4. POSSIBILITY OF INVESTMENT AND TECHNICAL TRANSFER BY OVERSEAS KEY COMPONENTS MANUFACTURERS

The possibility of investment and technical transfer was surveyed by the questionnaire survey of automotive parts manufacturers in Japan. Key component manufacturers are those that chose engine parts or transmission parts as their production items in answering the questionnaire. The number of companies which answered is 166 for engine parts and 102 for transmission parts.

4.1. OVERSEAS INVESTMENT PLANS OF JAPANESE KEY COMPONENT MANUFACTURERS

Table 2-4-1 shows future overseas investment plans of Japanese key component manufacturers.

Table 2-4-1. Future Overseas Investment Plans of Japanese Key Component Manufacturers

(Unit: No of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Specific overseas investment planned	13	7.8%	4	3.9%
Overseas investment thought necessary, but no specific plan	74	44.6%	43	42.2%
No overseas investment considered	79	47.6%	55	53.9%
Total number of responding companies	166	100.0%	102	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

Only 13 engine parts manufacturers and 4 transmission parts manufacturers have specific overseas investment plans. However, 74 engine parts manufacturers and 43 transmission parts manufacturers think overseas investment necessary and they are also considering overseas investment, though they do not have a specific plan currently. When the number of companies that have a specific plan and the number of those that think overseas investment necessary are totaled, it amounts to 52.4% of engine parts manufacturers and 46.1% of transmission parts manufacturers. One of the most important points of attracting Japanese key component manufacturers to invest in Malaysia

is approaching not only companies that have a specific overseas investment plan but also those that think it necessary though no specific plan is being considered and selecting those that will contribute to the development of the key component industry in Malaysia.

Table 2-4-2 shows the result of the questionnaire survey concerning problem areas of overseas investment as expressed by Japanese key component manufacturers.

Table 2-4-2 Problem Areas of Overseas Investment

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Insufficient cooperation from foreign governments for investment survey	3	3.7%	1	2.3%
Not familiar with investment feasibility study	19	23.2%	8	18.6%
Lack of appropriate expatriates from Japan for factory management	49	59.8%	20	45.6%
Restriction on percentage of share holding for 100% or over 50%	9	11.0%	6	14.0%
Not familiar with looking for good local partners	18	22.0%	15	34.9%
Insufficient funds for investment	34	41.5%	17	39.5%
Uncertain customers for products	28	34.1%	13	30.2%
Not familiar with human resource management because of different language and customs	40	48.8%	19	44.2%
Not familiar with investment procedures, laws and accounting systems	29	35.4%	16	37.5%
Security of expatriates and education of children	16	19.5%	7	16.3%
Others	4	4.9%	1	2.3%
Total number of responding companies	82	100.0%	43	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

Two kinds of problem areas for overseas investment are intermixed in the question. One is problems which should be solved by a company itself, the other is problems which can be improved or solved more easily by the characteristics, policies or help of the investing country. Discussion is focused on the latter problems as follows.

The lack of expatriates from Japan, lack of experience in human resource management and insufficient funds for investment are chosen especially by many companies. Accordingly, many Japanese key component manufacturers have problems concerning restrictions on funds for investment and limitation of human resources.

Though training for expatriates from Japan must essentially be conducted by a company itself, open programmes such as those organized by OVTA in Japan can be used for training as a positive features, because English can be used as a means of communication in Malaysia, difficulties in human resource management mainly caused by the differences between languages are relatively low compared with other non-English speaking countries. Finally, insufficiencies of investment funds can be covered and the total amount of initial investment can be reduced by investment incentives of a host country.

Guidance on investment procedures, laws and accounting systems as well as introduction of reliable investment partners can be covered by MIDA.

In addition, holding over 50% of the shares of a joint venture company is possible in Malaysia under some conditions, and the security of expatriates and the education of children pose little problem in Malaysia.

4.2. ATTITUDE OF JAPANESE KEY COMPONENT MANUFACTURERS TOWARDS OVERSEAS INVESTMENT

4.2.1. Overseas Investment Plans

Table 2-4-3 shows probable countries or regions for target of overseas investment indicated by

companies that have specific overseas investment plans or that think overseas investment necessary.

Table 2-4-3 Countries or Regions for Target of Overseas Investment

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Malaysia	14	18.7%	4	9.8%
Thailand	19	25.3%	11	26.8%
Indonesia	12	16.0%	4	9.8%
Philippines	4	5.3%	0	-
Singapore	0	-	0	-
Taiwan	4	5.3%	2	4.9%
South Korea	0	-	2	4.9%
China	45	60.0%	24	58.5%
Hong Kong	1	1.3%	0	-
North America	10	13.3%	10	24.4%
Europe	1	1.3%	4	9.8%
Others	16	21.3%	8	19.5%
Total number of responding companies	75	100.0%	41	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

China is chosen by 60.0% of the engine parts manufacturers and 58.5% of the transmission parts ones. Thailand is next most popular after China, chosen by 25.3% of the engine parts manufacturers and 26.85 of the transmission parts ones.

Malaysia is chosen by 18.7% of the engine parts manufacturers. This is a relatively high response rate, just after China and Thailand. On the other hand, only 9.8% of the transmission parts manufacturers chose Malaysia. That is the same rate as Indonesia and a relatively low rate after

China, Thailand and North America. Though Malaysia seems relatively popular as a target of investment, the number of companies that chose Malaysia is only 18 (14 engine parts manufacturers and 4 transmission parts ones).

4.2.2. Reasons and Motivations of Overseas Investment

Table 2-4-4 shows reasons and motivations of overseas investment as mentioned by Japanese key component manufacturers.

The decrease in price competitiveness of products manufactured in Japan because of the strengthening of the yen is chosen by the largest number of both engine parts manufacturers (53.8%) and transmission parts manufacturers (61.8%). Higher costs for land, labour and electricity in Japan is also chosen by comparatively many companies. Production in Japan is losing its price competitiveness and manufacturers are considering overseas investment to recover price competitiveness. In this sense, one of the most important criteria is that many Japanese manufacturers select a country or a region where they can manufacture their products at competitive costs.

In addition, decrease in market size in Japan caused by customers' (principals') overseas production is also chosen by many companies: 46.2% of the engine parts manufacturers and 47.3% of those of transmission parts. The rate of overseas production by companies that purchase engine or transmission parts is estimated to be increasing.

On the one hand, it is also characteristic that the response rate of responses to customers' (principals') requests to start manufacturing overseas is relatively higher than the average response rate (27.8%) by all the responding companies. It is probable that the customers or principals of the engine and the transmission parts manufacturers have difficulties in obtaining engine or transmission parts in the countries in which they are located.

Table 2-4-4 Reasons and Motivations of Overseas Investment

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Decrease in price competitiveness of products manufactured in Japan because of stronger yen	49	53.8%	34	61.8%
Higher costs for land, labour and electricity in Japan	26	28.6%	17	30.9%
Decrease in market size in Japan caused by customers' (principals') overseas production	42	46.2%	26	47.3%
Response to customers' (principals') request to start manufacturing overseas	26	28.6%	18	32.7%
One aspect of positive overseas strategy	20	22.0%	12	21.8%
Others	2	2.2%	0	-
Total number of responding companies	91	100.0%	55	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

4.2.3. Selection Criteria of a Host Country for Investment

Table 2-4-5 shows important selection criteria of a host country for investment.

The existence of domestic customers or market, competitiveness in labour quality and cost, and sufficient infrastructure such as electricity, water, transportation and communication are chosen by more than 50% of both kinds of manufacturers. Many companies think these criteria most important when they consider overseas investment. Secure employment of engineers and skilled workers, secure procurement of raw materials, political stability, competitive foreign investment incentives, existence of reliable local partners and existence of related industry such as parts suppliers were indicated by comparatively many companies. These criteria also cannot be ignored

when Japanese key component manufacturers plan overseas investment. On the other hand, a competitive financial situation such as low interest rates, and readiness of R&D and testing facilities were chosen by less than 10% of the total responding companies.

Table 2-4-5 Important Selection Criteria of a Host Country for Investment

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission PartsManufacturers	
Existence of domestic customers or market	58	75.3%	36	72.0%
Secure employment of engineers and skilled workers	39	50.6%	24	48.0%
Competitiveness in labour quality and cost	56	72.7%	35	70.0%
Secure procurement of raw materials	34	44.2%	26	52.0%
Existence of related industry such as parts suppliers	31	40.3%	13	26.0%
Procurement of factory site at a reasonable cost	12	15.6%	9	18.0%
Sufficient infrastructure such as electricity, water, transportation and communication	46	59.7%	29	58.0%
Competitive foreign investment incentives	33	42.9%	21	42.0%
Readiness of R&D and testing facilities	1	1.3%	0	-
Existence of reliable local partners	33	42.9%	15	30.0%
Competitive financial situation such as low interest rates	2	2.6%	1	2.0%
People's good feeling to Japan / Eagerness for inviting foreign investment	13	16.9%	8	16.0%
Political stability	31	40.3%	23	46.0%
Economic growth potential and low inflation rate	13	16.9%	7	14.0%
Total number of companies responding	77	100.0%	50	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.
Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

Table 2-4-6 shows the evaluation of Malaysia by scoring criteria shown in Table 2-4-5 in terms of the three choices: comparatively excellent, good and some difficulty found.

When criteria whose total response rate of "comparatively excellent" and "good" is over 90% and whose response rate of "comparatively excellent" is more than that of "some difficulty found" are regarded as especially high evaluated criteria for Malaysia, the evaluation of Malaysia is especially high about political stability and people's good feeling to Japan / eagerness for inviting foreign investment. Malaysia is highly evaluated for its political stability and eagerness for inviting Japanese manufacturers.

Table 2-4-6 Evaluation of Malaysia as a Target for Investment

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission PartsManufacturers	
Existence of domestic customers or market				
-Comparatively excellent	17	31.5%	7	18.4%
-Good	18	33.3%	15	39.5%
-Some difficulty found	19	35.2%	16	42.1%
Total number of companies responding	54	100.0%	38	100.0%
Secure employment of engineers and skilled workers				
-Comparatively excellent	7	14.9%	6	18.8%
-Good	28	59.6%	19	59.4%
-Some difficulty found	12	25.3%	7	21.9%
Total number of companies responding	47	100.0%	32	100.0%
Competitiveness in labour quality and cost				
-Comparatively excellent	22	43.1%	22	62.9%
-Good	22	43.1%	10	28.6%
-Some difficulty found	7	13.7%	3	8.6%
Total number of companies responding	51	100.0%	35	100.0%
Secure procurement of raw materials				
-Comparatively excellent	6	14.0%	7	21.2%
-Good	18	41.9%	8	24.2%
-Some difficulty found	19	44.2%	18	54.5%
Total number of companies responding	43	100.0%	33	100.0%

Existence of related industry such as parts suppliers				
-Comparatively excellent	3	6.0%	3	10.0%
-Good	30	60.0%	14	46.7%
-Some difficulty found	17	34.0%	13	43.3%
Total number of companies responding	50	100.0%	30	100.0%
Procurement of factory site at a reasonable cost				
-Comparatively excellent	14	40.0%	16	55.2%
-Good	16	45.7%	11	37.9%
-Some difficulty found	5	14.3%	2	6.9%
Total number of companies responding	35	100.0%	29	100.0%
Sufficient infrastructure such as electricity, water, transportation and communication				
-Comparatively excellent	11	25.6%	5	15.2%
-Good	24	55.8%	18	54.5%
-Some difficulty found	8	18.6%	10	30.0%
Total number of companies responding	43	100.0%	33	100.0%
Competitive foreign investment incentives				
-Comparatively excellent	9	22.0%	10	30.3%
-Good	26	63.4%	19	57.6%
-Some difficulty found	6	14.6%	4	12.1%
Total number of companies responding	41	100.0%	33	100.0%
Readiness of R&D and testing facilities				
-Comparatively excellent	4	14.3%	3	12.0%
-Good	15	53.6%	8	32.0%
-Some difficulty found	9	32.1%	14	56.0%
Total number of companies responding	28	100.0%	25	100.0%
Existence of reliable local partners				
-Comparatively excellent	9	23.1%	3	10.0%
-Good	17	43.6%	16	53.3%
-Some difficulty found	13	33.3%	11	36.7%
Total number of companies responding	39	100.0%	30	100.0%
Competitive financial situation such as low interest rates				
-Comparatively excellent	2	7.4%	1	4.2%
-Good	17	63.0%	15	62.5%
-Some difficulty found	8	29.6%	8	33.3%
Total number of companies responding	27	100.0%	24	100.0%

People's good feeling to Japan / Eagerness for inviting foreign investment				
-Comparatively excellent	22	56.4%	16	55.2%
-Good	14	35.9%	11	37.9%
-Some difficulty found	3	7.7%	2	6.9%
Total number of companies responding	39	100.0%	29	100.0%
Political stability				
-Comparatively excellent	30	68.2%	20	62.5%
-Good	11	25.0%	10	31.3%
-Some difficulty found	3	6.8%	2	6.3%
Total number of companies responding	44	100.0%	32	100.0%
Economic growth potential and low inflation rate				
-Comparatively excellent	18	54.5%	14	56.0%
-Good	12	36.4%	8	32.0%
-Some difficulty found	3	9.1%	3	12.0%
Total number of companies responding	33	100.0%	25	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

Economic growth potential and low inflation rate, procurement of factory site at a reasonable cost, competitiveness in labour quality and cost and competitive foreign investment incentives were indicated by comparatively many companies and regarded as relatively high by evaluated criteria for Malaysia, because the sum of "comparatively excellent" and "good" is more than 85% and the response rates of "comparatively excellent" exceeded that of "some difficulty found".

On the contrary, when criteria whose total response rate of "some difficulty found" and "good" is over 90% and whose response rate of "some difficulty found" is more than that of "comparatively excellent" are regarded as especially low evaluated criteria for Malaysia, the categories competitive financial situation such as low interest rates and existence of related industry such as parts suppliers are indicated.

Readiness of R&D and testing facilities, existence of reliable local partners, secure employment of engineers and skilled workers, and secure procurement of raw materials were indicated by comparatively many companies and regarded as relatively low evaluated criteria for Malaysia, because the sum of "some difficulty found" and "good" is more than 75% and the response rates of "some difficulty found" exceeded that of "comparatively excellent".

For the promotion of inviting Japanese key component manufacturers to Malaysia, further improvements of not only low evaluated criteria but also highly evaluated ones are necessary. The following improvements can be covered especially by Malaysian policies, though they are improvements only for problems concerning the promotion of inviting overseas key component manufacturers.

i. Improvements for articles of which the evaluation of Malaysia is low

a. Increase in the number of and improvement in ability of engineers and skilled workers
b. Development of related industries and review of import duties for parts which have difficulties to be manufactured domestically for smooth procurement of raw materials and parts
c. Smooth supply of necessary parts and components
d. Improvement of R&D and testing facilities
e. Improvement of the introduction system of reliable Malaysian partners to overseas manufacturers that want to invest in Malaysia
f. Improvement of financial factors such as reduction of interest rates and flexibility of financing

ii. Further improvements for articles of which the evaluation of Malaysia is comparatively high

a. Supply of industrial sites at relatively low prices
b. Maintenance of competitive investment incentives for overseas manufacturers
c. Maintenance of political stability, economic growth and a low inflation rate

4.3. ATTITUDE OF JAPANESE KEY COMPONENT MANUFACTURERS TOWARDS TECHNICAL TRANSFER

Table 2-4-7 shows the present situations of overseas technical transfer by Japanese key component manufacturers.

Table 2-4-7 Present Situations of Overseas Technical Transfer by Japanese Key Component Manufacturers

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Companies that have an overseas technical transfer agreement	35	24.1%	20	22.7%
Companies that do not have an overseas technical transfer agreement	110	75.9%	68	77.3%
Total number of responding companies	145	100.0%	88	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

The numbers of companies which presently have a technical transfer agreement with overseas companies are 35 (24.1%) out of the 145 responding engine parts manufacturers and 20 (22.7%) out of the 88 responding transmission parts ones. These rates are relatively lower compared with the average rate (25.6%) of all the responding companies to the questionnaire. Technical transfer between the Japanese key component manufacturers and overseas ones is estimated to be not very active at present.

Table 2-4-8 shows the possibility of technical transfer by Japanese key component manufacturers in the near future.

The numbers of companies which will positively respond to requests for technical transfer from overseas companies are 49 (59.8%) out of the 82 responding engine parts manufacturers and 22 (52.4%) out of the 42 responding transmission parts companies. In the case of engine parts manufacturers, because the response rate is a little higher than the average rate (57.5%) of all the responding companies to the questionnaire, a positive attitude towards future technical transfer to overseas manufacturers is expressed. As mentioned above, though the percentage of companies that have a technical transfer with overseas companies is not very high, the number of new technical transfers in the near future will increase. On the contrary, in the case of transmission parts manufacturers, the rates of positive and negative companies to future technical transfer are almost fifty-fifty and the rate of negative ones is comparatively large.

Table 2-4-8 Possibility of Technical Transfer by Japanese Key Component Manufacturers in the Near Future

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Companies that will positively respond to requests from overseas companies	49	59.8%	22	52.4%
Companies that will not respond to requests from overseas companies	33	40.2%	20	47.6%
Total number of responding companies	82	100.0%	42	100.0%

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

Table 2-4-9 shows probable countries or regions for target of overseas technical transfer indicated by companies that will positively respond to requests from overseas companies.

Popularity of countries and regions is very similar to the tendency for the target of investment and China is again most popular. Thailand is next most popular after China and this tendency is also the same as the target of investment. It is very remarkable that Malaysia is the third most popular. The response rates for Malaysia are much higher than those as the target of investment. This result suggests that the Japanese key component manufacturers responding to the questionnaire think Malaysia has more possibility as the target for technical transfer than as the target for investment.

Table 2-4-9 Countries or Regions for Target of Overseas Technical Transfer

(Unit: No. of Companies)

	Engine Parts Manufacturers		Transmission Parts Manufacturers	
Malaysia	17	49.5%	8	38.1%
Thailand	21	50.0%	11	52.4%
Indonesia	11	26.2%	8	38.1%
Philippines	7	16.7%	4	19.0%
Singapore	2	4.8%	2	9.5%
Taiwan	10	23.8%	3	14.3%
South Korea	4	9.5%	4	19.0%
China	30	71.4%	14	66.7%
Hong Kong	3	7.1%	1	4.8%
North America	7	16.7%	3	14.3%
Europe	5	11.9%	2	9.5%
Others	4	9.5%	1	4.8%
Total number of responding companies	42	100.0%	21	100.0%

Note: The number of responses is more than the total number of responding companies because of multiple responses.

Source: Questionnaire Survey of Automotive Parts Manufacturers in Japan, 1994, JICA Study Team

5. BOTTLENECKS OF THE DEVELOPMENT OF KEY COMPONENTS GROUP AND NECESSARY MEASURES

The major bottlenecks of the development of the key components group are as follows:

5.1. PROBLEMS ON TECHNOLOGY AND PRODUCTION

One of the most important targets of automotive parts and components localisation is the acquisition of technologies required for the localisation of key components, the level of which is still insufficient in Malaysia. The problems of technologies related to the production of key components are as follows:

i. The technological level of manufacturing process required for key components production is low in Malaysia.

High level manufacturing process technologies, such as casting, forging, machining, etc., are necessary for the manufacture of key components. There are not a sufficient number of parts and components manufacturers which have a sufficient level of manufacturing equipment and technologies for key components in Malaysia.

Major reasons

- A large amount of investment is necessary to start the production of key components. The investment burden is too large for small- and medium-size parts manufacturers.
- The level of technologies possessed by local parts manufacturers is, in general, low for key components. Even if there is a parts manufacturer which can bear the investment, it can not start production due to its low level of technologies.
- Not many companies have come to Malaysia in the area of key components.
  The major reason for this is the unattractive business environment in Malaysia.
- Government's support of the development of technology for key components production is not enough.
  When parts manufacturers develop new technology on the basis of their existing technologies, one of the measures to overcome the technological gap is to receive assistance from public

research institutions such as SIRIM. At present, SIRIM covers a wide range of industries. Therefore, it is difficult for SIRIM to cope with specific development needs of key components manufacturers in the automotive parts and components industries.

Measures

- The following are pointed out as measures to lessen a big prior investment burden of small- and medium-size enterprises.
  * Participation of public corporations such as HICOM.
  * Joint investment by parts manufacturers under the leadership of an industry association.
  * Amalgamation of parts manufacturers under the leadership of an industry association
- To carry out more effective promotion activities, through MITI and MIDA, which promote investment and technical collaborations from overseas, by strengthening the collaboration with local and overseas industry associations.
- To set up a public research institution specialising in automobile technologies in order to support automotive parts manufacturers in their efforts to establish new technologies.

ii. Weak management capability of maintaining and improving product quality

At such companies which receive technical assistance from foreign companies with technical experts dispatched, daily activities for quality maintenance are well carried out and a quality problem is easily found out. The measures to prevent the recurrence of similar problems are taken systematically at these companies. However, it is not an unusual case that, after the expert goes back, quality maintenance activities are neglected and testing equipment is not used, even though they function well during the period the expert stays. This problem occurs more frequently at companies which receive technical assistance but does not accept capital participation.

Major reasons

- In many cases, this occurs due to insufficient understanding of the product and the importance of production management.
- Top management and managers do not understand the importance of quality adequately.
- The lack of engineers who are responsible for quality management hinders the improvement

of quality management level.

- Manpower with the basic knowledge of engineering which is necessary to make process management, product evaluation, and improvement activities function well is lacking.

Measures

- To enlarge the assistance in quality improvement such as the creation of quality consciousness and guidance to quality improvement activities.
- To develop manpower including engineers in order to upgrade the level of process management and quality improvement activities at parts manufacturers.
- To improve the social status of engineers is also pointed out as a measure to develop engineers as well as the expansion of engineer training institutions.

iii. Insufficiency of Product Evaluation Technology and Equipment

At the localisation of parts, the manufactured parts should be evaluated from the viewpoint of whether they are manufactured according to the design. However, testing equipment, especially for durability testing, is insufficient in Malaysia. Manufactured parts are often sent to Japan or other countries for testing.

Evaluation and testing technology has been established as important technology which is inseparable from R&D technology in the automotive industry. Dependence on outside companies in this field means the loss of opportunity for technology accumulation.

Major reason

- This situation suggests an insufficiency of public and private testing institutions of which parts manufacturers can conveniently make use or a lack of testing facilities of those institutions.

Measures

- To expand existing testing institutions.
- To provide industry associations with information on product testing and evaluation.

iv. Insufficiency in capable engineers and technicians

The advancement of technological transfer and the promotion of local staff members to higher positions are urgent tasks which private companies need to achieve from the viewpoint of Malaysia's development objectives. Foreign JV companies also consider that these two tasks are necessary if they are to improve the quality and performance of products, and to maintain cost competitiveness.

One of the largest problems for local automotive parts and components manufacturers to raise their technology level is the limited number of engineers. It is necessary to secure a sufficient number of engineers and raise their level for Malaysian companies to become technologically independent. This is because the insufficiency of competent engineers is a bottleneck in maintaining and upgrading production technologies acquired through technical collaboration from foreign companies and improving factory management technologies.

In addition, R&D capabilities should be reinforced in order to keep the automotive parts and components industry competitive and promote the further development of the industry. The key factor in the successful establishment of the R&D function is the development of human resources to run R&D activities productively and competitively.

Reasons

- The number of graduates from institutes of higher education is not sufficient for the country's needs for engineers and technicians.
- Public training institutions do not have adequate curricula for practical engineering and high-level technologies.
- The linkage among private companies, public R&D institutions, and universities is weak as concerns improving the skills of engineers working at private companies.
- Private companies do not have the know-how to raise the capability of engineers and technicians due to the insufficient accumulation of technology.

Measures

Governmental level:

- To expand curricula in practical engineering at universities.
- To promote international co-operation and transnational collaboration to upgrade competence in the selected critical skills and technologies.
- To introduce education and training programmes of practical engineering and advanced industrial technologies for engineers working in the private sector by expanding existing institutions or by setting up a new institution.
- To expand scholarships for overseas education and promote overseas training by the private sector.
- To provide incentives for the upgrading of engineers and technicians related to the R&D activities of the private sector.

Private level:

- To promote overseas training.
- To train engineers and technicians through technical collaboration with foreign companies.
- To promote joint R&D activities with a public institution or a university.
- To reinforce an in-house R&D division to train engineers and technicians.

v. Insufficiency in skilled workers within companies

According to the questionnaire survey of parts and components companies, 30% of the respondents answered that the skill level of their employees is low while only 4% answered high.

The number of skilled workers is not sufficient in the fields of supporting engineering technologies such as casting, forging, and die-making.

This problem is one of the bottlenecks in assuring better quality products, in improving productivity, and in starting the production of products incorporating a higher level of technology.

<u>Major reasons</u>

- In-house training systems are not well-established at private companies.
  The major methods of training are the dispatch of workers to the parent company, on-the-job training, the dispatch of workers to public training institutions, and the use of training service

from principals. JV companies with foreign capital can enjoy training support from parent companies in the form of training know-how and manuals, guidance by technical experts, and dispatch of trainees to the parent company. However, local companies, in many cases, do not have enough instructors for on-the-job training nor enough capability to establish an overall human resource development programme.

- Especially, the manpower training capability is weak at small- and medium-sized enterprises. There is difficulty in carrying out in-house training at small- and medium-sized enterprises due to insufficient funds and manpower. In addition, they have difficulty in employing skilled workers due to their less attractive working conditions compared with large companies.
- Training services rendered by public training institutions are not fully adequate for the needs of the industry.

  It is difficult for private companies to satisfy their demand for skilled workers through in-house training only. However, there is a need of expanding public training institutions in terms of curricula and the number of trainees. Of companies responding to the questionnaire survey, 39% consider that public training centres are not so effective.

Necessary Measures

Governmental level:

- To promote the appointment of human resource development managers who are responsible for training at individual companies and provide them with supporting services for the establishment of training systems.
- To review incentives for training, especially for small- and medium-sized enterprises.
- To review the national vocational training system for the automotive industry and make the output from public training institutions more relevant to the actual needs of the sector.

Private level:

- To understand the importance of human resource development for quality and productivity improvement and put more emphasis on skill upgrading.
- To establish a close linkage with principals for skill upgrading.
- To take action to establish an industry -wide training system for their employee training.

5.2. PROBLEMS OF COSTS

i. High production cost

The price competitiveness of key components manufacturers in Malaysia is weak. Many assemblers evaluate that local parts in the key components group are more expensive by 30 - 50% than imported parts.

Major reasons

- Existing key components nanufacturers invested in expensive specialized machinery in a short time from the requirement of localisation.

  As the result of heavy investment in machinery, indirect manufacturing cost including depreciation cost of key components manufacturers accounts for approximately 40% of total manufacturing cost. This ratio is high compared with the 16% of Japanese automotive parts manufacturers. The profitability was, in a sense, apt to be given secondary importance when the accumulation of technologies was being pushed ahead for the sake of localisation.

- Key components manufacturers do not utilise sub-contracting companies with economies of scale.

  The ratio of sub-contracting cost to total manufacturing cost of key components manufacturers is approximately 4%, low compared with the 17% of Japanese automotive parts manufacturers. This is because many key components are manufactured by capital-intensive production and because the engineering sub-sector specialising in specific manufacturing processes has not attained sufficient capability.

- The market protection policy taken by the government weakens local automotive parts manufacturers' motivation for cost reduction.

  Although the price competitiveness is generally weak, business performance of local automotive parts manufacturers is not so bad on account of a local market protection policy set by the government. It seems that parts manufacturers have not initiated a severe cost reduction compared with automobile makers. This is reflected in the fact that parts manufacturers generally introduce a full set of production facilities without the idea of bringing up and making use of subcontractors for cost reduction.

Measures

- To review the policy for protection of local parts manufacturers.

  It is necessary to review the existing local parts manufacturers protection policy in the direction of alleviation in order that individual parts manufacturers may have more acute cost consciousness and the automotive parts industry may acquire more cost competitiveness.

- To rationalise the production thoroughly for cost reduction.

  An immediate target of cost reduction for the improvement of price competitiveness under the present size of market is to make local parts prices lower than those of imported KD parts. To attain this target, it is necessary to carry out cost reduction activities thoroughly involving R&D aspects as well as the production site. One of the most effective measures is to utilise actively subcontractors which specialise in specific manufacturing processes and have advantages in those fields.

ii. Tight labour market situation

The supply of labor, both non-skilled and skilled, is insufficient to meet the growing demands of the automotive industry. This leads to the high separation ratio of newly-employed workers and, as a result, makes the accumulation of technology difficult. Hikes in wages are becoming a managerial problem for the automotive industry as well as other industries.

Necessary Measures

Governmental Level:

- To relax the conditions on the employment of foreign workers

Company Level:

- To improve employment conditions including compensation, employees' welfare, and working conditions.
- To take measures to employ workers living in distant areas.
- To relocate factories to areas where the labour supply situation is not so serious.
- To make the production system less labour-intensive.

5.3. PROBLEMS OF THE ENGINEERING SUB-SECTOR

i. The engineering sub-sector related to automotive parts manufacture has not established a solid foundation in Malaysia.

Localisation of technologies related to key components production can be achieved only on the basis of a widely developed engineering sub-sector. This is one of the significant elements that localisation of key components production technologies has in the independence of the automotive industry. However, the engineering sub-sector has not fully developed in Malaysia.

Major reason

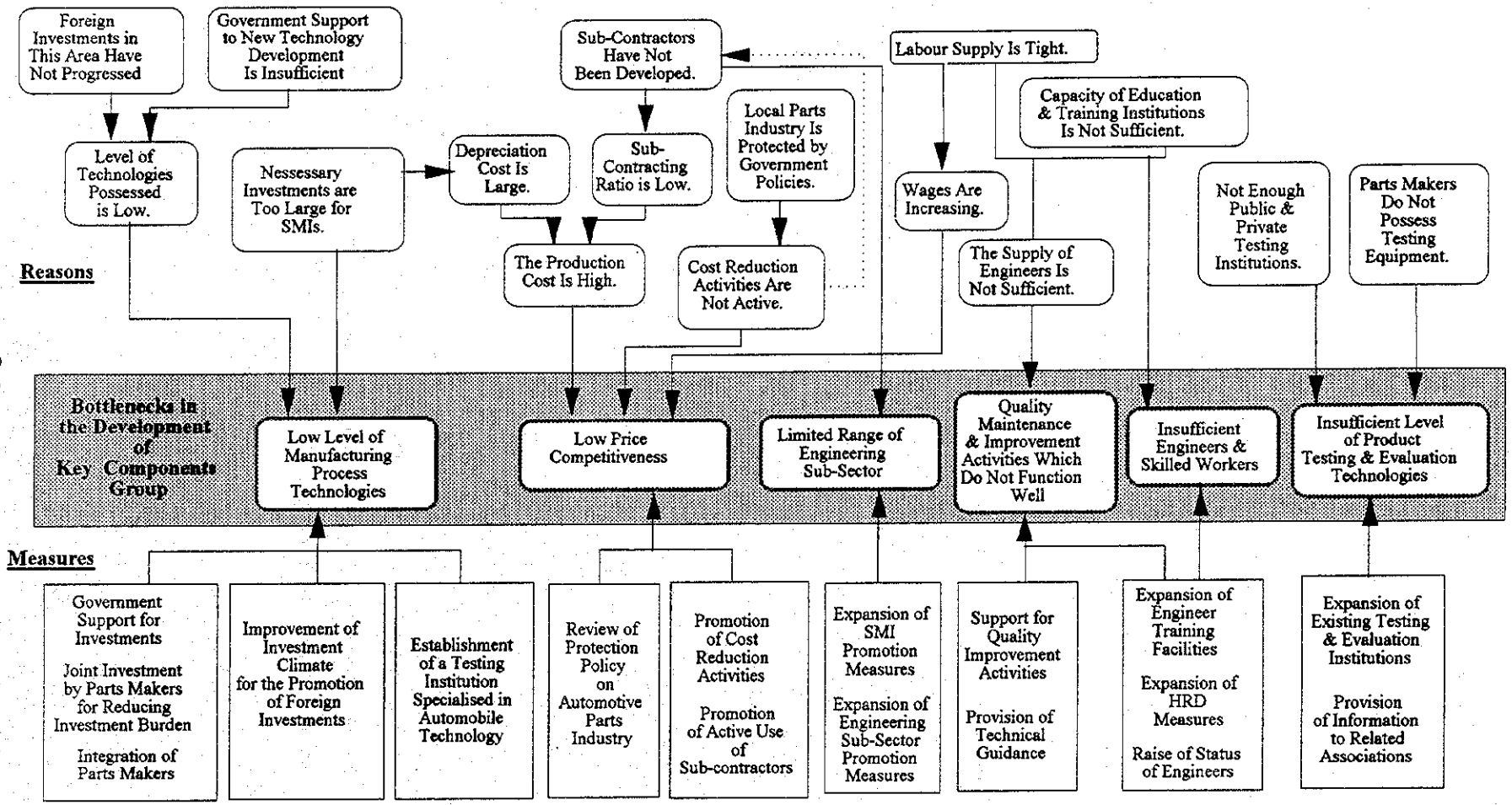
- Many enterprises in the engineering sub-sector, in general, have faced difficulties in overcoming various constraints in terms of management capability, technology, financing, market, manpower, etc., although the priority has been given to the development of small- and medium-size enterprises and supporting industries in Malaysia's industrial development policy and there are many cases that small- and medium-size enterprises have grown up to become big enterprises.

Measures

- To promote the development of the engineering sub-sector through a set of small- and medium-size enterprises.

  From the technological aspect, the technological level should be upgraded through technical guidance by governmental organisations, the expansion of the vendor development programme, assistance to technical collaboration, etc. As for the management aspect, the management of the engineering sub-sector should be strengthened through financial assistance, support to human resource development, etc.
- To take measures to expand the market for the engineering sub-sector.

Fig. 2-5-1 Bottlenecks of the Development of Key Components Group



6. SCENARIO FOR THE DEVELOPMENT OF THE KEY COMPONENTS GROUP

6.1. DEVELOPMENT TARGET AND BASIC STRATEGY

6.1.1. Development Target

The development target of the key components group can be summarised as follows:

i. To attain the localisation of key components

* To nurture key components manufacturers, especially through the increasing proportion of local manufacturers.
* To raise the localisation ratio of key components through the development of the engineering sub-sector.

ii. To raise the competitiveness of key components.

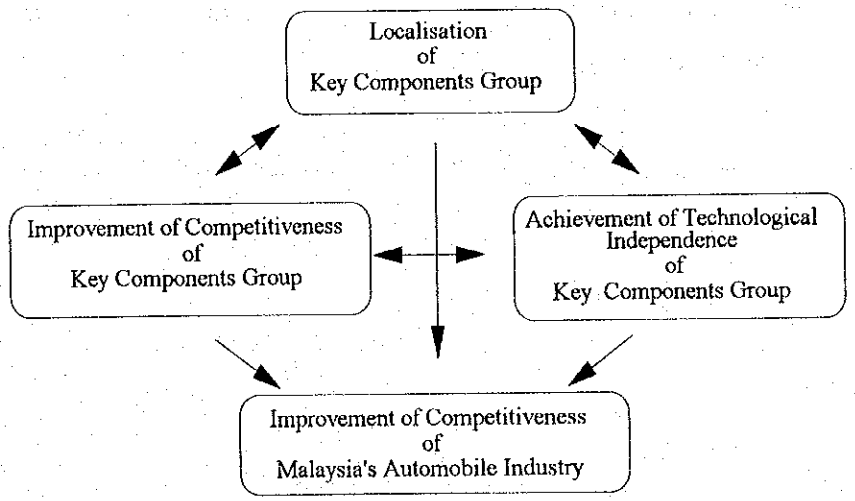
* To strengthen the price competitiveness by reducing the production cost and improving the productivity of key components manufacturers.

iii. To attain the technological independence of key components.

* To achieve advances in production technologies of key components manufacturers.
* To raise R&D capabilities of key components manufacturers.

iv. To increase the competitiveness of Malaysia's automobile industry through the attainment of the above targets.

Fig.2-6-1 Development Target of Key components Group



6.1.2 Basic Strategy

The basic strategy for the fulfillment of the development target is as follows:

i. To set the initiative for localisation of key components, whether through outsourcing or in-house production, taken by National Car projects as the driving force for the industrial development of the key components group.

ii. To make use of technologies and know-how of foreign companies through direct investments and technical collaborations in the area of key components not yet localised.

iii. To expand the industry's production foundation by developing sub-contractors with the purpose of increasing the international competitiveness, value-added, and localisation ratio of key components.

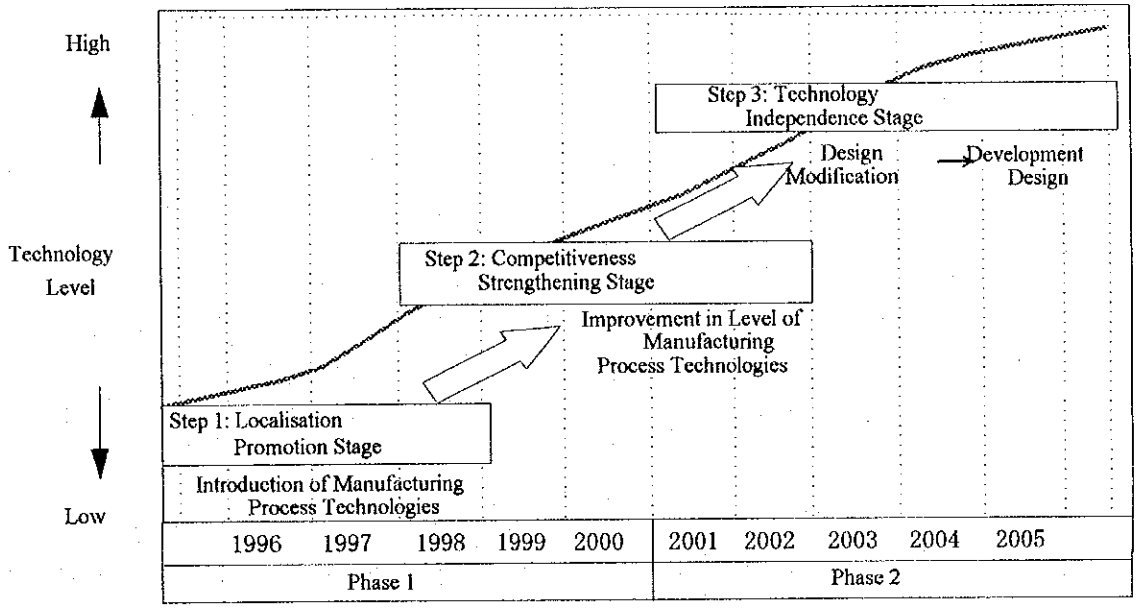
iv. To develop the marketing capability and R&D capability of key components manufacturers by strengthening the linkage with automotive manufacturers.

v. To secure the production volume of key components through the expansion of exports.

vi. To promote the technical transfer and technology accumulation in order that key components manufacturers will advance to the stage of R&D technologies which will enable them to develop new products by themselves. To establish an institutional setting facilitating their R&D activities for the realisation of this stage.

v. To develop engineers who will contribute to the advancement of technologies.

Fig. 2-6-2 Development Process of Key Components Group



6.2. DEVELOPMENT STEPS OF KEY COMPONENTS GROUP

6.2.1. Three Steps of Development

The process of key components group development can be divided into the following three steps:

First Phase

Step 1: Stage of promoting localisation (up to 1998)

In this step, the localisation of key components which have not been localised will be carried out.

Step 2: Stage of strengthening competitiveness (up to 2000)

The competitiveness of localised key components parts will be strengthened in this step.

Second Phase

Step 3: Stage of attaining the independence of technologies (up to 2005)

This step is devoted to the commercialisation of products developed by local manufacturers and acquisition of international competitiveness.

6.2.2. Step 1: Localisation Promotion Stage (up to 1998)

(1) Main Objective

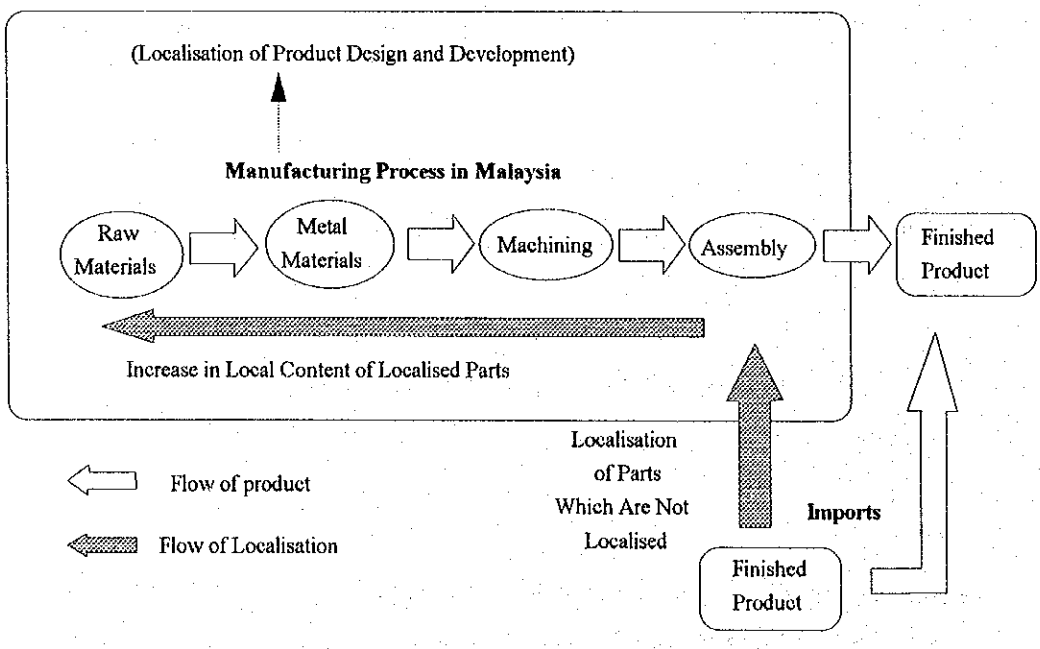
The major objectives of this stage are to promote the localisation of key components through active introduction of technological collaborations and to accumulate all the technologies of manufacturing processes required for the production of key components in Malaysia.

(2) Approaches to Localisation of Key components

For the localisation of key components, the following two approaches will be taken:

i. To localise key components which have not yet been localised, in other words, which are imported.
ii. To increase the local content of key components which are localised.

Fig. 2-6-3 Localisation Strategy of Key components



Priority of Localisation of Key components Which Have Not Been Localised

The following 11 items will be given localisation priority among key components not localised, and the localisation of these items will be actively promoted.

Engine Group

i.	1.2.1	Cylinder Head
ii.	1.2.7	Intake & Exhaust Valve
iii.	1.3.3	Piston Ring
iv.	1.3.4	Timing Chain/Belt
v.	1.3.6	Connecting Rod
vi.	1.4.1	Connecting Rod Bearing
vii.	1.4.6	Vibration Damper
viii.	1.7.1	Fuel Carburetion System, Injection and Pressure Pipe
ix.	1.7.2	Fuel Pump
x.	1.8.7	Turbo Charger Assembly
xi.	1.8.13	Monolite

The significance of localising the remaining 44 items of key components not localised is considered low for the following reasons:

- They can be localised any time with the manufacturing process technologies which have been accumulated in Malaysian.
- The cost merit of localisation is considered low for these parts.

(3) Manufacturing Process Technologies to Be Acquired

The acquisition of the following manufacturing technologies required for the manufacture of key components will be actively promoted and the development of the industries which offer these technologies will be encouraged.

- Forging
- Rolling
- Heat treatment

- Plating and surface treatment
- Machining
- Casting

(4) Actions to Attain the Target

The following three approaches can be taken for the localisation of key components:

i. Production by National Car manufacturers
ii. Production by existing local parts manufacturers
iii. Production by manufacturers newly set up by foreign companies

On the other hand, the localisation of key components which have not been localised has the following problems:

i. Necessary technologies do not exist in Malaysia.
ii. Investment required is large.
iii. The size of market is too small to recover the initial investment.

Non-existence of technologies is the largest problem of localisation. Therefore, in the first step, the acquisition of necessary technologies should be promoted through i) the promotion of technical collaborations with foreign manufacturers, and ii) the promotion of direct investments by foreign manufacturers.

The following measures should be taken in the first stage.

i. To encourage the commitment of National Car manufacturers to localisation of key components.
ii. To strengthen promotional measures of direct investment and technical collaboration of foreign manufacturers in the field of key components.
iii. To take measures to develop the engineering sub-sector for the purpose of expanding Malaysia's production base.

6.2.3. Step 2: Competitiveness Strengthening Stage (up to 2000)

(1) Major Objective

The major objectives of this stage are to strengthen the competitiveness, especially price competitiveness, of key components, and to continue to increase further the local content of key components.

(2) Approaches to Strengthen the Competitiveness

The competitiveness of key components will be strengthened through the following approaches.

i. To improve manufacturing technologies
ii. To carry out activities for productivity improvement and cost reduction
iii. To realise the further development of the production base in Malaysia

In the second step, parts manufacturers will face more severe competition from imported products as a result of the review of the existing protection policy concerning the local automotive parts industry.

Therefore, automotive parts manufacturers should be more cost conscious and carry out firmly-rooted cost reduction activities to cope with the liberalisation of the market. In this stage, important tasks also are to attain competitiveness in quality and to secure a firm foundation of production technologies as a preparation stage before going forward to the design technology stage.

For the improvement of production technology and quality maintenance, as well as to maximize the benefits of technical guidance from foreign partners in technical collaboration, it is important that a sufficient number of engineers should be ready in the country.

As for production cost reduction, such measures should be taken as the introduction of VE/VA, more utilisation of sub-contractors, and company-wide cost reduction activities. In line with this, the expansion of the engineering sub-sector should be continued following the first step.

(3) Actions to Attain the Target

The measures to be taken in this stage will be as follows:

i. To review the protection policy of local automotive parts manufacturers.
ii. To support cost reduction activities of parts manufacturers.
iii. To take measures actively to develop the engineering sub-sector.
iv. To expand facilities of product testing and evaluation.
v. To expand measures to train engineers.

6.2.4. Step 3: Technology Independence Stage (up to 2005)

(1) Major Objectives

Major objectives of this stage are to realise the independence of technologies by acquiring industry's own technologies from product modifications to product development and, at the same time, to gain further international competitiveness.

(2) Development Process of New Models

Product development for a new model, in most cases, does not start afresh with nothing in the case of key components. A new model is, generally, developed by modifying an existing part. This is due to the following:

i. It is important to maintain the product reliability because key components, especially engine parts, assume an important function in automobiles.
ii. It can mean savings in excess capital investment.

For example, the development by existing model modification is adopted in the case of an improvement of a fuel system or an induction and exhaust system with the purpose of adapting to environmental regulations.

As for key components, a series of modifications are made as a new model is developed and, in this process, useful technical data are accumulated. When the time comes when modification can

not respond to market needs any more, a model with a new concept is newly developed.

Therefore, in Malaysia, the R&D technologies development process to be taken is to step up gradually from the stage of modification design to that of product design.

(3) Development Policy and Priority Products according to the Technology Development Process

In accordance with the level of R&D capabilities, the priority products to be developed in Malaysia should be identified and necessary measures should be introduced.

a. Modification Design Stage: In this stage, production modification technologies will be established in Malaysia.

In this stage, the technological level in Malaysia will be lifted from production technologies to product modification technologies, which are elementary technologies of independent development.

Looking at the level of technology from the viewpoint of the localisation of products, the current level of technology that Malaysia's automotive industry possesses is still at the stage which is based on production technology, i.e., within the technology of manufacturing products which are developed by others. The automotive industry can not avoid this stage in the course of technology development. The technological level of the automotive industry, on the basis of indigenous production technology, will advance successively to the localisation of testing and evaluation technology, then to the localisation of product modification technology, and the to the localisation o f product development technology.

Based on the production technology, in this stage, the automotive industry will acquire product modification technology by accumulating development technology and developing R&D personnel through the reproduction of existing products and will prepare to advance to the stage of product development on the basis of indigenous technology.

The subjects of development in this stage will be key components related to improvement in fuel consumption, noise, and gas emission. In some cases, a product modification will be necessary for the improvement in durability of overall components.

The priority items subject to design modification will be as follows:

i. 1.1 Cylinder Head Group

ii 1.3 Cylinder Block Group

iii. 1.7 Fuel System Group

iv. 1.8 Induction System/Exhaust System Group

b. Development Design Stage: In this stage, product development technology will be established in Malaysia.

In this stage, automobile manufacturers must possess in-house both production technology and design technology, which constitute automobile technologies. In this case, they should not necessarily possess the manufacturing technology of parts in-house. They need to have the capability to provide an order and guidance to a vendor in such technical aspects as specifications, quality requirements, price, delivery, etc.

On the other hand, a vendor, as a specialised manufacturer, should have higher technology in its specialised field than an automobile manufacturer. The vendor should realise higher value-added output through the introduction of overseas up-to-date technologies and have technological strength in comparison to the automobile manufacturer. In addition, it is necessary for the vendor to reduce production costs through the development of new production technology and new production methods.

The priority items for the acquisition of indigenous technology in this stage will exclude standardised parts and components which can be easily procured. This is due to the following:

i. As regards most of these parts, a high level of reproduction technology has been established in the REM market.

ii. In case an item among these parts has the possibility of being technologically developed in Malaysia, it is advisable that this part be promoted as an item of the export-oriented parts group.

iii. Excluding standardised parts from priority items will present no significant problem to the localisation of technologies.

The following key components excluding internationally-procurable standardised parts will be positioned as priority items and the technology development will be encouraged for these items.

i. 1.2 Cylinder Head
ii. 1.3 Cylinder Block
iii. 1.4 Crank Case
iv. 1.5 Other Related Parts
v. 1.6 Lubricating System
vi 1.7 Fuel System
vii. 1.8 Induction System/Exhaust System
viii. 1.9 Cooling System
ix. 1.10 Engine Controls
x. 2.1 Clutch
xi. 2.2 Gear Box
xii. 2.3 Propeller Shaft
xiii. 2.4 Rear Axle

(4) Actions to Attain the Target

The direction of measures to be taken in this stage is as follows:

i. To provide various measures to support R&D activities of the private sector.
ii. To activate technological exchange with overseas counterparts.
iii. To educate and train engineers.

6.3. SUPPORTING MEASURES ACCORDING TO THE DEVELOPMENT STAGES

Action plans for the development of the key components group should change emphasis according to the development stages of the key components industries. Supporting measures to be taken in individual stages of development are as follows:

6.3.1. Step 1: Localisation Promotion Stage

- To formulate a vision of the development of the automotive parts manufacturers.

  MITI will coordinate the opinions of governmental organizations related to the automotive industry and the industries themselves and obtain the consensus of all the parties related through the formulation of a vision of the development of automotive parts manufacturers or a guideline for the development of automotive parts manufacturers. This can be done by gathering related governmental organizations, automobile assemblers/manufacturers, franchise holders, parts and components manufacturers, and related associations under the initiative of the section responsible for the industrial policy in MITI.

- To carry out actively the investment promotion of major foreign key components manufacturers.
  * To make more attractive investment incentives such as duty deduction for JV promotion.
  * To introduce investment incentives, such as import duty exemption on machinery, targeting specific technology areas.
  * To enhance investment promotion activities including activities by MIDA. For example, investment promotion toward overseas parts manufacturers which have an interest in investment in Malaysia will be made.
  * To provide local manufacturers with information on overseas automotive parts industries through public organizations.
  * To make Malaysia's investment environment, in aspects other than investment incentives, more attractive to foreign investors.

- To promote technical collaborations in the fields of technologies necessary for the production of key components.
  * To expand incentives for technical collaboration such as tax deduction at the introduction of up-to-date technology from overseas and purchase of modern machinery.
  * To provide assistance in financing to facilitate the introduction of modern machinery and equipment.
  * To strengthen matching services for technical collaboration by National Car manufacturers

and MITI.

- To make National Car manufacturers function as the driving force for the development of key components manufacturers.
  * To provide National Car manufacturers with incentives to increase the localisation level.
  * To strengthen vendor development programmes rendered by National Car manufacturers.

- To educate and train engineers.

  High level manpower such as engineers and technicians will be more important in the second and third stages. However, education and training in these areas should be initiated at this stage because such training takes time.
  * To expand universities for engineer education.
  * To enlarge scholarships for studies at overseas universities and institutions.
  * To support advanced employee training targeting engineers and technicians.
  * To expand advanced skill training at public vocational training centres, for example, by expanding facilities for post-employment training.

6.3.2. Step 2: Competitiveness Strengthening Stage

- To improve production technologies.
  * To provide assistance in terms of tax deduction and financing facilities for the purchase of modern production machinery and equipment.
  * To diffuse modern production technologies to the private sector.
  * To provide education of quality control methods and technical guidance to the private sector.
  * To support employee training.

- To expand the production base in Malaysia for the manufacture of key components.
  * To expand promotional measures, e.g., in terms of financing and tax incentives, to develop subcontractors.
  * To expand technical guidance and management consulting services toward small- and medium-size enterprises.
  * To continue to extend vendor development programmes by National Car manufacturers.

- To expand export promotion measures.
  * To increase the involvement of Malaysian key components into the international procurement network of major world automobile manufacturers through such facilities as BBC.

- To expand technologies and facilities of product testing and evaluation.
  * To expand facilities of public testing and research institutions.

- To encourage R&D activities.
  * To identify the priority R&D areas from the viewpoint of potentiality and expected contribution to the automotive industry.
  * To provide assistance to R&D activities in the priority area in the form of financial and tax incentives.
  * To set up a public testing and research institution specializing in the automotive industry.
  * To introduce a public reward system into the field of new technology development.
  * To rationalize and expand R&D activities by public institutions.
  * To promote joint R&D activities among the private sector, public institutions, and universities, e.g., through subsidies for joint R&D activities and R&D work assigned to outside institutions.
  * To provide small- and medium-side enterprises with assistance to R&D activities.

6.3.3. Step 3: Technology Independence Stage

In this stage, R&D activities, initiated in the second stage, will move on to higher levels. In addition to measures introduced in the prior stage, the measures will contribute to the upgrading of R&D technologies.

- To upgrade the level of R&D technologies.
  * To promote joint R&D activities by the private sector, public institutions, and universities, in the priority areas such as engine development.
  * To expand incentives for R&D expenditures, e.g. through tax deductions.
  * To expand incentives for the purchase of R&D machinery and equipment, e.g., through

import duty exemptions or low-interest loans.

* To set up a system to promote the exchange of technologies between R&D personnel in Malaysia and overseas sources of technologies.

CHAPTER 3. DEVELOPMENT OF EXPORT-ORIENTED PARTS GROUP

1. CURRENT SITUATION OF AUTOMOTIVE PARTS EXPORT

1.1. TRENDS IN EXPORT VALUES BY TYPE OF PARTS

Table 3-1-1 shows the trends in export values of Malaysian automotive parts by type.

Table 3-1-1 The Export of Malaysian Automotive Parts by Type (Value)

(Unit:RM)

	Items	1988	1989	1990	1991	1992	1993
1	Tyres	20,590,580	22,899,065	22,874,665	56,093,302	103,271,596	123,483,301
2	Brake Linings & Pads	2,087,194	1,795,798	2,023,395	5,425,075	12,240,884	13,064,351
3	Leaf Springs and Helical Springs	1,303,721	2,469,522	2,417,207	2,528,809	5,045,183	10,007,387
4	Engines of a Cylinder Capacity Exceeding 1,000 Cc and Others for Motor Vehicle	1,001,264	1,021,813	756,616	772,097	1,015,302	4,183,346
5	Parts for Engine	2,113,705	3,339,207	5,419,485	8,645,216	9,102,134	8,005,823
6	Air Conditioners & Parts	2,039,480	9,057,632	7,123,735	12,975,783	23,450,455	31,233,665
7	Radio Receivers, Radio Receivers with Sound Recorders	215,256,923	316,805,320	395,447,322	625,311,085	770,867,830	923,966,817
8	Halogen, Sealed Beam, Filament Lamps	136,896	767,993	395,164	397,052	932,556	1,114,135
9	Electric Parts for Engines (Plugs, Dynamos Etc.)	7,244,823	8,935,895	6,774,648	5,222,406	8,765,437	16,257,404
10	Lighting or Signalling Equipments	9,973,284	14,994,067	49,944,480	97,176,646	76,569,107	31,766,487
11	Bodies	179,554	112,439	1,232,754	3,429,845	3,056,443	2,955,319
12	Bumpers	145,561	378,830	542,098	450,911	1,117,605	1,510,678
13	Safety Seat Belts	84,379	215,417	505,108	71,215	645,139	414,185
14	Other Body Parts and Accessories	773,259	191,462	307,390	651,987	3,608,092	10,093,699
15	Mounted Brake Linings	50,172	1,341,205	787,850	752,674	407,828	1,063,406
16	Brakes and Servo-Brakes	2,000	1,664,269	3,880,502	3,672,135	1,806,478	6,055,925
17	Gear Boxes	100,318	228,540	193,486	344,491	210,900	314,266
18	Drive-Axles with Differential	36,373	97,776	85,785	103,899	58,764	95,968
19	Non-Driving Axles	28,527	6,791	20,242	19,454	42,782	30,419
20	Wheels & Parts	1,440,378	1,099,066	322,845	341,156	271,375	2,998,970
21	Suspension Shock-Absorbers	610,438	348,484	197,178	377,312	2,510,324	5,796,394
22	Radiators	289,040	490,359	1,009,069	1,061,585	1,511,519	3,824,800
23	Silencers & Exhaust Pipes	671,766	1,067,326	1,060,042	818,692	969,521	1,751,573
24	Clutches & Parts	287,957	307,672	860,959	831,514	853,029	1,670,930

25	Steering Wheels, Steering Columns & Steering Boxes	539,283	32,744	68,323	440,071	1,316,554	7,629,929
26	Other Parts	12,402,788	19,334,572	34,888,799	30,062,301	40,502,441	63,064,518
27	Seats	197,333	352,052	649,089	636,870	396,499	1,500,655
Total		279,586,996	409,355,316	539,788,236	858,613,583	1,070,545,777	1,273,854,350

Note: Each type in the above table consists of some tariff lines of Harmonised System as follows.

1)	401110000 401120000 401310100 401210100 401210200 401220100 401220200	6)	841581300 841582300 841583300 841590200	10)	851220900 851230900 851240000 851290900	18)	870850900
						19)	870860900
						20)	870870900
		7)	852721100 852721900 852729100 852729900 852731110 852731190	11)	870600100 870600200 870600300 870600400 870710100 870710200 870710300 870710900	21)	870880900
						22)	870891900
2)	681310000					23)	870892900
3)	732010000 732020000					24)	870893900
4)	840734000 840820000 840790000	8)	853921100 853929000 853910000			25)	870894900
5)	840991100 840991200 840991300 840991900 840999100 840999200 840999300 840999900	9)	851110000 851120000 851130000 851140000 851150000 851180100 851180900 851190000	13)	870821000	26)	870899910 870899920 870899930 870899990
				14)	870829900		
				15)	870831900		
				16)	870839900		
				17)	870840900	27)	940120000

Source: Malaysia External Trade Statistics, Department of Statistics, 1988-1993.

Total export value has grown rapidly by double-digit perentage points every year since the start of the period. The growth was especially high in 1989 (46%) and 1991 (59%), however, the structure by type is extremely unbalanced. Of total value, 73% was "Radios, Stereos, Cassette Decks" and 10% was "Tyres and Tubes" in 1993. Only two major items account for more than 80 % of total value.

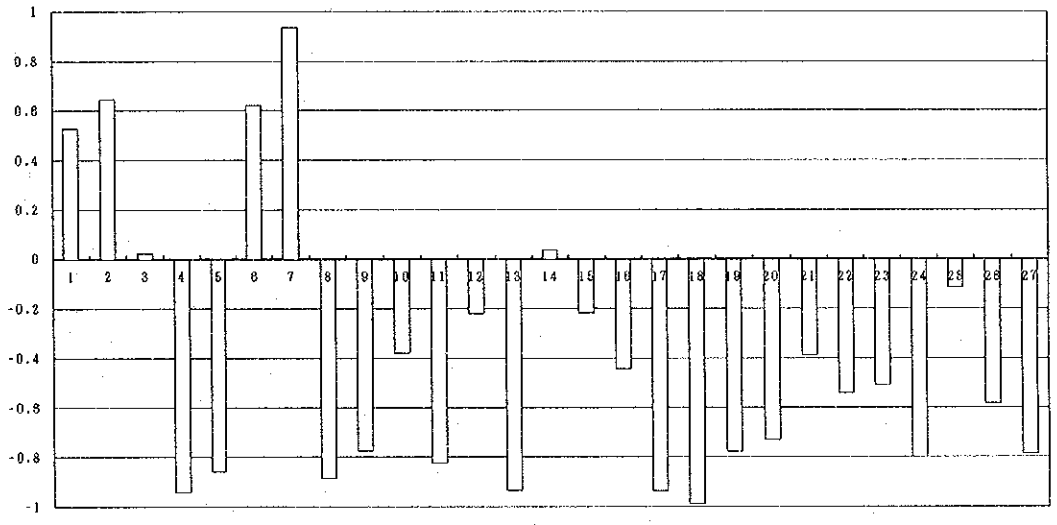
1.2. EXPORT COMPETITIVENESS OF MALAYSIAN AUTOMOTIVE PARTS AS SEEN BY TRADE SPECIFICATION INDEX (TSI)

An analysis was made using the trade specification index (TSI) for evaluating the export

competitiveness of Malaysian automotive parts. The trade specification index is the net export value (exports - imports) of a certain part divided by the value of trade (exports + imports) and therefore has a value of from a minimum -1 to a maximum +1. -1 means that the part in question is only being imported, not being exported. When 0, it means that exports and imports are balanced, while the closer to +1, the higher the ratio of export surplus is indicated, therefore, the more competitive the product could be considered in the world market.

Fig. 3-1-1 shows the tsi of Malaysian automotive parts by type in 1993.

Fig. 3-1-1 The Index of International Competitiveness (TSI) of Malaysian Automotive Parts by type (1993)



Source: JICAStudy Team (based on the "External Trade Statistics")

According to the table, almost every value of the index by item is below zero. These 27 items can be classified into some groups by the trends of TSIs in a time series.

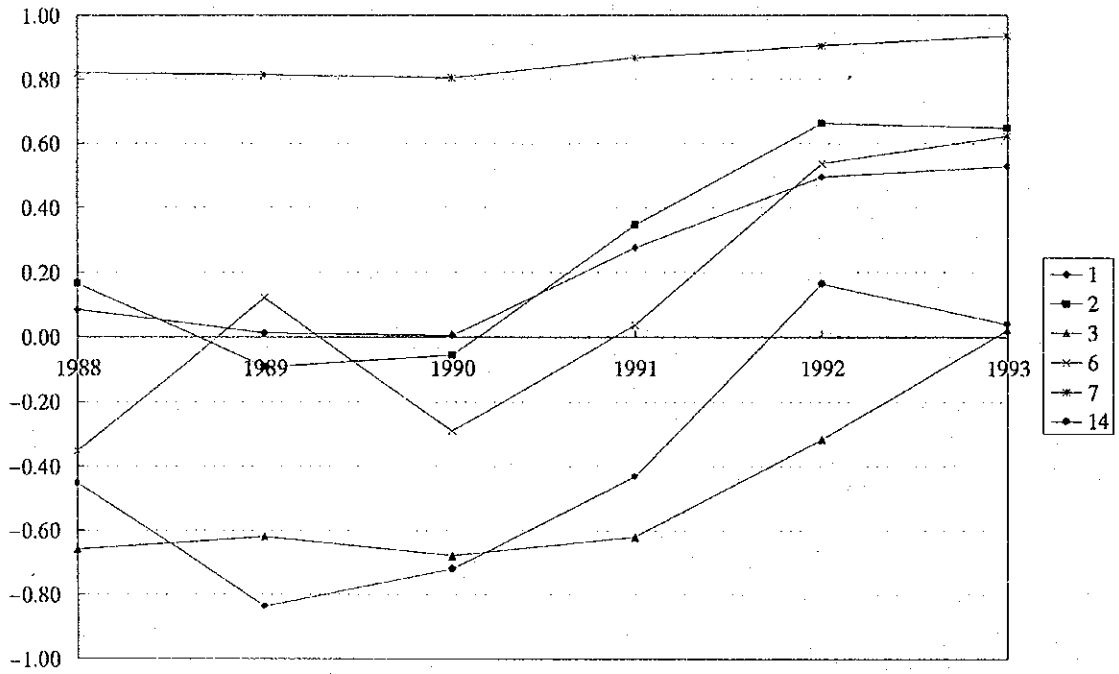
1.2.1. Items of Relative Advantage

As of 1993, Malaysia enjoyed a relative advantage in 6 of the 27 items listed. The advantage was particularly great in radios, stereos, and cassette decks (0.94 in 1993) and somewhat high in brake

lining pads and air-conditioners and parts (0.65 and 0.62 respectively). The advantage in tyres and tubes was moderate (0.5) and was low in leaf springs and helical springs, and other body parts and accessories(0.02 and 0.04, respectively).

When seen over time, the relative advantage has declined temporarily for each of the six parts. Further, the advantage was reduced somewhat for some parts from 1992 to 1993, but overall the advantage has improved rather uniformly since 1990 (See Fig. 3-1-2).

Fig. 3-1-2 The Change of TSIs of Relative Advantage Items



Source: JICA Study Team (based on the "External Trade Statistics")

1.2.2. Items of Relative Disadvantage

Malaysia suffered from a relative disadvantage in 21 parts, well over half of the 27 parts concerned. These parts could be split into three sub-groups:

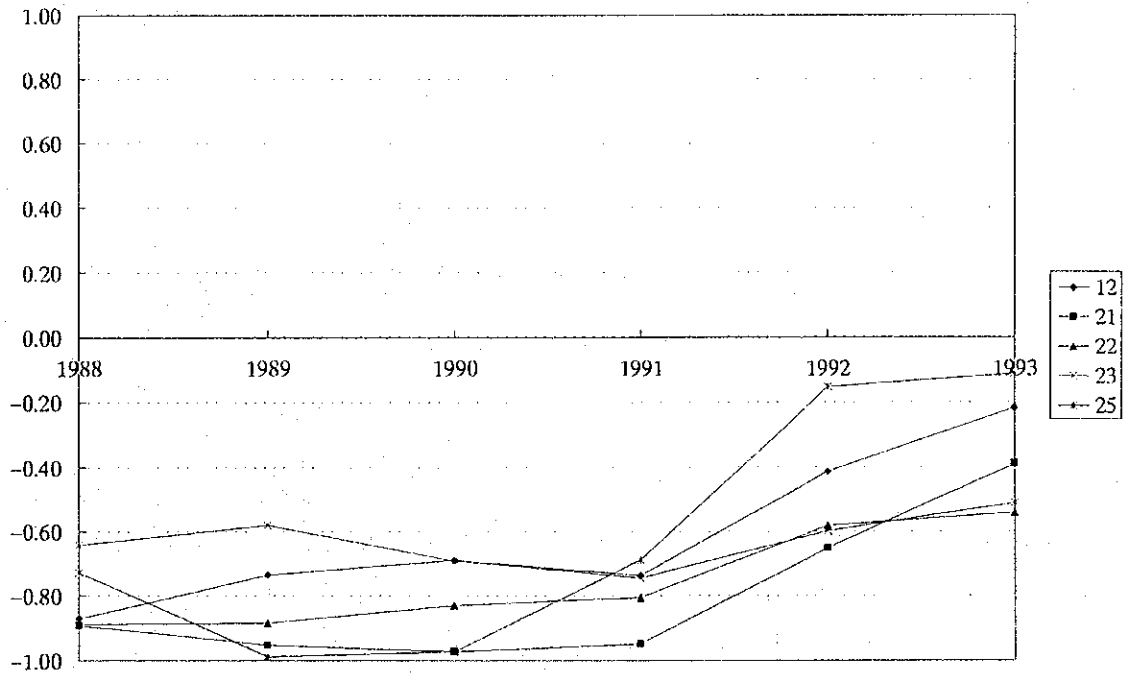
i. parts which are improving,

ii. parts which have remained at a certain and low level, and

iii. irregular parts

The sub-group 1) still suffers from relative disadvantage, but efforts have been made to alleviate the disadvantages since 1990 and 1991. The indexes as well fall in the range of -0.5 to -0.2 (See Fig. 3-1-3). This sub-group is comprised of locally produced parts (shock absorbers, radiators, mufflers, exhaust pipes) and the parts forming part of the BBC (shock absorbers, steering columns, steering boxes).

Fig. 3-1-3 The Change of TSIs of Disadvantage Items
(Parts Which Are Improving)

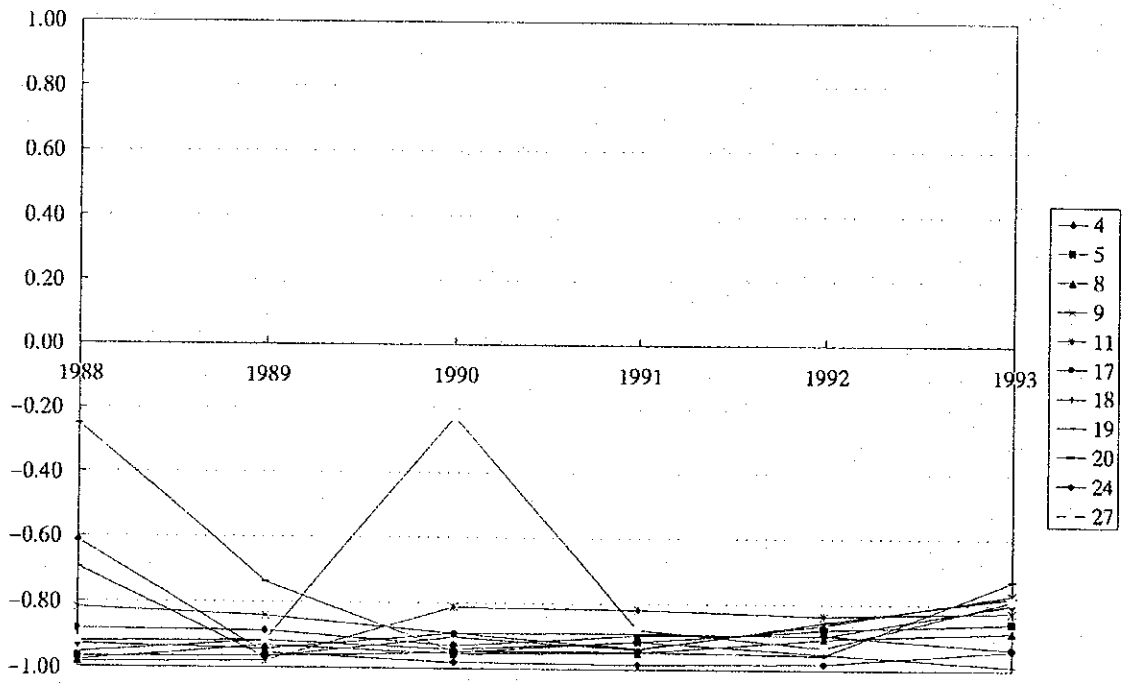


Source: JICA Study Team (based on the "External Trade Statistics")

The sub-group 2) faced a substantially constant disadvantage throughout the period in question and the disadvantage was of an extremely low level of -0.9 to -0.7. Belonging to this group are engines, engine parts, brake boxes, drive axles, non-drive axles, and other key parts.

Fig. 3-1-4 The Change of TSIs of Disadvantage Items

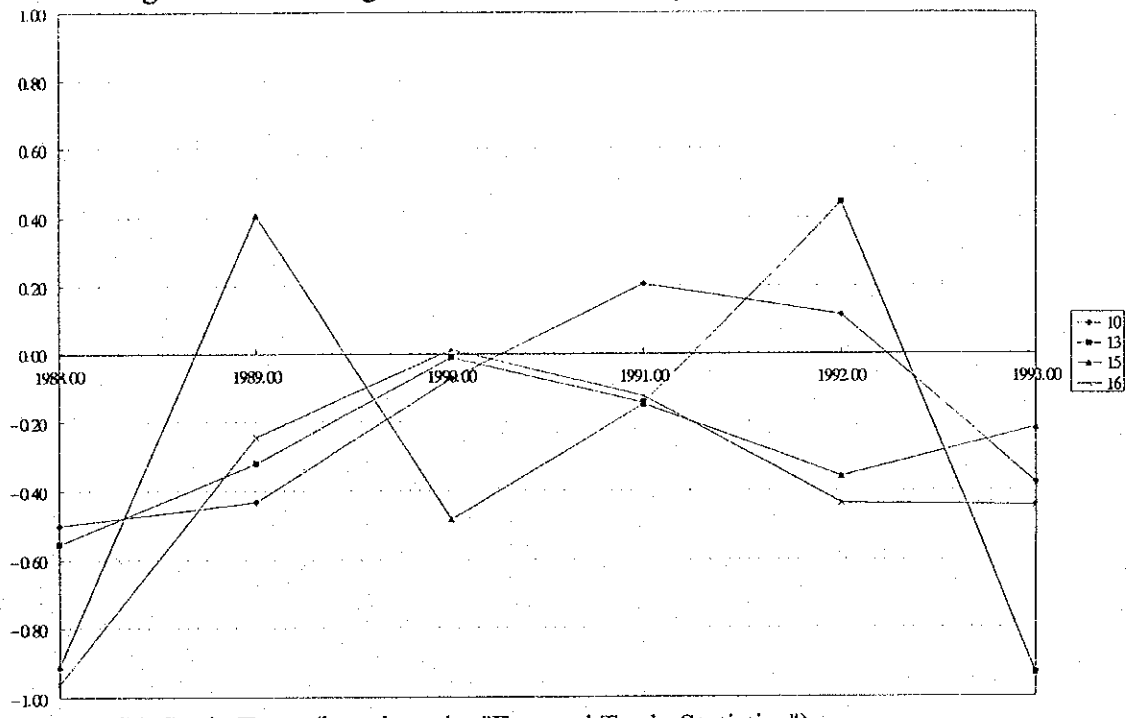
(Parts Which Have Remained at a Certain and Low Level)



Source: JICA Study Team (based on the "External Trade Statistics")

The sub-group 3) saw a temporarily reduction in its disadvantages which even became advantages, but the situation again deteriorated (See Fig. 3-1-5). The indexes for 1993, however, show the disadvantages are only moderate or very slight. Among these, only safety seat belts prove to be an exception. Safety seat belts is one of the localised items under MDP. Up to 1992, the advantage enjoyed was improved and an index of 0.44 was even reached, but for some reason or other imports from the U.K. and Australia rose sharply in 1993, causing a fall to -0.93.

Fig. 3-1-5 The Change of TSIs of Disadvantage Items (Irregular Parts)



Source: JICA Study Team (based on the "External Trade Statistics")

1.3. COMPARISON WITH OTHER ASEAN AUTOMOTIVE PARTS PRODUCING COUNTRIES

Next, a look will be taken at Malaysia's exports of automotive parts in comparison with the figures of other ASEAN automotive parts producing countries. In this section, the two countries of Singapore and Brunei are eliminated from the six ASEAN countries due to their small weight as automotive parts producing countries. The comparison was made therefore with the three countries of Thailand, Indonesia, and the Philippines. Note that in this section, these three countries and Malaysia are referred to as the four main ASEAN nations for convenience.

1.3.1. Summary of Exports of Automotive parts of Four Main ASEAN Countries

The exports of automotive parts of the four main ASEAN countries may be summarised as Table 3-1-2 and 3-1-3 show. A look is going to be taken at the changes in the situation from a point in the past, so the figures for two points, that is, 1988 and 1993, are shown. Note that due to limitations in source materials, the latest data for the Philippines is as of 1992.

Table 3-1-2 The Export Value of Automotive Parts by 4 ASEAN Countries by Type (1988)

(Unit: U.S. Dollar)

	Items	Malaysia	Thailand	Indonesia	Philippines
1	Tyres	7,862,601	15,962,808	31,914,670	3,838,970
2	Brake Linings & Pads	797,004	1,358,328	34,899	403,424
3	Leaf Springs and Helical Springs	497,831	3,745,208	107,868	699,457
4	Engines of a Cylinder Capacity Exceeding 1,000 cc and Others for Motor Vehicle	382,337	1,349,089	7,724	224,318
5	Parts for Engine	807,127	8,498,025	13,945	20,103
6	Air Conditioners & Parts	778,784	25,109,285	26,205	1,210,795
7	Radio Receivers, Radio Receivers with Sound Recorders	82,196,778	125,750	74,250	0
8	Halogen, Sealed Beam, Filament Lamps	52,274	4,585,436	1,543,764	0
9	Electric Parts for Engines (Plugs, Dynamos Etc.)	2,766,467	2,607,440	731,827	629
10	Lighting or Signalling Equipments	3,808,341	2,076,255	1,952	669,289
11	Bodies	68,563	119,918	0	370,006
12	Bumpers	55,583	1,891,751	0	0
13	Safety Seat Belts	32,220	5,824	0	0
14	Other Body Parts and Accessories	295,272	1,848,842	5	12,540,870
15	Mounted Brake Linings	19,158	494,342	39,488	0
16	Brakes and Servo-Brakes	764	3,720,459	39,134	0
17	Gear Boxes	38,307	34,759	0	0
18	Drive-Axles with Differential	13,889	2,893	0	0
19	Non-Driving Axles	10,893	102,557	0	0
20	Wheels & Parts	550,015	505,331	1,730,209	0
21	Suspension Shock-Absorbers	233,098	382,249	147,840	0
22	Radiators	110,371	9,309,514	220,805	0
23	Silencers & Exhaust Pipes	256,517	93,056	44,400	955,006
24	Clutches & Parts	109,958	468,646	0	0
25	Steering Wheels, Steering Columns & Steering Boxes	205,928	46,863	0	0
26	Other Parts	4,736,058	7,904,593	462,256	0
27	Seats	75,352	17,336	0	0
	Total	106,761,492	92,366,557	37,141,241	20,932,867

Note: 1. The figures of Malaysia and Thailand are converted from figures on a local currency basis by the r.f. exchange rate of International Financial Statistics (IMF)

2. The classification systems of the 4 countries are as follows:

(1988)	(1993,1992)	
Malaysia	HS	HS
Thailand	HS	HS
Indonesia	CCCN	HS
The Philippines	SITC Rev. 2	SITC Rev. 3

Sub-items falling under a particular type are not always the same. For example "Air conditioners and Parts" includes sub items which are not used for automobiles except for Malaysian Statistics.

Source: Trade Statistics of the 4 countries

Table 3-1-3 The Export Value of Automotive Parts by 4 ASEAN Countries by Type (1993)

(Unit : U.S. Dollar)

	Items	Malaysia	Thailand	Indonesia	Philippines
1	Tyres	47,971,447	49,793,712	37,101,339	2,403,137
2	Brake Linings & Pads	5,075,308	2,697,366	642,076	351,933
3	Leaf Springs and Helical Springs	3,887,723	2,290,059	5,545,123	130,002
4	Engines of a Cylinder Capacity Exceeding 1,000 cc and Others for Motor Vehicle	1,625,168	25,962,533	163,353	45,597
5	Parts for Engine	3,110,145	20,324,226	1,771,121	2,972
6	Air Conditioners & Parts	12,133,820	202,205,966	3,078,558	6,803,235
7	Radio Receivers, Radio Receivers with Sound Recorders	358,947,522	3,776,932	84,533,101	53,203,258
8	Halogen, Sealed Beam, Filament Lamps	432,825	12,086,826	531,458	0
9	Electric Parts for Engines (Plugs, Dynamos Etc.)	6,315,762	178,520,777	6,764,930	7,560
10	Lighting or Signalling Equipments	12,340,813	31,167,544	1,380,400	791,083
11	Bodies	1,148,098	162,988	27,515	310,311
12	Bumpers	586,876	937,220	56,970	6,046
13	Safety Seat Belts	160,905	2,421,284	6,216	0
14	Other Body Parts and Accessories	3,921,254	8,510,961	4,688,935	1,961,113
15	Mounted Brake Linings	413,118	4,254,148	629,589	57,675
16	Brakes and Servo-Brakes	2,352,638	15,461,143	523	24,322,902
17	Gear Boxes	122,088	743,236	526,387	17,537,166
18	Drive-Axles with Differential	37,282	4,021,630	0	0
19	Non-Driving Axles	11,817	1,464,309	1,549	0
20	Wheels & Parts	1,165,056	4,093,783	12,096,773	2,387,156
21	Suspension Shock-Absorbers	2,251,814	1,467,224	11,324	247,011
22	Radiators	1,485,879	17,097,441	3,712,683	3,142,432
23	Silencers & Exhaust Pipes	680,460	856,559	35,324	594,701
24	Clutches & Parts	649,132	108,470,463	259,818	27,916
25	Steering Wheels, Steering Columns & Steering Boxes	2,964,115	799,146	581,141	111,026
26	Other Parts	24,499,638	12,161,529	1,993,506	3,534,251
27	Seats	582,982	307,501	1,594,653	0
	Total	494,873,684	712,056,502	167,734,365	117,978,483

Note: 1. The figures of Malaysia and Thailand are converted form figures of local currency basis by the r.f. exchange rate of International Financial Statistics (IMF)

2. The classification systems of 4 countries are as follows

(1988)	(1993,1992)	
Malaysia	HS	HS
Thailand	HS	HS
Indonesia	CCCN	HS
The Philippines	SITC Rev. 2	SITC Rev. 3

Sub-items falling under a particular type are not always the same. For example "Air conditioners and Parts" includes sub items which are not used for automobiles except for Malaysian Statistics.

3. The figures of the Philippines are data in 1992.

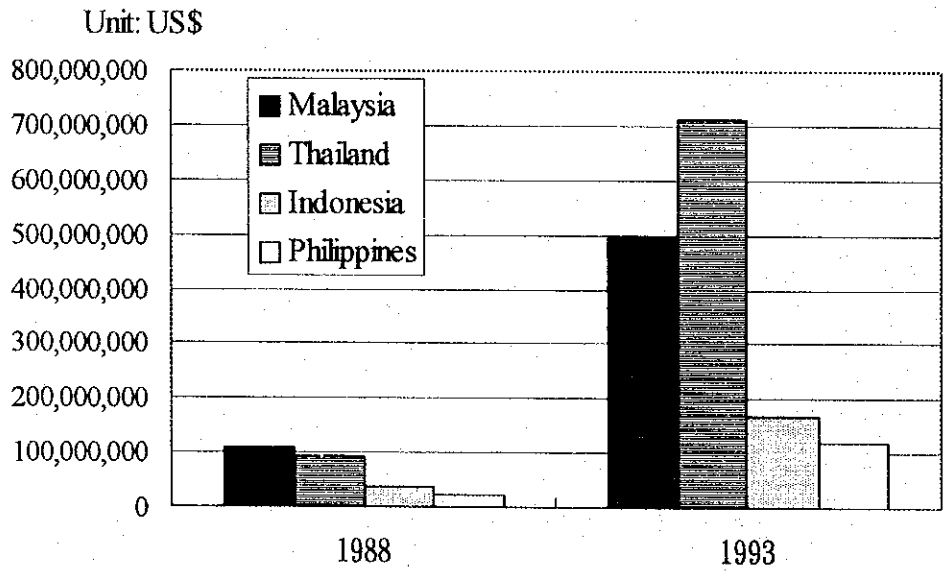
Source : Trade Statistics of 4 countries

From the tables, the following facts are clear:

i. Each country exhibited considerable growth in export value during the period in question. That is, Malaysia exhibited 3.4-fold growth, Thailand 7.7-fold, Indonesia 4.5-fold, and the Philippines 5.6-fold (See Fig. 3-1-6).

ii. The ranking of the countries was reversed during the period in question. As of 1988, the ranking was Malaysia, Thailand, Indonesia, and the Philippines, but as of 1993 Thailand took the lead (See Fig. 3-1-6).

Fig. 3-1-6 The Changes of Automotive Parts Export by 4 ASEAN Countries (Value)



Source: JICA Study Team (based on trade statistics of 4 ASEAN countries)

iii. The main parts of the different countries concerned are as follows:

Table 3-1-4 Major Export Items of ASEAN 4 Countries

(Unit: U.S. Dollar)

	Malaysia		Thiland	
Major Items	Radio Receivers	358,948	Electric Parts for Engines	178,521
	Tyres & Tubes	47,971	Clutches & Parts	108,470
	Lighting or Signalling Equipments	12,341	Tyres & Tubes	49,794
	Air Conditioners & Parts	12,434	Lighting or Signalling Equipments	31,168
	Brake Linings & Pads	5,075	Engines	25,963
	Indonesia		Philippines	
Major Items	Radio Receivers	84,533	Radio Receivers	53,203
	Typres & Tubes	37,101	Brakes & Servo-brakes	24,323
	Wheels & Parts	12,097	Gear Boxes	17,537
	Electric Parts for Engines	6,765	Radiators	3,142
	Leaf Springs & Helical Springs	5,545	Tyres & Tubes	2,403

Source: JICA Study Team (based on trade statistics of 4 ASEAN countries)

Malaysia, Indonesia, and the Philippines share in common a major contribution with the growth in exports of radios, stereos, and cassette decks. The shares of radios, stereos, and cassette decks in total exports of the above three countries in 1993 (1992) were 73 percent in the case of Malaysia, 50 percent in the case of Indonesia, and 45 percent in the case of the Philippines. On the other hand, Thailand does not show any extreme trends such as seen in the other three countries. The growths in parts other than radios, stereos, and cassette decks have contributed considerably as well.

Radios, stereos, and cassette tape decks are extremely important as export products, but

they also fall under the category of electrical and electronic equipment unlike other parts specifically used for automobiles. If the exports of the four countries are compared leaving aside radios, stereos, and cassette decks, then the result is one strong and three weak countries, with the strong one being Thailand.

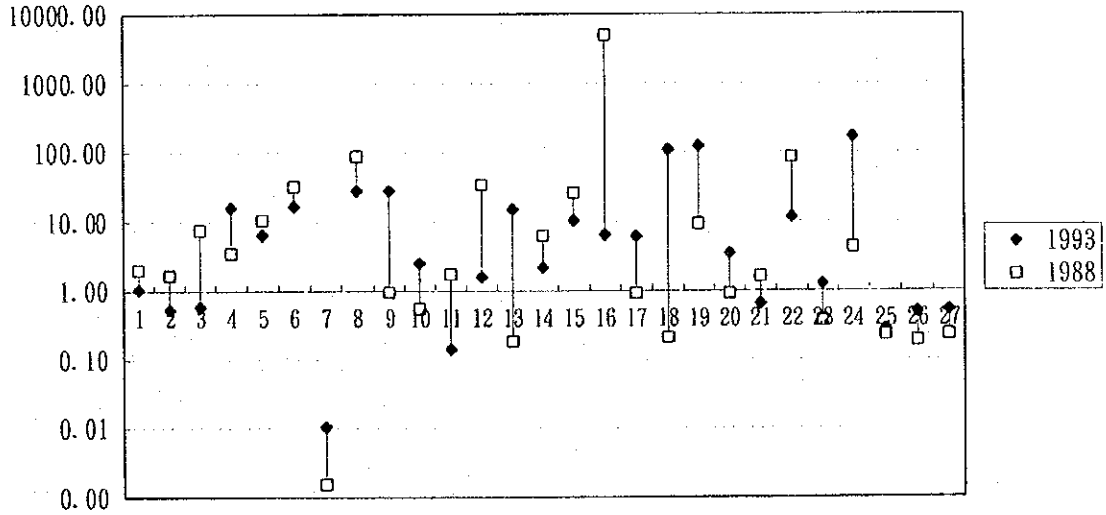
1.3.2. Comparison by Country and Part

Next, let us compare in detail the advantages in exports of different parts among Malaysia and the other countries using some figures. The figures show the ratio of the value of exports of parts of the three other countries compared with the value of exports of Malaysia for each part as "1". Since large differences are seen in values depending on the part, the vertical axis was made a logarithmic scale. Accordingly, the further away, above or below, from the reference 1.0 on the horizontal axis, the faster the value increases (or decreases). The classification of parts is the same as shown in Table 3-1-1. The figures 1 to 27 on the horizontal axis of the figure match with the numbers given to the parts in Table 3-1-1. (for example, 10 on the horizontal axis refers to lighting equipment, etc., for automobiles). Further, to clarify the changes from the point in the past, the values of 1988 (hollow square mark : □) and 1993 (solid diamond mark : ◆) are arranged vertically (1992 for the Philippines).

(1) Comparison With Thailand

Fig. 3-1-7 shows the results of comparisons made between Malaysia and Thailand.

Fig. 3-1-7 The Ratio of Export Value, Thailand : Malaysia



Source : JICA Study Team (based on Table 3-1-2, 3-1-3)

The first thing noticed is the overwhelming advantage which Malaysia holds in radios, stereos, and cassette decks. If this considered an exception, then there are many parts in which Thailand holds a considerably different advantage. As of 1993, Thailand's exports have grown to over 100-times that of Malaysia in the case of three parts and over 10-fold in the case of 10 parts. These were:

(4)	Engines	16 times
(8)	Halogen, sealed and filament lamps	88 times
(9)	Electric parts for engines	28 times
(13)	Safety seat belts	15 times
(15)	Mounted brake linings 10 times	
(18)	Drive axles	108 times
(19)	Non-drive axles	124 times
(22)	Radiators	12 times
(24)	Clutches	126 times

Further, compared with 1988, Thailand has found its advantage in electric parts for engines sharply shooting up (0.9 to 28 times that of Malaysia), safety seat belts (0.2 to 15 times), drive axles (0.2 to 108 times), non-drive axles (9 to 124 times), and clutches (4 to 167 times).

On the other hand, Malaysia was exporting more in value than Thailand in the following as of 1993:

(2)	Brake linings and brake pads	0.53 times
(3)	Leaf springs and helical springs	0.59 times
(7)	Radios, stereos and cassette decks	0.01 times
(11)	Chassis and bodies	0.14 times
(21)	Shock absorbers	0.65 times
(25)	Steering wheels, steering columns, and steering boxes	0.27 times
(27)	Seats	0.53 times

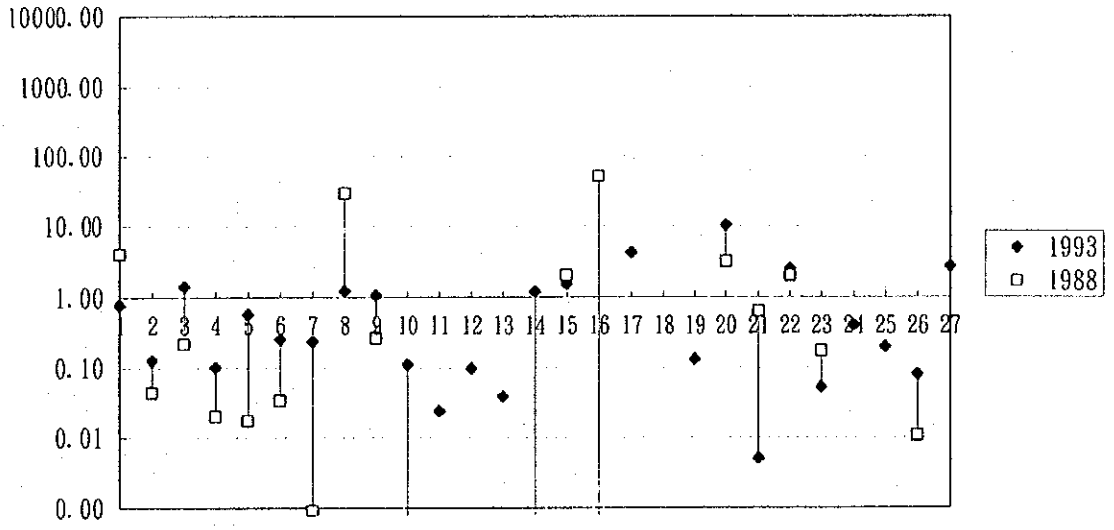
Among these, leaving aside radios, stereos, and cassette decks as an exception, all these items in which Thailand had held an advantage as of 1988 were reversed. Without Radios, Stereos, Cassete decks and Chassis and bodies, no parts were found in which Malaysia held a particularly noteworthy advantage, such as 10 times or more or 100 times or more.

Further, parts in which Malaysia still does not hold an advantage, but where the gap has been considerably closed included bumpers (34 times to 2 times), brakes and servo brakes (4900 times to 7 times), and radiators (84 times to 12 times).

(2) Comparison with Indonesia

The following figure shows a comparison with Indonesia.

Fig. 3-1-8 The Ratio of Export Value, Indonesia : Malaysia



Source : JICA Study Team (based on Table 3-1-2, 3-1-3)

Unlike the figure of the comparison with Thailand, there are some parts where there are no figure markers. This indicates there were no exports, a comparison by parts was not possible due to nonagreement of tariff classifications, or the value was less than 0.1% and infinitely close to 0.

Malaysia may be said to hold an overall advantage compared with Indonesia. Even for the parts in which Indonesia enjoys an advantage, it does not hold that large an advantage over Malaysia as was the case with Thailand. As of 1993, the greatest advantage was 10-times that of Malaysia in wheels. In addition Indonesia exported more than 2 times the value in that year in just three items: gear boxes (4 times), radiators (2.5 times), and seats (2.7 times).

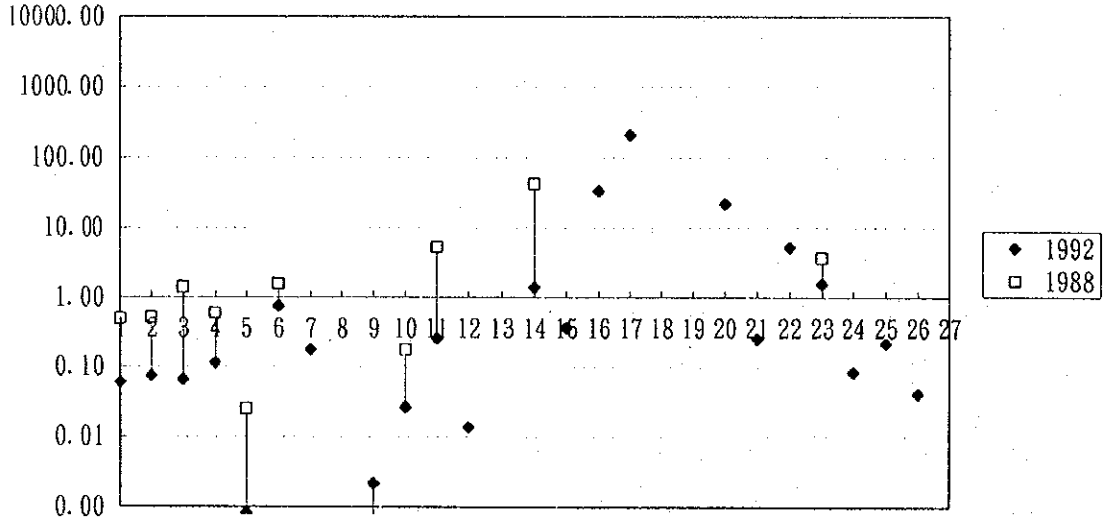
Halogen, Sealed and Filament lamps and Brakes, Servo Brakes and Parts were items in which Indonesia held considerable advantages as of 1988, but since then its advantages have either fallen by large margins or have been reversed. Shock absorbers are items in which Indonesia has never held an advantage and the difference has grown even further.

Overall, however, in many cases Indonesia's disadvantages in items where Malaysia enjoys advantage have been somewhat reduced during the period in question.

(3) Comparison with the Philippiness

The following figure shows a comparison with the Philippines. The reasons for the lack of some markers are the same as those for the figure of Indonesia.

Fig. 3-1-9 The Ratio of Export Value, The Philippines : Malaysia



Source : JICA Study Team (based on Table 3-1-2, 3-1-3)

There were several parts for which a comparison was not possible due to limitations in materials, but it was learned that as of 1992 Malaysia held an overall advantage. Further, for those parts for which a comparison with 1988 was possible, Malaysia either increased its advantage or else turned a disadvantage to an advantage. The Philippines, however, holds a considerable advantage in brakes and servo brakes (34 times as great as of 1992), gear boxes (212 times), wheels (22 times), and radiators (5 times).

(4) Advantages in the Four Main ASEAN Countries

Table 3-1-5 shows a summary and scoring of the results of a comparison with Thailand, Indonesia, and the Philippines. The comparison was made using the figures for 1993 (1992) for each part.

The process of scoring is as follows.

Every item (1 - 27) is given base marks according to the first criteria.

First Criteria	Base Marks
a. The value of Malaysian exports is the largest of the four	6
b. The value of Malaysian exports is the second largest of the four	4
c. The value of Malaysian exports is the third largest of the four	2
d. The value of Malaysian exports is the smallest of the four	1

Some marks are then added to or taken from the base marks according to the second criteria.

Second Criteria	Additional / Demerit Marks
As for items falling under a.	
a) The ratio to the second largest is 10 or above	+1
b) The ratio to the second largest is 2 or below	-1
As for items falling under b. c. d.	
c) The ratio to the largest is 0.5 or above	+1
d) The ratio to the largest is 0.1 or below	-1
e) The ratio the largest is 0.01 or below	-2
f) The ratio to the largest has improved in comparison with that in 1988	+1
g) The ratio to the largest has deteriorated in comparison with that in 1988	-1

Table 3-1-5 The Evaluation of Malaysian Automotive Parts in Comparison with 3 ASEAN Countries

	Item	Points
1	Tyres	5
2	Brake Linings & Pads	5
3	Leaf Springs and Helical Springs	5
4	Engines of a Cylinder Capacity Exceeding 1,000 cc and Others for Motor Vehicle	2
5	Parts for Engine	4
6	Air Conditioners & Parts	*
7	Radio Receivers, Radio Receivers with Sound Recorders	7
8	Halogen, Sealed Beam, Filament Lamps	2
9	Electric Parts for Engines (Plugs, Dynamos Etc.)	1
10	Lighting or Signalling Equipments	4
11	Bodies	6
12	Bumpers	6
13	Safety Seat Belts	3
14	Other Body Parts and Accessories	3
15	Mounted Brake Linings	2
16	Brakes and Servo-Brakes	2
17	Gear Boxes	1
18	Drive-Axles with Differential	1
19	Non-Driving Axles	1
20	Wheels & Parts	1
21	Suspension Shock-Absorbers	5
22	Radiators	1
23	Silencers & Exhaust Pipes	4
24	Clutches & Parts	2
25	Steering Wheels, Steering Columns & Steering Boxes	6
26	Other Parts	*
27	Seats	4

Source : JICA Study Team

All together, the three countries hold advantages in (2)brake linings and pads , (7)radios, stereos, and cassette decks , (8)chassis and bodies , (21)suspension shock absorbers , (25)steering wheels,

steering columns, and steering boxes. Of these, a score of 7 was given for radios, stereos, and cassette decks, which are products particularly large in value, but the score for other parts was 6 or below since they cannot be said to have established overwhelming superiority. Further, the score for bumpers was increased by 2 and made 6 since the difference from first-place Thailand was relatively small and growth has been considerably large in these past few years.

Even looking just at statistics on the Malaysian side, it was expected that Malaysia would hold an overwhelming advantage in radios, stereos, and cassette decks, but this became even clearer in comparison with other countries. However, while the gap is still great, it is worthy to note that Indonesia and the Philippines have shown considerable growth in these parts.

Turning to suspension shock absorbers and to steering wheels, steering columns, and steering boxes, intra-industrial trade of car assemblers in the region has meant concrete gains for Malaysia. Malaysia is establishing an advantageous position for itself compared with other countries.

On the other hand, Malaysia suffers from a disadvantage in (14)Other body parts , (17)Gear boxes, (20)Wheels and wheel parts, and (22)Radiators - four parts groups in all. Among them, the score for Other body parts was increased by 2 since the difference from first place was small and growth has been considerably large. While originally belonging in the upper rank, (18)Drive axles, (19)Non-Drive axles, (24)Clutches, and the like were given a score of 1 since the difference from front-place tyres was more than 100-fold. (6)Air-conditioners and (26)Parts and Other parts were omitted because of disagreement between classification systems.

1.4. ASEAN EXPORTS OF AUTOMOTIVE PARTS IN THE GLOBAL MARKET

Finally, a summary of the global trade in automotive parts and the position of ASEAN in that trade will be clarified.

Table 3-1-6 summarises global exports of automotive parts using the import statistics of the OECD. The OECD has only 25 member countries, but these countries are estimated to account for over nine-tenths of the global trade in goods, their trade can be seen as the global trade of

automotive parts. Note that the parts covered are those of SITC REV. 3 784.1 to 784.1, so the coverage of parts and values is narrower than with the national statistics so for presented.

Table 3-1-6 The World Automotive Parts Export (Value)

(Unit: '000 U.S. Dollars)

Exporting Country	1988	Share (%)	1992	Share (%)
Malaysia	4,321	0	43,805	0
Thailand	1,312	0	10,910	0
Indonesia	0	0	56	0
Philippines	4,332	0	28,706	0
Singapore	1,715	0	27,505	0
Brunei	9,589	0	25,206	0
ASEAN TOTAL	21,269	0	136,188	0
India	11,865	0	41,433	0
China	2,750	0	83,918	0
Korea	44,346	0	225,565	0
Taiwan	81,189	0	497,561	1
Hong Kong	2,663	0	8,525	0
Asia Toatal	142,813	0	857,002	1
Brasil	244,228	1	395,207	1
Japan	2,362,782	6	8,972,987	13
Canada	1,166,974	3	5,743,436	8
United States	10,800,694	27	10,400,018	15
North America Total	11,967,668	30	16,143,454	23
EC	20,282,562	50	35,632,149	51
Others	5,579,745	14	7,796,114	11
World Total	40,356,839	100	69,537,894	100

Note: "Asian Countries" consists of India, China, Korea, Taiwan and Hong Kong.
Source : Trade Statistics, OECD, 1988, 1992

As shown in Table 3-1-6, ASEAN exports of automotive parts grew 5.4-fold between 1988 and 1992. While increasing at a pace far higher than the 72 percent of the world average, they still correspond to less than 1 percent of global exports of automotive parts. Further, a considerable gap still existed as of 1992 between ASEAN and South Korea and Taiwan. South Korea and Taiwan alone exported automotive parts of values 2.1 and 3.8 times those of the ASEAN as a whole.

Table 3-1-7 shows the exports of automotive parts in 1992 by market.

Table 3-1-7 World Automotive Parts Export by Area (Value)

(Unit: '000 U.S. Dollars)

Exporter	Importer			
	Japan	North America	Europe	Oceanea
Thailand	12,849	18,607	11,848	501
Malaysia	3,194	2,818	3,497	1,401
Brunei	0	0	56	0
Singapore	800	17,613	9,603	690
Indonesia	14,134	5,957	7,365	49
Philippines	16,458	7,477	950	321
ASEAN TOTAL	47,435	52,472	33,319	2,962
India	2,341	20,284	17,489	1,319
China	10,043	66,251	5,726	1,898
Korea	35,364	153,157	27,638	9,406
Taiwan	86,036	330,542	61,972	19,011
Hong Kong	489	6,119	1,778	139
Asia Total	134,273	576,353	114,603	31,773
Japan	6,291,099	2,274,930	406,958	8,972,987
North America	340,959	14,501,059	1,091,624	209,812
EC	419,002	2,466,226	32,613,834	133,087
Others	112,276	3,259,929	4,349,423	74,486
World Total	1,053,945	27,147,138	40,477,733	859,078

Note: "Asian Countries" consists of India, China, Korea, Taiwan and Hong Kong
Source : Trade Statistics, OECD, 1992

According to Table 3-1-7, each ASEAN country has a different export market structure by area. Malaysia exports almost equally to North America, Japan and Europe. North America is the largest market for Thailand and Singapore, while Japan is the largest markets for Indonesia and the Philippines. North America is the largest market for ASEAN as a whole, however, the proportion of the three major markets (North America, Japan and Europe) is not so unbalanced.

North America is also the largest market for other Asian countries, but the proportion is much higher than in ASEAN's case.

On the other hand, it was found that a considerable portion of the global trade in automotive parts is regional trade of North America and Europe. That is, trade within North America accounted for 21 percent of the global trade and trade of the EC with Europe accounted for 47 percent of the global trade, for a combined total of about 70 percent.

Accordingly, even in the Asian region, the volume of trade can be expected to grow further due to the increase in demand for automotive parts and the progress made in the establishment of an intra-industrial trade system in the East Asia region.

1.5. THE CURRENT STATUS AND POSITIONING OF AUTOMOTIVE PARTS PRODUCTION IN MALAYSIA BY LMCP CLASSIFICATIONS

1.5.1. Export Amount of Automotive Parts from Malaysia by LMCP Classification

The exports of automotive parts from Malaysia, which are described in the previous part of this chapter, are shown in Table 3-1-8 by LMCP classifications. As can be seen, exports of car radios and stereos are significant. Therefore, automotive parts which belong to "accessories" account for about 75%, RM 955,201 thousand, of the total, followed by wheels, electrical systems, suspension & steering.

1.5.2. Market Sizes of Each Group of the Malaysian Automotive Parts Industry according to LMCP Classifications

Market sizes and export positionings of each group of the Malaysian automotive industry by LMCP classifications were identified, based on the questionnaires and interview surveys by the JICA study team.

Final Report Volume I describes production items and company outlines (paid-in capital, sales, number of employees, technical tie-ups, etc.) of 118 Malaysian automotive parts manufacturers which responded to the questionnaire and interview surveys. Of these, 99 companies of which statistical data regarding production items, sales and export ratios are available have been chosen, and their major production items are categorised into eight groups by LMCP classifications. Table 3-1-9 shows the total sales amount of each group, which was calculated by summing up the figures collected from those 99 companies.

Table 3-1-8 Exports of Automotive Parts from Malaysia by LMCP Classification

Classification by LCML	Name of Components	Export Amount
1. Engine Sub-total: RM 17,766 '000 Share : 1.4 %	Parts for engine Engines of a cylinder capacity exceeding 1,000cc and other vehicles Padiators Silencers & Exhaust Pipes	8,006 4,183 3,825 1,752
2. Power Transmissions Sub-total: RM 2,111 '000 Share : 0.2 %	Clutch Gear Boxes Drive-axles with differential Non-driving axles	1,671 314 96 30
3. Electrical System Sub-total: RM 49,137 '000 Share : 3.9 %	Lightings or signalling equipments Electric parts for engines (plugs, dynamos, etc) Halogen, sealed beam, filament lamps	31,766 16,257 1,114
4. Brakes Sub-total: RM 20,183 '000 Share : 1.6 %	Brake linings & pads Brakes and servo brakes Mounted brake linings	13,064 6,056 1,063
5. Suspension & Steering Sub-total: RM 23,433 '000 Share : 1.8 %	Leaf springs and herical springs Steering wheels, steering columns and steering boxes Suspension shock, absorbers	10,007 7,630 5,796
6. Wheels Sub-total: RM 126.482 '000 Share : 9.9 %	Tyres Wheels & parts	123,483 2,999
7. Body Sub-total: RM 16,475 '000 Share : 1.3 %	Other body parts & accessories Bodies Bumpers Seats Safety seat belts	10,094 2,955 1,511 1,501 414
8. Accessories Sub-total:RM 955,201 '000 Share : 75.0 %	Radio receivers, radio receivers with sound recorders Air conditioners & parts	923,967 31,234
9. Others		63,065
TOTAL		1,273,854

Source : "Malaysia External Trade Statistics" Department of Statistic, 1993

Table 3-1-9 Market Sizes of Each Automotive Parts Group by LMCP

(Unit: RM Million)

LMCP	Market Size		
	Domestic	Exports	Total
1. Engine	274.4	29.5	303.9
2.Power-transmissions	40.4	3.6	44.0
3. Electrical systems	313.3	96.0	409.3
4. Brakes	65.1	3.4	68.5
5. Suspension &Steering	274.2	43.7	317.9
6. Wheels	314.3	123.7	438.0
7. Body	941.7	12.1	953.8
9. Accessories	340.4	558.8	899.2
Total	2,563.8	870.8	3,434.6

Note: "8. Direct Consumables" are not included.
Source: JICA Study Team

Table 3-1-10 shows the comparison between the above results and market size estimated based on statistical data in Main Report Volume I.

Table 3-1-10 Coverage of the Total Figures Which Were Disclosed by the Questionnaire and Interview Survey

	Total Figures based on this survey (RM Million) (A)	Estimated Market Size * (RM Million) (B)	Coverage (%) (A)/(B)
Domestic Market Size	2,563.8	2,962.6	87
Export Market Size	870.8	1,273.9	68
Total Market Size	3,434.6	4,236.5	81

Note: * OEM parts and components for exported cars are included in the domestic market size.
Source: JICA Study Team

The total number of automotive parts manufacturers in Malaysia is estimated to be about 300, but just one third, 99 companies, were found to have total sales of approximately 80% of the estimated market size (B) of the Malaysian automotive parts market because:

1) The difference between the estimated market size (B) and the actual market size is small.
2) Data (A) which is the total of 99 companies' sales is estimated to approximate the actual market size which is the total of 300 companies' sales because:
   a. Many of the major companies in Malaysia are included in those 99 companies, so the total of those 99 companies' sales is thought to account for the greatest part of the overall total of the 300 companies.
   b. The sales data of those 99 companies include products other than automotive parts.
   c. Some of those 99 companies responded to the questionnaire with updated data (estimated 1994 sales), rather than using 1993 data.

While Data(A) and (B) are not 100% identical, they are almost the same. Therefore, they can be used as reliable figures for the estimation of the market size of the Malaysian automotive parts industry. In the following analysis, data(A) from which sales per company can be calculated will be used.

1.5.3. Domestic Market Size and Export Size by LMCP Classifications and their Analysis

(1) Domestic Market, Export Size and Production Size by LMCP Classifications

Fig. 3-1-10 shows the total figures of domestic and export sales of the 99 companies which are shown in Table 3-1-9 (A) and those of individual export and non-export companies' sales.

The following are characteristics of each group by LMCP classifications from the angle of market size and individual companies' sales shown as in Fig. 3-1-10.

1) Domestic and Export Market Size

The characteristics of each category are as follows considering market size(the total sales of the 99 companies):

a. "7. Body parts" and "9. Accessories"

The market sizes of these two groups are overwhelmingly large compared to the others. More than 65% of accessories are for export. In other words, the total production size of accessories is 2.6 times the domestic market size. That is because the production of car radios and stereos can utilise the base of the strong Malaysian home electric and electronics products industry and their export competitiveness is high. Also, those parts are appropriate for export due to their high value-added nature.

On the other hand, most of the body parts are for the domestic market, although the production volume is very high. Therefore, body parts can be said to be domestic oriented parts. The main parts in this group are press parts and interior parts (resin parts, seats and seatbelts, etc.), but exports of the above items are small. Malaysian competitiveness of resin parts is said to be high, but their export competitiveness is not so high because they are large parts such as bumpers and instrument panels, which have high transportation costs. Body parts are generally large in size and the foreign assemblers' delivery requirements are very severe. Therefore, body parts can be said to be non-export oriented parts due to their high transportation costs and severe delivery requirements.

b. "6. Wheels"

The production volume and exports of wheels are big, because some Malaysian subsidiaries of big international companies such as Goodyear or Dunlop which have world wide networks are included in this category.

c. "3. Electrical systems"

The production volumes and export ratio of electrical systems are big, although they are smaller than those of accessories because:

* Electrical systems do not have a strong linkage with the strong Malaysian electric and

electronics appliance products industry, as car radios and stereos do.

* Some of those electrical systems are not price competitive. That is because mechanical parts are used in electrical systems and they are not manufactured by the original mass-production method. For example, pulleys of alternators are made by machining carbonic steel, although normally they are made by cold forging.
* Unlike car radios and stereos, many components of electrical systems cannot be procured within Malaysia. Therefore, in some cases, the average procurement costs of those components are high. Moreover, in this group, some parts such as REM batteries are included, so the exports of OEM parts are estimated to be smaller.

d. "5. Suspension & Steering"

In this group, production bases of shock-absorbers and steering gears for ASEAN areas are being developed within ASEAN areas, so the export of them from Malaysia has not reached a sufficient level, although it has been increasing little by little.

2) Company size of each company(Production volume)

Company sizes of export companies are larger than those of non-exporting companies in most categories. That suggests that the key success factor for exporting is cost competitiveness which is created above a certain production volume.

Especially, the company sizes of parts manufacturers, which belong to 9., accessories, and 6., wheels groups, with world wide networks, are biggest, followed by those of parts manufacturers in the "2. power-transmissions", "3. electrical systems", and "5. suspension & steering groups", which need large investments as they are high value-added parts.

(2) Outline of Export-Oriented Automotive Parts Manufacturers

Table 3-1-11 shows the company outlines of the Malaysian automotive parts manufacturers in order of their export amounts.

The following can be described from Table 3-1-11.

i. A limited number of parts manufacturers have a very important role in Malaysian automotive parts exporting.

   a. The top 2 companies alone account for more than 60% of the total exports of automotive parts.
   b. The top 6 companies alone account for more than 80% of the total exports of automotive parts.
   c. The top 13 companies alone account for more than 90% of the total exports of automotive parts.

ii. Most of the above 13 companies have technical tie-ups with overseas companies.

In other words, most of the exports of automotive parts from Malaysia are handled by a small number of influential automotive parts manufacturers and most exporting companies have capital or technical tie-ups with foreign companies. This enables those parts manufacturers not only to get financial and technical support easily but also to gain access to foreign markets efficiently(such cases are described in section 2.).

Fig. 3-1-10 Domestic and Export Market Size by LMCP Classifications and Total Sales of Individual Companies

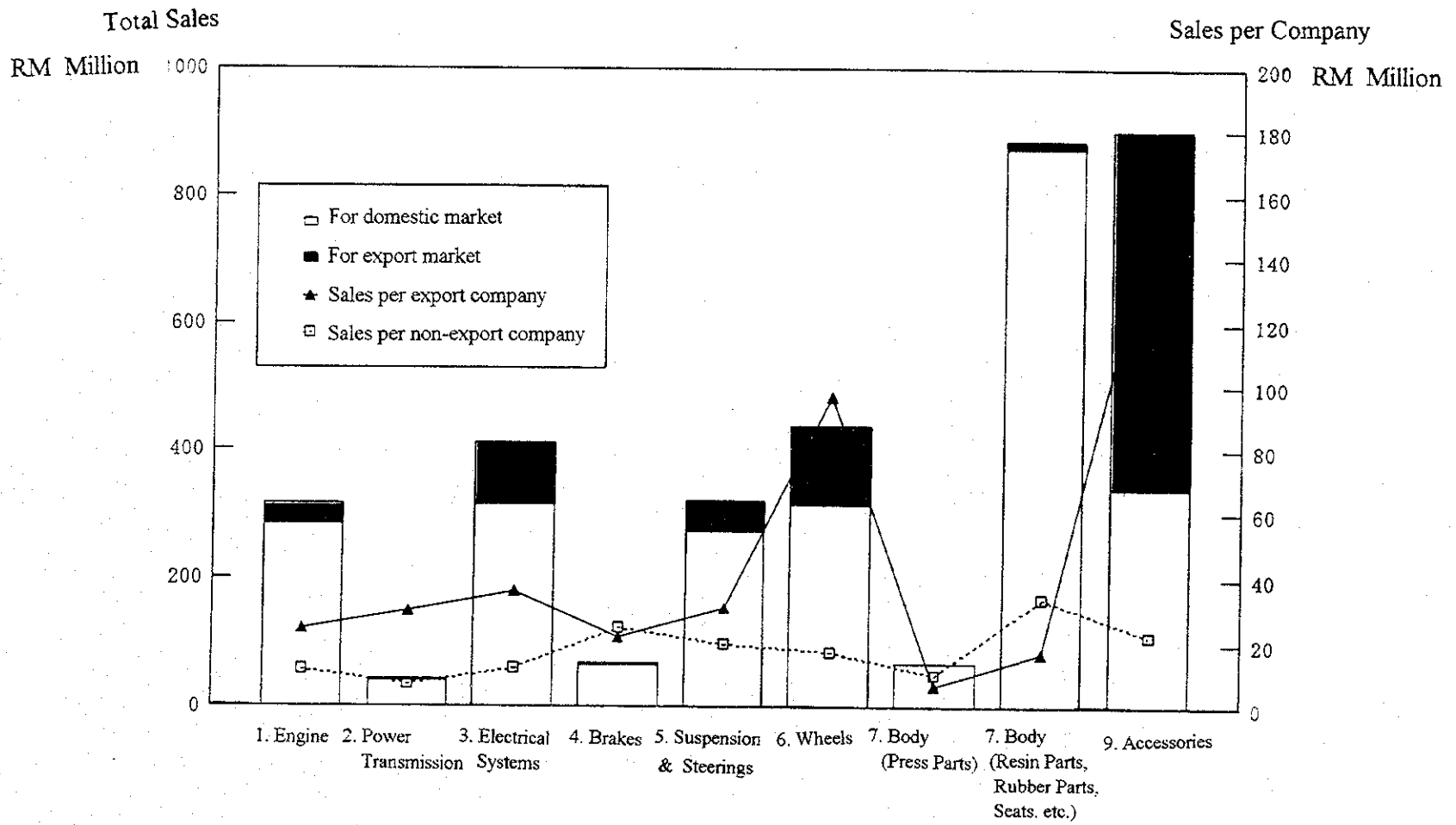


Table 3-1-11 Outline of Automotive Parts Exporting Countries (In Order of Export Amounts)

Rank	LMCL Classifications	Name of Company	Capital (RM one million)	Annual Sales (RM one million)			Exp. Ratio	No. of Employees	Technical tie-up Country	Ratio of Exp. Amount	Accumulated Ratio
					Dom.	Exp.					
1	9.Accessories	Robelt Bosch(M)	—	400.0	50.0	350.0	87.5	2,800.0	Germany	40.2	40.2
2	9.Accessories	FMS Audio	195.1	200.0	0.0	200.0	100.0	1,800.0	Japan, USA	23.0	63.2
3	6.Wheels	Silverstone Tire&Rubber Co.	84.0	140.0	70.0	70.0	50.0	750.0	UK	8.0	71.2
4	3.Electrical System	Lucas Automotive	4.9	35.0	2.8	32.2	92.0	350.0	UK	3.7	74.9
5	6.Wheels	Hicom Freightmate	18.0	30.0	1.5	28.5	95.0	176.0	Australia	3.3	78.2
6	6.Wheels	Goodyear(M)	10.8	210.0	189.0	21.0	10.0	730.0	USA	2.4	80.6
7	3.Electrical System	VDO Indstruments	9.0	40.0	19.2	20.8	52.0	344.0	Germany	2.4	83.0
8	5.Suspension&Steerings	T&K Autoparts	27.0	17.4	1.0	16.4	94.4	58.0	Japan	1.9	84.9
9	3.Electrical System	Watta Battery(M)	0.8	27.0	14.0	13.0	48.0	185.0		1.5	86.4
10	1.Engine	KP Parts Industries	2.0	13.0	2.6	10.4	80.0	89.0	Japan	1.2	87.6
11	1.Engine	Taiwan Right Way Industrial(M)	31.2	93.0	83.7	9.3	10.0	150.0	Taiwan	1.1	88.7
12	3.Electrical System	Century Battery Industries	12.3	38.0	28.9	9.1	24.0	330.0		1.0	89.7
13	3.Electrical System	Tai kwong Battery Industries	1.1	30.0	21.0	9.0	30.0	300.0		1.0	90.7
14	5.Suspension&Steerings	Kayaba(M)	8.8	75.0	66.0	9.0	12.0	333.0	Japan	1.0	91.8
15	5.Suspension&Steerings	APM Springs	1.0	30.0	21.0	9.0	30.0	60.0	Japan	1.0	92.8
16	7.Body	P.U. Tech Industry	0.3	8.0	3.2	4.8	60.0	160.0	Taiwan, France	0.6	93.4
17	9.Accessories	Nippondenso Capital	6.3	154.0	149.4	4.6	3.0	321.0	Japan	0.5	93.9
18	3.Electrical System	Amalgamated Parts Manufacturing	5.6	44.0	39.6	4.4	10.0	1,100.0	Japan	0.5	94.4
19	6.Wheels	Auto Ancillary Manufacturers	0.3	6.0	1.8	4.2	70.0	54.0		0.5	94.9
20	1.Engine	Kee Fatt Industries	3.0	20.0	16.0	4.0	20.0	285.0	Japan	0.5	95.3
21	2.Power Transmissions	Aisian Driveshaft	20.0	30.0	26.4	3.6	12.0	160.0	Germany	0.4	95.8
22	3.Electrical System	J.K.Wire Harness	2.0	20.0	16.4	3.6	18.0	273.0	Japan	0.4	96.2
23	5.Supension&Steerings	Belton	18.0	17.5	14.0	3.5	20.0	240.0		0.4	96.6
24	3.Electrical System	Nippondenso(M)	16.0	108.7	105.4	3.3	3.0	374.0	Japan	0.4	96.9
25	1.Engine	UMW Auto Parts	2.4	32.0	28.8	3.2	10.0	158.0	Japan	0.4	97.3
26	9.Accessories	Dancomair(M)	2.0	5.0	2.0	3.0	60.0	40.0	Australia	0.3	97.7
27	4.Brakes	PBR Automotive(M)	18.0	39.0	36.3	2.7	7.0	83.0	Japan	0.3	98.0
28	7.Body	Auto Culture Supplies	0.6	3.0	0.6	2.4	80.0	35.0	Japan	0.3	98.2
29	7.Body	APM(seats&radiator div.)	8.5	44.0	41.8	2.2	5.0	300.0	Japan	0.3	98.5
30	5.Supension&Steerings	Rubber Metal Technik(M)	5.3	4.0	1.9	2.1	52.0	177.0		0.2	98.7
31	5.Supension&Steerings	Armstrong Auto Parts	31.7	77.0	75.5	1.5	2.0	700.0	Japan	0.2	98.9
32	5.Supension&Steerings	ZF Steering(M)	18.2	25.0	23.5	1.5	6.0	194.0	Germany	0.2	99.1
33	9.Accessories	Auto Air Industries	0.5	6.0	4.8	1.2	20.0	70.0		0.1	99.2
34	7.Body	APM Stamping Products	1.0	6.5	5.5	1.0	15.0	80.0		0.1	99.3
35	7.Body	MCIS Safty Glass	5.0	18.0	17.1	0.9	5.0	243.0	Japan	0.1	99.4
36	1.Engine	Pong Codan Rubber(M)	2.0	7.0	6.3	0.7	10.0	145.0	Denmark,Thailand,Japan	0.1	99.5
37	4.Brakes	Taiping Liner Industries	0.5	4.5	3.8	0.7	15.0	50.0	Japan	0.1	99.6
38	7.Body	APM Plastics	1.0	21.0	20.4	0.6	3.0		Japan	0.1	99.7
39	1.Engine	Izumi(M)	1.1	2.0	1.4	0.6	30.0	30.0		0.1	99.7
40	1.Engine	United Vehicles Industries	6.8	30.0	29.4	0.6	2.0	200.0	Japan	0.1	99.8
41	1.Engine	United Industries	6.3	20.0	19.4	0.6	3.0	143.0	Germany, Japan	0.1	99.9
42	3.Electrical System	J.B.Spark Corporation	0.3	1.5	1.1	0.5	30.0	6.0		0.1	99.9
43	7.Body	Wenco Industries	0.3	7.0	6.8	0.2	3.0	150.0		0.0	100.0
44	3.Electrical System	Yuasa Batttery(M)	5.0	15.9	15.7	0.2	1.0	180.0	Japan	0.0	100.0
45	1.Engine	United Filter	1.3	4.4	4.3	0.1	3.0	64.0		0.0	100.0
46	5.Supension&Steerings	APM Metal Industries	1.0	2.0	1.9	0.1	5.0	120.0		0.0	100.0
Total						870.3					

Source:Results of Questionnaire and Inteview Surveys

2. DEFINITION OF EXPORT ORIENTED COMPONENTS AND FEATURES OF EXPORT ORIENTED COMPANIES

2.1. DEFINITION OF EXPORT ORIENTED COMPONENTS

There are several types of classification of automotive parts. The following two classifications are useful when export promotion is examined.

2.1.1. Functional Parts and Process Oriented Parts

Parts which function by themselves are called functional parts. Examples are air conditioners, motors, door locks, head lamps, shock absorbers, and so on. Engines and transmissions can be considered as functional parts/components because they are regarded as "unit components". On the other hand, process oriented parts do not function by themselves and perform a function only in combination with other related parts. Examples are plastic injection parts in the instrument panel, body metal stamping parts, forging and casting parts, and so forth. Constituent parts of functional parts are also classified under process oriented parts.

One of the criteria for export-oriented components is whether a part has its own marketability, in which sense functional parts have higher potential for export than process oriented parts. Further, functional parts are export-oriented because transportation cost is smaller with higher value added items than it is for process oriented parts.

2.1.2. General Purpose Parts and Specialised Parts

General purpose parts are commonly used in several different models, and their specifications are determined by the industry's standards. Tires, batteries, and bearings are typical examples. On the other hand, specialised parts are usually designed for specific models by car makers or by parts makers. Specialised parts account for the majority of automotive parts.

Recently the common use of automotive parts among several car makers is becoming popular in Japan. However, this is a movement to use specialised parts for different models and, therefore,

is a totally different idea from general purpose parts.

General purpose parts to be used are selected by car makers' designers in accordance with their specifications for a new car. Design changes are usually not required by car makers in the process of new car development. Therefore, general purpose parts have high potential for export if they satisfy requirements in terms of Q(quality), C(cost), and D(delivery). On the other hand, it is difficult for specialised parts to qualify as export parts because requirements concerning another D(development) have to be satisfied in addition to Q, C, and the first D. "Design in", a new car development system in which parts suppliers are deeply involved in the development process, was initiated in Japan, and now major car makers in the world have adopted this system for the following reasons.

i. It is necessary for car makers to make the development period shorter in order to meet customer needs. Parts suppliers' participation in the design process helps to shorten the development period.
ii. One of the key factors to achieve the cost target of a new car is suggestions on VA and VE activities from parts suppliers through their participation in the design-in development at an early stage of the development before trial drawings are made.
iii. An increasing number of automotive parts have become high-tech parts as with electronic parts. Car makers do not have the capability of designing some of those high-tech parts.

Therefore, having a development base or a similar function in a country where a target car maker is located is necessary for a potential exporter planning to export its specialised parts. Table 3-2-1 shows a matrix of the above classifications.

Table 3-2-1 Classification of Export Oriented Parts

← Export Oriented

	Functional Parts	Process Oriented Parts
General Purpose Parts	A bearings batteries motors radios, stereos brakes	B tyres, wheels bolts, nuts washers
Specialised Parts	B air conditioners radiators shock absorbers head lamps door locks steering gear	D stamping parts injection parts rubber parts forging, casting glass

↑ Export Oriented

2.2. TYPES OF AUTOMOTIVE PARTS EXPORTING COMPANIES AND THEIR BUSINESS CHARACTERISTICS

2.2.1. Characteristics of Automotive Parts Exporting Companies

The styles of Malaysian manufacturers exporting automotive parts are divided into the following three groups, as shown in Table 3-2-1.

Table 3-2-1 Classifications of Malaysian Manufacturers Exporting Automotive Parts to Foreign Countries

Classifications	Capital	Major Exporting Items
1.Manufacturers whose original purpose of establishment is exporting to many foreign areas including advanced countries	100% foreign	car radios, car stereos
2.Manufacturers which are production bases in ASEAN areas with the original purpose of producing parts for the Malaysian and other ASEAN countries' markets	foreign and local	shock absorbers, steering gears, electric parts(meters, amplifiers for air-conditioners, etc), etc.
3.Local entrepreneurial companies	100% local	clutches, brakes, leaf-springs, coil-springs, mufflers, filters, seatbelts, etc.

The following are the characteristics of the above three types of companies.

Companies which belong to the first group have established sales routes to many foreign areas including advanced countries. They also produce on a massive volume basis by using the latest sophisticated facilities and are proficient in production management. However, the focus of their production is on electric and electronics parts (especially, car radios and stereos) rather than on specialised automotive parts, such as metal parts, which are closely related with the basic function of an automobile. In other words, it could not be said that the recent growth of these companies has contributed to the development of the overall Malaysian automotive supporting industry.

Companies in the second group produce automotive parts such as steering gears, shock-absorbers and electrical systems which are used specifically for automobiles. These parts are produced by production bases which were set up by automobile assemblers or major automotive parts manufacturers within and around ASEAN countries based on their global production and procurement strategies. The location of production bases was decided from the point of view of mutual complementary procurement systems in those countries and the market size of each country. At present, these types of production and exporting bases for the ASEAN areas which

have been developing in Malaysia are mainly for steering gears.

Local companies in the third group are establishing their own distribution networks in foreign markets, even though some of them are supported by their foreign partners. However, these local companies have no sales or technical tie-ups with overseas automobile assemblers. Therefore, for the time being they have no choice but to depend on exporting small lots of their products to REM markets.

2.2.2. Business Characteristics and Problems of Automotive Parts Exporting Companies by Type

(1) Manufacturers Whose Original Purpose of Establishment Is Exporting to Many Foreign Areas Including Advanced Countries

1) Cases

Characteristics of the two representative companies are mentioned below.

A Company (car stereos, radios: Japanese and American capital companies)

1. Purpose of establishment

Ford, Mazda and Sanyo established A Company jointly and strategically with these respective purposes.

* Ford: To establish its own production bases of audios in East Asian areas (it had already established its production bases in North America and Europe).
* Mazda: To reduce the average procurement costs of audios(one million units for OEM and REM).
* Sanyo: To catch up with other makers in this field.

2. Present status

a. With annual sales of two million RM, it is ranked at the top level of Malaysian automotive parts manufacturers.

b. Almost 100% of the products are for export to parent companies.

* Ford: 70% of car stereos and radios which are made in Taiwan and Australia depend on procurement from A Company.
* Mazda: About 30 - 40% of car stereos and radios of all the Mazda cars are procured from A Company.

c. cost and reliability

* The cost of parts made by A Company is 10 - 15% lower than those of Japanese made ones.
* No problem regarding reliability.

3. Future planning

* Planning to expand its production volume from 50,000 to 80,000 units per month.
* Planning not to cultivate new customers but to manufacture new products(CD changers).

B Company (car radios, stereos: European company)

1. Purpose of establishment

Established in 1972 as a production base of car radios and stereos within ASEAN areas for a European company in order to utilize low labour costs.

2. Present status

a. Production volume

The annual production volume is four million RM, which is ranked at the top class level of all the Malaysian automotive parts manufacturers along with A Company.

b. Parts procurement

Local procurement of ICs, transistors, diode and non-complicated resin parts is possible. Other parts are imported from European countries or Japan.

c. Production technologies

Production process is being automated and a thorough manual of standards of production work has been prepared. Many engineers dispatched from its European parent company are assisting B Company in improving its production technologies and R&D capabilities.

d. Customers

* Europe: 85 - 90%
* PROTON: less than 10%
* REM

3. Future planning

B Company positions East Asia as a growing market and is trying to supply parts for Thailand and the Philippines, expecting that the East Asian market is expanding and becoming open to foreign companies. B Company is proceeding with negotiations with European and Japanese automotive assemblers in Thailand in order to supply parts for them.

2) Positive and Negative Points of Exports by Electric and electronics Parts Companies

Table 3-2-2 summarizes the positive and negative impacts of exports by electric and electronics parts companies on the overall Malaysian automotive industry, based on the above cases of the representative companies and interview surveys conducted by the JICA study team.

Table 3-2-2 Positive and Negative Impacts of Exports by Electric and Electronics Parts Companies on the Overall Automotive Parts Industry

Positive Impacts
1. Automotive electric and electronics parts manufacturers, whose export competitiveness is strong compared to foreign countries including advanced countries, are well developed. These parts manufacturers were established in Malaysia by foreign parts manufacturers according to their own global management strategies. 2. Therefore, these parts manufacturers are not adversely influenced by reduction of import tariffs and the future deregulation in ASEAN areas. Rather, these companies will be given further impetus to export to ASEAN countries. 3. Production of these parts manufacturers has become increasingly automated driven by mass-production for export to advanced countries. 4. The exports of parts made by these parts manufacturers account for about 75% of the total exports of automotive parts from Malaysia. 5. The development of the electric and electronics industry would be able to lead to localisation of electrical parts, such as electrical control parts which would be expected to be utilised in automobiles much more in the future.
Negative Impacts
1. As seen in the cases of A and B Company, the export items of electric and electronics parts manufacturers are concentrated in car radios and stereos which is closely linked with the home electric appliance products industry. However, the export of electrical systems, such as control units and metering equipment, which are specialised automotive parts, is very small. Therefore, the growth of these companies does not contribute to the development of the specialised automotive parts industry in Malaysia. 2. Car radios and stereos are not primary function parts which need collaborative development work with assemblers. Therefore, bothparts manufacturers and assemblers have few mutually beneficial opportunities to improve their technologies and management capabilities in cooperation with each other.

(2) Companies Which Are Production Bases in Asean Areas with the Original Purpose of Producing Parts for the Malaysian and Other Asean Countries' Markets

1) Cases

The following are the cases of the representative companies in this category.

Case of C Company (steering gear manufacturer which was established as a production base within ASEAN areas, supported by a Japanese assembler)

1. Circumstances in which this company was established

In 1990, Toyota established C Company in line with its parts procurement strategies within Thailand, the Philippines, Malaysia and Indonesia, based on the BBC scheme which had started in 1988. In practice, its operations started in 1992.

2. Present production system within ASEAN areas

* Malaysia: steering gears(established for BBC in 1990 and started operation in 1992)
* Philippines: transmissions(established for BBC and started operation in 1992)
* Thailand: diesel engines(started operation in 1989 in line with the localisation policy of engines in Thailand)
* Singapore: section in charge of coordinating import and export within ASEAN areas(started in 1990, 15 - 16 staff members)

The role of this coordinating company in Singapore is:

* To provide information about supply and demand trends in ASEAN areas and carry out price negotiations.
* To carry out practical procedures(order receipt and order placement)

3. Problems

a. Problems of BBC

It is difficult to balance imports and exports because prices of parts differ from type to type. From the Malaysian side, the BBC of Toyota is as follows:

* To Indonesia: over-export
* To Thailand: extremely over-import
* To the Philippines: over-import

b. It is difficult for Toyota to position Malaysia as a production base of important automotive parts within ASEAN areas because:

* Toyota cars are non-national cars with small production volume in Malaysia, which makes Toyota hesitate to make further large investments in Malaysia.
* Therefore, few related parts manufacturers are positive toward investing in Malaysia,

Case of D Company (steering gear manufacturer: European capital independent company)

1. Sales to PROTON account for 94% of its total sales(100% supplier for PROTON). The exports of D Company are to Mitsubishi in Thailand, but volume is small.
2. At present, D Company is negotiating with a Japanese automotive assembler in order to supply steering gears for all its ASEAN production bases.
3. D Company is planning to expand its production capability from 150 thousand units to 300 thousand units per year, counting on the go-ahead from the above Japanese automotive assembler.

Case of E Company(electrical systems, radiators, air-conditioners: Japanese)

1. Current status of exports

E Company exports its parts 1) through its assemblers' BBC scheme or 2) through mutual complementary procurement of sub-parts within ASEAN areas. However, the export ratio of E Company remains still about 5% and has not reached the minimum export requirement level which was set when this company was established.

2. Future strategy for export expansion

It is very difficult for E Company to increase its exports independently because the export of E Company is influenced by its assemblers' procurement policy based on the BBC scheme in the case of 1) and by the production allocation within ASEAN areas in the case of 2). E Company is now thinking that BBC schemes on a parts manufacturers' basis are necessary in order to promote type 2) exports.

Case of F Company (Shock-absorber manufacturing: Japanese)

1. Current status of exports

The present export ratio of F Company is 12 - 13%(7 - 8% for its assemblers' BBC and 5% for its mutual complementary procurement within ASEAN areas). This company also has not attained its original minimum export requirement level which was set at its establishment.

2. Mutual complementary procurement within ASEAN areas

Mutual complementary procurement in ASEAN areas within the Japanese parent companies' group is possible based on the following assumptions:

a. Types of finished cars differ from country to country.

For example, Malaysia focusses on passenger cars, while Thailand and Indonesia focus on commercial vehicles(4WD and vans).

b. The production volume of each countrys' production base is almost the same.

The Japanese parent company decided that each production base in ASEAN areas should mutually supply competitive parts for each other. Moreover, by promoting mutual complementary procurement in ASEAN areas, the Japanese side was able to avoid lowering the efficiency of production by manufacturing small-lot parts for ASEAN areas.

3. Problems of mutual complementary procurement within ASEAN areas

* Imbalance of exports and imports of Malaysia is inevitable due to the difference of the production volume of each ASEAN country. For example, there is the following negative situation involving three parties, an assembler and a parts manufacturer in Thailand and F Company in Malaysia when half of the production of shock-absorbers which the parts manufacturer in Thailand could have produced by itself was carried out by F Company.
* For an assembler in Thailand: The shipment prices of shock-absorbers made in Thailand were set at the same level as those made in Malaysia. In other words, the assembler in Thailand had to pay for the additional transportation cost which it would not have had to pay for if it had ordered all the shock-absorbers from the parts manufacturer in Thailand.

2) Current Status and Problems of Companies Which Are Production Bases in ASEAN Areas with the Original Purpose of Producing Parts for the Malaysian and Other ASEAN Countries' Markets

Fig. 3-2-2 shows the present status and problems of the above type of companies, taking into account the Malaysian government policy and non-PROTON assemblers' strategies.

Fig. 3-2-2 Present Status and Problems of Mutual Complementary Procurement of OEM Parts within ASEAN Areas

Purpose of Policy

1. Basic Agreement of ASEAN Countries
   Establishment of efficient Production system within ASEAN areas
2. Policy of the Malaysian government
   1) Obligation to attain Local Contents Points targets
   2) Obligation to attain exports in proportion to the investment ratio of foreign companies

Strategies of Non-PROTON Assemblers

1. To survive in ASEAN areas by attaining Local Contents Points
2. To establish efficient production systems within ASEAN areas

Circumstances of Malaysia

1. Small market volume
2. The production size of non-PROTON cars is very small.

Parts suppliers for Non-PROTON assemblers

Positive points	Negative points
1. OEM exports are possible. 2. Involvement in the technology development of assemblers at an early stage and technical support from them are possible. 3. Exports of high technology and high value-added parts are possible. Their impact on the overall Malaysian parts industry can be large. 4. Production could be efficient from the perspective of the overall ASEAN areas.	1. Imbalance of imports and exports is inevitable. Especially, Malaysia tends to over-import. 2. It is difficult to make large investments in high value-added parts in Malaysia, because the production volume of non-PROTON cars is small. 3. In spite of the above problems, both parts makers and assemblers are trying to adjust the trade imbalance, which makes it difficult for both of them to make a profit.

Parts suppliers for PROTON

The production volume of Mitsubishi's passenger cars in other ASEAN countries is small, so BBC trade through Mitsubishi is difficult.

Independent suppliers

As seen in the case of D Company which makes steering gears, independent parts makers are gaining momentum heading to the future. At present, however, there are few independent parts makers which have a strong negotiating power for automobile assemblers regarding prices, product development and the like.

(3) Local Entrepreneurial Companies

1) Cases

Case of G Company (emission mufflers, filters and fuel tank manufacturer: local)

1. Current status of exports

a. Exporting REM parts such as filters and mufflers to Australia. However, the sales ratio of these parts remains still at the 5% level of the total. Considering exporting REM parts to Thailand, Indonesia and the Philippines.

b. Planning to export stamping parts to a Japanese assembler on a BBC scheme basis, having been asked positively by this Japanese assembler to do that.

c. Planning to export panel parts for repairing to Japan.

d. The order lot of exports to the United States is too big, and a large investment for expanding production capacity of G Company would be required. At present, however, G Company is hesitating to do that because of the high risk of such a large investment.

2. The future direction of business

The future business direction for G Company is as follows:

a. Positive utilisation of BBC schemes

b. Expansion of REM parts export(both in Malaysian and overseas markets)

c. Enlarging the number of items produced

Of the above three directions, a) positive utilisation of BBC schemes is stressed because:

* It is possible to make a long term relationship with an assembler.

* It is possible to have an opportunity to develop new automotive parts by utilising BBC schemes.

Case of H Company (leaf-spring, U-bolt and stamping parts manufacturer: local)

Current status and problems of export

1) Exporting REM leaf-springs.

a. Australia: Established its own distribution networks and has been using them for more than 10 years.

b. Hong Kong: Exporting to the Southern areas of China through Hong Kong.

c. Japan: Exporting to Japan through a Japanese manufacturer which is a T/A tie-up partner for H Company. In this case, the grades of H Companys' parts are different from those of this Japanese manufacturer, which positions H Company as a competitor for the Japanese side.

d. Others: Exporting to the Philippines and Yemen.

2) 30% of leaf-springs are for export, but exporting is not as profitable as selling in Malaysia. Therefore, it is risky to make investments for export expansion.

3) U-bolts are more promising export items than leaf-springs because the unit price, per weight, of the former is higher than that of the latter. Thus far, however, there has not been much export of U-bolts, because the production of U-bolts has just started.

2) Positive and Negative Points of Exports by Local Entrepreneurial Companies

Table 3-2-3 summarizes the positive and negative impacts of exports by local entrepreneurial companies on the overall Malaysian automotive parts industry.

Table 3-2-3 Positive and Negative Impacts of Exports by Local Entrepreneurial Companies on the Overall Malaysian Automotive Parts Industry

	Positive Points
	1) There will be expansion in the area of independent local entrepreneurial parts manufacturers. 2) Local entrepreneurial companies, which can cultivate their own sales networks, will develop production and sales capabilities independently.
	Negative Points
	1) Most of the exports are limited to low-priced REM parts, which makes it difficult for local companies to make large investments to expand their business and increase their exports. 2) Local companies can develop their international business capabilities, but there are few opportunities for them to improve their technologies and general management. 3) Most of the exports by local companies are low value-added, which makes it difficult for them to make a profit through exporting.

2.3. FOCAL POINTS OF THE ABOVE CHAPTER AND THE FOLLOWING CHAPTER

Export-oriented parts are defined and characteristics of the three styles of Malaysian automotive parts exporting companies are explained in section 2.

As described in detail in Section 1., most of the exports of automotive parts from Malaysia are accounted for by a small number of companies(Table 3-2-1, Type 1). The export items of these companies are competitive compared to foreign countries including advanced countries, but the growth of those companies has not contributed very much to the development of the overall Malaysian automotive supporting industry.

Some of the Malaysian automotive parts companies (Type 2) were developed as production bases in ASEAN areas. However, the overall market size and the production size of non-PROTON cars

are very small, so competitive parts manufacturers will not be developed in Malaysia. These are some limitations which keep exports from increasing in the future.

On the other hand, there are local entrepreneurial companies(Type 3) which export through their own distribution networks. The increased exports of these companies will motivate some local companies to be more positive about doing business, but as mentioned above, there are limitations on the export amount of their parts and it is not expected that there would be much improvement of their technologies and management capabilities.

The reasons that the exports of automotive parts from Malaysia have not increased so much are not only the lack of management capabilities of individual companies but also the structure of the Malaysian automotive parts industry. Therefore, the policy planning for the Malaysian automotive supporting industry should include the restructuring of the Malaysian automotive parts industry which involves changing the former policy.

In section 3., systems and policies for export promotion for the Malaysian automotive parts companies are described and in section 4., the management problems and improvement directions of automotive parts companies by style are described. The necessity of restructuring the industry structure and concrete strategies for developing the Malaysian export-oriented parts industry will be explained in section 5.

3. MAJOR PROBLEMS CONCERNING EXPORT PROMOTION MEASURES

In the Phase I survey, details about the various institutions and policies for export promotion, the overall state of their use, etc., were clarified. In the current survey, the actual users, that is, the automotive parts manufacturers, were directly interviewed so as to clarify what kind of effects the main ones among these would actually have on Malaysian exports of automotive parts or what kind of problems might arise.

3.1. FISCAL POLICY

First, fiscal policy is to provide assistance in taxation and fund raising among the various export incentives. These will be explained below.

3.1.1. Summary

The main fiscal measures and summaries of the same are indicated below (for state of overall use, etc., see Chapter 3 Section 3 of the Volume I.)

(1) Exemptions

This incentive relates to Import Duty and other indirect taxes. If raw materials and parts cannot be obtained domestically or could be obtained, but not an acceptable quality and price and at least 80 percent of the products using these are exported, it is possible to obtain exemption of the indirect taxes on these materials and parts.

(2) Drawbacks

This incentive also relates to Import Duty and other indirect taxes. Manufacturers which use imported materials, parts, and packaging materials to produce products which are eventually exported may obtain drawbacks of the import tariffs, domestic consumption tax, and sales tax. There is no obligation to export more than 80 percent of the production as is true in the case of exemptions.

(3) Double Deduction

This incentive relates to the income tax. A double deduction is allowed for export credit insurance fees and other expenditures relating to business activities aimed at increasing exports.

(4) Allowance

This incentive relates to Income Tax. A tax allowance is allowed for the costs for construction of warehouse facilities aimed at export products. The allowance is 10 percent for the first fiscal year and 2 percent for succeeding years.

(5) ITAF4

The ITAF scheme under the jurisdiction of MITI is designed to assist small and medium scale enterprises. The fourth scheme provides matching grants for activities by enterprises to open up markets.

(6) Export Credit Refinance (ECR)

This is a public system for financing exports. There are two types ECR, that is, a pre-shipment ECR and a post-shipment. Loans are provided to direct and indirect exporters at rates lower than the commercial interest rates.

3.1.2. State of Use and Evaluation of Fiscal Policy

The state of use of the various measures, as learned from the findings of interviews conducted during this survey, was as shown in Table 3-3-1.

Table 3-3-1 The Utilisation of Export Promotion Measures (Financial Measures)

Type of Promotion Measure	Number of Enterprises
Exemption	8
Drawback	3
Double Deduction	1
Allowance	0
ITAF 4	0
Export Credit Refinance	0

Source : Interview survey by JICA Study Team

(1) Exemptions

In Table 3-3-1, exemptions were used by the greatest number of companies. Judging from the results of the questionnaire survey, however, there are very few companies which meet the condition of at least 80 percent export and could receive these exemptions even when viewing the automotive parts industry as a whole. Two companies met this condition at the current interview. One of these indicated that it had not achieved an 80 percent level at that time, but showed plans for realizing this in the near future and were given LMW status. Many of the companies which responded that they were using the exemption system were probably using it not as an export promotion system, but as exemptions given to domestic vendors and manufacturers. Here, this is included in the discussion.

Companies either had no problems or else desired that procedures be streamlined and made faster. A number of companies pointed out problems of difficulties in acquiring supporting letters. That is, the problem is that even when the materials for which use of local content is obligatory are not sufficient in terms of quality and price, it is hard to obtain letters from domestic manufacturers admitting to this.

(2) Drawbacks

There were fewer companies using this system compared with exemptions. In general, automotive parts manufacturers have low export ratios, so can only use drawbacks as a means for promoting exports, but there are also companies which use exemptions for the reasons mentioned in 1). In such cases, probably there is no need for the use of drawbacks. Another reason for the lack of use is that businesses are currently either in the stage of planning for exports or exports represent only a small share and value of sales and the tariffs themselves of the products are not so high, so there is not enough incentive for going through all the application procedures.

The regulations state that applications will be processed within two weeks of filing, but some companies have mentioned the speed of processing as a problem.

(3) Double Deductions and ITAF 4

These two systems are separate, but overlap in assistance in many areas, so will be taken up together here.

The companies interviewed at this time were not making much use of either system. There was only one company using the former. Also, there was one company using double deductions for development of human resources and one company which tried to use the system, but failed to meet the requirements in the middle of the procedures or gave up because the amount involved was not that great. Note that the company which was using the system indicated it had no particular problem with it.

There was no company using the latter system. This scheme is limited to small businesses less than 2.5 million ringgits in capital, so this lack of use found was in part due to the small number of such small businesses among the companies visited. However, the companies which knew about the system indicated that the amount of the subsidies was insufficient. The study team visited the administrative bureau of the scheme after its visits to the companies and asked for a search of automotive parts related projects. The bureau found that two companies had used the system up to then.

As for the time required for the procedures, the organization in charge of Double Deduction stated

that it had insufficient manpower and that two or more months were required for processing applications. For ITAF 4, the administrative bureau answered that procedures were finished within one month if there was no problem with the documentation.

(4) Allowance

There were no companies using these among the companies interviewed this time. This was probably due to the fact that export ratios are presently low and there is no need for specialized warehouses for export products. Further, even foreign affiliates which export over 90 percent of their production considered the storage space in their factories to be sufficient.

(5) Export Credit Refinancing

There were no companies using this among the companies interviewed. The reasons were mostly that companies had sufficient leeway in terms of funds or might use the system in the future, but currently did not require financing for exports since the scale of exports was still small. Further, in the case of automotive parts, imports account for a high percentage of the raw materials and therefore there were probably cases where the requirements of the system could not be met. In this case, further, even if financing were allowed as a special exception, since the foreign input loans for imports of raw materials have already been abolished, it does not appear that there would be that great a value in using the system.

3.1.3. Overall Evaluation of and Problems in Fiscal Policy

When asked if the existing financial policy was effective in promoting exports, some companies responded that abolition of regulations and protection would be more important than promotion, but almost all companies assessed the policy as being effective.

However, outside of products related to the electrical and electronic equipment field where Malaysia has already established a powerful base for itself, Malaysian automotive parts lack sufficient international competitiveness. Even if existing financial incentives are used to the fullest,

they would not be effective enough to make up for that insufficiency and enable exports to rapidly increase. Therefore, some companies desired restoration of the Abatement abolished in 1994, though, Malaysia, which is already establishing a position for itself as an exporting country, would come under certain international criticism if it revived a direct export incentive which has the nature of an export subsidy. In fact, the government's policy is not to strengthen such direct financial incentives in the future.

3.2. ASSISTANCE IN DEVELOPING OVERSEAS MARKETS

Another important area of export promotion on a par with financial policy is the assistance in developing overseas markets.

3.2.1. Summary of Assistance in Developing Overseas Markets

The activities for assisting in the development of overseas markets will be summarized below. Most of these are conducted by the Malaysian Trade Promotion Corporation (MATRADE), which was established in 1993. (For details, see the Interim Report 1.)

(1) Dispatch of Export Missions and Participation in Overseas Trade Fairs

Missions are dispatched with the aim of increasing exports of Malaysian products, PR, etc., participation in overseas trade fairs is planned, participation by domestic export companies is encouraged, and various kinds of assistance is provided.

(2) Studies

Studies are conducted on specific products and markets and industries in specific regions.

(3) Information Services

Information regarding overseas companies, overseas markets, statistics, trade related systems, general overseas information, etc. is collected, analyzed, arranged, and provided to domestic

export companies.

(4) Company Registration System

Companies interested in exporting are registered and various types of assistance and information are provided to them on a priority basis.

3.2.2. State of Use and Evaluation of Assistance in Developing Overseas Markets

According to the findings of the questionnaire survey of Malaysian automotive parts manufacturers conducted in Phase I, there was a strong desire for assistance in developing overseas markets. Similar responses were obtained from the companies interviewed this time. The results are summarized in the following table.

Table 3-3-2 The Utilisation of Export Promotion Measures (Overseas Market Development)

Type of Promotion Measures		Number of Enterprises
Export Mission, Trade Fair	Having participated in them	5
	Considering participation in the future	6
Information Service	Having utilized it	4
	Being interested in it	7
Corporate Registration System	Being registered in the system	3
	Being interested in it	2

Source: Interview survey by JICA Stiduy Team

Table 3-3-3 Type of Information Expected

Type of Information	Number of Enterprises
Trade directory	2
Trade inquiry	3
Overseas regulation	2
Domestic regulation	2
Statistics	3
Overseas market information	6
Others	2

Source: Interview survey by JICA Study Team

(1) Export Missions and Trade Fairs

Half of the companies had experience participating in an export mission, trade fair, etc. sponsored or assisted by a public organization. Further, there was one company which had no experience participating in such activities in the past, but was considering participating in the future. The companies which had participated felt that the results were not necessarily satisfactory, but that it was extremely important to take part in such activities in the future in order to increase exports.

One problem mentioned was that previous missions, trade fairs, etc. were not specifically designed for automotive parts and that as a result there was not enough effort to stir up interest on the other side and promotional activities were insufficiently effective.

On the other hand, some foreign affiliates did not feel that the activities would be particularly effective no matter how performed or were of the opinion that there would be differences in effectiveness depending on the market targeted (for example, there would not be that much effect with respect to Japan).

Note that the charge for participation is 500 ringgits per person in the case of missions, regardless of region, and 1500 ringgits in the case of trade fairs, including registration fee, transportation of

samples, handling services, etc. (1000 ringgits for registered companies), which can be said to be reasonable levels for small sized businesses.

(2) Information Services

There were four companies which had experience using the information services. Further, there were seven companies which had not used the services in the past, but would use them if the information provided met their needs. Four companies using a service seems to be low. In particular, there were considerable numbers of companies which did not know about the Resource Centre of MATRADE. Most companies mentioned MITI and MIDA as sources of information.

As for the information needed, the greatest number of companies sought information regarding specific products and specific markets based on independent Studies. The need was also indicated for directories, information on inquiries, information regarding domestic and overseas trade related systems, statistics, etc. Further, there were companies which desired introduction of a credit checking service for overseas companies.

(3) Company Registration System

There were three companies which were using the company registration system and another two which were interested in it. All of the registered companies had received information on inquiries from other countries, visits to the company, etc. While the number of these was still small, it was reportedly increasing. One problem was the insufficient information regarding the companies and their products and therefore contacts from overseas companies in fields which were not that relevant. However, if the data on each company is made more detailed, the data base would become tremendous and considerable effort would be required for maintaining and managing it, so it will be difficult to deal with this problem. Therefore, it would be better to furnish a detailed data file of Malaysian automotive parts manufacturers with the industry's effort and to place them at related Malaysian and local organizations overseas.

3.2.3. Overall Evaluation of and Problems in Assistance in Developing Overseas Markets

(1) Necessity for Strengthening Already Provided Assistance

There is a desire for assistance targeting automotive parts or related fields in the dispatch of export missions, participation in trade fairs, and other promotional activities. The government and the implementing authority, that is, MATRADE, also are beginning to feel this way. This type of approach is to be used for some products other than automotive parts (for example, food, plastic products, etc.)

On the other hand, it is also essential to strengthen the cohesiveness of the industry and have it take the lead in such activities. Rather, greater effort is sought in this respect. Almost all of the companies visited this time were very interested in exports, but the industry as a whole does not necessarily have sufficient awareness of the importance of exports, due in part to the fact that the domestic market is good and is protected from the outside. First it will be necessary to change this type of thinking in the industry.

As for information services, up to now,.there has been considerable activity such as passing on inquiries, but there is room for further improvement in terms of activities such as collection of basic information regarding other countries, collection, analysis, and provision of detailed information regarding specific products and specific markets through independent studies, etc.

Regarding basic information, MATRADE is currently augmenting its resources with cooperation from Japan. It is scheduled to acquire the latest directories on 36 countries and information on trade related systems, trade practices, trade statistics, etc., of key overseas countries. In the future, it is expected to broaden the scope of the information it maintains and work to keep its information up to date.

Studies, unlike other activities, were not conducted in the days of the old MEXPO. They were started with the establishment of MATRADE in 1993. Accordingly, not much know-how has yet been built up in terms of training and organizing the manpower for conducting the studies. However, as is clear from the findings of the current interviews, activities in this area will probably

become increasingly important in the future for opening up overseas markets. This may also be said for other sectors, but further strengthening of the organization and augmentation of the budget will be required.

(2) Linkage With Assistance in Investment and Technical Tieups

In the process of surveying the assistance provided for opening up markets, many of the companies interviewed pointed out that strengthening ties with companies with strong overseas power in terms of capital and technology is important not only for improvement of productivity and the level of technical expertise, but also in opening up overseas markets.

When such ties are formed, the general practice is for the non-Malaysian company to limit the Malaysian company to selling products domestically or to neighboring countries in order to prevent competition with Malaysian products in its own existing markets. Accordingly, temporary restrictions are imposed in terms of opening up overseas markets. In the future, however, when the outside company starts to consider full-scale intra-industrial trade, there is also the chance of stable OEM exports based on these ties. Conversely, when such ties are not formed, exports are considerably difficult.

Accordingly, when engaging in activities to promote the development of overseas markets, it is necessary to also promote investment and technical tieups.

One interviewed company sought stronger cohesiveness in the industry and stronger cooperation among implementing governmental organizations. MITI also sees things in the same way. It is already cooperating with MIDA and MATRADE in the dispatch of missions. To further improve the effectiveness of such activities, closer cooperation will be required in the future as well. It is important to maintain a similar perspective in overseas studies and information services as well.

(3) Use of Malaysia Trade and Distribution Centre in Rotterdam (MTDCR)

The MTDCR was established to provide a physical base for the export promotion activities of Malaysian companies in Europe. Just opened in August of 1994, it is still not being used in