

# The Development of the Automotive Industry in East Asia and Changes in the International Division of Labor: Focus on Thailand and the Philippines

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## Abstract

This paper investigates the structural changes in automotive industry in East Asia, especially two ASEAN countries, Thailand and Philippines, to conceptually grasp the trends in the automotive industry of this region, particularly in terms of the trade structures, and attempt to some extent a consideration of the prospects of symbiotic development. The expansion of economic welfare, which is estimated under numerous hypotheses, as a general theory, casts several doubts as to whether or not it is going to be evenly divided among the integrating countries. In order to share affluence, an institutional improvisation may be necessary in order to build a balanced society. The agglomeration in Thailand of a broad-based automotive industry has, on the other hand, the possibility of, for example, in the Philippines, promoting the hollowing out of the same industry and turning the country into an importer. Even though integration should be pursued in order to expand the total pie, a deeper analysis and policy that consider the aspect of distribution would be necessary. Simply liberalizing and integrating economies does not insure a balanced development of the automotive industry in ASEAN.

Keywords: Automotive industry, Thailand, Philippine, Industrial Agglomeration

JEL: F14, L62, O14, O25

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## 1. Introduction

The automotive industry would be one industry that symbolizes the capitalistic world of the 20<sup>th</sup> century. The placing of Toyota Motors Corporation as the world's first in terms of production units, brought about a large change in the hierarchy of the automotive firms, but it could be said that the Big Three have dominated the world's top positions throughout the 20<sup>th</sup> century. At the same time, this industry was limited to a portion of advanced economies. However, today, this industry has begun to show a spatial expansion, and owing to the influence of the environmental problem and global economic financial crisis, the automotive industry, including its approach, is entering a new phase.

In a lot of developing countries that were able to achieve independence after World War II, the automotive industry, which has wide base, was focused on as an axis industry for the development of the national economy. Together with the iron and steel industry, this was also an industry that would enhance the national prestige. In East Asia, promotional policies for the development of the automotive industry were actually pursued in different forms in South Korea, Taiwan, China, the Philippines, Thailand, Malaysia, Indonesia, and recently in such countries as Vietnam.

Such nurturing policies of the automotive industry in developing regions were up to recently mostly import-substitution types of industrial nurturing policies. Under the genuine advance of the globalism since the 1990's, this did not end with the nurturing of the automotive industry to each respective country as countries became exposed to international market competition.

In such a phase, the automotive industry of East Asia also came to show a large structural change. Following South Korea, in catching up with the automotive industry of Japan, China genuinely promoted the automotive industry, and even in ASEAN, the nurtured automotive industry was restructured amidst the economic integration, going through a process of great structural changes. While there are countries that emerged with a higher industrial agglomeration through all this, countries also emerged which needed a reconsideration of policies and were close to restructuring, while they were able to achieve a certain level of agglomeration in the past.

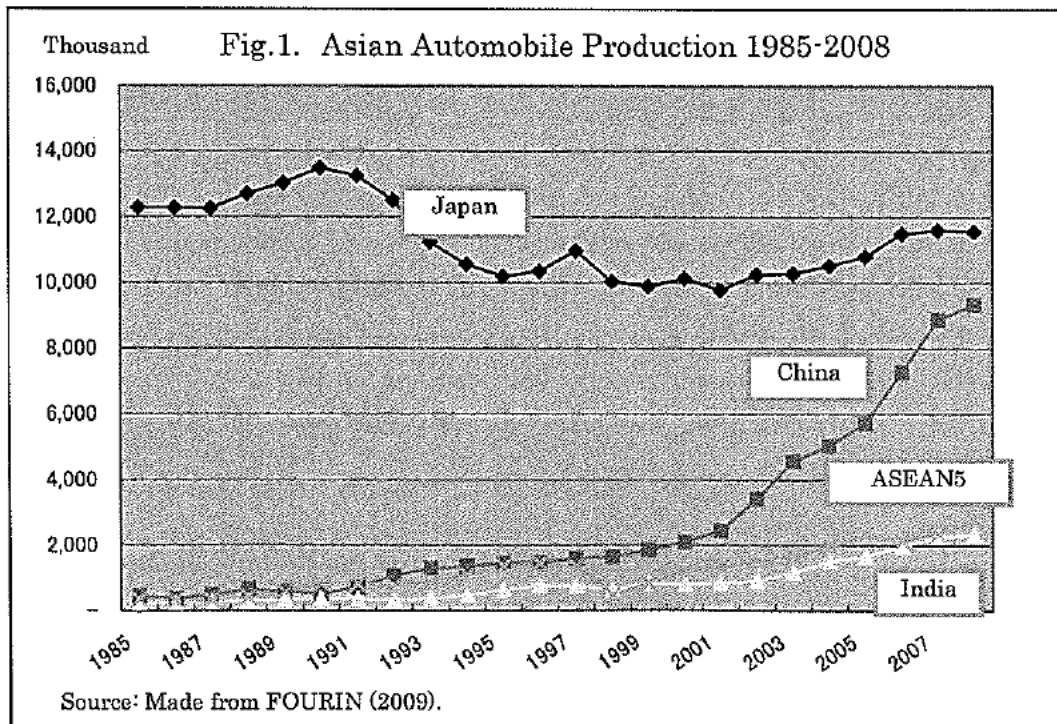
In this paper, within the automotive industry of East Asia that is in the process of large structural changes, we focus particularly on two ASEAN countries, Thailand and the Philippines, to conceptually grasp the trends in the automotive industry of this region, particularly in terms of the trade structures, and attempt to some extent a consideration of the prospects of symbiotic development.

## 2. The Development of the Automotive Industry of East Asia and Its Features

### (1) The Development of the Automotive Industry of ASEAN

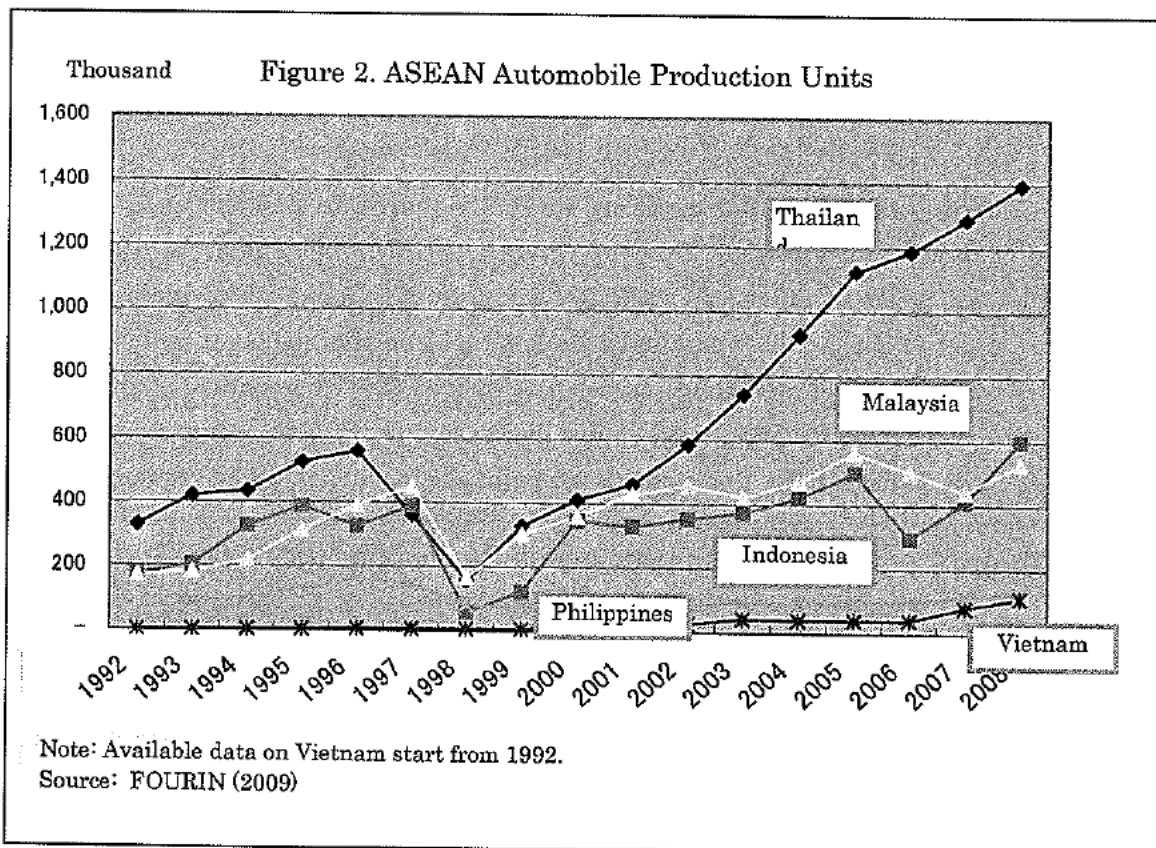
The automotive industry of Asia is finally showing very interesting changes with the turn of the century. First of all is the structural change of production units of Asia's automobiles (passenger cars + commercial cars). This presents a difficult evaluation, as it ignores the quality of automobiles, but it accounts for a large trend of the automotive industry. Let us look at Figure 1. It can be seen from this figure that Japan's automobile production units started declining after peaking in 1990 (13.48 million units), and after hitting bottom in 2001 (9.78 million units) rebounded to the present level of less than 12 million units. However, in entering the 2000's, China starts to rapidly catch up, reaching 9.35 million units in 2008. On the other hand, looking at the ASEAN 5 (Thailand, Malaysia, Indonesia, the Philippines, and Vietnam), it could be seen that it was about the same level as China from the 1980s up to the Asian currency crisis of 1997, but there after was left behind by China. However, as a region, it has increased its production and as of now is showing about the same trend as India.

There is no figure, but checking the individual shares in the total production units of Japan, South Korea, Taiwan, China, ASEAN, and India, in 1985, Japan accounted for 88.9%, China 3.2%, ASEAN 2.4%, South Korea 2.7%, India 1.7%, and Taiwan 1.1%. In 2008, while Japan had a surprising 50 percentage point reduction, China became 31.1% (28 percentage point increase), ASEAN 9.3% (7 percentage point increase), South Korea 12.3% (10 percentage point increase), India 7.7% (6 percentage point increase), and Taiwan 0.6% (0.5 percentage point decrease). As other regions increased



their share to match China's advance, Taiwan, which decreased its share, was also able to increase its production units from about the 150,000 level to the 180,000 level [FOURIN 2009]. Either way, we can confirm that Asia's automotive industry, which was monopolized by Japan, is rapidly developing as it expands to China, South Korea, and ASEAN.

Next, let us look at the internal components of ASEAN5. As shown in Figure 2, a large valley is drawn in 1998, after which a separation into three big groups could be seen. Firstly, the drop in 1997-98 was the effect of the Asian currency crisis. We could see how big that was in ASEAN. We can get the impression that there was divergence in the recovery orbit, owing to the crisis. However, in the last group of the Philippines and Vietnam, a difference could be seen. The Philippines lost the momentum it had before the currency crisis, in contrast to which Vietnam started developing.



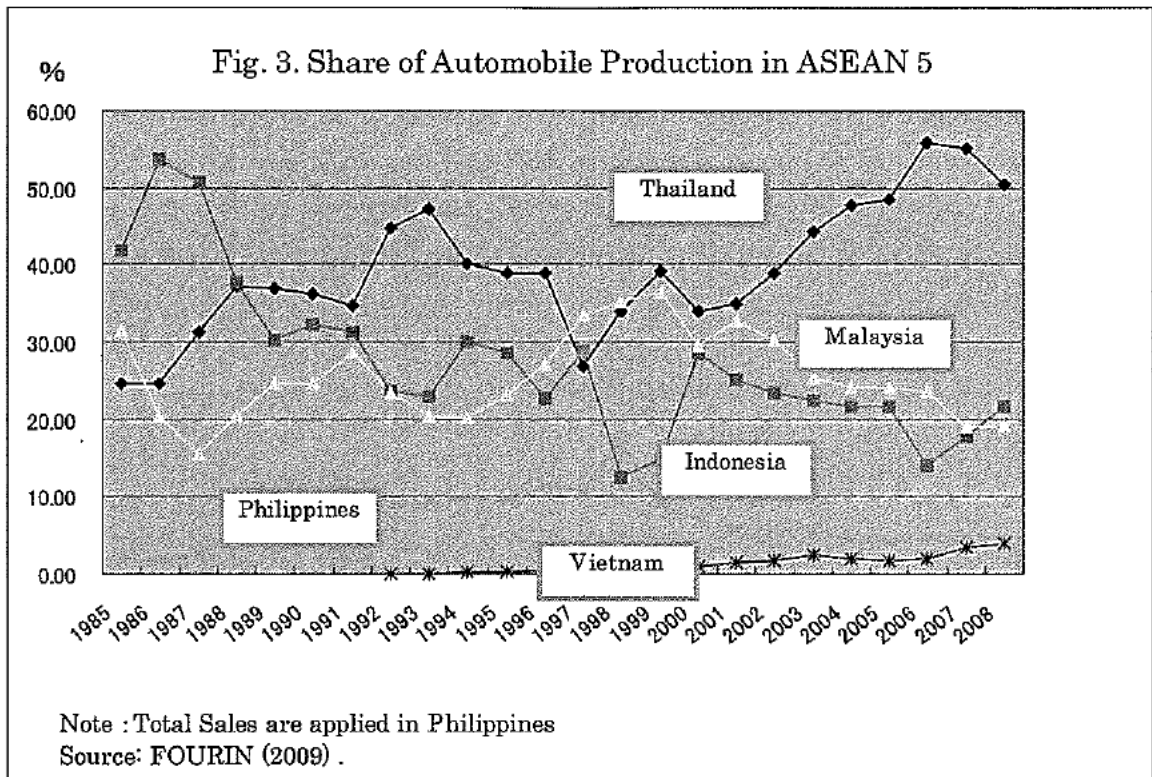
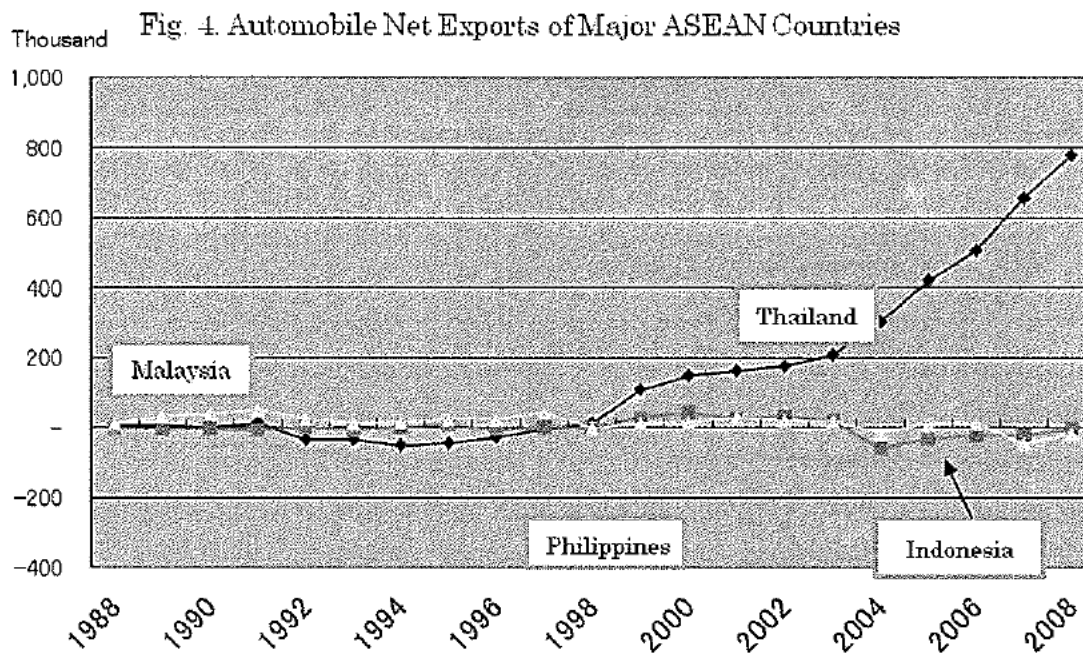


Figure 3 looks into the shares of each country with ASEAN5 as 100. The automobile production of ASEAN before the currency crisis was one where Indonesia, Malaysia, and Thailand competed in production, and the Philippines had a different composition. However, Thailand increased its momentum from the second half of the 1980s, experienced a large drop due to the currency crisis but got itself back in a recovery orbit, and has increased its share up to over 50% at the turn of the century. In contrast, Malaysia and Indonesia was able to maintain a respectable level, but relatively their shares were reduced. On the other hand, the Philippines was significantly and steadily expanding up to the currency crisis but dipped as a result of the crisis, and thereafter changed down to a lower orbit. In contrast, Vietnam has gradually expanded its share, catching up more or less with the Philippines. As Thailand occupies a dominant share, what would become of ASEAN's automotive industry hereafter. The automotive industry is an industry with a wide base, and is expected also to have a high-level and wide-area effect in terms of technology, the importance of which cannot be ignored by concerned countries. Below, let us add an analysis about the automotive industry of Thailand and the Philippines, which shows contrasting performance in the ASEAN5.

## (2) Structural Shift of the ASEAN Automotive Industry

In order to grasp the structure of Asia's automotive industry, Figure 4 computes

the tentative net export units as the production units of the ASEAN major countries subtracted by the sales units. Looking at this, before the currency crisis of 1997, Malaysia recorded a slight export (40,000 units in 1990, peaking to 50,000 units in 1991), but in general the tendency to import was strong. ASEAN4 was an import region. In particular, the import scale of the Philippines was generally big. However, while only Thailand was able to extract itself from this structure owing to the Asian currency crisis, and grow into an exporting country, Indonesia and Malaysia has shown a trend close to that before the crisis, and the Philippines is becoming more and more an importing country. In short, this shows a tendency towards the forming of three groups.



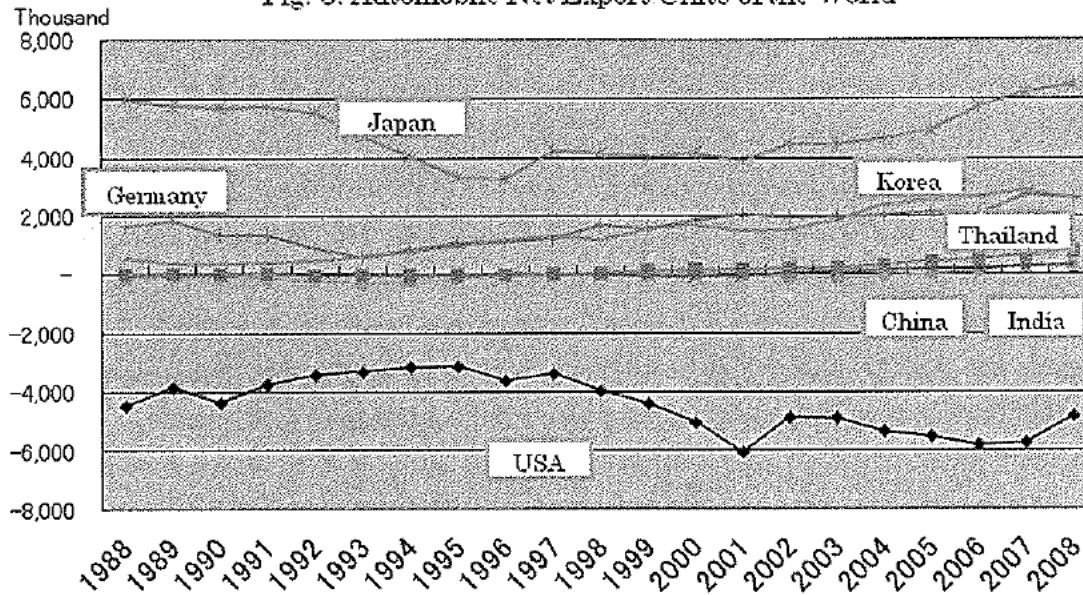
Note: Net Export = each country's production units minus sold units. But, since there is no statistics for the production of the Philippines, the figure was made tentatively using the sales units as import units.

Incidentally, looking at the automobile export units of the world, Japan rises above the common herd. While Germany and South Korea follows, the US is the largest automobile importing country. Within this global structure, in Asia, Thailand is becoming an exporting country, and following this, there is India and China, which are focused on production for the national markets, but has a limited export scale. Predicting the trend hereafter, the possibility is strong that these Asian countries would be gradually increasing their presence through exports of automobiles.

Either way, focusing on the automotive industrial structure of ASEAN, Thailand and the Philippines are in opposing positions, the movement of which will hereafter be

paid attention to. One of things that prompted this change appears to have been the currency crisis.

Fig. 5. Automobile Net Export Units of the World



Net Export = each country's production units minus sales units. But, in the case of China, export units minus import units

### 3. Thailand's Automotive Industry and East Asia

#### (1) Thailand's Automotive Industry Policy

The automotive industry of Thailand started as import-substitution manufacturing through the investment incentive laws of 1960 to 69. The revision of said law in 1962 promoted the establishment of automobile assembling firms by making the import tariff of imports of CKD parts to half of the import tariffs of complete cars (from 60% to 30% for passenger cars, from 40% to 20% for vans and pickups, from 20% to 10% for trucks), and started the operation of 11 automobile factories. However, the automotive industry of the 1960s was simply the import and assembly of CKD parts, so the economic diffusion effect to base industries such as parts and raw materials was small. Owing to this, the "Automotive Industry Development Committee" was established in the Ministry of Industry in 1969, with bureaucrats at the center. A search was made for nurturing policies for the automotive industry of the 1970's and the 1980's. In this period, local content, such as the rate of nationalization of passenger cars was raised from the 30% of 1979 to 65% of the 1988, and that for commercial vehicles was raised from the 25% of 1980 to 60% of 1988. Measures were implemented for such things as the limitation of model and series numbers in order to enable economies of scale. Moreover, the engine

nationalization policy was ironed out by the Board of Investments (BOI) in 1989, and guidelines for nationalization to increase the nationalization rate to 80% by 1994 were shown to the four Japanese and European firms [Mizuho Research Institute 2003:7]

Incidentally, automotive industry nurturing policy was also attempted by ASEAN in the 1980s. In 1981, the ASEAN car plan was established through the cooperation of firms of each country. However, this did not function well, and in 1988, the ASEAN Brand-to-Brand Complementation (BBC) plan, which would give tariff concessions of 50% for intra-region parts trade of automotive firms in ASEAN, was newly established by the ASEAN cabinet meeting. BBC is handled separately from the ASEAN intra-region Free Trade Agreement (AFTA), which is a measure of lowering intra-regional tariffs through the Common Effective Preferential Tariff Scheme (CEPT) in 1993. It became the ASEAN Industrial Cooperation (AICO) in 1996. This applies a preferential tariff of 0 to 5% to approved firms of countries participating in this scheme.

Also amidst such changes of the external environment, Thailand abandons new-entry regulations of passenger vehicle assembling businesses in 1994, and was successful in attracting foreign-affiliated firms to the country. Moreover, in 1996, it started to aggressively utilize AICO. However, nationalization continued to be an important condition, as firms benefiting from AICO must be joint ventures with a domestic equity share of more than 30%.

The currency crisis of Thailand in 1997 brought about large changes in Thailand's automotive industry. Local production units peaked at 560,000 units in 1996, but through the currency crisis of 1997, it rapidly dropped in 1998 to one fourth, at 158,000 units. Due to this, [Thailand] adopted measures such as the raising of import tariffs of passenger cars from the existing 42-68.5% to a uniform 80%. However, in 2000, it abandoned the obligation for nationalization, and in 2002, announced the new investment policy, which reviews the tax system of tariffs and others with the objective of promoting investments to the automotive assembling business. In the following year of 2003, together with the original member countries of ASEAN, it reduced tariffs of the automobile and parts to below 5%. As Thailand's automotive industry achieves a relatively steady progress after the currency crisis, announcements were made about the initiative of making it "Asia's Detroit" and the "Eco Car" project.

The initiative of making [Thailand] "Asia's Detroit" plans for the securing of research and development abilities, nurturing of an automotive parts industry, which would be internationally competitive in terms of both cost and technology, and the nurturing of human resources, with the aim of becoming an export hub base. At the outset, the target was a production of two million units annually up to 2010, but in 2006 a



prospects started to look dim with respect to the production and sales of its main product, the one-ton pickup truck. Due to this, in the 2<sup>nd</sup> Automotive Industry Master Plan (2007 to 2011), the production targets of 2010 were adjusted downwards to 1.80 million units, and at the same time, as a new growth strategy, which would start in 2007, the “Eco Car” project was announced. The “Eco Car” project breaks off from the structure, which depended up to then on the major product that is the one-ton pickup truck, and move on to forming a production base for a small car, which gives consideration to environmental performance through tax incentives. This is an attempt at differentiation of the automotive industry from that of the emergent countries such as China and India.

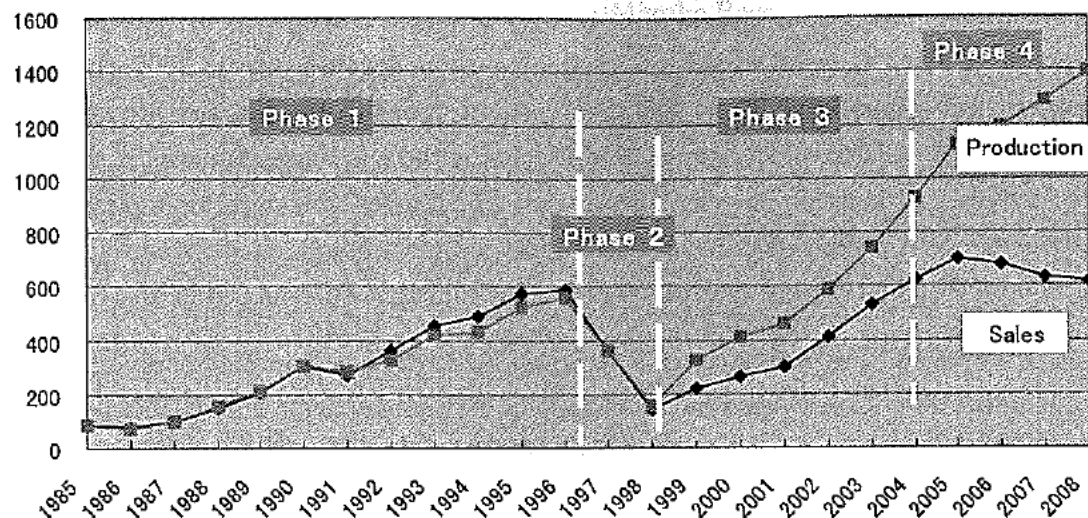
Incidentally, entering this century, ASEAN has become more aggressive in concluding Free Trade Agreements (FTA). In November 2002, the ASEAN—China Free Trade Framework Agreement was concluded with China, which became a member of WTO in October 2003. In October 2003, the ASEAN—India Comprehensive Economic Cooperation Agreement was agreed upon. Thailand was also aggressive with FTA. At the conclusion of the ASEAN—India Economic Cooperation Agreement, in October 2003, [it] implemented ahead of schedule the liberalization of agricultural products with China, signed the Thailand—India Free Trade Framework Agreement, and decided on the abolition of the tariffs in 2010. Such policies has up to the present worked in favor of the development of Thailand’s automotive industry, and could be thought as firming up the position of its production base in East Asia, aligning with the development of the automotive industry of China.

## **(2) Thailand and the Making of “Asia’s Detroit”**

Looking at Thailand’s automobile market, the number of domestic automobile units sold in the 10 years from 1987 to 1996 rapidly grew from about 100,000 units to about 590,000 units. Automobile production units grew from about 100,000 units to 560,000 units. Due to the currency crisis in 1997, sales and production were dealt a heavy blow, but there was a V-shaped recovery, as sales jumped in 2005 to roughly the 700,000 level, which exceeded the peak before the crisis, and production jumped to roughly the 1,120,000 level, largely exceeding that of sales. Since then, sales shifted to a slight reduction, and reached roughly the 610,000 level in 2008. But, production continued growing and reached roughly the 1,390,000 level in 2008.

Thousand

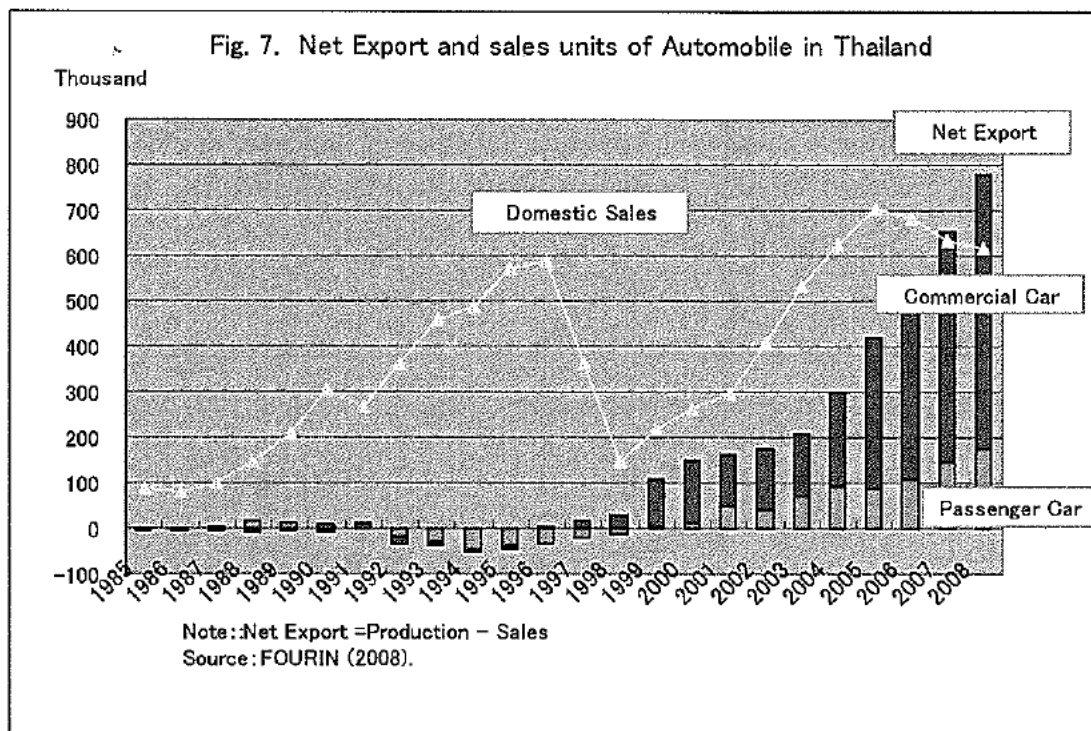
Fig. 6. Production and Sales of Automobiles in Thailand (1985—2008)



Source: Created from FOURIN (2008).

Figure 6 shows illustrates these trends. Looking at this Figure, it can be seen that Thailand's automotive industry developed through four broad phases. First of all, Phase 1, from the second half of the 1980s up to 1996, could be called as the "industrial clustering phase". During this period, domestic sales and production expanded at the same tempo, and it can be seen that the automotive industry was clustering in step with the growth of the domestic market. Next, phase 2, from 1997 to 1998, is the "retreat due to the currency crisis". [Thailand] experienced a dramatic reduction in both consumption and production. Phase 3, from 1999, when production recovered led by exports, up to 2003 could be called as "structural change phase". From 2004, when the concept of making "Asia's Detroit" started, up to the present is phase 4's making "Asia's Detroit".

Let us check in more detail the above development. Taking the difference between production units and units sold as the net exports, and looking at its movement, it could be seen that Thailand's automotive industry was able to achieve a structural change on the occasion of the the currency crisis of 1997. As in Figure 7, there was practically no difference between production and sales, and in the first half of the 1990s, [Thailand] had excess imports, albeit small. In phase 2, which is bounded by the crisis, this relationship will briefly reverse. Then, in entering phase 3, production units certainly exceeded the units sold, and the making of the export based of the automotive industry becomes clear. Entering phase 4, there is an acceleration as production increases at a rate of 100,000 per year, and by 2007, export units grew to the point of exceeding domestic units sold.

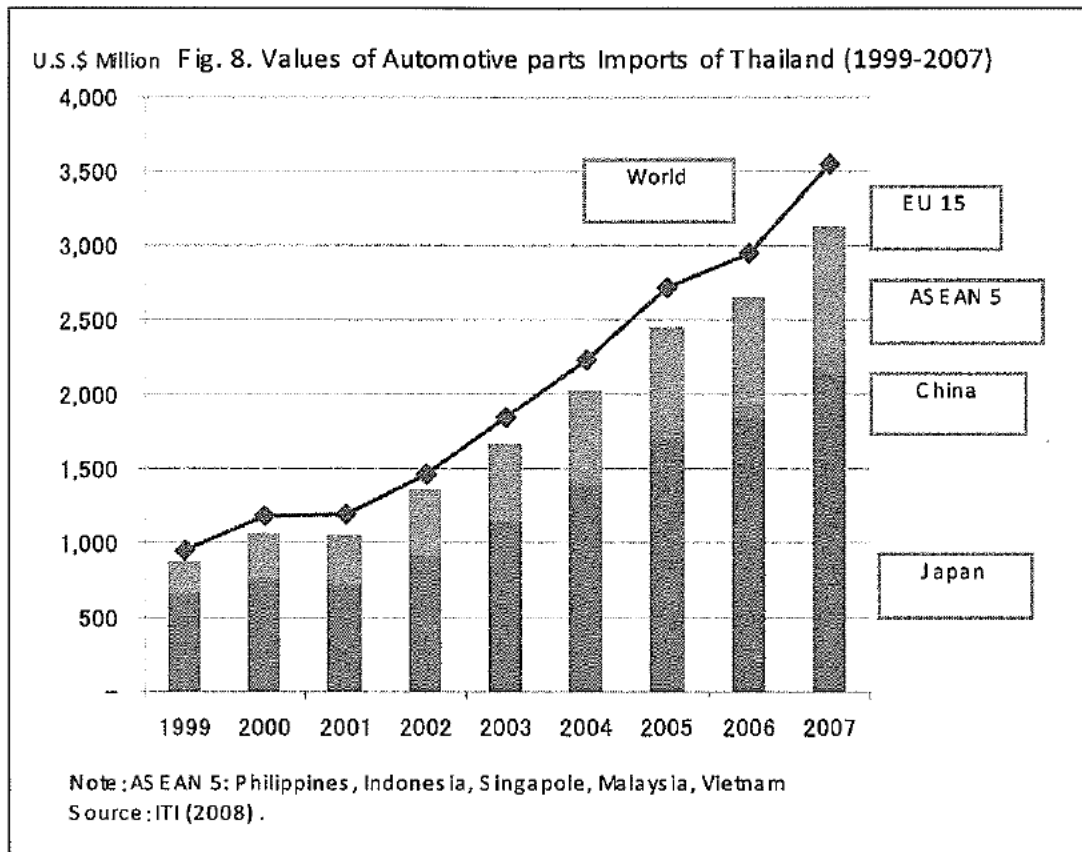


This was made possible by a feeling of reaching the limit of the development of a domestically-oriented industry became impossible owing to the reduction of the domestic market because of the currency crisis on one hand, and, on the other hand, the search for the making of an export headquarters towards foreign markets so as to exploit the sharp fall of the exchange rate based on the existing industrial agglomeration. It can be said that Thailand's automotive industry was able to undergo a structural change using the currency crisis as a springboard, because of the Thailand's wise policies, and more so because of its good fortune of having a relatively large domestic market and its accompanying industrial agglomeration that surpassed that of other countries. On the occasion of the the crisis, the automobile makers sought for the making of an export headquarters in Thailand, where agglomeration was more advanced compared to other countries. The change of management strategy by the automobile makers eventually decided the concept of the making of "Asia's Detroit" by the Thai government.

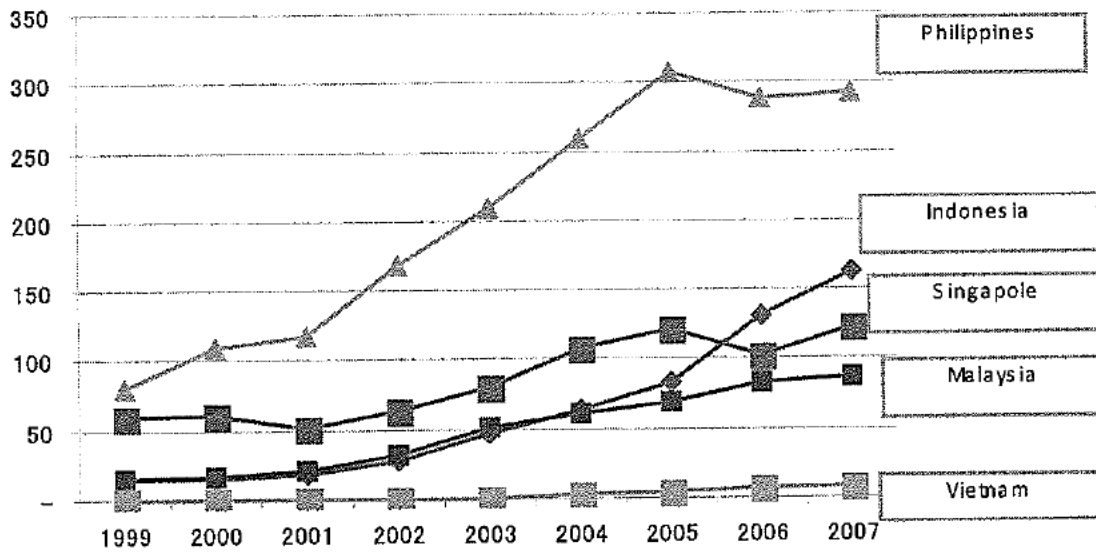
Hereafter, Thailand accomplishes a dramatic transformation as an export base for completely built-up cars, together with increasing its parts imports. From Figures 8 to 10, we can check the movements of its exports, parts imports and import sources, as well as completely built up car exports and export destinations. We can confirm that the Philippines is the largest source of imports, and [Thailand] is becoming the export base to Australia, Europe, and ASEAN.

However, Japanese-affiliated automobile makers is practically dominating the

Thai market. We shall refrain to back this up with statistics, but the one-ton pickup truck is basically a two-strong system of Toyota and Isuzu. In passenger cars, there is the two-strong system of Toyota and Honda. Generally speaking, Japanese-affiliated automobile makers have adopted the international strategy of positioning Thailand as an export base, premised on the conclusion of today's FTA of ASEAN, and economic integration.

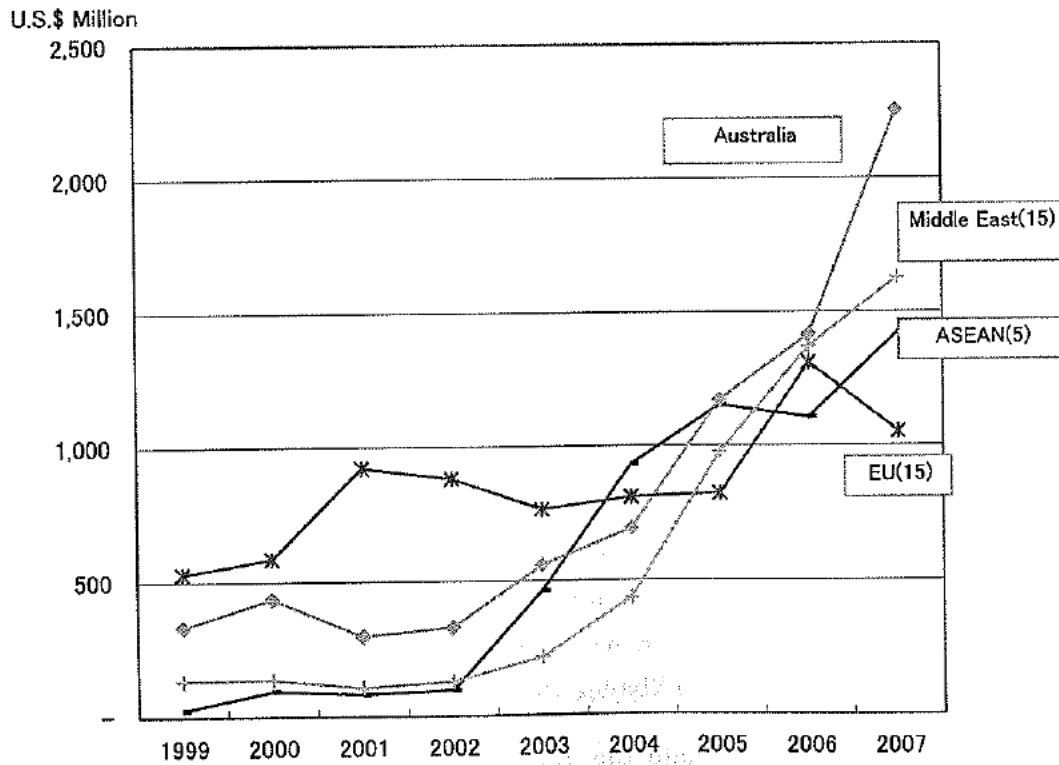


U.S.\$ Million Fig.9. The import value of Auto-parts imports of Thailand from ASEAN 5 (1999-2007)



Source: ITI (2008).

Fig.10. Value of Automobile Exports from Thailand by Region



Source: Created from ITI (2008).

#### 4. The Development of the Philippine Automotive Industry and Its Features

##### (1) Automotive Industry Policy of the Philippines

The Philippine automotive industry policy has a long history, where automobile assembly started in 1951. However, due to a virtual lack of restrictions in the number of automobile assembly firms and models through the 1950's and 1960's, and of efforts towards the rationalization of the automotive industry, in 1968, there were 19 firms assembling over 60 car types for a market demand of about 10,000 units per year. Consequently, a serious start was made in 1973 with the Progressive Car Manufacturing Program (PCMP) [Tolentino and Ybañez 1983: 320-231]. PCMP is a system of 5 automobile assembly firms, and aims for local industrialization. This program allowed importation of CKD parts only to assembling firms that have an export-oriented investment project that was recognized by Board of Investments (BOI) of the Philippines. In addition to conservation of foreign reserves through the reduction of imports and the expansion of exports, the PCMP also aimed to increase the subcontracting production activity [Tolentino and Ybañez 1983:232].

Together with the decision on the above policy, as early as November 1972, Ford started its production of Fiera, a so-called Asian Utility Vehicle. GM also started production. In 1973, Toyota's local company, Chrysler and Mitsubishi started the car production of its own model. In 1977, the Progressive Truck Manufacturing Program (PTMP) was started, to which the Progressive Motorcycle Manufacturing Program (PMMP) was added. The five assembling firms produced about 34,000 units by 1976. In truck manufacturing, 14 firms sought recognition, and five of which were PCMP-certified firms. The annual production of cars was about 8000 units at the end of the 1960s, and was about 22,000 to 24,000 units sometime in the mid 1970s. However, not even one of the the manufacturers of the local jeepney became a member of PCMP, the local manufacturer, Francisco Motors, was registered as a member of PTMP [Tolentino and Ybañez 1983:233, 238].

However, by the end of 1978, the number of parts subcontracting firms greatly rose from 32 firms at the start to 220 firms. Among the parts that became domestically manufactured are: related to engines, transmission, cam shaft, manifold; related to body, brake drum, battery folder, door handle, glass, tire, tube; related to electricity, batteries, battery cables, voltage regulator, wiper/motor, wire harness; and interior/seat related, air-conditioning [Tolentino and Ybañez 1983: 247].

How would we evaluate the automotive production programs such as PCMP? These programs, through import administration, tariff/tax measures, and preemptive mechanisms, which guarantee subcontracting production, made possible domestic

automotive production [Tolentino and Ybañez 1983: 248].

The economic crisis of 1983 to 1986 dealt a very big blow to this automotive industry. In 1983, Ford withdrew, Toyota's assembling and marketing firm, Delta Motors, ceased activities, and in 1984 out of the five only two firms were left [Aldaba 2000: 2; Hirakawa and Maquito forthcoming] . As such, the Philippine government in 1987 embarked on the Motor Vehicle Development Program (MVDP). It replaced the PCMP with the Car Development Program (CDP), the PTMP with the Commercial Vehicle Development Program (CVDP), and the PMMP with the Motorcycle Development Program (MDP). Incidentally, Toyota re-started production in 1989.

This MVDP was revised in 1996, and the importation of various types of passenger vehicles, commercial vehicles, and motorcycles were liberalized. This policy shift was made mainly through two policies. One was the lowering of tariffs, and another was the permitting of new entrant firms [Hirakawa and Maquito forthcoming] .

Regarding tariffs, the tariff of 100%, which was levied on CBU vehicles in 1973 to 1980, became 70% in 1981, and then 50% in 1982. CKD vehicles were levied a tariff of 30% in 1981 to 1991. During the MVDP era, tariffs on CBU were lowered to 40% in 1993, and 30% in 1999. CKD [tariff] was raised by 5% to 35%, and became 20% in the following year of 1994, 10% in 1995 and a mere 3% in 1997 [Hirakawa and Maquito forthcoming] .

In recognizing competing firms, the People's Car Program, which produce light cars below 1200 cc engines, was started in 1990, under which PCP/Italy Car (Fiat), Honda Motors, Asian Carmakers (Daihatsu), Philippine Nissan, PAMCOR, Colombian Autocar, and others entered.

But, once again it was visited by a severe crisis due to the Asia currency crisis of 1997. According to the latest "Global Automotive Marketing Yearbook 2009" of FOURIN, the domestic automobile units sold of the Philippines grew extremely well from 6,778 units (4,781 passenger vehicles, 1,997 commercial vehicles) in 1985, to 57,864 units (35,193 and 22,672, respectively) in 1990, and then to 162,087 units in 1996 (88,977 and 73,110, respectively) in 1996. Due to the currency crisis, this was half of its peak at 80,231 units (34,688 and 45,543, respectively) in 1998. In particular, the drop of passenger cars was severe, becoming 27,580 units in 1998, which was about 31% of its peak levels. Since then, the slump of the Philippine automotive industry has continued, for a long time.

Amidst the progress of such liberalization, the shift of policy was undertaken in 2002 with the Executive Order No. 156. This revised the MVDP, and prohibited the importation of various types of second-hand cars and parts, except for some exceptions that are allowed under certain conditions. About half of the Philippine automobile market

is considered to be new car sales, while the remaining half is made of second-hand car imports and the domestically-assembled vehicle using second parts, the jeepney. EO156 was a measure for prohibiting the import of second-hand vehicles and parts, but such continued to be illegally imported causing the continued slump of the new vehicles market. Hence, the measures for prohibiting the importation of new vehicles were strengthened in 2006, finally causing the units of cars sold to pick up. The FOURIN automobile yearbook gives the following explanation. "2006, the Philippine government strengthens the implementation of importation prohibition measures, with the support from the Supreme Court. As a result, it succeeded in shifting demand from second-hand vehicles to new vehicles. Perceptions became strong that the effect on the market would be from 2008, but in 2007 the effects became evident, and Philippine domestic sales recovered to the 100,000 unit level after 10 years since 1997" [FOURIN 2008:234]. However, the recovery of units sold was not link well to the recovery of production units. As was seen in the analysis of Thailand in the previous section, the making of the Thailand as an export base by the Japanese-affiliated car makers occurred.

However, the Investment Priority Plan (IPP) of March 2008 by the Philippine government removed the automotive manufacturing from its priority sectors. There was a resistance to this from the automotive industry and firms, which had a sense of crisis, and eventually additions were made to the IPP of Fiscal Year 2008. However, this gave rise to doubts about the awareness of the government regarding the automotive industry. On the other hand, the PhUV (Philippine Utility Vehicle) project, which was started by the Philippine automotive industry association in January 2007, was added to the preferred industry list of the IPP. The PhUV project accommodated both objectives of passenger and commercial. It is the Philippine national car production plan, which conformed to the local demand that made possible multiple riderships, and the "automotive industry promotion plan" being pushed mainly by the national automotive assemblers and parts manufacturers [FOURIN 2008:243].

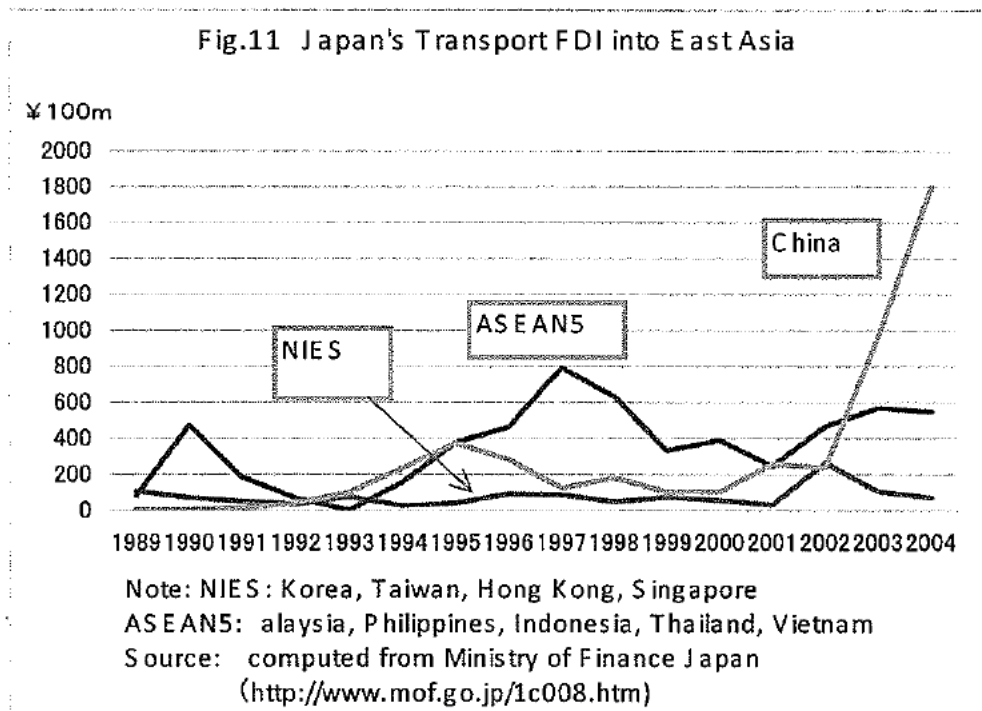
The automotive industry policy of the Philippines could be said to have shifted to an industrial policy of liberalization since the 1980s from the import-substitution development policy through protectionism, but its performance has not been that good. Production was greatly reduced by the Asian currency crisis, and in recent years sales, at best, seem to have finally been on a recovering trend. Amidst all this, there has been a move to support national car makers and parts makers, but it could be said that drastic policies are called for.



## (2) The Philippine Automotive Industry and Japanese-Affiliated Firms

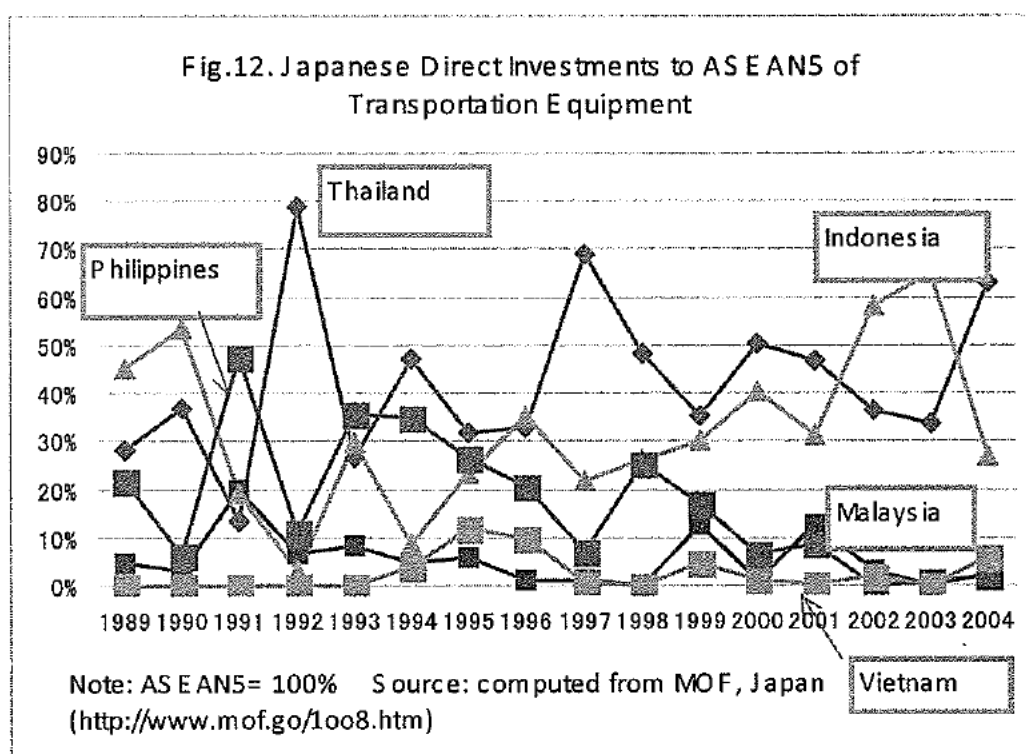
The Philippine automobile market, like that of Thailand, is overly dominated by Japanese-affiliated firms. The share of Japanese-affiliated firms in the passenger market reached 85.5% in 1996, which was the peak before the Asian currency crisis, while that for automobile market including the commercial vehicles accounted for 82.1%. The share for 2005 reached 77.8% of the passenger vehicle market, and 80.3% of the whole [FOURIN 2008:2009]. Actually, Japanese-affiliated firms were overwhelmingly strong in new car production and parts production.

Actually, the entry of automotive-related manufacturing firms to the Philippines reached a certain level of agglomeration mainly during the 1990s. However, it is necessary above all else to confirm its position within East Asia, as well as ASEAN. Figure 11 looks at the direct investments towards East Asia of Japan's transport



equipment industry, wherein the automotive industry occupies a central position. Japan's investment to ASEAN5 draws two mountains with peaks in 1990 and 1997, and has since then moved around the 40 to 60 billion yen levels. However, the investments towards China show an increase in the first half of the 1990s, and later, since around 2003, have surpassed others, growing by leaps and bounds to nearly 180 billion dollars in 2004. The investment behavior of the automotive industry has banked towards China from around the 1990s up to the turn of the century, and at the same time it could be said that ASEAN has been maintaining the scale of investments at a certain level.

Looking at the direct investment composition to the transport equipment industry to ASEAN5 in Figure 12, up to the start of the 1990s, the direct investment looks like a seesaw game among Thailand, Indonesia, and the Philippines. However, since around the mid-1990s, the investments have been gradually slanting towards Thailand and Indonesia, and that towards the Philippines and Malaysia has conspicuously been in a declining trend. Investments of the automotive industry in ASEAN have started to concentrate in Indonesia, and particularly Thailand, in contrast to the declining trend in the Philippines. A large part of these investments is for the production of parts, but in actuality, the degree of agglomeration of industry around this period was such that the gap between Thailand and the Philippines has verifiably widened. Regarding the parts production of Thailand and the Philippines, Horaguchi (1991), which compared the parts enterprises of both countries, says the following: "Thailand imports the raw materials of steel and steel plates from Japan, but nationalization of production for casting and press processing is progressing. In contrast, the CKD production in the Philippines is just limited to post processes such as welding, parts mating, painting, assembly, and inspection" [Horaguchi 1991: 18].

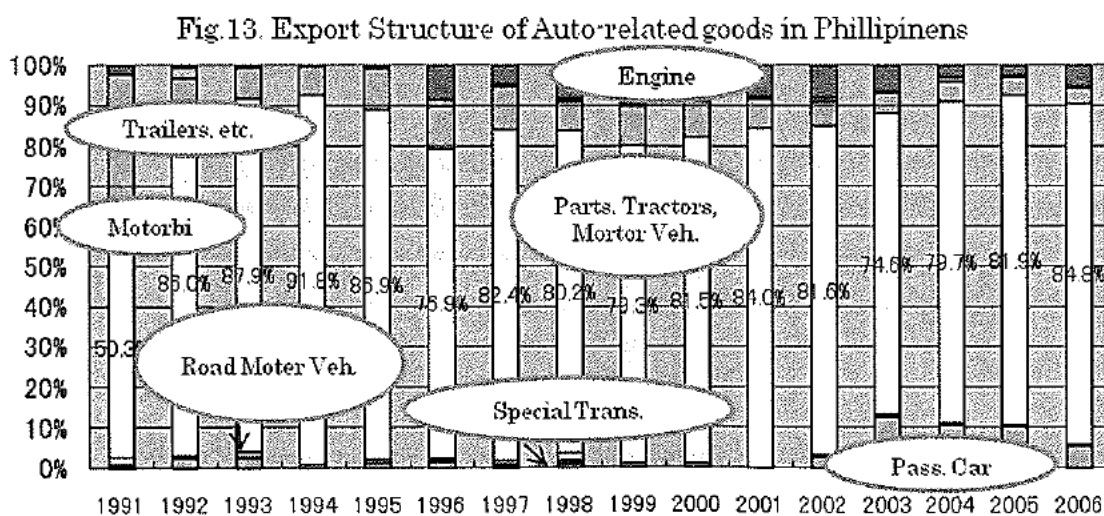


### (3) The Automotive-Related Export Structure of the Philippines

Although there is a gap when comparing with Thailand, what are the characteristics of the Philippine automotive industry, which has accomplished some level of agglomeration of parts enterprises? First, let us check the trade structure.

Automotive-related trade in Philippine trade is not that large. According to the UN trade statistics, the 0.6% (48.7 million dollars) of the export value of 1991 was automotive-related exports. However, the share to total export value was increased to 3.2% (1.165 billion dollars) in 2003 and to 3.9% (1.61 billion dollar level) in 2005. How about imports? Automotive-related was 3.8% (485 million dollars) of total import value in 1991, and 2.6% (1.295 billion dollars) in 2005. Automotive-related trade, like the total trade balance, was a deficit throughout the 1990s, but has shown signs of recovering. With the currency crisis that occurred in 1997 as a border line, after the moving towards a re-expansion of the deficit, there was a recovery, and from 2004 there was a shift towards a surplus. Generally speaking, automotive-related trade clearly shows an improving trend in the trade balance.

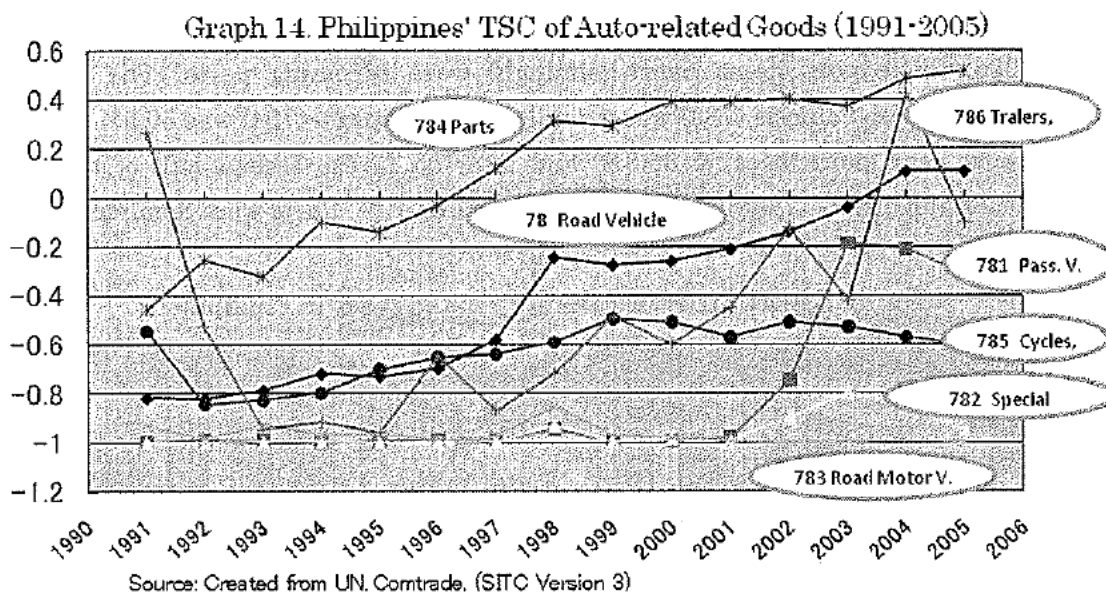
What kind of structure does this automotive-related trade have? Figure 13 looks at the export structure from 1991 to 2006. According to this, we can see that on entering the 1990s, the export items overwhelmingly were becoming parts. The export of completely built-up vehicles (783) was a small 0.6%, and parts (784) was 50.5%. However, in the next year, parts became 86.0%, and later on in the second half of the 1990s, motorcycles and others (785) increased to more or less 10%. Parts were dominant.

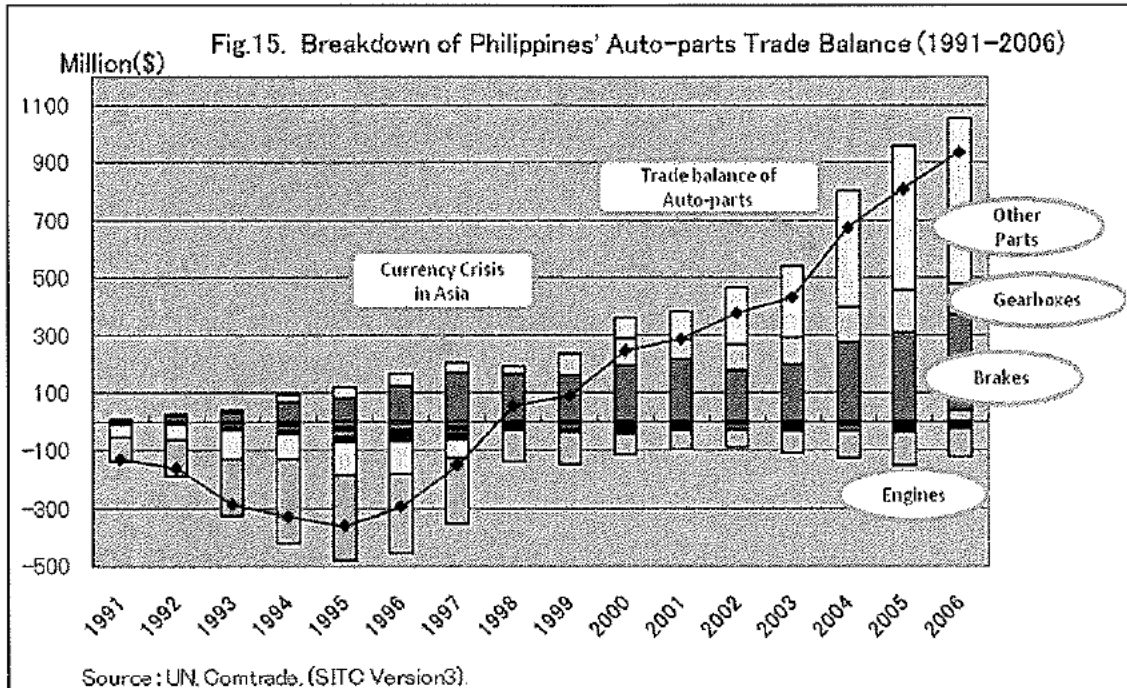


Source : UN Comtrade (SITC Version 3).

Let us here look at the two graphs in Figures 14 and 15. One shows the trade specialization coefficient of automotive parts items, and the other is an illustration of the trade balance of major automotive parts. The trade specialization coefficient is the value of  $(\text{export} - \text{import}) / (\text{export} + \text{import})$ . In the case that imports is "0", it becomes "plus 1", and in the case that exports is "0", it becomes "minus 1". The items where this trade specialization coefficient exceeds "0" is naturally only "parts" (784), in the year 1997. "Trailers and others" (786) and "passenger vehicles" (781) are excess imports but it is showing a slight tendency to shrink. In this way, even the automotive relative balance will shift to excess exports in 2004.

Looking at the content of parts trade as a cause of this deficit reduction, the largest parts items are "other parts" (78439), "brakes and related parts" (73433), and "transmission (gear box)" (87434). The production of transmission in the Philippines as an automotive production item is notable, but the fact that, in terms of the trade balance, it is not that much of a excess trade item is of much interest. Either way, it could be confirmed that various parts exports make for a trade balance surplus and that its structure is changing a lot since the Asian currency crisis.





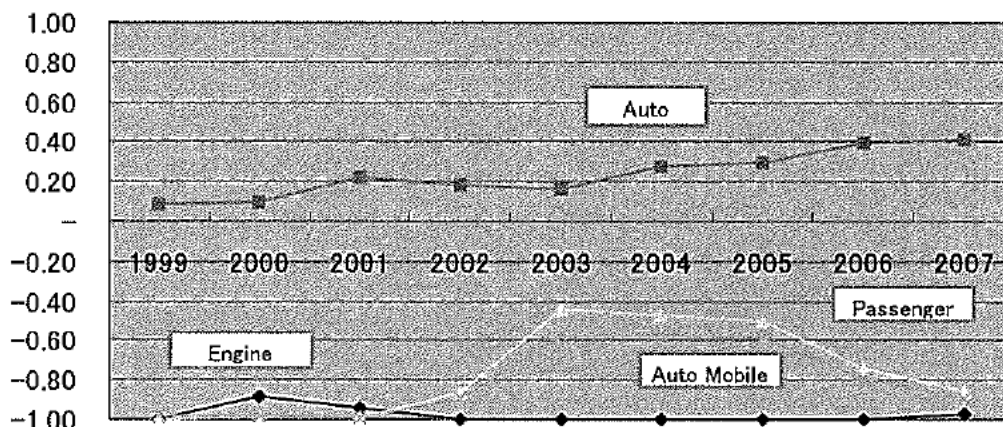
The above macro structural change could also be confirmed from the results of the interviews by one of the author's of local firms. The Japanese-affiliated parts firm, A Corporation, which entered the Industrial Park in Sta. Rosa City, Laguna in 1995, produces mainly automobile meters, fuel pumps, A/C radiators, and IMV products. Its production value was growing 6.5 times, from 890 million pesos in 1999 to 5.480 billion pesos in 2007, but at the start, 75% of its sales were domestically directed. However, this share dropped 25% in 2007, and exports reversed, increasing its share from 25% to 75%. The Japanese-affiliated parts firm, which produces automotive audio equipment and others, entered the Laguna Techno Park of Sta. Rosa City in 1990. Its production was about 2.0 billion pesos at the time of the currency crisis, but after the currency crisis it rapidly increased its exports, and was producing about 12 billion pesos in 2006, of which about 80% was exported. Established in 1973, C Corporation, which is highly regarded as a success case of a joint venture between a Japanese firm and a local firm, produces wire harnesses. Its sales value increased three fold from 5.557 billion pesos in 1997 to 15.7 billion pesos in 2006, of which 50% was sold to Japan, 48% to the U.S., and a mere 2% to the domestic market.<sup>3</sup>

How does the composition of the trade destination of the Philippines look like? Is the automotive industry of the Philippines more and more integrated with ASEAN

<sup>3</sup> This survey was undertaken for three days from December 6, 2007, and covered 8 firms, focusing on the Philippine's automobile agglomeration area. It was undertaken by Dr. Ferdinand C. Maquito, Researcher of the Sekiguchi Global Research Association (SGRA) and Hirakawa.

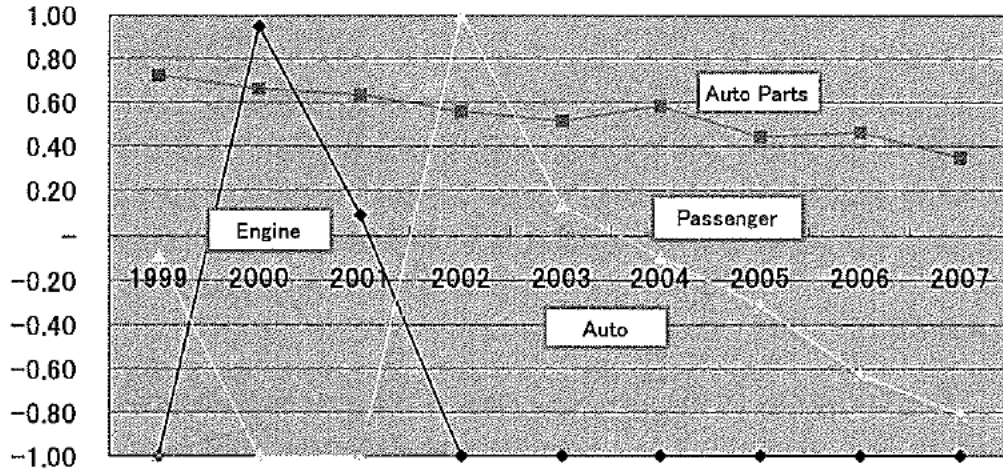
intra-regional trade? In order to confirm this, let us look at Figures 16 and 17, which show the trade specialization coefficients regarding passenger vehicles, cars, engines, and parts. Firstly, with regards to trade with the world, it is only parts that are increasing its export specialization coefficient. After showing an improving trend in specialization coefficient in 2002 to 2005, passenger vehicles and cars, it retreated rapidly in the direction of minus 1. Looking at this in terms of trade with Thailand, the export specialization coefficient of parts showed a gradual tendency to decline. Passenger vehicles and cars suddenly improved a lot in 2002 to 2003, but later it was rapidly dropping. We have no tabulation, but with respect to trade with ASEAN, the trade specialization coefficient was heading towards a minus trend. In short, the automotive-related trade of the Philippines, specially related to Thailand, could only be seen as heading, albeit gradually, towards that of an importing country, amidst Thailand's deepening automotive industrial agglomeration. In actuality, the good surplus of parts trade is not due to trade with Thailand or ASEAN, but is being supported by exports to extra-regional countries, such as Japan and America.

Fig.16. Trade Specialization Coefficient (TSC) of Philippines (to the World)



Source: ITI (2008).

Fig.17. Trade Specialization Coefficient (TSC) of Philippines (to Thailand)



Source: ITI (2008) .

## 5. Issues and Prospects of ASEAN Automotive Industry: Through a Comparison of Thailand and the Philippines

### (1) ASEAN Automotive Industrialization Plan and Foreign Direct Investment

The threat of communism at that time in the Southeast Asian region was mainly in the background of ASEAN's birth in 1967. ASEAN started to move towards economic cooperation from the time of the approval of the ASEAN Industrial Projects in the summit meeting of ASEAN in 1976, after the end of the Vietnam War. Industrial cooperation in automobiles started with the ASEAN Industrial Complementation (AIC) of 1981, but in the following year of 1982, Mitsubishi Motors requested for its application to foreign firms. With this move in the background, the ASEAN Brand-to-Brand Complementation (BBC) was approved by the ASEAN ministerial meeting. Since this scheme aims for the efficient intra-regional division of labor of Japanese firms within ASEAN, this concept is thought to have influenced the state of the economic integration of ASEAN, although its significance is in its limited effect.

BBC widened its application to other industries in 1996, and becomes the ASEAN Industrial Cooperation (AICO). AICO's certified firms came to be levied with preferential tariffs of 0 to 5% for intra-regional procurement. The number of AICO's approved cases was 129 as of April 2005, of which automotive accounted for 115 cases. Japanese firms had 103 cases. The number of approved cases between Thailand and the Philippines is 25, between Malaysia and the Philippines is 17. In addition, 32 cases between Thailand and Malaysia, and 23 cases between Thailand and Indonesia were

approved [Ishikawa 2007:98; Hirakawa 2008: 101]. As of August 15, 2007, there was a total of 150 cases, of which automotive accounted for 134 cases [JETRO Asia Overseas Survey 2008].

ASEAN agreed on the establishment of the ASEAN Free Trade Area (AFTA) at the 4<sup>th</sup> ASEAN summit meeting held in January 1992. AFTA was initiated since 1993, and is an FTA, which used the "Common Effective Preferential Tariff" (CEPT), and at the beginning decided to reduce tariffs to 0 up to 5% in 15 years [ASEAN Secretariat 1998]. The liberalization of the automotive industry was pushed by the mentioned BBC or AICO, but ASEAN's economic integration could be said to have been pushed by the two wheels of AFTA and AICO.

The tariff levied on completely built-up vehicles in the Philippines was lowered to below 5% in 2003, but due to this it is estimated that the imported car share occupied by the total units sold of the four firms entering into the Philippines, i.e., Toyota, Honda, Mitsubishi Motors, and Isuzu, was about 40 percent as of September 2008 [Yoneyama 2009:194]. In Thailand, where agglomeration of the automotive industry was being pushed, a more efficient production came to be undertaken, increasing the export of completely built-up units. Amidst all this, the Philippines came to be positioned as an importing country. Today, ASEAN is aggressively pushing FTA, and is nurturing one core in East Asia. On the other hand, it could be said that the intra-regional division of labor of the automotive industry within ASEAN is entering a new stage.

## (2) The International Division of Labor of the ASEAN Automotive Firms ASEAN

The first attempt related to the intra-regional division of labor of ASEAN automotive firms was the request of Mitsubishi Motors to the ASEAN for the application of the BBC scheme to foreign firms. The firm, which adopted such a strategy at an early time, would be Toyota Motors. This firm entered Indonesia in 1972 and built a manufacturing base, but along the lines of this concept in 1987, placed manufacturing bases and organizations, which had an adjustment function, in Singapore, the Philippines, and Malaysia. It produced diesel engines and electronic parts in Thailand, transmission in the Philippines, steering parts in Malaysia, and gasoline engines in Indonesia. These products were mutually complementing. Figure 18 is a figure found in the 1991 issue of "MITI White Paper", showing the structure of the ASEAN intra-regional division of labor. Amidst such trends, in May 1995, Nissan Motors also is said to have called together in Tokyo the representatives of the subcontractors and joint ventures of Thailand, Malaysia, Indonesia, and the Philippines, and deliberated on the division of labor system in Asia. It is said that agreement was obtained to export as follows: press



molds and diesel engines for the “Datsun Truck” from Thailand; machine-processed parts from Indonesia, wire harnesses from the Philippines, wiring systems from Malaysia. These products together with clutch parts were accordingly exported to these three countries. [Takei 1994 : 57-59]

BBC was an international division of labor scheme, which was fundamentally premised on mutual trade, but around the end of the 1980s, after going through liberalizations and the Asian currency crisis, such a conceived division of labor system came to be under pressures to change to a much more free international division of labor, which does not require mutual trade.

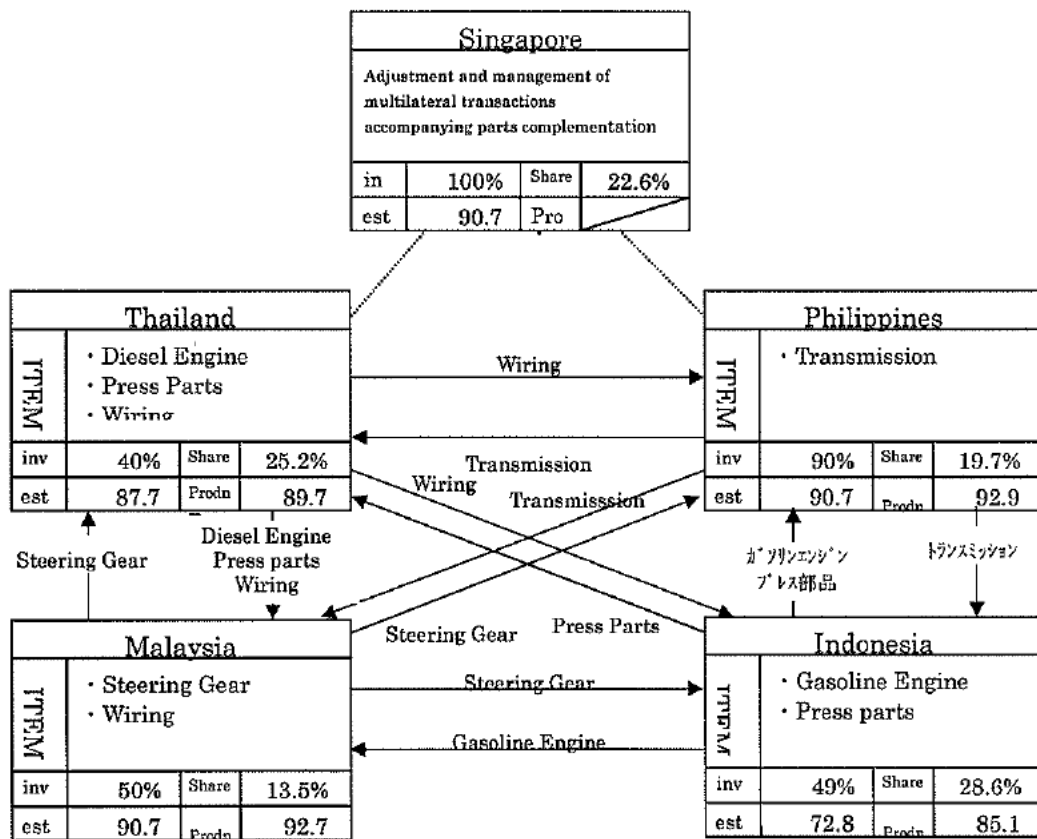


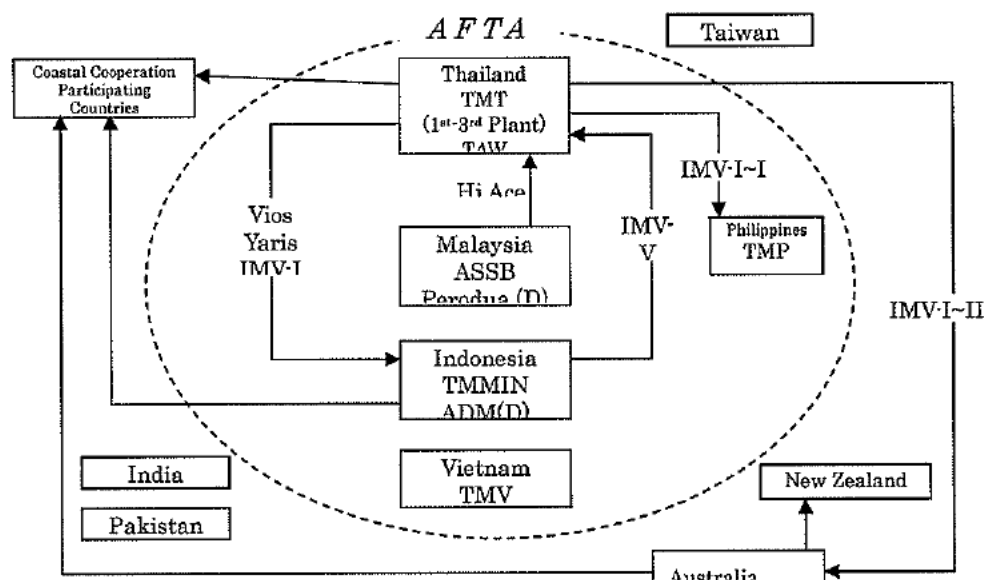
Figure 18. Firm A's International Division of Labor in ASEAN

Source: Created from METI (1991:352)

Notes: inv = investment ratio, share = share of completely built-up vehicles in subject country (in units), est = year and month established, prodn = year and month production started. This table was found in the 1991 issue of the "MITI White Paper", but the specific names of companies were withheld. Moreover, in the electronic version of the White Paper, this figure was excluded.

Figure 19 shows the graph of the ASEAN intra-regional division of labor system of completely built-up cars of Toyota in recent times. Thailand, Malaysia, and Indonesia have been positioned as the production base of completely built-up cars, with the Philippines as an importing country. Thailand is simply not a production base of ASEAN, but is also a base for Australia and the Middle East region. This is the result of an all out drive towards an international division of labor mentioned earlier. However, as was seen in the previous section, it is considered not clear as to whether or not the basing of parts production in the Philippines would in the future lead to an ideal international division of labor, wherein related countries would mutually develop.

Figure 19. Toyota's ASEAN Intra-regional Division of Labor



Note : TMT=Toyota Motor Thailand, TAW=Thai Auto Works, ASSB=Assembly Services Sdn. Bhd., TMMIN=P.T. Toyota Motor Manufacturing Indonesia, ADM=P.T. Astra Daihatsu Motor, TMV=Toyota Motor Vietnam, TMP=Toyota Motor Philippines.  
 IMV-I=Pickup truck [Hilux VIGO] (Single Cab)  
 IMV-II=Pickup truck [Hilux VIGO] (Extra Cab)  
 IMV-III=Pickup truck [HiluxVIGO] (Double Cab)  
 IMV-IV=SUV [Fortuner], IMV-V=Minivan [Innova]

Source: Quoted from Takenori Tanaka 2008

## Conclusion

Through this paper, we considered the development of ASEAN's automotive industry, focusing on the two countries of Thailand and the Philippines. Gaining full steam since the 1970s, the promotion policies for the automotive industry in various ASEAN countries has shifted to liberalization policies from industrial promotion policies through numerous protectionist measures such as tariffs, import restrictions, and domestic procurement rates. Under the intensification of competition for attracting foreign capital since the 1980s, ASEAN has pushed for liberalization as a region. Amidst the advance from BBC, AICO, and then FTA in the automotive industry, an international division of labor structure has been created by Japanese-affiliated firms, which have obtained an overwhelming status in the automotive market of ASEAN, and has come under pressure to reform the industrial base that has been nurtured up to then.

The Asian currency crisis has functioned as a trigger for this international reform. In this process, Thailand has been positioned as the production base of completely built-up vehicle exports from ASEAN to Australia and the Middle East. The Philippines has gradually lost the existing base of automobile production, and is advancing as a production base for parts. In order to solidify the making of Thailand as an export base that Japanese companies did at the time of the crisis, the Thai government has launched the "Making of Asia's Detroit" concept in 2004, and initiated the "Eco Car" project in 2006. It could be said that Thailand has been able to ensure a core status in ASEAN. Amidst this, in the Philippine parts trade, a visible tendency towards its being detached from the linkages with ASEAN is a cause of concern. The development of intra-regional division of labor does not necessarily assure an intra-regional trade that is mutually profitable.

On this point, the discussion elaborated on by the Ministry of Economy, Trade, and Industry in the "White Paper on International Economy and Trade" of 2007 needs reconsideration. The "METI White Paper" points out as follows that the East Asia's intra-regional is characterized by a big share of intermediate goods and is different from that of NAFTA and EU, wherein a large share of final goods accounts for the intra-region trade. "By contrast, the industrial structure of NAFTA and the EU is one in which there are many industries for which the supporting industry structure is basically complete within the confines of a single country." In East Asia "have achieved mutual supply of intermediate goods as described above, the industrial structure of the region could be said to be one in which support for industry that supplies intermediate goods overlaps between countries, creating a mountain-like structure of supporting industries, which support the industries of each country in a flexible manner" (METI 2007:119). Moreover, in the 2008 issue "METI White Paper", cites the estimation results of the Japan Center for Economic Research, which used a GTAP CGE model, the economic effect of FTA in

East Asia (nominal GDP growth rate) is taken to be 6.28% for the Philippines, 8.62% for Malaysia, 7.26% for Thailand, and 5.76% for the whole of ASEAN (METI 2008:416).

The Free Trade Agreement between Japan and the Philippines promises no tax on all goods in 2013. The expansion of economic welfare, which is estimated under numerous hypotheses, as a general theory, casts several doubts as to whether or not it is going to be evenly divided among the integrating countries. In order to share affluence, an institutional improvisation may be necessary in order to build a balanced society. The agglomeration in Thailand of a broad-based automotive industry has, on the other hand, the possibility of, for example, in the Philippines, promoting the hollowing out of the same industry and turning the country into an importer. Even though integration should be pursued in order to expand the total pie, a deeper analysis and policy that consider the aspect of distribution would be necessary. Simply liberalizing and integrating economies does not insure a balanced development of the automotive industry in ASEAN.

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