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CHAPTER 1

INTRODUCTION

BACKGROUND AND OBJECTIVES

The Thai economy has grown rapidly and it has increasingly become internationalization; particularly, during the period after mid 1980s, Gross Domestic Product (GDP) expanded rapidly with double digit growth by more than 13% in 1988 and was 12% and 10% in 1989 and 1990 respectively. In 1992, economic growth declined to 7.5%. These rapid growths had been contributed greatly by the industrial sector. The industrial sector in relation to GDP had grown from 23.5% in 1986 to 26% in 1991. Important factors stimulating such high growth were export growth and investment expansion particularly export production, and large-scale industrial investment in import substitution. Thailand achieved the export growth of 14% and 23% in 1990 and 1991 respectively, while manufactured exports accounted for over 75% of the total export in 1991.

However, in the period from 1996 to the present time, the trend of Thailand's export is declining as may be seen from the export value of 1.41 trillion baht in 1996 increased only 0.3% from previous year, whereas the export value of the manufactured products decreased almost 1%. And though in overall view, the export of the industrial sector seems to be not too much decreasing, but it taking itemized main goods into such as garment, plastics products, footwear and parts, fresh frozen and shrimp. Though the growth of other manufactured products did not decline, but the growth rate is however, slower than of the past, such as the growth rate of electrical appliances was 1.3% compared with the rate of 18% in the period from 1992 to 1995, the growth rate of vehicles, parts and accessories was 23.7% compared with the rate of 54.0% in the period of 1992 to 1995.

Although industry had been performing well, Thailand is now facing severe obstacles to future sustainable development particularly when focusing on the

overdependence on imported parts and components of the major industries due to inadequacy of their efficient supporting industries.

Since small and medium scale industries play an important role in industrial development of a country, the wise strategy to develop SMEs which account for a majority of industries in Thailand is to develop such SMEs into supporting and subcontracting industries in modern industrial sector. When SMEs are incorporated efficiently in the modern industrial sector and function as supporting industries, the backward-linkages in the industrial sector would be intensified by the development of work specialization in the industrial sector and the competitive force of the industry would be intensified.

In addition, contribution expected from SMEs development is the creation of employment, regional development, and redistribution of income.

This study attempt to investigate the role of Small and Medium Supporting Industries in Japan and Thailand, We hope that the patterns of growth, as well as some characteristics discussed in the following sections may help define broad trends which affect general expectations concerning the process of industrial development in Thailand.

The study will focus on the specific sector of the two important supporting industrial sectors: (1) Automobile industry and (2) Electrical and electronics industry, Since they have been growing rapidly in Thailand and theirs important role in the Japanese economy also.

The definition of term relevant in this paper are summarizing as follows:

1) Supporting Industries: in this paper means “those enterprises who produce parts and components to be supplied for use in the final assembly processes of the automobile, machinery, and electronic manufacturing industries”.

2) Subcontractors: in this paper means “Those enterprises in supporting industries who have long-term and stable transactions with the large enterprises who accept their products”.

3) Small and Medium Enterprises

3.1 **Thailand** Small and Medium Enterprises: according to the definition given by the Ministry of Industry in 1987, these are classified as follows:

Type	Employees	Fixed Assets
Household industry	Less than 10	Less than 1 million Baht
Small enterprise	10 to 49	1 to <10 million Baht
Medium enterprise	50 to 199	10 to < 50 million Baht
Large enterprise	200 or more	50 million Baht or more

3.2 **Japan** Small and Medium Enterprises in Japan includes 3 groups of enterprises: Manufactures, Wholesales and Retail. Under the 1963 Small and Medium Enterprise Basic Law. The summary of SMEs in Japan are as follows:

1. Definition of Small and Medium Business

- Manufacturing industry:

  The company employs 300 workers or less, or is capitalized at 100 million yen or less

- Wholesale industry:

  The company employs 100 workers or less, or capitalized at 30 million yen or less.

- Retail industry:

  The company employs 50 workers or less or capitalized at 10 million yen or less

2. The position occupied by small business in the economy

- The ratio of Small business to the total number of business establishments = 99 %

- The ratio of workers employed by small businesses to the total work force = 76.5%

3. Objectives of the Small Business Policy

- The Basic Law for Small Business
  - To remedy disadvantages imposed on small businesses by economic and social constraints
  - To remedy the discrepancies among companies
- Vision for '80s
  - To help the diversify of small businesses bloom

4. Features of the small business policy

1) The enhancement of management base, assistance for structural reform and measures for small companies.

2) A strong tinge of industrial policy

3) Weak focus on the maintenance of competition, and assistance for business formation

4) In the field of financial assistance, government-affiliated financial institution plays a relatively big role.

5. Characteristics of Industrial structure and others

- A system of subcontracting works by large companies has developed. In recent years, however, more and more small companies have been forming networks of their own.

Chapter2

Overview the role of Small and Medium Supporting Industries In Japan

2.1 The Structure of SMEs and SMIs in Japan.

(1) Small and Medium Enterprise

As symbolized in their significant share not only in the number of enterprises but also in the amount of shipments and the number of employees, Japanese SMEs have played a very important role in every area of the economy and the society of Japan.

When viewing their importance in the economy, 1996 statistics revealed that out off a total of 6.50 million business establishments SMEs(excluding primary industries) accounted for 6.43 million with 98.9% share (Table 1)

Table 1 Number of establishments (non-primary industries)

Size ¥ year	1989	1991	1994	1996
SMEs	6,571,942 (99.2)	6,484,296 (99.1)	6,470,532 (99.1)	6,433,557 (98.9)
Large Enterprises	50,304 (0.8)	57,445 (0.9)	61,448 (0.9)	69,367 (1.1)
Total	6,622,246 (100.0)	6,541,741 (100.0)	6,531,980 (100.0)	6,502,924 (100.0)

Source: Management and Coordination Agency: "Census of Business Establishments", "Report on the Changes of the Situations of Enterprise"(1989)
Notes: Data are collected from non-primary industries except of agriculture and fisheries

Their number of employees amounted to 44.49 million people, which was 77.6% of a total of 57.35 million (excluding primary industries). (Table 2)

Table 2 Number of employees (non-primary industries)

Size ¥ year	1986	1991	1994	1996
SMEs	39,505,716 (80.6)	43,399,294 (79.2)	42,273,745 (78.0)	44,492,576 (77.6)
Large Enterprises	9,489,508 (19.4)	11,392,533 (20.8)	11,890,062 (22.0)	12,854,194 (22.4)
Total	48,995,224 (100.0)	54,791,827 (100.0)	54,163,807 (100.0)	57,346,770 (100.0)

Source: Management and Coordination Agency: "Census of Business establishments"

These ratios have remained more or less constant over the three decades since the Basic Law was enacted in 1963. Thus, even in times of economic adversity SMEs as a whole have consistently performed well, taking a positive approach and demonstrating their unique flexibility and creativity.

(2) Small and Medium Industries

For the manufacturing sector, 1996 statistics also revealed that out of a total of 369,612 factories establishment SMIs(with 4~299 employees) accounted for 365,946 with 99.0% share (Table 3)

Table 3 : Number of manufacturing establishments

Size¥year	1989	1990	1991	1992	1993	1994	1995	1996
SMIs	417,962 (99.1)	432,157 (99.1)	426,477 (99.1)	411,178 (99.0)	409,815 (99.1)	379,071 (99.0)	381,019 (98.3)	365,946 (99.0)
Large Industries	3,795 (0.9)	3,840 (0.9)	3,937 (0.9)	3,934 (1.0)	3,855 (0.9)	3,754 (1.0)	3,707 (1.7)	3,666 (1.0)
Total	421,757 (100.0)	435,997 (100.0)	430,414 (100.0)	415,112 (100.0)	413,670 (100.0)	382,825 (100.0)	387,726 (100.0)	369,612 (100.0)

Source: Ministry of International Trade and Industry:"Industrial Statistics"
Notes: 1.Establishment based.
2.SMIs are defined as establishments employing with 4 to 299 people and large industries are those that employ 300 or more

And the numbers of industrial employees amounted to 7.3 million people, which was 71.9% of a total of 10.1 million people. (Table 4)

Table 4: Numbers of manufacturing employees

(unit:1,000)

Size¥year	1989	1990	1991	1992	1993	1994	1995	1996
SMIs	7,951 (72.5)	8,093 (72.4)	8,188 (72.1)	8,000 (71.7)	7,808 (71.7)	7,443 (71.5)	7,422 (71.9)	7,266 (71.9)
Large Industries	3,012 (27.5)	3,079 (27.6)	3,163 (27.9)	3,157 (28.3)	3,077 (28.3)	2,973 (28.5)	2,898 (28.1)	2,837 (28.1)
Total	10,963 (100.0)	11,173 (100.0)	11,351 (100.0)	11,157 (100.0)	10,885 (100.0)	10,416 (100.0)	10,321 (100.0)	10,103 (100.0)

Source: Ministry of International Trade and Industry:"Industrial Statistics"
Notes: 1.Establishment based
2.SMIs are defined as establishments employing with 4 to 299 people and large industries are those that employ 300 or more

Regarding the market share held by SMIs in 1996, they covered 51.0% of total shipment in manufacturing industries. (Table 5)

Table 5: Shipment Value of Manufacturing Industries

(1)value in real terms (unit: 1 billion yen)

Size¥year	1989	1990	1991	1992	1993	1994	1995	1996
SMIs	154,763	167,410	176,633	170,980	160,836	153,501	157,139	159,523
Large Industries	144,130	155,962	164,202	158,540	150,363	145,526	148,890	153,546
Total	298,893	323,373	340,835	329,521	310,199	299,027	306,030	313,068

(2)composition (unit: %)

Size¥year	1989	1990	1991	1992	1993	1994	1995	1996
SMIs	51.8	51.8	51.8	51.9	51.7	51.3	51.3	51.0
Large Industries	48.2	48.2	48.2	48.1	48.3	48.7	48.7	49.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ministry of International Trade and Industry :"Industrial Statistics"
Notes : 1.Establishment based
2.SMIs are defined as establishments employing with 4 to 299 people and large industries are those that employ 300 or more
3.Preliminary statistics for 1996

And the Value-added Productivity of manufacturing industries amounted to 9.1 million yen per employee, which was 48.2% (4~299 employees)or 51.4% (10~299 employees)of Large Industries of 18.8 million yen per employee.(Table 6)

Table 6 Value-added Productivity of Manufacturing Industries

(1)value in real terms(annual added value per employee) (unit: 1,000 yen)

Size¥year	1989	1990	1991	1992	1993	1994	1995	1996
SMIs	7,467	8,160	8,626	8,585	8,339	8,434	8,773	9,069
Large Industries	16,661	17,207	17,425	16,614	16,204	16,675	17,973	18,825

Average	10,124	10,653	11,078	10,857	10,562	10,786	11,356	11,808

(2)Differentials (large Industries = 100) (unit:%)

No. of Employees	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
4~9	31.9	33.0	35.1	36.3	35.0	34.3	32.0	31.7
10~19	38.2	40.0	41.9	43.1	42.5	40.8	39.1	38.2
20~99	45.0	46.6	48.5	50.6	50.5	49.2	47.8	47.3
100~299	62.2	63.8	65.9	68.9	69.8	69.1	67.3	65.7
4~299	45.9	47.4	49.5	51.7	51.5	50.6	48.8	48.2
(10~299)	(48.9)	(50.6)	(52.5)	(54.8)	(54.9)	(53.9)	(52.3)	(51.4)

Source: Ministry of International Trade and Industry :"Industrial Statistics"
Notes : 1.Establishment based
2.Gross value added for firms with 4~9 employees
3.Preliminary statistics for 1996

In 1996, There were only 3,667 large manufacturing businesses and 366,029 small and medium-sized manufacturing business in Japan. Ten years previously in 1986, 15.2% of the large manufacturing business were small or medium-sized, while another 13% had not yet been established. In addition, 28.4% of the small and medium-sized manufacturing establishments in 1996 did not exist in 1986. It is obvious, therefore, **that is substantial number of SMEs in manufacturing were newly established or grew to become large manufacturers**, demonstrating the vigorous level of growth in the small business sector.(Figure 1(1))

Next employment, it can be seen that 9.8% of employees at large enterprises and 23.1% at small and medium-sized business (around 1.7 million workers are employed at business which had not been established ten years ago), which demonstrates the contribution on the establishment of new firms for making to job creation.(Figure 1(2))

Moreover, 6.2% of the value-added production by large firms in 1996 is accounted for by enterprises which were small or medium-sized ten years earlier, and another 8.2% is accounted for by businesses which had not yet been established ten years

earlier. Among SMEs, 21.5% of the amount of value-added production was accounted for by business which had not been established ten years previously. (Figure 1(3))[1]

It can thus be seen that Japanese small business sector encourages entrepreneurship, and makes a major contribution to economic vitality and the raising of value added.

The SMEs as subcontractors have contributed to the success of Japanese economic development particularly on industrialization. The advantages obtained from having subcontracting can be summarized as below:

- Reduced cost by using subcontractors
- Utilizing of special technical skills not in the possession of parent enterprises
- Flexible response to changes in demand
- Commissioning subcontractors to process small product lots
- cooperation as partners in research and development

A. Situation of SMEs as subcontractors

The proportion of small and medium subcontractors and a total of all manufacturers have fallen since 1981 until 1996.

In 1981, SMEs doing subcontractor work accounted for 65.5% of all manufacturers, but the number was down to 51.6 % in 1996. (Figure 2)

One of the reasons for this decline might have been caused by business failures owing the Yen's appreciation since 1985. Small and medium subcontractors have attempted to maintain and develop their subcontracting business in various ways, but

[1] Ryuichiro Inoue, An East Industrial Policy Model. (1993).

parent company have generally been critical of their efforts, with almost 70% indicating that they dissatisfied with small and medium subcontractors' "planning and proposal capability", "prices" and "ability to offer quality assurance". On the other hand, a majority of parent firms were satisfied with small and medium subcontractors' "quality", "reliability of delivery" and "soundness of management".[2]

Faced by increasingly hostile business environment, 65% of SMEs subcontractors are attempting to improve their business strategies by, for example, "reducing dependence on specific parent companies", "strengthening relations with a specific small number of parent companies", and "leaving the subcontracting business by developing directly marketable products". (Figure 3)

B. Type of subcontracting and share of small and medium subcontractors

In Japan, subcontracting system can be divided into four types as follows:

(1) **Exclusive-type small and medium subcontractors:** SMEs with one parent company accounting for 90 percent or more of total contracts received.

(2) **Semi-exclusive type small and medium subcontractor**: SMEs with 2-5 parent companies accounting for 90 percent or more of total contracts received, or those with one parent company accounting for less than 90 percent of total contracts received.

(3) **Semi-deal-diversified-type small and medium subcontractors**: SMEs with 2-5 parent companies accounting for 90 percent or more of contracts received, and those with six parent companies or more accounting for at least 70 percent of total contracts received.

(4) **Deal-diversified-type small and medium subcontractors**: Small and medium enterprises with six or more parent companies accounting for less than 70 percent of all contracts.[3]

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[2] Small and Medium Enterprise Agency (MITI), Small Business in Japan 1998, White Paper on small and medium enterprise in Japan, p.41

[3] Small and Medium Enterprise Agency (MITI), Small Business in Japan 1991, White paper on small and medium enterprises in Japan, p.54.

2.2 SMEs and industrial Policy in Japan.

(1) Industrial policy in Japan

At the end of World War II Japan was in ruins and lagged far behind the industrialized nations in terms of industrial technology. At this stage, a basic framework had been established for industrial policy, with tax, financing, and foreign investment incentives being offered for priority sectors. At the same time it was assumed that Japan's economy would be closed and controlled as had been the case during the war. Measures such as the allocation of import and materials quotas and price controls were implemented on the priority basis.

During the high-growth period starting in the late 1950s, Japan achieved a series of technical innovations and launched a multilateral industrial policy to expand its industrial base, promote new industries, and protect and adjust declining industries. The aims of this were two folds: import substitution and export expansion. Synthetic fibers, petrochemicals, **machinery and parts, and electronic equipment** were designated as priority industries. To help these

劫劫劫劫劫劫劫劫劫sectors, the Japanese government established incentives like the reduction and exemption of taxes and tariffs, low-interest financing, import permits for foreign technology, and waivers from the Anti-Monopoly Law. During this period the government maintained a policy of protecting domestic manufacturers through import restrictions and high tariffs. Further, private industrial associations played an important role in liaison and coordinating opinions among companies and the Ministry of International Trade and Industry (MITI) and other related organizations.

In 1960 the government announced a plan to liberalize trade and foreign exchange, signaling a shift from protectionism to free trade. In 1964, Japan joined the OECD and took up the issue of liberalizing the introduction of foreign capital. The aim of industrial policy at that time was to prevent damage to domestic industries resulting from liberalization. Japan went about reorganizing industry, coordinating capital investment, and coordinating fields of production to strengthen the international competitiveness of industry, primarily through "administrative guidance" and corporation between the public and private sectors. This was partially because there was less scope for exercising "control" through incentives now that liberalization was under way. In the process, attempts were made to introduce incentives for certain "strategic industries" such as the automotive and petrochemical sectors. In effect, however, these measures were not realized. Instead, the market mechanism and coordination between government and industry were used. As a result, Japanese industry underwent unprecedentedly highly growth during this period and Japan's own system of "free" business became firmly entrenched.

In the 1970s, due to the progress in liberalization of trade and capital and the widespread recognition of the effectiveness of market mechanism, industrial policy came to emphasize a "vision", meaning the formulation of a blueprint for a future industrial structure. The main purpose of the government became to establish such a vision through coordinating government and private sectors and providing information for guiding industrial activity. In addition, the range of subsidies, low-interest financing, and tax incentives was severely limited. This framework was maintained in substance through the 1980s.(Table 7)

Table 7 Industrial Promotion Policies and Export Promotion Policies in Japan

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Industrial Promotion Policies

1.Postwar Reconstruction (1946~48)

"Priority Production System"

Material quotas

Reconstruction Finance Bank Loans
Price controls
2.Industrial Rationalization (first half of 1950s)
Preferential treatment for equipment investment (special depreciation)
Loans from the Japan Development Bank
Tax exemptions
3.Industrial Development Promotion (Later half of 1950s)
Tariffs protection for synthetic fibers, petrochemical products, electronics, and machinery.
Selective fiscal, financial policy (loans from the Japan Development Bank, depreciation, tax exemptions and reductions)
Approval of technology introductions.
4.High Growth (1960s)
Building an open economy
Government-private coorporation (Investment adjustment)
Coordination of production fields
Sectorial development programs (Extraordinary Measures for Machinery Industries, Extraordinary Measures for Electronics Industries).

5.Stable Growth (1970~)
Establishment of "vision"
Utilization of market mechanisms
Knowledge-intensive industries
High-tech development

B.Export Industry Promotion and Export Promotion Policies.
1.Industrial Rationalization (the first half of 1950s)
Preferential financing measures
Preferential financing for exports (Low-interest loans from the Bank of Japan, Establishment of the Export Bank of Japan in 1950, Tax incentives, Export income deduction, special deduction for exports, Export insurance).
Foundation of JETRO
2.Industrial Development Promotion (later half of 1950s)
Ship exports (loans from Export-Import Bank of Japan, special deduction of income related to overseas transactions)
3.High Growth (1960s)

Economic liberalization, strengthening of international competitiveness)
Plant equipment exports (loans from Export-Import Bank of Japan), special deduction for exports
Overseas market development reverse system
Expansion of JETRO
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source: Ryuichiro Inoue.(1993), An East Industrial Policy Model (p.3-6)

(2) Small Business Policy in Japan

Japan established various measures for the promotion of small and medium scale enterprises at an early stage, but it was only relatively recently that it established small business policy as an important part of its industrial policy. This came with the introduction of the 1963 Medium and Small Enterprise Basic Law, which clarifies the basic concept of Japan's small business policy.

The basic law sets down the following three goals for small business policy:
Rectifying the disadvantages faced by small businesses due to economic and social deterrence
Providing help for independent initiatives by small businesses
Eliminating disparities in production and other areas to promote the development of small businesses and improve the economic and social standing of their employees.
Article 3 of the Medium and Small enterprise Basic Law sets out the following eight measures as necessary for achievement of these three goals
Modernization of facilities
Improvement of technical standards (including technological R&D and the training of technicians and skilled workers)
Rationalization of management (including the introduction of modern management methods and the improvement of manager skills)
Restructuring the small business sector (modifications in company size, adoption of joint operation of jointly-run factories and stores, conversion of businesses and modernization of retail management)
Removal of trade-related disadvantages (including the prevention of excessive competition and modification of the subcontracting business)
Promotion of demand (such as export)
Guarantee of suitable opportunities for business activities (coordination of business activities with non-SMEs parties)

Improvement of labor relations and worker welfare and guarantee of the necessary work force

Further, the law stipulates that the government must take legal and fiscal measures to implement these measures and must make yearly reports to the Diet on small business trends.

(3) Small Business Policy and Sectoral Promotion Measures in Japan

In Japan, sectoral promotion measures were taken to promote the development of important basic industries, strategic industries, and export industries. Typically, key industries were selected and offered assistance in the form of financial, tax, and tariff incentives, access to raw materials and electrical power, and help in research and development. Although the desired results were not always achieved, the system was often successful.

Sectoral promotion measures were often devised for fields containing many small businesses or considered suitable for small business. In Japan's small business policy, several industries were promoted through a small and medium enterprise modernization plan.

An important assumption in a sectoral approach is that a series of promotional measures be applied to select industrial sectors for a limited time. This is because the "key" industrial sectors change with each stage of economic and industrial development and also because concentrating a series of promotional measures in a limited period is more effective.

In the experience of Japan, the overall small business policy has been permanent in nature, while sectoral promotion measures have been limited in duration. Further, the incentives offered through small business policy have generally been board in scope but shallow, while those give through the sectoral promotion measures have been limited but very effective. Small businesses in key industrial sectors have been able to make use of both these policy schemes.

In conclusion, both types of measures are needed in the case of supporting industries for export sectors and industries with the potential to become export sectors when these are comprised mainly of small businesses.(Figure 4)

2.3 Government agencies and related institutions to promote SMEs

Apart from the laws, the government also has the agencies and institutions responsible for SMEs' development which can be summarized as follows:

(1) Small and Medium Enterprise Agency (MITI)

This agency consists of the Director General's Secretariat, the planning Department, and the Guidance Department. The agency's responsibility is to foster the development of smaller enterprises. It gathers and analyze information concerning economic problems of smaller enterprise, mediates credit for them, solicits cooperation of other government agencies on matters related to smaller enterprises, and promotes the development of technology and management techniques helpful to smaller firms. (Figure 5-8)

(2) Small Business Corporation

This institution was established based on Small Business Corporation Law, with the purpose of providing guidance and finance to improve the structure of SMEs. The capital of corporation comes from the government. (Figure. 6)

(3) Small Business Finance Corporation

The corporation provides loan for investments of assets and working capital in the long term

Besides, there are still many institutions related to promotion of SMEs, for instance, Small Business Credit insurance corporation, Credit Guarantee Associations, People's Finance corporation and The Shoko Chukin Bank etc. (Figure 6) Within these institutions, the private sector has also played a dominant role to support the development of SMEs through the institution such as the following:

(4) Federation of Small Business Associations

This federation was established in prefecture areas with the main purpose to guide organization and administration of small enterprises' cooperatives. The activities are subsidized by both central and prefectural government.(Figure 6)

(5) Small Business Investment Company

The company was established in Tokyo, Nagoya and Osaka in 1952 with the purpose to develop SMEs through the purchase of shares and obligations. Moreover, it provides management and technical consultation as well.(Figure 5)

Chapter3

Current status of Supporting Industries and Small and Medium Enterprise in Thailand

3.1 Role and current status of Supporting industries in Thailand

Development of supporting industries is one of the key strategies in the national five-year plan in order to solve the problem of high dependency on imported parts and components in the key industries which play an important role in industrial development of a country's benefit it promotions of supporting industries are as follows:

- Strengthen competitiveness of Thai industry by producing necessary parts and components at home, reducing cost and production time.
- Reduced import of intermediate products should have a favorable positive impact on the trade balance.
- Strengthen the technology base and skilled workers

The growth of the manufacturing sector in Thailand has been accompanied by a significant deepening of the industrial structure; for instance, Thai and foreign investors enter the market to supply parts and components to the final product's producers or export to the world's markets. However, it is obviously seen that few Thai SMEs conduct transaction with large enterprises. Even though Thailand has a wide range of supporting industries such as metal, machinery, equipment, electronics, automotive industry, and plastic industry but the layer of supporting industries for modernizing the industrial sector is small. Besides, foreign-affiliated manufacturers are procuring most required parts and components through imports or in-house manufacturing. Especially, Japanese enterprises in Thailand along with theirs own operations. Only a small portion of SMEs has enough technology and capital accumulation to work as supporting industries for large enterprises.

In the context of manufacturing enterprises of Thailand, SMIS (classify by labor) constitute about 98% of the total number of industrial enterprises. In terms of employment, the labor force in the industrial sector was 2.88 million employees in 1998, of which 1.51 million were employed in SMIS.(Table 8)

Their numbers of establishments (classify by capital) amounted to 123,709 factories, which was 98.1% of a total of 126,095 factories. And for 67.6% of total employment. (Table 9)

Table 8 FIGURES OF THAI FACTORIES SCALE CLASSIFIED BY NUMBER OF EMPLOYEE (31 DECEMBER 1998)

SCALE	NO, FACTORIES	CAPITAL (MILLION BAHT)	NO, EMPLOYEE
small	116,762 (92.6%)	550,983.31 (26.6%)	85,289 (29.7%)
medium	6,906 (5.5%)	504,348.67 (24.3%)	655,271 (22.7%)
large	2,427 (1.9%)	1,019,623.72 (49.1%)	1,373,730 (47.6%)
Total	**126,095**	**2,074,955.70**	**2,884,290**

source:Industrial information center, Office of Industrial Economics, Ministry of Industry.

Table 9 FIGURES OF THAI FACTORIES SCALE CLASSIFIED BY CAPITAL (31 DECEMBER 1998)

SCALE	NO, FACTORIES	CAPITAL (MILLION BAHT)	NO, EMPLOYEE
small	111,821 (88.7%)	129,192.49 (6.2%)	993,782 (34.4%)
medium	11,888 (9.4%)	370,262.65 (17.9%)	956,768 (33.2%)
large	2,386 (1.9%)	1,575,500.56 (75.9%)	933,740 (32.4%)
Total	**126,095**	**2,074,955.70**	**2,884,290**

Source: Industrial information center,Office of Industrial Economics, Ministry of Industry.

3.2 GOVERNMENT POLICIES ON SUPPORTING INDUSTRIES

(1) POSITION OF SUPPORTING INDUSTRIES IN THE SEVENTH FIVE-YEAR PLAN FOR NATIONAL ECONOMIC DEVELOPMENT:

The government intends to make efforts in strengthening the structure of industrial sector from a long-term perspectives and emphasizes on the importance of linkages, particularly backward linkages, in the industrial sector. In the 7th plan, the six industries including petrochemicals, textiles, electronics, agriculture-related industries, metals, and steel are selected as target industries. Many of them such as textiles, electronics and metals sector have a wide range of supporting industries.

(2) LOCAL CONTENT REGULATIONS:

Local content regulations are directly aimed at increasing the demand for supporting industries and promoting their growth by imposing import duties on certain items. Practically, however, assemblers have two choices in their countermeasures against the local content policy. Those are, a backward linking through expansion of their in-house manufacture or the utilization of supporting industries. It is needless to say that the development of supporting industries will not be achieved unless the latter choice is made.

(3) ESTABLISHMENT OF THE "BUILD"(BOI UNIT FOR INDUSTRIAL LINKAGE DEVELOPMENT)

The office of the Board of Investment (BOI), as a government agency responsible for promoting and supporting industrial development in the country, has established a central unit to be responsible for the whole backward-linkage concept, called "The BOI Unit for Industrial Linkage Development (BUILD)". The main purpose of this establishment is to promote supporting industries through technical cooperation, information supply and so on by formulating policies and programs to strengthen

linkages between large, export-oriented projects and local suppliers and subcontractors. Foreign firms will be encouraged to assist local subcontractors in improving product quality, reliability and timeliness. Private firms will be intensively involved in this program to identify products to be locally produced and supplied. The program will be market-oriented and the private sector will be significant contributor to the operation of BUILD.

This program currently under progress includes; 1) a project for arrangement of data base for information of enterprises using computers, which include a preparation of a directory of enterprises (800) belonging to supporting industries and a list of 100 companies importing parts, and 2) a pilot project of producing substitutes for imported parts, in which foreign-affiliated manufacturers are encouraged, to try procurement of locally produced parts through the match making with Thai supporting industries intermediate by the BUILD instead of importation for a certain period.

BUILD has so far received great interests from multinational electronic producers in establishing more linkage with local component and part suppliers. To name a few, these firms are the Japanese MNB, SHARP, American Data General and Seagate Technology.

3.3 GOVERNMENT AGENCIES AND RELATED ORGANIZATIONS TO ASSIST SMEs

The government and other related organizations engaged in promoting SMEs are described as follows:

(1) MINISTRY OF INDUSTRY (MOI)

The MOI has provided managerial and technical assistance to SMEs through **Department of Industrial Promotion(DIP)** whose main activities is the execution of the SMEs promoting policies established by the Office of Industrial

Economic Planning. Recent policy aiming at promotion industrial "linkage" as an important factor of industrial policy has the following features:

1) Selection of the target industries of promotion.

2) Execution of policy initiated from market needs.

3) Placing emphasis on free competition, deregulation, and cooperation with private sectors.

4) Promotion of rural industries.

The major divisions and centers in DIP concerning the promotion of SMEs are such as The Industrial Development Division (IDD), The Industrial Service Division (ISD), The Metalworking and Machinery Industries Development Institute (MIDI), The Northern, Northeastern and Southern Industrial Promotion Centers.

(2) THE OFFICE OF THE BOARD OF INVESTMENT (BOI)

Primarily to assist SMEs, besides the establishment of the BUILD, BOI will develop an Investment Menu of promising investment opportunities depending on the amount of capital available. This Investment Menu will focus on areas consistent with general BOI priorities. In addition, the lower limit of investment to receive a privilege from the BOI

has been lowered from 5 million Bahts to 1 million Baht for the promotion of SMEs.

(3) INDUSTRIAL FINANCE COEPORATION OF THAILAND (IFCT)

The IFCT is a public corporation engaging in general industrial financing and applying the funds accepted from foreign aid such as the OECF of Japan and the CIDA of Canada as a part of the funds for SMEs. These funds are allocated for the investment of SMEs in rural areas under the specific conditions attached to each of the OECF and CIDA funds. Furthermore, it is providing credit guarantee operations for SMEs through the Small Industries Credit Guarantee Fund (SICGF), which was established in 1985 by the joint contribution of parties including Thai Bankers'Association, Ministry of Finance and IFCT itself.

However, it is considered that the financing for SMEs by the IFCT will be decreased after establishing the Small Industries Finance Corporation of Thailand (SIFCT) by reorganizing the Small Industries Finance Office (SIFO) in 1993.

(4) SMALL INDUSREIES FINANCE OFFICE (SIFO)

The SIFO was established in 1963 to provide financing for small enterprises. It is an organization under the control of Industrial Development Division, Ministry of Industry. Recent reorganization of the SIFO will result in establishment of the SIFCT, which will be and important organization for financing small enterprises. The SIFCT will operate under authorizations of both the Ministry of Industry and the Ministry of Finance.

3.4 PROBLEMS OF SMEs SUPPORTING INDUSTRIES IN THAILAND

A. MAJOR PROBLEMS OF SUPPORTING INDUSREIES

The following are current problems in supporting industries:

(1) A HIGH DEGREE OF DEPENDENCY ON IMPORTED PARTS AND COMPONENTS AND INTERMEDIATE PRODUCTS:

The manufactured products accounted for over 50% of the total amount of export in the mid-1980s. However, the dependency of the industrial sector on the imported parts and components as well as intermediate products did not decline, and thus led to the deficit in the balance of trade of which the large portion was against Japan. In this regards, Table 10 illustrates a high degree of dependency on imports of capital and intermediate goods, which totally amounted to almost 30 billion US$ in 1991. This huge markets can be captured both by Thai SMEs producers through upgrading production quality and by new foreign investors bringing technology and management skills into Thai economy.

TABLE 10 IMPORT SUBSTITUTION POTENTIAL (billion US$)

Year	Capital Goods Imports	Intermediate Goods Imports
1985	2.8	2.8
1986	3.0	3.2
1987	4.1	4.7
1988	8.0	7.2
1989	9.4	9.1
1990	12.3	11.0
1991	15.3	12.8

Source: The Office of the Board of Investment

(2) THE PROBLEM OF WEAK LINKAGE BETWEEN INDUSTRIES

The boom of foreign investment in Thailand in recent years was triggered mainly by highly productive, low-cost labor forces. Foreign enterprises tended to utilize this competitive advantage by displacing into Thailand those processes, which used to be operated in countries such as Japan, Taiwan, and South Korea. Nevertheless, while foreign enterprises that require wide range of supporting industries are introduced to manufacturing sectors, Thailand still has insufficient industrial linkages. Therefore, the improvement in trade balance and industrial development will be unsatisfied if supporting industries are not well developed.

(3) THE SHORTAGES OF SKILLED MANPOWER

In attempting to attain the standards required by principals of subcontractors, supporting industries in Thailand are disadvantaged by the present shortages of skilled manpower especially engineers and technicians. They are generally unable to attract high quality staff who would rather work for better known large companies or multinationals. In many cases, however, the kind of expertise that they need is not so sophisticated and could be addressed in the first instance through short courses of training in relevant production-oriented subjects. Such courses could be provided through existing educational institutions, through government agencies, or through non-governmental organizations.

(4) THE CONCENTRATION TO THE METROPOLITAN AREA OF BANGKOK

The boom of investment in Thailand in recent years has caused overpopulation in the metropolitan area of Bangkok, and it is an obstacle to the development of Thai economy particularly due to infrastructure constraints. However, the government has realized such problem and has placed an emphasis on lacational diversification of the industrial. Especially the BOI promotes the decentralization of industrial activities away from Bangkok and the 15 neighboring provinces by designating the remaining 57 provinces as the "Third Investment Promotion Zone" with additional incentives. In addition, the infrastructure improvement has been undertaken by involving private sector financing in many of the infrastructure projects other than the government investment programs.

(5) OTHER PROBLEMS ACCORDING TO SURVEYS AND INTERVIEWS

Apart from the above problems, the following are other significant difficulties according to interviews and surveys, which are still obstacles to the development of supporting industries in Thailand.

- Quality problems, especially in metal processing and some high-tech components.
- Information is lacking for both assemblers and suppliers.
- Technology is not sufficient.
- Most supporting industries are financially weak
- Inadequate institutional set up for both private and government sectors. Thailand needs to strengthen institutional structures for supporting industries.

B. PROBLEMS OF SMEs DEVELOPMENT

(1) MARKETING PROBLEMS

A narrow market of SMEs'products is a serious problem particularly for the SMEs located in rural areas; for the purchasing power of the people living in rural areas is generally low due to the low productivity of agriculture sector. The demand situation is much better for the urban SMEs. But still the urban SMEs have a market problem, because they must compete with the big companies'products and the imported products. The creation of an increased market is not easy. But an increase in demand for the products of individual SMEs is possible so long as the SMEs can produce marketable products with good quality and a comparatively low price. There should be products in which the SMEs can hold advantage over the big companies in terms of product features, quality and prices by utilizing labor intensive production methods.

In this regard, the government sector is required to provide market information for SMEs as well as guidance and training services on marketing methods and techniques.

(2) FINANCIAL PROBLEMS

The major problems are such as the difficulties in gaining access to formal financial institutions particularly in rural areas, relying on informal financial source so that the average cost is high. However, at present, the financial environment has gradually become favorable to SMEs, because the commercial banks have been expanding their branch networks in the rural areas.

Apart form the above points, the SMEs of Thailand seem to have an inclination to generate their business funds internally through capital increases, retained earnings borrowing from the owners, etc. This indicates the characteristic of the investment pattern of the Thai's SMEs; the SMEs do not carry out the investment until they can accumulate enough internal funds. When considering the financial situation

where the SMEs are placed, this investment pattern may retard the modernization of the machinery of the SMEs, thus confining them as a less developed sector in Thai industry.

The financial issue of the SMEs is what the government should play a leading role to solve. The government is required not only to persuade the private financial institutions to supply more funds to SMEs, but also to set up special financial schemes by itself to alleviate the financial difficulties of the SMEs and quide them on a steady growth path.

(3) TECHNOLOGICAL PROBLEMS AND MANPOWER SHORTAGES

Thai SMEs face difficult technological problems that lead to various problems such as low productivity, low process capability and inability to access or adopt a new technology or technical data. SMEs are perceived to be high financial risks, often without enough collateral to access financing at reasonable terms. Mostly family owned, SMEs access by limited management and skill. They did not have enough capacities in financial management, administration, marketing, and cost-benefit analysis. Their abilities to conduct market research and formulate business strategy are limited and constraint. Moreover, at present, they still confront with the shortages of skilled manpower especially engineers and technicians.

C. MAJOR PROBLEMS OF THE SMEs POLICIES AND PROGRAMS

The government has long recognized the need of small firms for assistance in improving technology, management, production operations, access to financing and information, and marketing. Accordingly, many institutions and programs have been set up to provide such assistance. Most of the programs also have a slant rightly towards regional

development. Nevertheless, the government's policies and programs still confront with many problems that include the following:

- Most governmental programs are focussed in the areas and around Bangkok.

- Considerable duplication of efforts is found in virtually all program areas. Efforts are not well coordinated and tend to be rather fragmented.

- Services provided frequently tend to be of a rather unprocessed nature. In particular, information that is disseminated generally needs to be presented in a more digested and practical form.

- The needs of rural SMEs are not often explicitly taken into account when planning and implementing the programs. Assistance provided is generally not well tailored to the specific needs of the recipients.

- Most programs are not successful in publicizing their efforts and are not well known among SMEs both in Bangkok and in other regions.

- Most programs are not well funded, and partly as a result, not well staffed.

- Skill development and vocational training programs are generally too academic and unable to provide useful, up-to-date practical training to meet the needs of SMEs.

- SMEs financial assistance programs, when they are used, generally miss their intended targets and end up financing larger producers or financial intermediaries.

CHAPTER 4

AUTOMOTIVE INDUSTRY IN JAPAN AND THAILAND

4.1 THE SITUATION OF AUTOMOTIVE INDUSTRY IN JAPAN

The automotive industry is one of the leading industries in the Japanese economy. In 1995, value of production of the automotive industry amounted to 39 trillion yen, 13.4% of the manufacturing total (Table 11). It employed 7.1 million persons, 11.0% of the total employment in manufacturing sector.

Table 11 Production of Automotive industries in value terms

(billions of yen)

Year	Automobile	Total	Automobile Production value (% of Total)
1995	39,283	293,004	13.4
1994	39,523	297,797	13.3
1993	40,535	310,345	13.1
1992	44,303	329,513	13.4
1991	44,336	342,976	12.9
1990	42,423	325,262	13.0
1985	31,530	265,949	11.9
1980	21,404	215,307	9.9
1975	10,566	128,033	8.3
1970	5,514	79,257	7.8

Source: Census of Manufactures, Ministry of International Trade and Industry
Note : 1994 figures are preliminary estimate

Furthermore, exports including parts and components amounted to 7,903.2 billion, 17.7% of the total exports. The value of motor vehicle imports (including parts) rose 21.5% in 1996 to 1,329.5 billion, bought by the popular demand for imported cars in Japan. The imports have show increases of more than 20 percent for the third straight year.(Table 12-13)

Table 12 Automotive Exports in value terms (FOB)

(billions of yen)

Year	Motor Vehicles	Total	% of Total
1996	7,903.2	44,731.3	17.7
1995	7,241.9	41,530.9	17.4
1994	8,129.1	40,497.6	20.1

1993	8,769.5	40,202.4	21.8
1992	9,792.0	43,012.3	22.8
1991	9,353.3	42,359.9	22.1
1990	9,321.9	41,456.9	22.5
1985	10,061.2	41,955.7	24.0

Source: The Summary Report on trade of Japan, Ministry of Finance

Table 13 Automotive Imports in value terms (CIF)

(billions of yen)

Year	Motor Vehicles	Total	% of Total
1996	1,329.5	37,933.4	3.5
1995	1,094.9	31,548.8	3.4
1994	854.0	28,104.3	3.0
1993	699.6	26,826.4	2.6
1992	788.4	29,527.4	2.7
1991	853.3	31,900.2	2.7
1990	1,035.2	33,855.2	3.1
1985	173.6	31,084.9	0.6

Source: The Summary Report on trade of Japan, Ministry of Finance

The Japanese automotive industry, which was insignificant both domestically and internationally before and during World War (1941-1947),has showed a remarkable growth. Japan overtook West Germany and became the largest automobile exporting country in the world in 1974, and overtook the U.S. and became the largest automobile producing country in the world in 1980. Today Japan is maintaining its position as the world's largest producer and exporter.

In the less than 40 years since the end of the war, the Japanese automotive industry has become a leading industry in the economy and has grown to a global scale. The development experience of its automotive industry is worth noticing. Normally the development course of Japanese automotive industry after the war can be divided into five stages:

1. Reconstruction under occupation (1945.9 - 1951)

As part of the occupation policy, domestic production of motor vehicles was strictly controlled for a short period after the end of the war because they were considered as commodities capable of being used for military purposes. In September 1945,

production of trucks began under the supervision of GHQ in order to mitigate difficulties in transportation of commodities for economic reconstruction. GHQ gave permission for the production of passenger cars in June 1947 but only for government and business use. GHQ removed production restrictions for small vehicles in October 1949. And in April 1950 all production restrictions and price controls were abolished.

In the midst of changes in the occupation policy, manufacturers in the automotive industry established their associations in 1948: the Japan Rubber Manufacturers Association was established in March, the Automobile Manufacturers Association and the Auto Parts Industries Association in April, and the Auto-Body Industries Association in June. With the establishment of these associations, the industry had prepared for reconstruction.

October of the same year saw the announcement of the Basic Automotive Industry Policy. As an industry able to play a leading role in the strengthening of transportation capacity, the automotive industry was made a priority to promote in this policy. The targets set in the policy for the industry were (a) putting trucks, especially small-size trucks, as leading products, (b) establishing a mass production system by absorbing advanced technology, and (c) promoting exports to Southeast Asia. Along these lines, the automotive industry was given priority in the allocation of raw materials and funds. Finance supplied to the industry by the Reconstruction Finance Corporation (RFC) had reached 766.5 million yen at the end of 1948, the greater part of this going to Toyota, Nissan, Diesel Motors. With capital investment financed by RFC, production of buses and trucks increased from 9,881 units in 1947 to 18,493 units in 1948.

Industrial recovery progressed with truck production playing a major role. However, under the deflationary policies of the Dodge Line of 1949, it experienced its first postwar slump. What saved the situation were Special Procurements by the U.S. Forces with the outbreak of the Korean War in June 1950. From July 1950 to June 1951 the demand from this source was about 10,000 units of military trucks. This was approximately equivalent to half the number of buses and trucks produced in 1950.

In order to cope with the special demand for trucks, manufacturers were faced with the necessity of replacement of old facilities that had been used during the war, and they began to invest for rationalization. As part of the government policy in favor of filling the need of the Special Procurements, the industry received government assistance, for example, in the form of exchange allocation for the import of machinery such as machine tools of the U.S.make. As well as allowing the industry to survive the difficulties caused by the Dodge Line deflationary policy, the special demand of the Korean War stimulated the rationalization of the industry. Investment for rationalization was continued after the Korean War in order to meet the expanding demand for buses and trucks in the domestic market. The accumulation of capital through promoting rationalization at this period provides the basis for subsequent development.

2. Achievement of industry independence

In July 1952, restrictions on import of motor vehicles were removed and imports and sales of foreign vehicles became free except tariffs and foreign exchange control. With the importation of low priced foreign vehicles, the lack of competitiveness of domestic vehicles became clear. To cope with foreign makers, modernization and rationalization of production facilities became a matter of considerable urgency in this period.

Prior to the relaxation of restrictions on imports, the Small Passenger Cars program was made following talks between MITI and automobile manufacturers in October 1951. The overwhelming superiority of foreign vehicles and the fact that the Japanese economy could not afford to import passenger car industry. The Small passenger Car Program provided the following:

a) arrangement for long term loans from the Japan Development Bank and other government financial institutions for facilities for small passenger car production;

b) Assisting measures for the import of machinery (reductions in tariffs and property taxes, accelerated depreciation, etc.);

c) favorable conditions for the import of materials and parts such as polishing materials and bearings required for improving the quality and lowering the price of passenger cars;

d) assisting measures for the import of small passenger cars for R&D purposes and for the import of foreign technology; and

e) commodity tax exemption for domestic vehicles, a higher rate of commodity taxes for foreign vehicles than domestic vehicles.

To sum up, in order to foster the automotive industry in Japan, such measures were introduced as government's financial assistance and tax incentives, protection from direct investment by foreign companies and from imports of foreign vehicles and permission to import foreign technology under favorable terms, and mass production system of small vehicles would be established.

To this end, MITI formulated the basic guidelines regulating the inflow of foreign direct investment in the automotive industry in June 1952. Under the law Concerning Foreign Capital enacted in 1950, the guidelines provided that approval be given for (a) the imports of technology for the purpose of quality improvement of domestic passenger cars, or (b) the imports of technology for the purpose of domestic production of foreign models. In October of the same year, the guidelines for tie-ups and assembly contracts in the passenger car industry were formulated, as a follow-up from the former guidelines. They restricted the imports of "unnecessary" capital and technology. The guidelines provided, firstly, that approval is given for introduction of capital to be used in the domestic automotive industry development but not to be used in sales. Secondly, they provided that technology could be imported for domestic production but for specified components these were to have a 90% local content in five years after entry into the contract. Thirdly, if the sole purpose of the introduction of capital or technology were the assembly of foreign vehicles, approval would not be given.

Once the government's guidelines had been announced, some auto manufacturers actively sought to enter into technology tie-ups with foreign firms and tried to acquire

automobile production techniques through the local production of foreign models. In 1952 Nissan conducted technology tie-up with Austin (U.K.), and Isuzu with Rootes (U.K.), Hino with Renault (France), Mitsubishi Heavy Industries with Willy's Overland (U.S.A.)in 1953. Toyota took a policy of purely domestic production and made efforts to rationalize its production system and to improve technology independently. Toyota's efforts, however, depended on imported machinery.

The Japanese automotive industry saw complete recovery, with truck production at its core. With its accumulated technology as a base, and rationalization and modernization of facilities based on technology tie-ups with foreign automakers and imported machinery, the groundwork for a passenger car production on a large scale was laid. MITI announced its "People's Car" concept (May 1955), one of the objects of which was to expand personal demand. This provided a stimulus for the development of popular cars such as "Subaru 360" released by Fuji Heavy Industries in May 1958 and influenced the subsequent popularization of passenger car in Japan. In the latter half of the 1950s automobile manufacturers made efforts to establish mass production system and reduce production cost through improvement and expansion of facilities. At the same time, they competed with each other in marketing and developing new models in order to develop new demand in passenger car market. As a result, Production of passenger cars grew remarkably. It increased from 4,837 units in 1952 and 20,000 units in 1955 to 165,000 units in 1960, constituting over 1/3 of the total vehicle production.

3. Liberalization and domestic market expansion

For the automotive industry, the 1960s were a time of trade liberalization. In June 1960, the government announced the Overall Plan for Trade and Capital Liberalization that aimed to achieve 80% in three years. According to the government policy, the automotive industry along with the petrochemical industry was to be developed as a strategic industry and a future export industry. The industry received preferential treatments in the form of priority for government's Fiscal Investment and Loan Program (FILP), and tax incentives for rationalization. Public investment such as road construction also substantially contributed to the industry's development.

Furthermore, trade liberalization of automobile was postponed as long as possible. In April 1961 liberalization of imports of trucks and buses, which were already internationally competitive, was completed. For passenger cars import liberalization was carried out in October 1965 after shifting from a system of foreign exchange allocation to import quota system in 1964. However, import liberalization of engines did not take place until April 1971, when capital liberalization was carried out.

The automotive industry was required to grow into an internationally competitive industry during the time which “postponement of liberalization” gave. Manufacturers strove to construct and expand facilities to establish mass production system and reduce production cost in order to compete with imports. It was also expected that the export of mass produced small passenger cars would contribute too the acquisition of foreign exchange.

Capital investment in the industry sharply increased from 4.0 billion yen in FY 1955 to 52.6 billion yen in FY 1960. During this period, most of the existing automobile manufacturers, who had not produced passenger cars up till then, entered this field and set up new facilities.

By the time of liberalization in 1965, manufacturers had almost completely established a mass production system. The severe competition between manufacturers made it possible to decrease the price of vehicles. With a remarkable increase in national income led by high economic growth, this relative decline of car price accelerated popular car ownership.

Towards the end of the 1960s, in response to capital liberalization, the automotive industry entered its second round of reorganization with mergers and tie-ups with American manufacturers. The Foreign Capital Council gave approval for capital tie-up between Mitsubishi and Chrysler (USA) in May 1971, and between Isuzu and GM (USA) in July of the same year. By then the auto manufacturers were divided into six groups/individual makers: Toyota Group, Nissan Group, Mazda, Honda and two manufacturers with capital participation of foreign firms-Mitsubishi and Isuzu. As a

result of the reorganization, production was concentrated in the two largest manufacturers: Toyota and Nissan.

As stated above, the automotive industry in Japan succeeded in achieving international competitive during the 1960s through expansion of facilities and construction of new plants, industrial reorganization and establishment of mass production system. Therefore, the industry was able to respond to expansion of domestic market, which was brought by increased national income, and construction of road network. The industry was also able to increase exports and cope with capital liberalization.

4 Expansion of exports and concern over environment and energy issues

In the 1970s the Japanese economy faced a number of major turning points and one of them was pollution. Emphasis in economic policy shifted from “growth attitude” to “social, environmental and international attitude”, that is matters of environment preservation, energy conservation and international harmony became more important in policy issues.

In this period, the automotive industry also faced the maturation of domestic market and was forced to seek overseas market for further development. Increase in domestic sales of new motor vehicles in the 1960s was more than 3.5 million units from 410,000 units in 1960 to 4.1 million units in 1970 and the number of motor vehicles in use reached 17.58 million units in 1970 from 1.35 million units in 1960. On the other hand, domestic sales were 5.02 million units in 1980, an increase during the decade of the 1970s was around on million units. Compared with the large increase in the 1960s, Japanese domestic market stagnation in this decade was clear. This situation brought the necessity for Japanese automobile makers to look for markets overseas.

Accompanying the rapid diffusion of motor vehicles, atmospheric pollution became a problem. Japan’s first automobile exhaust emission regulation was introduced in 1966 and exhaust emission limits have been progressively tightened over the years in response to the increasing public concerns over environmental issues. In January 1974,

the Japanese “Musk Act (the Clean Air Act Amendment of 1970)” was enacted, and the automotive industry was pressed to meet requirements under the regulations by the target year of 1975. The 1975 requirements were the most stringent automobile exhaust emission regulations in the world. It became imperative for manufacturers to develop low pollution engines. Mazda, Honda, Suzuki and Mitsubishi made great contributions to the development of emission control technology, for example, Mazda’s rotary engine, Honda’s CVCC method and Mitsubishi’s MCA system.

In order to encourage producers to meet the requirements, the government introduced tax incentives such as commodity tax and acquisition tax reductions for vehicles satisfying the requirements. The government also conducted “Electric Automobile Project” from 1971 to 1977 under the scheme of the Large-scale Industrial Technology R&D System by the Agency of Industrial Science and Technology of MITI.

The increase in oil prices following the oil crisis raised concern throughout the world over fuel conservation. This contributed to the strengthening of the relative competitiveness of the Japanese automotive industry, with its small cars and efforts to increase fuel efficiency, and to the expansion of exports.

Motor vehicle production rose to 11.04 million units in 1980 from 5.29 million units in 1970, the production volumes first broke the 10 million marks. The passenger car accounted for 64% of the total. Export reached 5.97 million units in 1980. It was clear that the increase of production in the 1970s was mainly brought by expansion of foreign markets.

On the other hand, imports were still small despite trade liberalization. Only 48,000 units were imported in 1980, including 46,000 passenger cars. It was pointed that differential tax rates discouraged imports of large vehicles, and the most stringent emission requirements as well as safety and fuel efficiency regulations amounted in substance to non-tariff barriers.

5. Trade friction and overseas manufacturing operations

With low fuel consumption and high performance, demand for Japanese vehicles increased in the world market, as stated above. The factor underlying the expansion of Japanese exports also led foreign manufacturers, in particular the US manufacturers to management difficulties and to large scale layoffs. It became one cause of a rising protectionism.

Friction with foreign nations, particularly in the negotiations in the US-Japan auto dispute began to emerge around 1979. The background of the trade friction was the stagnation of the US automotive industry and, despite this, the expansion of Japanese auto exports to the USA. From a peak in 1977 of 9.21 million units in 1979. On the other hand, exports of Japanese vehicles to the US grew from 710,000 units in 1975 to 1.41 million units in 1978 and reached 1.55 million units in 1979. Three major US automobile makers--GM, Ford and Chrysler--recorded losses in 1980. The Japanese exports to the U.S. further increased to 1.82 million units in the same year. Therefore, negotiations were held and voluntary restraint by Japan on exports to the U.S. to be exercised (11.68 million vehicles in FY 1981-1983, 1.85 million in FY 1984,2.30 million in FY 1985 - 1990). Thereafter, voluntary restraints on exports to Europe were implemented too.

It was under these circumstances that manufacturers planned and began overseas manufacturing operations, both independently and jointly with local manufacturers. Most of these projects took place in the North America. Honda built its Ohio plat (production start-up in 1982), Nissan its Tennessee plant (production start-up in 1983) and Toyota its California plant (production start-up in 1984). With the appreciation of the yen after the Plaza Agreement in 1985, overseas manufacturing operations became not only a measure for overcoming trade friction and restrictions but for seeking management efficiency. Production volumes from the overseas manufacturing plants in North America exceeded one million marks in 1989 with 1.25 million vehicles being produced.

4.2 CURENT TRENDS IN THE AUTOMOBILE INDUSTRY IN THAILAND

(1) Assembled Vehicles Production in Thailand

The automotive industry is an important manufacturing sector in Thailand. It produces more than 500,000 automobiles annually. Government policies encouraging automobile assembly and local content have expanded demand for parts and components produced in Thailand. From 1993 - 1996, the value of assembled vehicle production increased annually. Almost all type of automobile production unit was peak in 1996 and decrease there after. This surely leads to decrease in demand for spare-parts in general. (Table 14-16)

Table 14 Production volume of assembled Vehicles

Type of vehicle	1993	1994	1995	1996	1997	1998 Jan.-Nov.
Passenger cars	144,449	109,830	127,242	138,579	112,041	30,419*
Pick-up trucks	245,903	287,284	346,790	357,802	223,243	111,159
Vans and micro-buses	1,770	1,738	1,625	3,639	1,977	60
Buses	1,056	1,146	1,726	609	554	561
Medium and heavy duty trucks	26,893	34,003	48,297	46,683	22,488	1,467
Total	420,071	434,001	525,680	547,312	360,303	143,666

Remark: * including four wheel drive car 1,706
Source: Automotive Industry Club

(2) Demand for Automotive industry and parts

Table 17 shows the growth of automobile sales from 1993-1996. The growth of sales in Thailand has been remarkable in that period, and this is largely attributable to the inflow of new investment and expansion of existing production capacities, increase in car imports, and the fall in of existing production capacities, increase in car imports, ant the fall in car prices following liberalization. According to economic crisis from 1996, sale amount of automobile decreased. The numbers of automobiles sale in 1997 and 1998 are 363,158 and 126,177 units respectively

The automotive parts industry was developed as derived demand of automobile industry. In the beginning most of spare part did not have high quality and mostly for import substitution policy of government. Market derived demand for spare part depends on sales volumes of automobile that directly links to economic situation.

Japan automobile has been major market share in Thailand since these industries have been developed. According to local content policy, production of Thai’s automotive

parts as well as parts supplied by Japanese joint venture in spare parts manufacturing increased. Because of the lower wage rate in Thailand and appreciation of Yen were incentives for Japanese company investment in automotive parts manufacturing. In Thailand, spare manufacturing is supplied to Original Equipment Market (OEM) and Replacement Equipment Market (REM). At present, automobile spare parts compose of Japanese affiliated, local suppliers, and joint venture company.

Table 15 The Number of Automobile Sale Units from 1993 to 1998

Type of vehicle	1993	1994	1995	1996	1997	1998 Jan.-Nov.
Passenger cars	174,62	155,670	163,371	172,730	132,060	39,822
One ton pick-up	224,388	258,091	323,813	327,663	188,324	71,186
Vans and micro-buses	11,727	12,672	12,425	12,633	8,353	2,584
2-4 ton truck	12,717	14,139	16,383	16,683	9,021	2,604
Big truck	15,573	22,312	31,766	31,814	11,275	3,467
Others	17,894	22,794	23,822	27,603	14,123	6,514
Total	456,461	485,678	571,580	589,126	363,156	127,177

Source: Automotive Industry Club

(3) Import-Export of Automobile and Parts

Base on report of Business Economic Department, it is found also that large volume of automobile machinery and spare-part are imported as well. In 1994, 1995, 1996 and 1997, the amount of spare-part imported were 51,269.5, 77,094.0, 79,468.4 and 45,116.1 million Baht respectively. It can be deduced that level of development of spare pare industry in Thailand has been advanced significantly (Table 16)

Table 16 Import of Automobile and Parts

(Million Baht)

Product	Value of Import			
	1994	1995	1996	1997
Vehicle	43,802.1	44,798.4	37,364.2	18,524.1
Components and Equipment	51,269.5	77,094.0	79,466.4	45,116.2
Motorcycles and Components	29.8	12.2	41.1	48.6
Total	95,101.4	121,904.6	116,871.7	63,688.8

Source: Department Business Economics

Table 17 shows export of auto-parts increased from 10,728.3 million Baht in 1996 to 14,198.3 million Baht in 1997. The export value of vehicle, components and equipment, motorcycles, and components increased in 1997.

Important export items are electrical wire, which valued 5,738.72 million Baht in 1993. Gasket valued 4,913.22 million Baht in 1993. Electrical part of automobile valued 4,519.85 million Baht in 1993. Clutch and parts valued 2,745.91 million Baht in 1993.

Table 17 Export of Thai Automobile and Automobile Parts

(Million Baht)

Product	Value of Export			
	1994	1995	1996	1997
Vehicle	2,149.7	2,350.7	4,901.6	18,417.3
Components and Equipment	16,598.7	10,287.7	10,728.3	14,198.3
Motorcycles and Components	3,980.4	4,723.3	5,202.4	7,364.1
Total	22,728.8	17,361.7	20,832.3	39,979.7

Source: Department Business Economics

4.3 AUTOMOBILE INDUSTRY DEVELOPMENT POLICIES

Fig.9 shows the development stages and current state of automobile industries in developing countries. In general, they have followed a similar path. The first stage is the limited importing of completely built-up (CBU) vehicles under import licenses. At the second stage, the industry shifts to semi-knock-down (SKD) importing. The third stage is complete knock-down (CKD) importing. After assembly-related technology has been accumulated through this process, the industry can finally advance to the fourth stage, at which domestic souring of part can begin in earnest. Thailand is just on the threshold of the fourth stage. According to the experiences of other developing countries, the selection of policies at this stage has had an important bearing on the future direction of automobile industry development in their countries.

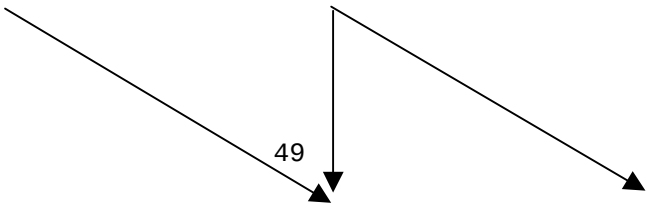
Figure 9: Development Stages and Current State of the Automobile Industry in Developing Countries

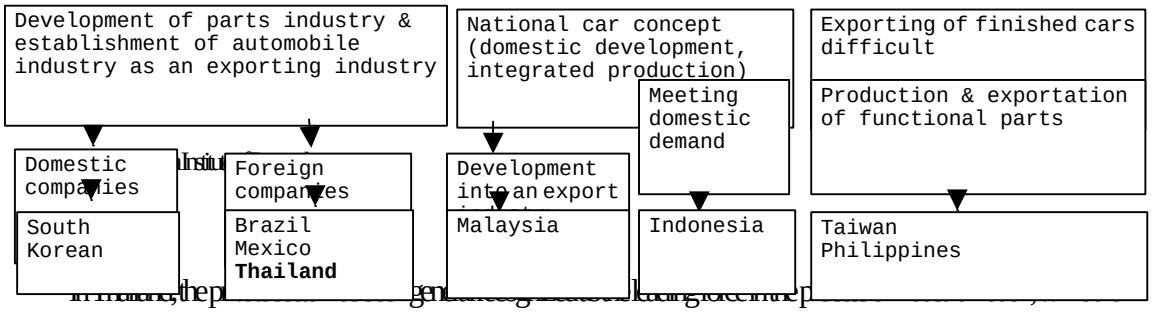
Stage 1: Limited importing of completely built-up (CBU) vehicles under import licenses

Stage 2: Semi-knock-down (SKD) importing

Stage 3: Complete know-down (CKD) importing (limited use of domestically produced parts)

Stage 4: Local content policies (production and use of domestically produced parts)





government's facilitating role also deserves hai state did not exhibit highly centralized political leadership or links to specific businesses. In the case of automotive industry, the Thai government basically encouraged foreign multinational corporations (MNCs) to establish their production bases by providing various privileges and protection, and the government simultaneously adopted policies to develop local parts suppliers.

The emergence of automotive industry in Thailand dates back to the early 1960s. With the enactment of the Industrial Investment Promotion Act of 1960 and its revision in 1962, the Board of Investment (BOI) provided incentives for automotive assemble plants to locate in the country. This policy revision proved to be successful in attracting foreign investors from the US, Japan and Europe to set up joint ventures with Thai businesses. During the 1960s, several joint ventures were established to set up assemble plats for commercial and passenger vehicles, including Thai Motor Industry Co.,Ltd. (a joint venture between Anglo-Thai Motor and Ford (UK)), Karanasuto General Assemble (Fiat) Co., Ltd., and a joint venture between Siam Motors and Nissan Co., Ltd.

By the end of 1960s, however, it had been recognized that lack of controls on new entrants and linkages had resulted in a proliferation of inefficient import-dependent assemble operations, which led to an increase in trade deficits and inability of the industry to achieve the economies of scale. Through consultations both within the bureaucracy and with businesses, the government came up with a new policy aimed at progressive localization of auto production. In 1971, the Automobile Development Committee, which had been established under the Ministry of Industry announced a policy requiring progressive increases in localization ratios to 25 percent for passenger cars, 20 percent for commercial cars with windshields, and 15 percent for commercial cars without windshields by 1975. In response, Japanese auto parts subcontractors started to invest in Thailand, and Thai firms also became actively involved in parts production. However, at this stage, the effect of the localization policy was undermined by competition between locally assembled cars and imported CBU automobiles, and it was also diminished by the lack of economies of scale due to the existence of too many assemble plants.

In the 1978, the government announced an import ban on CBU passenger cars, and it raised import tariffs on CKD kits from 50 percent to 80 percent. The local content requirement for passenger vehicles was also raised from 25 percent in 1978 to 50 percent during the five years up to 1983. However, due to slow growth of production and sales resulting from the economic recession in the early 1980s, and in response to the demands from the businesses, the Ministry of Industry temporarily froze the local content requirement for passenger vehicles at 45 percent in 1982. In order to promote large-scale production, the government prohibited the establishment of new plants and the introduction of new models or series, while allowing the assemblers to expand the size of the existing plants.

The automotive industry in Thailand encountered difficulties during the period from the late 1970s to the mid-1980s. By the mid- 1970s, the first oil crisis slowed down economic growth, while domestic political instability and the Vietnam War aggravated the political and economic risks for foreign investors. For these reasons, General Motors (GM) and Ford pulled out of Thailand completely in the late 1970s, and Fiat also withdrew because it could not meet local contents requirement. The slow economic growth continued into the early 1980s, which, along with the government strengthening local content requirements every year, put Japanese manufacturers in a difficult position. However, they maintained their operations through the turbulent years, which eventually enabled them to capture the dominant position in Thailand's car market.

After 1987, the industry started to expand rapidly, led by rapid growth of the Thai economy and increased purchasing power of the middle class coupled with the surge of foreign direct investment (FDI) inflows by Japanese firms after the Plaza Accord in 1985.

The early 1990s saw a drastic change in the policy towards liberalization of the auto industry. The government has initiated the policy change under newly appointed Prime Minister Anand Panyarachun. Officially, the policy shift was intended to strengthen international competitiveness of the industry by increasing competition among local producers who had enjoyed protection for a long period, and also to sere the benefits of consumers by lowering car prices. In 1991, the government lifted the ban on import of CBU passenger cars with a displacement volume of 2,300cc or less, and the total import tax (duty plus surcharge) burden on passenger cars and the import duty rate on CKD kits were substantially reduced. In 1992, further tariff reductions were implemented on six important components and materials. The 1993, the government announced approval for establishing new passenger vehicle assembly plants.

As the price gaps between imported and domestically produced cars narrowed imported passenger cars form the US and Europe flooded into the market. In addition, low-priced for Japanese multinationals. The share of Japanese manufacturers in the total passenger car sales decreased from 79.0 percent in 1990 to 68.7 percent in 1995. For responding that situation, the Japanese firms tried to cut down production costs and launched a series of low-priced Asian passenger cars.

In 1993, the Thai government started to promote export orientation for the automotive industry, which was an important turning point in Thailand's automotive industrial policy that had always targeted at the domestic market. In line with "The Automobile Industry Export Promotion Project" announced by the Ministry of Industry, the BOI granted incentive for assembling automobiles for export, which include exemption from import duty for auto parts and exemption form corporate income tax for eight years from establishment. (Table 17)

The outlook seemed bright in the mid-1990s, when Thailand was expected to become the regional center of automotive production and sales in ASEAN for MNCs. Domestic car sales totaled nearly 600,000 in 1996 and were forecast to increase to between 850,000 and 915,000 in 2000, and the bright outlook for Thailand's automotive market attracted new investment. Ford and Mazda formed a joint venture to produce pickup trucks, and they planned to export about half of the production. In 1996, GM decided to invest US$750 million in pickup truck production, and they planned to export 80 percent of the output. Along with the above-mentioned incentives, GM succeeded in eliciting special privileges from the Thai government, including exempting all assemblers from the local content requirement beginning in July 1998, a year and half ahead of the January 2000 date specified by the WTO. In addition, the major investors in Thailand announced plans to expand production capacities towards the end of the decade, which would increase the total annual production capacity in the country to 1,099,000 units by 2000.

Table 18: Trends in Automobile Industry Policies in Thailand

Thailand	
1962	Enforcement of amended industrial investment promotion law. Preferential treatment (Import tariffs, business taxes, etc.) (Import substitution through CKD production.) Local assembly plants of Japanese manufacturers start production.
1969	Preferential measures abolished.
1971	Automobile industry development policy. (Limits on numbers of makes and models assembled, 25% local content requirement by 1973, transition to CKD production.)
1978	CBU(passenger cars) imports banned, review of tariff rates. (Imports of passenger cars below 2.3 liters and large buses banned.) Local production becomes mandatory. (Given percentage method adopted. 50% for passenger cars by 1983, 45% for 1 ton pickup trucks by 1984.)
1984	New automobile industry development plan announced. (local content ratios of 54% for passenger cars and 61% for 1 ton pickup trucks by 1988.)
1986	Use of locally built engines in compact commercial vehicles becomes mandatory.

(Continues)

Thailand	
1989	20% local content requirement for engines enforced. (Subsequently to be increased by 10% annually, reaching 80% in July 1995.)
1991	CBU imports legalized. Value-added tax introduced.
1993	Ban on construction of new automobile assemble plants lifted.
1994	Reduction of import tariffs on CKD units for export decided.

Source: Compiled from Fourin, 1993/1994 Asia Jidosha Sangyo (Asian Automobile Industry 1993/1994); Toyota Motor, Asia Oceania no Jidosha Shijo (Automobile Markets in Asia and Oceania), public information publication; and other sources.

4.4 PROBLEM OF AUTOMOBILE INDUSTRY DEVELOPMENT

The automobile and part industry has problem of increasing cost and has to rely on large scale of production. Production plan and model are controlled by brand-owner. Relocation of industry to Thailand depends solely on parent company, investment climate, and government policy and production technology.

In conclusion, spare part industry has several obstacles. Basically, these are as follows:

1) Problem from high import duty on certain import input to part production

2) In appropriate classification of custom duty structure

3) Import duty on machinery and machine tool that is necessary in die production such as copy million machine, teaser, Electro discharge machine, Electro discharge Wire Cut, universal tools grinder

4) Problem of disqualified raw materials such as iron and steel, aluminum, owing to insufficient investment in basic steel industry, insufficient capable human resource, and high import duty on precision instrument necessary for quality control in production.

5) Sub-optimal economy of scale in production but high capital investment in some product such as ball bearing, crank shaft, fuel injection pump, carburetor.

6) Inability of local maker to create its own technology. Affiliate company and joint venture company has to rely on parent company's

technology and know how, lack of actual technology transfer. Government of parent company provides only technical assistance.

4.5 PROPOSED MEASURES

Thai government has set policy oriented to free trade on part industry. The original policy was as follows:

1) Free to establish and extend manufacturing

2) Automobile assembly must use local spare-part:

- Not less than 54% in car assembly; about 60-70% and use local automobile machine in small truck assembly
- Not less than 40-50% and 7 defined spare-part in truck and passenger car assembly
- Motorcycle must use local machine

3) Give promotion to automobile and spare-part industries by BOI

4) Major export promotion policy of automobile and spare-part is:

- Automobile assembly manufacturing for export is not under the regulations of using local spare-part in assembly;
- Exemption of duty on imported raw material for automobile industry that produce for export;
- Tax Refund for export of automobile and spare-part with respect to announcement of Ministry of Finance;
- Reduction of import duty on raw material by BOI privilege;

- Permit to establish bondage warehouse
- Establish exports process zones;
- Coordinate with ASEAS in AIJV and BBC project

Proposed measurement of government should be as follows:

1. Restructuring import tariff on raw material, and semi-intermediate product, parts, machinery, machine tool and equipment, especially products that can not be produced or substituted by domestic production. This to adjust tariff structure to reflect our real competitiveness according to the effective rate of protection.

2. Abolish all law and regulation that cause delay in export procedure. Exception is only for health and sanitary standard.

3. Restructuring government administration to be flexible for rapidly change and high competition in the real world.

4. Support a development of products and quality for competitiveness.

5. Support and promote a development of technology, skilled personnel, technician, and engineer to be consistent with automotive parts development. Motivation of research initiation by local entrepreneur.

6. Arrange sources of low interest rate and make laws and regulation to support local auto-part industry. Government should be mediator in debt restructuring to make it fair and efficient.

7. Help to find and expand markets for local industry.

8. Arrange and prepare infrastructure that reduces barrier to produce and export

9. Grade up and standardization of product quality, testing qualifying of product quality.

10. Supporting development of special technology, process, design and engineering and mould and die industry to be able to design and develop prototype and product to be competitive in market.

11. Create market and investment alliance in world, expansion of marketing channel in foreign countries.

12. Promote SME accessibility to low cost of fund.