	100.0	100.0	100.0	4.2	375.0	375.0	375.0	6.0	2,000.0	2,000.0	2,000.0	7.0
Automotive (1)	100.0	100.0	100.0	5.1	n.a.	n.a.	n.a.	5.4	n.a.	n.a.	n.a.	5.0
Total (23)	**73.1**	**45.0**	**180.0**	**2.6**	**265.2**	**70.0**	**700.0**	**5.2**	**762.0**	**100.0**	**2,000.0**	**5.2**
Lao PDR (US$ 45)												
Agro Industry (4)	98.2	80.0	117.6	3.7	176.5	176.5	176.5	6.4	208.3	208.3	208.3	5.9
Food Processing (1)	90.0	90.0	90.0	2.4	225.0	225.0	225.0	6.0	200.0	200.0	200.0	n.a.
Wood Processing (3)	95.0	85.0	105.0	3.6	166.7	125.0	200.0	5.4	212.5	125.0	300.0	n.a.
Garment & Knitting (8)	84.6	70.0	110.0	3.6	161.1	100.0	300.0	5.7	336.3	100.0	1,000.0	5.3
Weaving & Spinning (1)	95.0	95.0	95.0	4.4	125.0	125.0	125.0	n.a.				
Footwear (1)	90.0	90.0	90.0	4.1	n.a.	n.a.	n.a.	6.0	n.a.	n.a.	n.a.	6.0
Plastics & Metal (7)	88.8	80.0	100.0	3.5	168.4	115.0	225.0	5.0	251.0	130.0	400.0	6.1
Electronics (6)	74.0	50.0	94.1	3.3	146.6	90.0	250.0	6.0	174.0	80.0	300.0	6.0

Automotive (6)	100.8	80.0	150.0	4.2	218.8	175.0	247.1	5.5	213.5	160.0	247.1	6.3
Total (23)	**89.2**	**50.0**	**150.0**	**3.6**	**171.6**	**90.0**	**300.0**	**5.7**	**232.3**	**80.0**	**1,000.0**	**6.0**
Myanmar (n.a.)												
Agro Industry (2)	32.5	20.0	45.0	3.1	105.0	60.0	150.0	7.0	102.5	85.0	120.0	5.7
Fishery (5)	38.0	30.0	50.0	3.5	110.0	80.0	200.0	6.5	120.0	80.0	180.0	6.2
Food Processing (2)	32.5	30.0	35.0	3.0	85.0	70.0	100.0	6.5	80.0	80.0	80.0	5.0
Knitting (5)	39.0	35.0	50.0	3.6	97.0	70.0	150.0	6.5	100.0	80.0	120.0	6.1
Footwear (5)	35.2	23.0	45.0	3.6	84.0	60.0	100.0	6.3	136.7	100.0	210.0	6.3
Plastics (5)	38.0	30.0	45.0	3.4	90.0	80.0	100.0	6.8	110.0	100.0	120.0	6.3
Electronics (5)	38.0	30.0	50.0	3.4	141.0	85.0	200.0	6.8	117.0	85.0	150.0	5.6
Automotive (2)	52.5	25.0	80.0	2.9	90.0	90.0	90.0	5.8	70.0	70.0	70.0	6.0
Total (31)	**40.2**	**20.0**	**80.0**	**3.5**	**102.3**	**60.0**	**200.0**	**6.5**	**118.1**	**70.0**	**250.0**	**6.0**

Table 10: Wage and Education Level of CLMV and Advanced ASEAN Countries by Industries (Continued)

	Worker				Middle Manager				Engineer			
	Ave.	**Min.**	**Max.**	**Edu.**	**Ave.**	**Min.**	**Max.**	**Edu.**	**Ave.**	**Min.**	**Max.**	**Edu.**
Vietnam (US$ 66.1)												
Agro-Industry (1)	300.0	300.0	300.0	4.0	371.4	371.4	371.4	5.7	371.4	371.4	371.4	5.7
Wood Processing (1)	102.9	102.9	102.9	4.2	228.6	228.6	228.6	6.0	200.0	200.0	200.0	6.0
Garment & Knitting (8)	109.1	62.9	171.4	3.5	204.9	131.4	342.9	5.6	267.9	200.0	342.9	6.0
Weaving & Spinning (1)	68.6	68.6	68.6	4.0	200.0	200.0	200.0	6.0	200.0	200.0	200.0	6.0
Footwear (4)	75.7	57.1	91.4	3.6	171.4	114.3	228.6	5.9	155.7	108.6	171.4	5.8
Electronics (2)	121.4	114.3	128.6	4.6	289.3	228.6	350.0	6.0	317.9	285.7	350.0	6.0
Automotive (3)	87.6	62.9	114.3	4.7	148.6	125.7	171.4	6.0	209.5	142.9	257.1	6.0
Others (2)	85.7	85.7	85.7	4.0	257.1	257.1	257.1	6.0	n.a.	n.a.	n.a.	6.0
Total (24)	**106.2**	**57.1**	**300.0**	**4.0**	**214.3**	**114.3**	**371.4**	**5.8**	**233.1**	**108.6**	**371.4**	**6.0**
Indonesia (US$ 118.6)												
Garment & Knitting (3)	134.9	110.0	157.8	4.1	568.4	526.3	600.0	5.9	318.3	250.0	368.0	5.7
Waving & Spinning (6)	122.5	115.0	130.0	4.5	520.8	400.0	600.0	5.9	250.0	225.0	275.0	5.5
Electronics (8)	151.3	100.0	350.0	4.4	787.5	500.0	1,000.0	5.9	387.5	300.0	450.0	5.6
Total (17)	**138.2**	**100.0**	**350.0**	**4.4**	**654.7**	**400.0**	**1,000.0**	**5.9**	**326.8**	**225.0**	**450.0**	**5.6**
Thailand (US$ 136.4)												
Electric & Electronics (10)	212.6	151.5	288.2	3.6	1,302.9	1,176.5	1,911.8	6.1	505.9	441.2	617.6	6.1
Automotive (5)	221.0	155.9	264.7	4.0	1,246.3	1,102.9	1,544.1	6.2	727.9	441.2	1,264.7	6.0
Total (15)	**215.0**	**151.5**	**288.2**	**3.7**	**1,286.8**	**1,102.9**	**1,911.8**	**6.1**	**569.3**	**441.2**	**1,264.7**	**6.0**
Malaysia (n.a.)												
Chemicals (1)	179.1	179.1	179.1	4.0	2,388.1	2,388.1	2,388.1	6.0	895.5	895.5	895.5	6.0
Electronics (13)	209.4	80.0	298.5	3.6	1,795.1	500.0	2,985.1	6.0	921.8	550.0	1,492.5	6.0
Others (1)	238.8	238.8	238.8	4.0	2,089.6	2,089.6	2,089.6	6.0	895.5	895.5	895.5	6.0
Total (15)	**209.3**	**80.0**	**298.5**	**3.7**	**1,854.2**	**500.0**	**2,985.1**	**6.0**	**918.3**	**550.0**	**1,492.5**	**6.0**

Notes: 1) Exchange rates per one US$ is assumed to be 8,500 kip for Lao PDR, 1,000 kyat for Myanmar, 17,500 dong for Vietnam, 3.35 ringgit for Malaysia, 34 baht for Thailand, 10,000 Rupiah for Indonesia.

2) "Edu." means education level of each type of employees. The indicator of each level is:

1= No formal schooling 2=Elementary School 3=Middle High School 4=High School

5=Vocational School 6=College/University 7=Graduate School

3) The number in the parentheses in the first column means:
The numbers following the name of countries: minimum wage in US dollars.
The numbers following the name of industries: the number of samples

4) The minimum wage in Vietnam is the case of second area, while those of the first, third and fourth areas are US$ 74.4, US$ 57.8 and US$ 55.6, respectively.

5) The minimum wage of Indonesia is the case of Bekasi and that of Thailand is the case of Chonburi.

Source: Calculated based on Survey Results.

electronics industries for the CLMV countries, the education level should equal the level of completion of junior high school as in Malaysia and Thailand.

Regarding the wage levels of the middle managers[5] and engineers, the sequence among the countries is similar with the case of the workers' wages. The wage of middle managers in Cambodia, however, is higher than in Vietnam and the wage of engineers is the second highest after Malaysia. The reason for the higher wages of the middle managers and engineers in Cambodia is considered to be partly because the supply and demand gap of intelligent labor force is larger there than in other countries. In the CLM countries, including Cambodia, some middle managers and engineers are foreigners and this is another reason for the higher wage of managers and engineers in Cambodia. The average education level of these middle managers and engineers is equal to a completion of college/university level or is between the completion of vocational school and college/university, except in the case of the average educational level of the middle managers in Myanmar which is equivalent to that between completing college/university and graduate school.

In terms of the difference among the industries, the wage and education levels of workers can be divided into two groups; one is composed of agro industry, garment and knitting, and footwear ("existing industries") and another is composed of cement, plastics and metal processing, electronics and automotive industries ("new industries"). A higher educational level of workers is supposed to be needed in the "new industries." This trend is clear in Cambodia; the wage and education levels of workers in the "new industries" are higher than in the others. In Lao PDR, the education levels in the automotive industries as well as in the weaving and spinning, and footwear industries

[5] The position of the middle manager is higher than that of supervisor. But the position is sometimes higher than that of engineers and sometimes lower than it, depending on the firms.

are higher than the high school level. As for the electronics industries showing lower education level in Lao PDR, the workers are engaged in one production block that just puts the legs to simple semi-conductors in a sample firm. This kind of operation does not need skillfulness. One automotive firm in Myanmar, meanwhile, manufactures an outdated simple jeep and the factory is more similar to a repair shop. Considering these situations, therefore, workers with higher education would be needed if the new industries such as the electronics and automotive industries are to be enticed to relocate and invest.

2.3. Access to Ports and Harbors

Table 11 shows the distances and time needed to travel between the major industrial areas and ports in the CLMV countries, Malaysia and Indonesia. Some industrial areas are located in the suburban areas of metropolitan areas. For example, Bien Hoa, Shah Alam and Bekasi are located in the suburbs of Ho Chi Minh City, Kuala Lumpur and Jakarta, respectively.

Vientiane is the most industrialized area in Lao PDR. Not a few factories have been located along the road connecting the First Mekong Friendship Bridge and the center of Vientiane, and also along the road connecting the bridge and national road No. 13, which in turn connects major cities like Luangprabang, Vientiane, Thakhek, Savannakhet and Pakse. On the latter road, a new railway station extending from Thailand is also located. The distance to Khlong Toey Port in Bangkok, however, is 650 km, the longest as seen in Table 11, and thus, the long distance to the port is one of the biggest disadvantages for Vientiane, as some firms in Indonesia enumerated as one of the disadvantages of Lao PDR (please refer to previous section).

Table 11: Access of Major Industrial Areas to Ports and Harbors

	Industrial Area	Port	Distance	Time
Cambodia	Phnom Penh	Sihanouk Ville	220km	4-6h
	Phnom Penh	Phnom Penh	13km	
Lao PDR	Vientiane	Khlongtoey	650km	10h
Myanmar	Yangon	Yangon	16km	1h
Vietnam	Hanoi	Hai Phong	100km	3h
	Bien Hoa	Ho Chi Minh	18km	0.7h
	Bien Hoa	Caimep & Thivai	60km	1h
Malaysia	Shah Alam	Port Kelang	40km	1.5h
	Penang	Penang	12km	1h
Indonesia	Bekasi	Tanjung Priok	55km	1h

Notes: 1) Distances between Phnom Penh and Sihanouk Ville, Phnom Penh (Phnom Penh SEZ) and Phnom Penh, Hanoi and Haiphong, Bien Hoa and Ho Chi Minh (Saigon Port), Bien Hoa and Caimep Thivai are based on the real measurement by cars and maps.

2) Distances between Vientiane and Khlongtoey, Yangon (Hlaing Thar Yar Tsp. Industrial Zone) and Yangon Port, Shah Alam and Port Kelang and Penang and Penang Port are based on the answers of respondents of the survey.

3) Distance between Bekasi and Tanjung Priok Port is based on the brochure of Jababeka Industrial Estate, Cikarang, Indonesia.

4) Transport time needed is based on the answers of respondents of the survey.

Source: See the notes.

The distance between Phnom Penh and Sihanouk Ville Port is the second longest. The logistics cost of traveling 220 km can be a burden for firms, most of whom produce garments, although this distance is much shorter (about one third) than that between Vientiane and Khlong Toey port. The firms in Phnom Penh and in its suburban area sometimes use Phnom Penh Port at the Mekong River. From Phnom Penh Port, barge carriers convey containers to Saigon port or Caimep-Thivai port where the containers are then moved to larger liners. The number of containers, expressed as a twenty-feet-container-equivalent unit (TEU), that can be conveyed by one barge carrier varies. The larger ones can convey 128 TEUs while the smaller ones can convey 24

TEUs.[6] The depth of Phnom Penh Port, however, changes from 8 m during the rainy season to 4-5 m during the dry season; thus, the transport volume can decrease in the dry season.[7] The major port for the firms around Phnom Penh is therefore Sihanouk Ville Port where there are liners going to Port Kelang of Malaysia, Laemchabang of Thailand and Singapore. The cargo ships to Singapore are the most frequent, with five ships dropping in a week, but operated by several shipping firms.[8] After transporting to Singapore, the cargo is moved to larger ships; however, the cargoes sometimes are left at Singapore Port when the demand for unloading and loading at Singapore Port becomes excessively high.[9]

The third longest distance, as indicated in Table 11, is the distance between Hanoi and Haiphong Port. It is just half of the distance between Phnom Penh and Sihanouk Ville but the surrounding industrial area of Hanoi is larger, with the additional distance of 20 -30 km in the case of Bac Ninh, the North-Eastern neighboring province of Hanoi; and 18 km in the case of the distance between the port and Nomura Hai-Phong Industrial Zone.

Regarding other industrial areas, it is not easy to evaluate the accessibility to the ports in terms of distance because the time spent for the transport to the port and harbor depends on the traffic conditions, the availability of expressway and the time of the day. For example, the distance between Bien Hoa and Saigon Port is just 18km, but it can take three or four hours of travel if the truck leaves Bien Hoa after 4:00 p.m. This is because of the many commuters from Ho Chi Minh City to Bien Hoa, most of whom go

[6] It is based on an interview with the staff of Tan Cang-Caimep Joint Stock Company held on September 14, 2009.

[7] It is based on an interview with the staff of the Sihanouk Ville Autonomous Port conducted on September 10, 2009.

[8] The source is the same as in the previous footnote.

[9] This is based on an interview with the staff of Phnom Penh SEZ held on September 11, 2009.

home in the evening. In addition, there are two rivers between the two cities, Dong Nai River and Saigon River, and the number of bridges for each river is only three or four. However, the ports in Ho Chi Minh City such as Saigon Port and New Saigon Port are being planned to be closed in a few years' time to give way to the transfer of the functions to the deepest ports in Vietnam, Thi Vai and Cai Mep Ports.[10] Several container terminals have started operation and others will be opened at Thi Vai and Cai Mep Port. Because of this, traffic jams at National Road No. 51 as an access road to Thi Vai and Cai Mep Port are expected although construction of additional lanes (to be increased to four) has already been started and another highway is also being planned to be built to ease the expected traffic.

2.3. Two Kinds of Lead Time

Lead time is one of the important elements in designing the manufacturing processes for firms. Generally, there are two kinds of lead time. The first one is the period taken from the time the manufacturer receives an order from a customer to the time the delivery is made. The second one is the time taken after the manufacturer's order is sent and the arrival of the raw materials and intermediate goods takes place. For the firms that participated in the global production network, the time taken in the exporting process occupies major parts of the first lead time while the time taken in the importing process occupies that of the second lead time.

Table 12 shows the two kinds of lead time for export-oriented firms whose export ratios are higher than 50 percent of the selected industries. The first lead time becomes too short for domestic market-oriented firms compared with firms that export to the

[10] Based on an interview at Saigon Port conducted on December 8, 2009.

Table 12: Two Kinds of Lead Time of Firms of Selected Industries

<Garment & Knitting> (unit: days)

	From Customer's Order to Delivery				From respondent's Order to Arrival			
	Number of Samples	Avg.	Min.	Max.	Number of Samples	Avg.	Min.	Max.
Cambodia	14	49	18	90	14	33	25	60
Lao PDR	6	35	25	64	5	42	14	90
Myanmar	5	58	15	80	5	37	12	80
Vietnam	6	60	30	75	6	40	15	60
Indonesia	3	23	18	25	3	28	25	30

<Footwear> (unit: days)

	From Customer's Order to Delivery				From respondent's Order to Arrival			
	Number of Samples	Avg.	Min.	Max.	Number of Samples	Avg.	Min.	Max.
Cambodia	3	68	45	90	3	35	30	45
Lao PDR	1	105	105	105	1	105	105	105
Myanmar	4	45	18	90	4	19	11	29
Vietnam	0	-	-	-	1	40	40	40

<Electronics> (unit: days)

	From Customer's Order to Delivery				From respondent's Order to Arrival			
	Number of Samples	Avg.	Min.	Max.	Number of Samples	Avg.	Min.	Max.
Cambodia	1	21	21	21	1	38	38	38
Lao PDR	4	29	15	52	4	23	14	30
Indonesia	6	30	18	45	6	22	14	45
Thailand	8	18	3	51	8	27	3	90
Malaysia	8	29	7	120	8	75	14	140

Notes: 1) Only export-oriented firms (larger than 50%) are selected as firms.
2) "Avg." means average.
3) The lead time of the electronics firms in Myanmar and Vietnam are not available.

Source: Semi-structured survey results of ERIA 2009 -10.

United States and the EU. The lead time differs between a case of exporting to countries in Asia and a case of exporting to the EU. The first lead time can be longer when the process includes the time spent for decision-making between a manufacturer and a customer on the design.

As for the garment and footwear industries, the lead time varies between 10 and 90 days. In the case of the footwear industry, the first lead time is longer than the second one or at least the same as the second. Generally, the firms of a footwear industry import the raw materials and intermediate goods from the East Asian countries and then export the finished products to the developed countries in North America and the EU. These situations are reflected in the relationship between the first and second lead times. And while this author expects that such a relationship can be discernible in the garment industries, said relationship, however, cannot be discerned as far as Table 12 is concerned.

The variance becomes smaller in cases of electronics industries except in several cases involving maximum lead times in Malaysia. Nevertheless, the minimum values of the first and second lead times in Thailand and Malaysia are smaller than other countries. As a matter of fact, the first lead times of four sample firms of Thailand and two sample firms of Malaysia as seen in Table 12 are less than 10 days. One of the firms of Malaysia enumerated “poor supply chain management” in the CLMV countries while the first lead times of other two firms which enumerated the same disadvantage in Malaysia and Thailand are 30 days. The firms with shorter first lead time send small, light, compact and high value-added products by air even though they may import the parts and components by ship. In order to attract full-fledged electronics firms, better access to an airport is thereby also needed.

Table 13: Time Taken and Payments for Customs Clearance

<Time Taken for Customs Clearance> (hours)

	Export Customs Clearance				Import Customs Clearance			
	Number of Samples	Avg.	Min.	Max.	Number of Samples	Avg.	Min.	Max.
Cambodia	17	6.8	1.0	24.0	18	7.8	1.0	24.0
Lao PDR	15	7.7	1.0	24.0	29	11.6	1.0	108.0
Myanmar	17	53.7	1.0	168.0	26	82.5	1.0	336.0
Vietnam	1	6.0	6.0	6.0	1	6.0	6.0	6.0
Indonesia	17	1.0	0.5	2.5	17	10.0	1.0	120.0
Thailand	4	14.0	1.0	48.0	13	19.3	1.0	48.0
Malaysia	8	18.9	0.5	48.0	8	58.1	2.0	169.0

<Payments for Customs Clearance> (US$)

	Export Customs Clearance				Import Customs Clearance			
	Number of Samples	Avg.	Min.	Max.	Number of Samples	Avg.	Min.	Max.
Cambodia	15	437.3	180.0	700.0	17	487.9	180.0	900.0
Lao PDR	10	84.0	15.0	200.0	18	100.3	0.4	325.0
Myanmar	17	120.0	50.0	480.0	26	121.5	10.0	500.0
Vietnam	11	39.2	5.7	285.7	11	41.0	11.4	285.7
Indonesia	17	52.9	35.0	250.0	17	67.8	25.0	300.0
Thailand	2	52.9	47.1	58.8	6	200.1	47.1	559.0
Malaysia	6	101.6	29.9	250.0	6	120.8	0.0	395.0

Notes: 1) Time is taken and payments are made per on container.
2) Samples measured per shipment and per carton are not included.

Source: Semi-structured survey results of ERIA 2009 -10.

2.4. Time Taken and Payments for Customs Clearance

Table 13 shows the time taken and payments made for export and import customs clearance. In terms of time taken for customs clearance, it is remarkable that it takes two or three days in Myanmar while it takes only less than ten hours on the average in Cambodia, Lao PDR and Vietnam. In Lao PDR, however, it takes 2 – 7 days for the

preparation process for importing and exporting. In Malaysia and Thailand, the average time is longer than Cambodia, Lao PDR and Vietnam, but when one takes the median, it becomes just 36 hours.

As for the payments for the customs clearance, the value in Cambodia is outstanding. In Cambodia, the level of governance is evaluated to be lower and the value of the payments made for customs clearance illustrates the situation. Actually, customs clearance can be done in SEZs in Cambodia and the wage for the customs officer can be paid by SEZs in order to avoid the bribery behaviors. Unfortunately, there are no sample firms located in SEZs in the survey of Cambodia. Cambodia is followed by Thailand, Myanmar, Malaysia and Lao PDR in terms of the value of payment for import customs clearance. In the case of Malaysia, however, the average value is raised by the maximum value. and the median for import customs clearance value is US$ 24.00. For export customs clearance, meanwhile, the median value is US$ 24.50.

As seen from above, improvements must be made in the time taken for customs clearance in Myanmar. And countermeasures to avoid corruption in the customs office are also needed in Cambodia.

2.5. Electricity Price and Supply

One of the results of the questionnaire survey implemented as part of an ERIA research project in fiscal year 2008 on “Developing Strategies for CLMV countries” suggested that the situations of electricity in Cambodia and Myanmar are serious (Chapter 2). In the survey, respondents were asked to evaluate the situation according to five levels, namely: 1- very poor, 2 - poor, 3-fair, 4- good, and 5- excellent. The evaluations of Phnom Penh, Sihanouk Ville and Bavet were 3.2, 2.8 and 3.5, respectively (Sisovana,

Table 14: Electricity Price, Frequency and the Longest Hours of Black-outs

		Electricity	Number of	Average		Min		Max	
		Price (¢)	Samples	Freq.	L. H.	Freq.	L. H.	Freq.	L. H.
Cambodia	Others	16.3	18	3.1	4.4	2.0	3.0	5.0	5.0
Lao PDR	IE		1	3.0	4.0	3.0	4.0	3.0	4.0
	SEZ	3.0	2	3.5	4.5	3.0	4.0	4.0	5.0
	Others		33	2.9	4.0	2.0	3.0	5.0	5.0
	Whole		**36**	**3.0**	**4.0**	**3.0**	**4.0**	**3.0**	**4.0**
Myanmar	IE		22	5.0	5.0	5.0	5.0	5.0	5.0
	Others	5.0	6	4.5	5.0	2.0	5.0	5.0	5.0
	Whole		28	4.9	5.0	4.9	5.0	4.9	5.0
Vietnam	IE		8	1.8	3.8	1.0	2.0	3.0	5.0
	Others	3.0-10.5	12	2.6	4.2	2.0	3.0	4.0	5.0
	Whole		**20**	**2.3**	**4.0**	**2.3**	**4.0**	**2.3**	**4.0**
Indonesia	IE		9	4.4	5.0	3.0	5.0	5.0	5.0
	SEZ	8.0-9.0	1	3.0	5.0	3.0	5.0	3.0	5.0
	Others		7	3.1	4.9	2.0	4.0	4.0	5.0
	Whole		**17**	**3.8**	**4.9**	**3.8**	**4.9**	**3.8**	**4.9**
Thailand	IE		9	2.0	3.7	2.0	1.0	2.0	5.0
	SEZ	10.0	2	2.0	3.5	2.0	3.0	2.0	4.0
	Others		4	2.3	3.0	1.0	1.0	4.0	4.0
	Whole		**15**	**2.1**	**3.5**	**2.1**	**3.5**	**2.1**	**3.5**
Malaysia	IE		6	1.3	5.0	1.0	5.0	3.0	5.0
	SEZ	8.0	6	1.0	—	1.0	—	1.0	—
	Whole		**12**	**1.2**	**5.0**	**1.2**	**5.0**	**1.2**	**5.0**

Notes: 1) "Freq." means frequency of black-outs. The each level indicator of frequency is:
1=have not experienced in a year 2=Once or a few times in six months
3= Once or a few times in a month 4= Once or a few times in a week
5=Several times in a day

2) "L. H." mean the longest hours among the cases of black-outs. The each level indicator of frequency is:
1=Less than a few second 2=a few seconds – one minute
3= One minute – five minutes 4= Five minutes – thirty minutes
5=Longer than thirty minutes

3) "IE," "SEZ" and "Others" mean that a firm locates inside the industrial estates, special economic zone and outside of IE and SEZ, respectively.

4) The unit of electricity price is cents per kilo-watt-hour (kwh.).

5) Electricity prices of Cambodia, Lao PDR, Myanmar and Vietnam are based on Sisovanna (2010), Suzuki (2007), Ishida (2010), Kyaw (2010) and Indonesia, Thailand and Malaysia are based on JETRO (2009).

Source: Note 5) and Semi-structured survey results of ERIA 2009 -10.

2009), indicating that the condition of Sihanouk Ville is critical. The situations on electricity in Yangon, Mandalay and Myeik, meanwhile, were given worse ratings at 2.2, 2.2 and 2.0, respectively (Kyaw, 2009). On the other hand, the evaluation for Vientiane and Savannakhet were 3.4 and 3.8, respectively (Oraboune, 2009), and for Ho Chi Minh City' situation, it was 3.9 (Dinh, 2009).

The reasons why Cambodia and Myanmar were evaluated lower were not clear in the 2008 project report of ERIA. In the case of developing countries, issues on electricity are divided into two, namely, electricity price and reliability. Table 14 shows the electricity price, frequency and longest hours of black-out cases for CLMV and the three advanced ASEAN countries. The respondent firms were divided into firms located in the industrial estates, firms located in SEZs and firms located outside of SEZs because the evaluation of electricity done in the 2008 ERIA survey in Vietnam was different for firms inside industrial estates or SEZs and for firms outside of such locations.

In the case of Cambodia, it is clear that the lower evaluation was based on its higher electricity price and the frequent black-out occurrences before 2009. The price of electricity in Cambodia is almost two times higher than those of advanced ASEAN countries. On the other hand, the problem of Myanmar lies on reliability. Most of the firms answered that black-outs occur several times in a day. More specifically, firms in Yangon have to use electricity generators for four or five hours in a day due to black-outs even as the electricity price is just five cents per kwh. and even lower. In Indonesia, on the other hand, the "electricity crisis" was based on social issues and the situation was worse in the industrial estates as seen in Table 14.

As for the frequency of black-outs, Cambodia and Lao PDR are better off than Myanmar and Indonesia. It is well-known that Lao PDR exports electricity to Thailand. In Cambodia, the frequency of black-out has decreased[11] after the transmission line was extended to Phnom Penh from Takeo Province, in accordance with a signed contract between the Vietnam Electricity Group and Electricite du Cambodge on May 26, 2009.[12] Thus, the electricity supply in Cambodia has been improved although the price still remains very high. The situation of Vietnam is even better. As shown in the 2008 survey, the supply of electricity in Vietnam's industrial estates is clearly better and close to that of Thailand.

From a comparative perspective, Malaysia has the most reliable and relatively better priced electricity. Only one firm answered that black-out occurs once or a few times in a month and the longest hour is just longer than thirty minutes. Because other firms answered that they have not experienced black-outs in a year, it seems that the situation is not serious anymore.

3. NEEDS AND DEMANDS OF FIRMS IN CLMV COUNTRIES

After getting the information on some elements of investment climate for firms in the CLMV and three advanced ASEAN countries, the survey teams asked the firms in the CLMV countries, through open-answer style of questionnaire, the needs and demands for soft and hard infrastructure or investment climates. The enumerated needs and demands were categorized by "existing industries" and "new industries" and shown in

[11] Based on an interview with a manager of a garment factory in Phnom Penh.

[12] An article dated May 27, 2009 on the website of NASDAQ News Letter (referred on January 21, 2010).

Table 15. The “existing industries” are composed of agro-industry, fishery, food processing, wood-processing, garment, knitting, weaving, spinning and footwear industries. The “new industries”, on the other hand, are composed of non-metal processing, metal processing, plastics processing, electric and electronics, and automotive industries. The number of answers in the table means the number of respondents who enumerated the needs and demands as the categorized items. After the enumeration, the needs and demands were ranked according to the respondents’ priority. The average score in the table means the average value of the ranks.

The number of answers and the average score of the labor-related and institution-related elements are likely to be higher in Cambodia, Lao PDR and among the “existing industries” in Vietnam. For the “new industries” in Vietnam, the needs and demand for the logistics are higher. In Myanmar, complaints on the supply of electricity and black-outs, and telecommunication are many. As for the “others”, it is remarkable that some firms of agro and fishery industries in Lao PDR and Myanmar give the highest priority on the procurement of raw materials or natural resources. In the following sub-sections, more concrete needs and demands are presented by country.

3.1. Needs and Demands in Cambodia

In Cambodia, the needs and demands on the institution-related elements are the highest both in terms of the number and the score. More concretely, tax system (6, 1.5; 3 1.3),[13] corruption (6, 1.7; 1, 1.0), documentation process (6, 2.8; 1. 4.0), license process (2, 1.0;

[13] The meaning of the numbers in the parenthesis is that six firms of the “existing industries” and three firms of the “new industries” enumerated the improvement of the tax system as needs and demands and the average scores are 1.5 and 1.3, respectively. In the succeeding paragraphs, the numbers are introduced in the same way.

Table 15: Needs and Demands for Investment Climates in CLMV Countries

		Labor	Institution	Logistics	Telecom	Electricity	Others
Existing							
Cambodia	No. of Answers	17	18	16	12	17	
	Averaged Score	2.0	1.6	3.4	4.3	3.4	
Lao PDR	No. of Answers	14	16	5		5	4
	Averaged Score	1.5	1.8	2.8		2.2	2.8
Myanmar	No. of Answers	11	8	14	16	18	6
	Averaged Score	3.1	2.0	3.0	2.8	1.9	1.2
Vietnam	No. of Answers	12	12	13	2	11	
	Averaged Score	1.5	2.1	2.5	4.5	2.9	
New							
Cambodia	No. of Answers	5	5	4	3	5	
	Averaged Score	1.6	1.6	4.0	4.7	3.0	
Lao PDR	No. of Answers	14	19	6		13	1
	Averaged Score	2.4	1.4	2.5		2.2	5.0
Myanmar	No. of Answers	7	4	5	7	11	
	Averaged Score	2.7	1.0	2.4	2.6	1.9	
Vietnam	No. of Answers	3	4	4	1	3	
	Averaged Score	2.0	2.3	1.5	4.0	2.7	
Total							
Cambodia	No. of Answers	22	23	20	15	22	
	Averaged Score	1.9	1.6	3.6	4.3	3.3	
Lao PDR	No. of Answers	28	35	11		18	5
	Averaged Score	1.9	1.6	2.6		2.2	3.2
Myanmar	No. of Answers	18	12	19	23	29	6
	Averaged Score	2.9	1.7	2.8	2.7	1.9	1.2
Vietnam	No. of Answers	15	16	17	3	14	
	Averaged Score	1.6	2.1	2.2	4.3	2.9	

Notes: 1) Questions on needs and demands for investment climates are asked with free-answer-typed questions (multi-answers). The number of answers is the number of respondents who enumerated the answers categorized to each item.

2) After the enumeration, the needs and demands were ranked with the respondent's priority. The "Avrgd. Scores" (averaged scores) mean the averaged value of ranks.

3) The "existing industries" are composed of agro-industry, fishery, food processing, wood-processing industry, garment, knitting, weaving, spinning and footwear. The "new industries" are composed of non-metal processing, metal processing, plastics processing, electric and electronics and automotive industries.

4) As for Myanmar, the priority was not asked explicitly in the survey. The score of rank is based on the author's subjective prioritization after analyzing the answers qualitatively.

Source: Survey results.

0)[14] and customs clearance (2, 1.7; 1, 4.0) are enumerated. In other words, the process for tax, documentation, licenses and customs clearance takes a lot of time. The staffs of the firms are also requested by government officials to pay money. These situations faced by the firms in Cambodia are illustrated by the highest amount of average payment for customs clearance shown earlier in Table 13.

In terms of labor-related needs and demands, they are divided into the needs for vocational schools (8, 1.6; 5, 1.6) and the needs for improving the relation between the employer and the trade union (11, 2.1; 0). The fact that there are no firms that enumerated labor relation in the new industries is reflected through the higher wages and higher education levels of workers in the "new industries" as previously noted in Table 10. On the other hand, in the existing industries, mostly the garment industries, it is said that there are several trade unions in each firm which sometimes go on strikes. Nevertheless, the employers have to keep good communication with the trade unions, according to a manager of a garment firm. If the employers cause the relations to worsen and such relations result in rifts in the country, the developed countries which give the benefits of the generalized system of preferential trade (GSP) can suspend it. [15]

As for electricity, price of electricity (5, 3.3; 5, 3.0), weak voltages of electricity (4, 2.8; 1, 3.0) and black-outs (3, 3.3; 0) are enumerated. The reason as to why the number of firms which enumerated black-out is smaller than those which mentioned price of electricity has already been explained in the previous section. The demands for improving the road infrastructure (8, 3.0; 1, 4.0) and the access to the national road (1, 3.0; 1, 4.0) are many. The claims on the internet price (2, 5.0; 1, 5.0), price of mobile phones (1, 2.0; 0) and interruption of telephone cables (1, 2.0; 0) are also enumerated.

[14] The number of firms of "new industries" is zero, so there is no score.

[15] Based on an interview with a manager of a garment factory in Phnom Penh dated October 27, 2009.

The priorities mentioned for the improvement of telecommunication are lower than the other elements; however, it is well-known that a higher price is charged in making a mobile phone call from one mobile phone company to another company.

3.2. Needs and Demands in Lao PDR

In Lao PDR, the needs and demands for institutions, vocational training and hard infrastructure are higher. In terms of institutional processes, needs and demands for improving license process (4, 2.5; 11, 1.5), export and import process (8, 2.9; 10, 3.8), documentation process (9, 2.6; 6, 4.0), law enforcement (6, 2.0; 7, 3.3), incentives like tax holidays (3, 2.3; 5, 1.4), customs clearance (2, 2.0; 1, 3.0), and investment climate in general (1, 3.0; 4, 2.0) were frequently mentioned. The claims that procedures for export and import, licenses and customs clearance are time-and cost-consuming are many. Among them, it is noteworthy to mention that the number of firms of the "new industries" which enumerated improving the export and import, licenses and customs clearance is larger than that of the "existing industries." In terms of labor- related elements, the needs and demands for vocational training (11, 1.3; 9, 2.3) and improvement of education (2, 1.5; 2, 3.0) are enumerated. There are no demands, though, for improving the relation between the employer and the trade union in Lao PDR.

The number of firms that enumerated "black-out" is unexpectedly larger (5, 2.2; 10, 2.7). There are also claims of weak voltages of electricity (0; 2, 2.0) and price of electricity (0; 1, 1.0). In terms of logistics, needs for transport infrastructure (5, 2.6; 9; 2.9) and needs for improving the access to a national road are enumerated. Other needs and demands mentioned include demands for improving circulation of goods as

enumerated by three firms of “new industries.”

3.3. Needs and Demands in Myanmar

In Myanmar, the needs and demands for improving infrastructure are higher than in other CLMV countries. The needs for improving electricity supply or black-outs (18, 1.9; 11, 2.0) are especially higher although there are also demands for improving the weak voltages of electricity (3, 1.3; 0). In terms of telecommunication, the needs for improving the quality and speed of internet (7, 3.0; 5, 2.4), interruption of telecommunication cables (6, 2.3; 4, 2.3), price of telecommunication in general, including that of fixed cable (6, 2.2; 1, 4.0), cost of mobile phones (4, 2.5; 0) and internet price (2, 2.5; 1, 1.0) are higher although the priorities are not so high compared with the improvement of electricity. The needs for improving logistics such as improving transport infrastructure in general (9, 2.9; 3, 2.3), traffic jam in the city areas (2, 2.0; 2, 2.5), the increased toll rate of bridges and roads (1, 5.0; 2, 2.0) and of fuel price (2, 4.0; 1, 2.0) are also enumerated by many firms.

The demands for improving institutional process are not as many as those compared with Cambodia and Lao PDR, but the priority emphasized for them by the firms is not low either. Complaints on the tax system (2, 1.5; 2, 1.0), process for getting licenses (1, 1.0; 1, 1.0), process for documentation (1, 1.0; 0) and export and import process (2, 3.0; 1, 1.0) are enumerated. In terms of the latter, it is known that firms in Myanmar can import only by using the foreign currencies earned by exporting goods. As for labor issues, not a few firms enumerated difficulty in procuring skillful labor manpower (7, 3.0; 4, 2.0) and there are also needs for vocational training (4, 2.0; 3, 3.7).

3.4. Needs and Demands in Vietnam

In Vietnam, the needs and demands for the "existing industries" and "new industries" are different. The firms in the "existing industries" are interested in vocational training while those in the "new industries" are more interested in logistics.

The demand for vocational training is higher (10, 1.8; 13, 1.9) and difficulties in procuring skilled labor are also enumerated (2, 1.0; 0). Meanwhile, demands for improvement of the relation with the trade union are not major ones. What is more noteworthy to mention is that some firms seem not to be satisfied with the skills of the manpower. This seems to be in contrast with the listing given by a number of respondent firms in the three advanced ASEAN countries where "better education level" and "good quality of labor" were cited as advantages in investing Vietnam. In fact, they noted that the education level of workers is surely higher than that of other countries. This difference in opinion is therefore a case of a gap between perception and reality on the ground. In terms of the institutional elements, most of the demands are focused on the improvement of customs clearance (12, 2.1; 3, 2.3) and solution of the issue of corruption (3, 1.3; 4, 1.5). Some firms complain that some parts of the customs clearance process are still being processed by customs officers even though electric customs clearance service has already been introduced in Vietnam.

As for infrastructure, improvements of transport infrastructure (8, 2.3; 3, 1.0), better access to a national road (4, 3.0; 6, 2.7), traffic jams in city areas (5, 2; 0), frequency of ships at ports and harbors (1, 3.0; 1, 3.0), terminal handling charges (1, 3.0; 1, 2.0), black-outs (3, 2.7; 13, 2.8) and price of electricity (0; 1, 4.0) are enumerated. The fact that demands for improvement for better access to a national road are enumerated by many firms shows that the network of national roads has been

improved to some extent. The regulation of container trucks in the center of Hanoi and Ho Chi Minh City during day time is also being complained by some firms. The problems of black-outs are also still serious for firms located outside of industrial estates as can be gleaned from Table 13.

CONCLUDING REMARKS

More than half of the respondent firms in Malaysia answered that the competitive environment is tough while firms in the electronics and automotive industries in Thailand said that it is minor. The latter response is in view of the thick layers of supporting industries in Thailand which supposedly raise the country's competitiveness. However, in Indonesia and Malaysia, a number of firms seem to be faced with tough competition from China and India. Thus, local and multinational firms located in these advanced ASEAN countries might decide to look for location advantages in connection with possible plans for relocation and fragmentation.

In this regard, not a few firms in Indonesia, Malaysia and Thailand answered that they have relocated or have considered relocating some production points to Vietnam as well as to China and India. For the firms of the electronics industry, the features of "lower wage," "availability of workers," "good education" and "good labor skill" of Vietnam are attractive while for the firms of the automotive industries, Vietnam's "large local market" is also attractive. On the other hand, many firms of the three advanced ASEAN countries enumerated "poor infrastructure" and "policy problems" as disadvantages. At the same time, many firms operating in Vietnam enumerate as one of their demands the need for more vocational training of the labor force. Which may thus

make the evaluation of “good labor skill” in Vietnam somewhat overestimated. In the meantime, with regard to the perception on “poor infrastructure,” the improvement of the access road to a national road and the easing of the traffic congestion in the city area should be prioritized. In addition, in order to be able to attract many electronics firms, the government should support the firms by making sure that the lead time between the customer’s order and the delivery of the order is shortened through the improvement of the air transportation facilities.

As for the CLM countries, the possibility of relocation or fragmentation from the advanced ASEAN countries seems to be very low. In addition, the relocation or the fragmentation of the automobile industries to Cambodia and Lao PDR may not be easy nor feasible considering the two countries’ small levels of population. However, these countries should not lose hope. If the other disadvantageous elements are improved, the possibility of attracting and getting the electronics and motorcycle industries to move there can be more positive. In Cambodia, the average education level of workers is too low to attract the electronics industry. This is especially so in the rural areas where the population’s education level is much lower than that in the city area as indicated in Cambodia’s population census of 2008 (Sisovanna, 2010, p.14). It is said that only four years of education are provided at the elementary schools in some rural areas and the children who graduated from such schools cannot enter into middle high school because they have to move to a city area in order to get the additional education (Hirohata and Takeuchi, 2005, p.98). The improvement of the elementary and secondary education in Cambodia should therefore be prioritized. The needs for vocational training are also high. As for the institutional procedures, the process for the customs clearance, license and other documentation should be improved. More so, the firms’ burden of

paying for the customs clearance should be reduced. Related to this, the improvements implemented by the government such as the one-stop service and tax holidays for firms located in SEZs should be welcomed. In addition, the better access to Phnom Penh Airport for the firms in the industrialized area can be a positive element in the future.

In Lao PDR, upgrading of the education level of workers and expansion of the vocational training are needed to respond to the perceptions of “low education level” and “limited human resources” enumerated by not a few firms in the three advanced ASEAN countries, although the average education level of workers is not that different from Thailand and Malaysia. Moreover, the documentation process for export and import and for licenses should be improved. The improvement can reduce the time and cost for export and import. One unexpected result is the complaint by many firms about black-outs in Lao PDR, a net electricity-exporting country. The reason and background for this should therefore be clarified.

And finally, for Myanmar, there is no way to receive new investments in terms of the electronics and automobile industries for as long as the political situation there is not changed. This is so because the most major disadvantage of Myanmar as enumerated by firms in the three advanced ASEAN countries is “political instability”. Not a few firms of the electronics and automotive industries put higher priorities on “political stability” as the condition for relocation and fragmentation. In addition to this, infrastructure like electricity and telecommunication as well as the time taken for customs clearance should be looked into and improved by the authorities in Myanmar.

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Appendix Table: Basic Information on Investment Climate in CLMV Countries

	Cambodia			Laos	Myanmar	Vietnam		
	Poipet	Phnom Penh	Bavet	Vientiane	Yangon	Hanoi	HCMC	Danang
Land Ownership (US$ per m^2 per Month) [1]	US$ 30	US$ 50	US$ 25 - 33	-	-	-	-	–
Land Leases (US$ per m^2)	US$ 30	US$ 50		US$ 0.5 - 1.0[2]	US$0.15 - 0.26	US$ 50-55	US$ 85	US$ 16
Water Supply Charges (Cent per m^3)	¢ 35	¢ 33	¢ 15	US$ 4.8 or ¢ 60[3]	¢ 88	¢ 29.2	¢ 15.9-47.1	¢ 16.3
Electricity Charges (Cent per KWh)	¢ 12	¢ 19.3	¢ 12.65	¢ 3.0	¢ 0.08[4]	¢ 2.8-10.3	¢ 2.8-10.3	¢ 2.8–10.3
Minimum wage (US$ per Month)	US$ 56	US$ 56	US$ 56	US$ 28	-	US$ 70.7	US$ 70.7	US$ 70.7
Average wage for workers	n.a.	US$ 80	US$ 80	US$ 30-40	US$ 16.3	US$ 95.8	US$ 95.8	US$ 95.8
Distance to ports and harbor (km)	n.a.	20km or 210km[5]	70km	720km	24km or 50km[6]	114km	30km	19km
Education Level of Majority of Workers [7]	Elementary & Junior High School (J.H.)			Elementary and J.H.	J.H.	High School		
Middle Managers	High School			College/Univ.	College/Univ.	College/University		
Engineers	Technical/Vocational and College/Univ.			College/Univ.	Technical/Vocational	College/University		
Population (Thousand Persons)	14,356			5,763	58,510	86,160		
GDP per Capita (US$)	US$ 756.1			US$ 917.8	US$ 464.6	US$ 1052.7		
Corporate Tax Ratio [8]	9%, **20%**			7.5 - **20%**		10%, 15%, 20%, **28%**		
Tax Holiday Periors (Years)	3-9 years			2 Years	3 Years	2 - 4 Years		

Notes: 1) Firms with the nationality of Cambodia, which means that the share of Cambodian capital is 51% or larger than it, can own land. Foreign investors cannot own land in Lao PDR, Myanmar and Vietnam.

2) The land lease price is average price of land around Vientiane, and the land concession price is US$ 30 -50 in the same area.

3) US$ 4.8 is the case that the consumption is 10 m^3 or larger than it and ¢ 60 is the case that it is less than 10 m^3. Both cases are for non-residents.

4) The electricity price of Myanmar is lower, but it is often heard from investors that the black-out is frequent and electric generator is needed.

5) 20km is the case from Phnom Penh SEZ to Phnom Penh River Port and 210 km is the case to Sihanoukville Port.

6) 24km is the case from Mingaladon Industrial Park to Yangon Port and 50km is the case to Thilawa Port.

7) These data are based on the results of survey done for ERIA project in the fiscal year of 2008.

8) Corporate tax ratio does not include the cases during tax holiday period and the bold and underlined ratio means the tax ratio without tax incentives.

Source: JETRO, ASEAN Secretariat, Japan-ASEAN Center, Brochures of Industrial Estates and Other Information Source.