

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

DEPARTMENT OF INDUSTRIAL PROMOTION,
MINISTRY OF INDUSTRY
THE KINGDOM OF THAILAND

**THE STUDY
ON
INDUSTRIAL SECTOR DEVELOPMENT
SUPPORTING INDUSTRIES
IN
THE KINGDOM OF THAILAND**

MARCH 1995

UNICO INTERNATIONAL CORPORATION

TOKYO, JAPAN

MPI
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95-089

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Preface

In response to a request from the Government of the Kingdom of Thailand, the Government of Japan decided to conduct a Study, "Industrial Sector Development - Supporting Industries - in the Kingdom of Thailand", and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA sent to the Kingdom of Thailand a study team headed by Mr. Shozo Inakazu of UNICO International Corporation six times between September 1993 to February 1995.

The team held discussions with the officials concerned of the Thai Government, and conducted field surveys at the study area. After the team returned to Japan, further studies and analysis were made and this report was prepared.

I hope that this report will contribute to the promotion of the industrial development program and enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Thai Government for their close cooperation extended to the team.

March 1995



Kimio Fujita

President

Japan International Cooperation Agency



March 1995

Mr. Kimio Fujita
President
Japan International Cooperation Agency
Tokyo, Japan

Dear Mr. Fujita

Letter of Transmittal

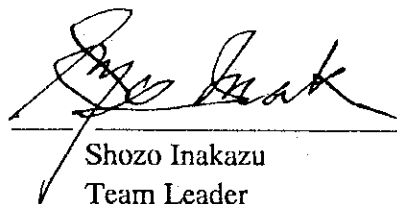
We are pleased to submit to you the final report on the Study on Master Plan for Industrial Sector Development – Supporting Industries – in the Kingdom of Thailand. The report contains studies on the present state of automotive, electrical and electronic industries in Thailand, analyses of the underlying conditions affecting the promotion of supporting (parts) industries, formulation and recommendations for a master plan and development programs based on the foregoing studies and analyses.

More specifically, a total of seventeen programs are recommended with regard to the support elements, namely policy and legislation, market development, technology upgrading, financial support, upgrading of management, and investment promotion for the development of supporting industries in Thailand. Scheduling and potential benefits of implementation of the programs are also mentioned in the report.

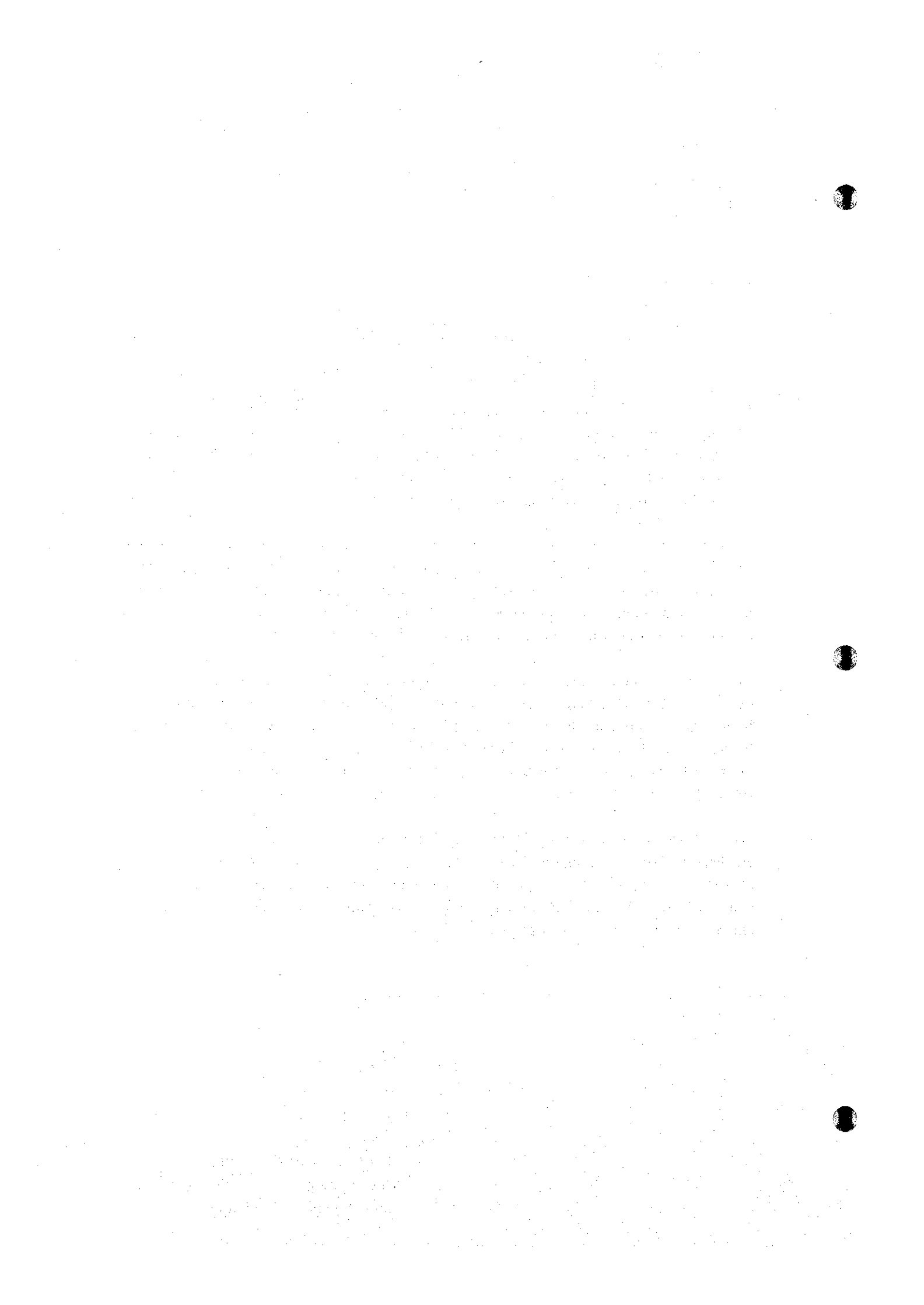
The Thai Government understands that it is an indispensable and urgent need for further development of Thai industries, to foster the supporting industries which are of great importance to reducing the import-dependent nature of the Thai economy, and intends to make a master plan to foster them. We believe that the programs recommended in the report serve as a basis for plans for fostering the supporting industries, which will substantially contribute to the industrial development of the country.

We wish to take this opportunity to express our sincere gratitude to your Agency, the Ministry of Foreign Affairs and the Ministry of International Trade and Industry. We also wish to express our deep gratitude to the Ministry of Industry and other authorities concerned of the Kingdom of Thailand for the close cooperation and assistance extended to us during our investigations and study.

Very truly yours,



Shozo Inakazu
Team Leader
Study on Industrial Sector
Development – Supporting Industries –
in the Kingdom of Thailand



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LIST OF ABBREVIATION

AAF	Asian Automotive Federation
AFTA	ASEAN Free Trade Area
AIA	Automotive Industry Association
AIDC	Automotive Industry Development Committee
AIJV	ASEAN Industrial Joint Venture
ASEAN	Association of South East Asian Nations
ASTC	Application Specific Integrated Circuit
BBC	Brand-to-Brand Complementation
BOI	Board of Investment
BOT	Bank of Thailand
BUILD	BOI's Unit of Industrial Linkage Development
CAD/CAE	Computer Aided Design/Computer Aided Engineering
CBU	Completely Build Up
CEPT	Common Effective Preferential Tariff
CKD	Completely-Knocked-Down
CNC	Computerized Numerical Control
CPU	Central Processing Unit
CRT	Cathode Ray Tube
DEP	Department of Export Promotion
DFT	Department of Foreign Trade
DIP	Department of Industrial Promotion
DIT	Department of Internal Trade
DOVE	Department of Vocational Education
DRAM	Dynamic Random Access Memory
DSD	Department of Skill Development
EPABX	Electronic Private Area Branch Exchange
FTI	Federation of Thai Industries
GATT	General Agreement of Tariffs and Trade
GDP	Gross Domestic Product
GSB	Government Saving Bank
HDD	Hard Disk Drive
HDTV	High Density Television
IC	Integrated Circuit
IDD	Industrial Development Div.
IEAT	Industrial Estate Authority of Thailand
IFCT	Industrial Finance Corporation of Thailand
IPO	International Procurement Office
ISD	Industrial Service Div.
ISO	International Organization of Standardization

ISTTC	Industrial Standardization Testing and Training Centre
JPPCC J/V	Joint Public/Private Sector Consultative Committee Joint Venture
LAN	Local Area Network
LCD	Liquid Crystal Display
NESDB	National Economic and Social Development Board
NICS	Newly Industrialized Countries
NPC	National Petrochemical Complexes
NSO	National Statistics Office
NSTDA	National Science and Technology Development Agency
MIDI	Metal Working and Machinery Industries Development Institute
MOC	Ministry of commerce
MOE	Ministry of Education
MOF	Ministry of Finance
MOI	Ministry of Industry
MOL	Ministry of Labour
MPV	Multi-Purpose Vehicle
MSTE	Ministry of Science, Technology and Environment
MTEC	National Metal and Materials Technology Centre
OECD	Organization for Economic Cooperation and Development
OEM	Original Equipment Manufacturing
OIE	Office of Industrial Economics
PC	Personal Computer
PCB	Printed Circuit Board
PCBA	Printed Circuit Board Assembly
PMO	Prime Minister's Office
REM	Replacement Equipment Manufacturing (after sales)
SICGC	Small Industrial Credit Guarantee Corporation
SIFC	Small Industrial Finance Corporation
SKD	Semi Knocked Down
SMD	Surface Mount Device
SMT	Surface Mount Technology
S&T	Science and Technology
TISI	Thai Industrial Standards Institute
TMDPC	Thailand Management Development and Productivity Centre
TPA	Technological Promotion Association (Thai-Japan)
TTC	Technology Transfer Centre
VCR	Video Cassette Recorder

Introduction

1. Background of the Study

In response to the request of the Government of the Kingdom of Thailand, the Japan International Cooperation Agency (JICA) carried out the Study on Industrial Sector Development (ISD) for three years since 1988, and formulated a development and promotion plan for the following industrial sub-sectors.

1st year (1988): Molds & dies, Toys

2nd year (1989): Textiles & garments, Wooden furniture

3rd year (1990): Plastic products, Ceramic products

After that, the Department of Industrial Promotion (DIP) requested JICA to extend the Study on Industrial Sector Development. The request was covering additional four subsectors, namely auto parts and accessories, electrical and electronics products, machine tools, and rubber products. As a result of extensive discussion, both parties agreed that it is an indispensable and urgent need for industries of the country, to foster the supporting industries which are import constitution so far. Especially, the automotive and electrical and electronic products industries has wide range of industrial linkage, however, they have been depending on import. So that the Government gives high priority to conduct a survey for these industries. This understanding was promoted by the JICA Project Finding Mission which visited Thailand in February 1993, and the Mission proposed to conduct the Study on two supporting industries; the auto parts industry, and the electrical and electronics parts industry. As a result, the JICA Preliminary Study Mission and the Department of Industrial Promotion agreed and signed on the Scope of Work for the Study on Industrial Sector Development -Supporting Industry- in the Kingdom of Thailand on 3rd June, 1993.

2. Objectives of the Study

The objective of the Study is to examine and analyze for the above two sub-sectors and its supporting industries, and to formulate a development and promotion plan by policies and institutional aspects as well as processing technology aspects.

3. Scope of the Study

The Study shall be conducted in two phases.

- Phase I:
- 1) Review of existing institutional and promotional policies relevant to supporting industries development.
 - 2) Review on the present status of selected supporting industries (auto-parts, electric and electronics parts)
 - 3) Selection of the prior products

- Phase II:
- 1) Review of the present institutional and promotional policies towards prior products
 - 2) Detail study on the present situations and problems hampering supply of prior products to the assemblers
 - 3) Literary study on the market situation of the prior products in other major countries
 - 4) Formulation of a master plan for development of the supporting industries
 - 5) Information services for promotion of investment and technical collaboration

The following product items were studied.

(1) Automotive

Automotive means four-wheel vehicles including buses and trucks.

(2) Electrical and Electronic Appliances

1) Home Electrical Appliances

Washing machine, Refrigerator, Air-conditioner, Electric fan,
Microwave oven

2) Home Electronic Appliances

VTR, TV, Audio equipment

3) Industrial Electronic Appliances

Telephone, Facsimile machine, Word Processor, Copy machine, Computer

Except heavy electric apparatus such as boilers and turbines.

"Supporting Industry" was an industry that supplies the parts and processing materials. The replacement equipment and parts (after sales) are a part of "Supporting Industry".

4. Methodology of the Study

Phase I

The Study in Phase I was initiated with a questionnaire survey and an interview survey of firms selected from both the assembly-type firms and primary parts supplier firms to realize the present conditions of the target industry as a whole. A total of 60 questionnaires were collected.

Besides the questionnaire and interview surveys, the JICA Study Team conducted visits to relevant governmental organizations, selected research institutes, training centers, financial institutions as well as public business organizations to identify present conditions and problems. A breakdown by visiting is summarized as follows;

Visits to	Total
Assemblers	19
Parts suppliers (Primary)	41
Institutions	25
	85

Phase II

The Study in Phase II was featured company visiting and factory diagnoses mainly on secondary parts suppliers. A total of 62 companies and 41 administrative, technical supporting and financial institutions were visited by the Team for making factory diagnoses as well as collecting supplemental data to the phase I survey. Besides the questionnaire surveys were conducted to small and medium scale enterprises in Thailand and Japan to analyze the present business situation of both SMEs.

A breakdown by visiting during the phase II survey is summarized as follows;

Visits to	Total
Factory diagnoses	62
Institutions	41

Questionnaire survey	Total
In Thailand (No. of interviews)	239
In Japan (No. of effective replies)	814

5. Schedule of Surveys

The Study Team conducted the following series of field surveys in Thailand, and submitted each report.

Field Survey Schedule

- | | |
|-----------------------------------|---|
| 1) September 20 – October 4, 1993 | First Field Survey (Presentation of the Inception Report) |
| 2) November 7 – December 21, 1993 | Second Field Survey (Main Field Survey) |
| 3) March 12 – March 18, 1994 | Third Field Survey (Presentation, Consultation and Confirmation of the Interim Report I) |
| 4) June 26 – August 12, 1994 | Fourth Field Survey (Main Field Survey) |
| 5) November 3 – November 12, 1994 | Fifth Field Survey (Presentation, Consultation and Confirmation of the Interim Report II) |
| 6) February 5 – February 16, 1995 | Sixth Field Survey (Presentation and Confirmation of the Draft Final Report, and Holding a Seminar) |

Reports Submission

September, 1993	Inception Report
December, 1993	Progress Report (I)
March, 1994	Interim Report (I)
August, 1994	Progress Report (II)
October, 1994	Interim Report (II)
January, 1995	Draft Final Report

Chapter 1 Thai Economy and Automotive and Electrical/Electronic Industries

This chapter identifies the relative position of the manufacturing sector in the Thai economy and identifies the role of the automotive and electrical/electronic industries within the framework. Then, the importance of promoting supporting industries is discussed from the viewpoint of structure of the automotive and electrical/electronic industries.

1.1 Relative Position of the Manufacturing Sector in Thai Economy

1.1.1 Manufacturing sector's share in GDP

Recently, economic importance of the manufacturing sector in Thailand has been growing year after year. Table 1.1-1 shows GDP breakdown by sector in the recent 5 years. Share of the manufacturing sector grew steadily from 25.8% in 1988 to 28.3% in 1992. The wholesale/retail and service industries (tertiary industry) follows the manufacturing sector, and held 16.6% and 12.9% shares in 1992 respectively. Making a sharp contrast to the fast-growing manufacturing sector, the agricultural sector has been on the declining trend in recent years and dropped GDP share to 11.9%, ranked fourth. As far as the GDP composition concerned, Thailand is regarded as an industrial nation.

In addition, growth rate of the manufacturing sector during the Sixth National Economic and Social Development Plan Period (1987 - 1991) reached 13.9%, far exceeding the original target of 6.6%. The country is now implementing the Seventh National Economic and Social Development Plan, started in 1992. In 1993, National Economic and Social Development Board (NESDB) adjusted economic growth rates in the planning period upward, including a 11.1% increase for the manufacturing sector. Now, it is almost certain that the sector's share in GDP will exceed 30% in 1996, the final year of the seventh development plan period.

Table 1.1-1 GROSS DOMESTIC PRODUCT BY INDUSTRY (At Current Market Prices)

	Unit: Million Baht									
	1988	1989	1990	1991	1992					
Gross Domestic Product (GDP)	1,559,804	1,856,992	2,191,094	2,505,629	2,804,935	100.0%	100.0%	100.0%	100.0%	100.0%
Agriculture	252,346	279,947	279,268	316,781	332,917	16.2%	15.1%	12.7%	12.6%	11.9%
Mining and Quarrying	26,599	31,885	34,638	39,004	41,755	1.7%	1.7%	1.6%	1.6%	1.5%
Manufacturing	403,034	496,714	595,181	708,868	793,449	25.8%	26.7%	27.2%	28.3%	28.3%
Construction	74,449	102,123	136,235	165,338	186,447	4.8%	5.5%	6.2%	6.6%	6.6%
Electricity and Water Supply	35,298	42,466	47,757	53,486	63,925	2.3%	2.3%	2.2%	2.1%	2.3%
Transportation and Communication	116,611	138,084	156,565	176,671	201,901	7.5%	7.4%	7.1%	7.1%	7.2%
Wholesale and Retail Trade	266,257	309,816	386,078	427,878	465,940	17.1%	16.7%	17.6%	17.1%	16.6%
Banking, Insurance and Real Estate	66,220	84,668	120,551	133,343	174,556	4.2%	4.6%	5.5%	5.3%	6.2%
Ownership and Dwellings	55,416	60,457	66,238	71,589	76,374	3.6%	3.3%	3.0%	2.9%	2.7%
Public Administration and Defence	56,488	64,621	76,560	86,498	106,291	3.6%	3.5%	3.5%	3.5%	3.8%
Service	207,086	246,211	292,023	326,173	361,380	13.3%	13.3%	13.3%	13.0%	12.9%

Source: National Accounts Division, NESDB

1.1.2 Exports and imports of the manufacturing sector

The manufacturing sector accounts for approximately 80% of Thailand's total export value and 86% of imports in 1993. Comparing exports and imports of the manufacturing sector on a value basis, as shown in Tables 1.1-2 and 1.1-3, imports still exceeded exports in 1993, 1,004.2 billion bahts vs. 753 billion bahts. The tendency of imports excess on a value basis has been continuing during the recent 5 years. In terms of annual growth rate, however, exports have been exceeding imports. (Fig.1.1-1)

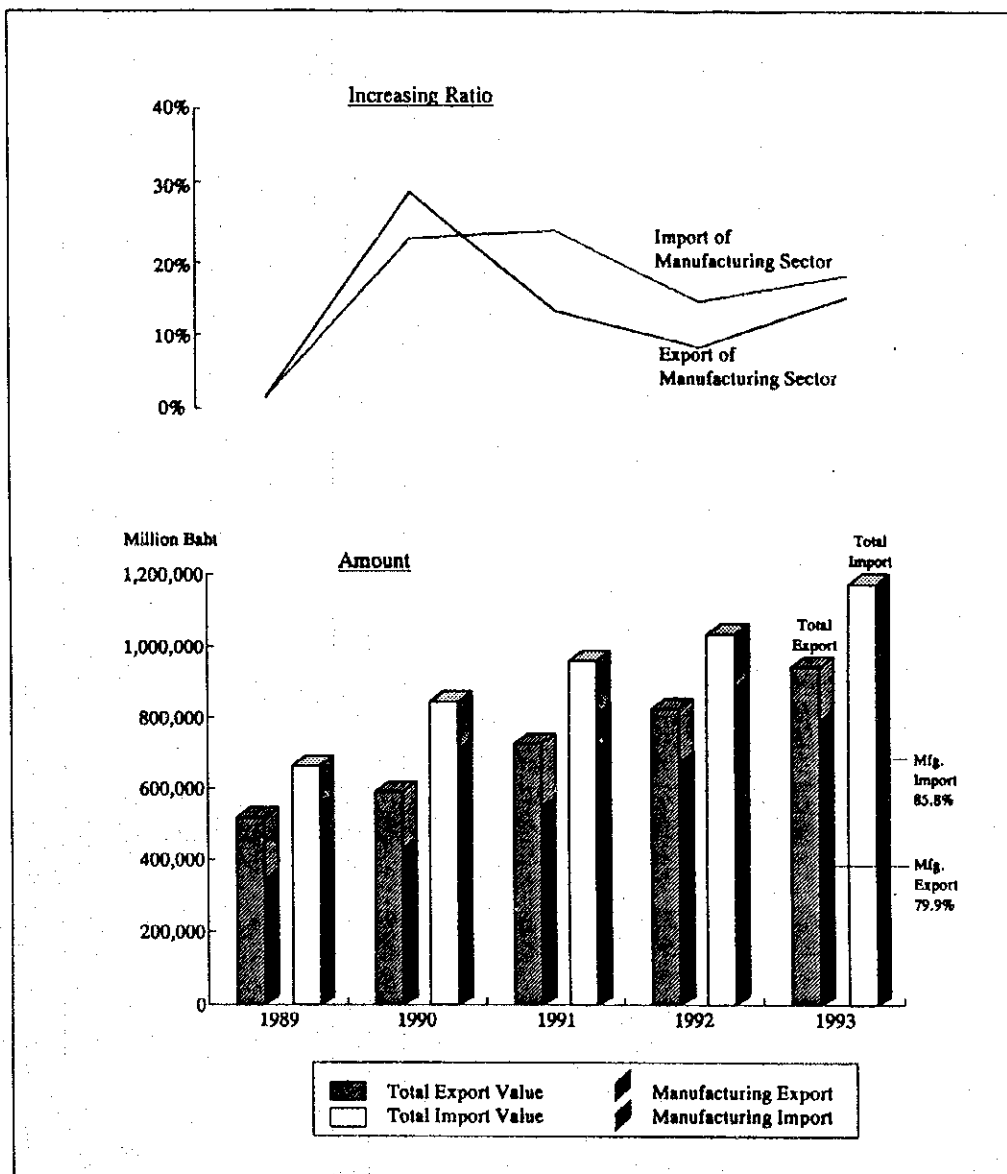


Figure 1.1-1 TRANSACTION OF EXPORT AND IMPORT

Table 1.1-2 EXPORT BY INDUSTRIAL SECTOR IN THAILAND

	1989		1990		1991		1992		1993	
	Value	%	Value	%	Value	%	Value	%	Value	%
Total Export Value	516,315	100.0%	589,813	100.0%	725,630	100.0%	824,643	100.0%	942,252	100.0%
Agriculture	118,508	23.0%	100,003	17.0%	109,279	15.1%	123,809	15.0%	111,965	11.9%
Fishing	28,538	5.5%	32,507	5.5%	43,703	6.0%	48,795	5.9%	55,561	5.9%
Forestry	703	0.1%	753	0.1%	876	0.1%	782	0.1%	366	0.0%
Mining	8,018	1.6%	7,438	1.3%	7,530	1.0%	6,804	0.8%	5,745	0.6%
Manufacturing	354,154	68.6%	440,395	74.7%	553,187	76.2%	634,386	76.9%	753,012	79.9%
Other goods	5,273	1.0%	7,062	1.2%	8,718	1.2%	8,642	1.0%	13,686	1.5%
Re-exports	1,121	0.2%	1,655	0.3%	2,337	0.3%	1,425	0.2%	1,917	0.2%

Source : Business and Industrial Statistics 1993, Bank of Thailand

Table 1.1-3 IMPORT BY INDUSTRIAL SECTOR IN THAILAND

	1989		1990		1991		1992		1993	
	Value	%	Value	%	Value	%	Value	%	Value	%
Total Import Value	662,679	100.0%	844,448	100.0%	958,831	100.0%	1,033,242	100.0%	1,169,867	100.0%
Agriculture	23,108	3.5%	29,173	3.5%	35,980	3.8%	40,302	3.9%	38,121	3.3%
Fishing	18,337	2.8%	19,961	2.4%	26,622	2.8%	23,629	2.3%	20,725	1.8%
Forestry	10,691	1.6%	13,821	1.6%	15,902	1.7%	18,167	1.8%	18,768	1.6%
Mining	42,246	6.4%	49,636	5.9%	50,081	5.2%	56,062	5.4%	59,514	5.1%
Manufacturing	543,707	82.0%	714,125	84.6%	808,900	84.4%	870,769	84.3%	1,004,248	85.8%
Other goods	24,590	3.7%	17,732	2.1%	21,346	2.2%	24,313	2.4%	28,495	2.4%

Source : Business and Industrial Statistics 1993, Bank of Thailand

While the value of trade has been growing steadily, Thailand's trade balance remains in deficit so far largely because of massive imports by the manufacturing sector. In other words, the country's exports of industrial products heavily depend upon imported capital and intermediate goods, which value is on the rise year after year. Realignment of trade structure in the manufacturing sector, therefore, holds the key to the improvement of trade balance for the country as a whole.

1.1.3 Employment in the manufacturing sector

In terms of employment, agriculture, forestry and fishing are still the largest sector, albeit being on the declining trend, and account for an average 57.3% of total over the five years since 1989. The manufacturing sector is in the second place with a 12.3% share during the same period, followed by the wholesale and retail trade sector 11.3%. Looking at general trends in the recent employment situation, manufacturing and construction industries record gradual increases, while the agriculture sector shows some decline. (Table 1.1-4)

Table 1.1-4 EMPLOYEES BY INDUSTRY

	Unit: Thousand Persons									
	1989		1990		1991		1992		1993	
Total	28,060.2	100.0%	30,843.2	100.0%	28,896.3	100.0%	29,202.9	100.0%	31,642.0	100.0%
Agriculture, Forestry, and Fishing	17,020.0	60.7%	19,725.7	64.0%	15,585.3	54.0%	14,905.4	51.0%	18,042.0	57.0%
Mining and Quarrying	46.7	0.2%	54.0	0.2%	63.4	0.2%	69.6	0.2%	65.0	0.2%
Manufacturing	3,104.3	11.1%	3,132.7	10.2%	3,802.0	13.2%	4,265.2	14.6%	3,939.0	12.4%
Construction	947.4	3.4%	1,026.4	3.3%	1,563.4	5.4%	1,913.9	6.6%	1,598.0	5.1%
Electricity, Gas and Water Supply	116.6	0.4%	108.7	0.4%	122.0	0.4%	112.0	0.4%	142.0	0.4%
Transportation and Communication	698.9	2.5%	732.9	2.4%	858.5	3.0%	855.6	2.9%	851.0	2.7%
Wholesale and Retail Trade	3,063.2	10.9%	2,976.2	9.6%	3,560.3	12.3%	3,592.6	12.3%	3,607.0	11.4%
Service	3,043.4	10.8%	3,065.0	9.9%	3,284.0	11.4%	3,469.1	11.9%	3,398.0	10.7%
Activities not Adequately Described	19.7	0.1%	21.6	0.1%	57.4	0.2%	19.5	0.1%	-	-

Source: Report of the Labour Force Survey in Whole Kingdom, National Statistical Office

Clearly, the agriculture, forestry and fishing sector employs much larger population (4.5 times) than the manufacturing sector. It should be noted, however, that many people in the agriculture sector work in urban areas to earn cash income during the off-season, and the manufacturing and construction

industries play an important role in providing employment opportunities. If this is taken into account, actual employment in the manufacturing sector increases further. Overall, it is undoubtedly concluded that the manufacturing sector increases its weight in employment.

1.1.4 Investment in the manufacturing sector

Investment trends can be measured by number of projects approved by Board of Investment (BOI). Table 1.1-5 shows recent approval data by industrial sector. According to the table, investment projects apparently belonging to the manufacturing sector (ranging from mining products to electronic and electrical equipment) represent an average 64% share during the recent 3 years. While the manufacturing sector is by far largest as private investment, projects in the service industry account for a relatively large share and include the development of infrastructure as well as industrial estates designed for manufacturing investment. Again, the manufacturing sector's level of importance is much higher than its face value. (Note that investment projects in the list are those approved by BOI and do not represent all projects implemented in the country during the period.)

Table 1.1-5 PROJECTS APPROVED BY BOI

	Value of Investment: Million US dollar					
	1991		1992		1993	
	No. of Projects	Value of Investment	No. of Projects	Value of Investment	No. of Projects	Value of Investment
Total	534	7,141	378	18,001	478	6,933
Agriculture and Agricultural Products	77 14.4%	381 5.3%	48 12.7%	178 1.0%	65 13.6%	203 2.9%
Manufacturing	337	4,447	241	5,981	310	4,963
Mineral, Metals and Ceramics	18 3.4%	171 2.4%	12 3.2%	82 0.5%	28 5.9%	376 5.4%
Garments and Textiles	32 6.0%	385 5.4%	13 3.4%	204 1.1%	28 5.9%	73 1.1%
Other Light Industry	82 15.4%	457 6.4%	64 16.9%	324 1.8%	80 16.7%	252 3.6%
Chemicals	39 7.3%	1,395 19.5%	22 5.8%	3,659 20.3%	36 7.5%	3,154 45.5%
Metal Processing	61 11.4%	1,098 15.4%	46 12.2%	1,016 5.6%	55 11.5%	575 8.3%
Electronics and Electrical	105 19.7%	941 13.2%	84 22.2%	696 3.9%	83 17.4%	533 7.7%
Services	120 22.5%	2,313 32.4%	89 23.5%	11,842 65.8%	103 21.5%	1,767 25.5%

Note: Projects receiving certificates must have already registered a company and paid up a percentage of registered capital.

Source: Board of Investment

1.1.5 Economic importance of manufacturing sector

All in all, relative importance of the manufacturing sector in The Thai economy at the end of 1992, measured by the above 5 factors, is summarized as follows (also see Fig.1.1-2):

- Share in GDP: 28.3% (highest)
- Share in export value: 76.9% (ditto)
- Share in import value: 84.3% (ditto)
- Share in employment: 14.6% (second highest)
- Share in investment license: 53.7% (highest)

These indicators clearly show that the manufacturing sector has already grown to the largest industrial sector in The Thai economy, even though there is some differences in employment's share between manufacturing and Agriculture, forestry and fishing industries.

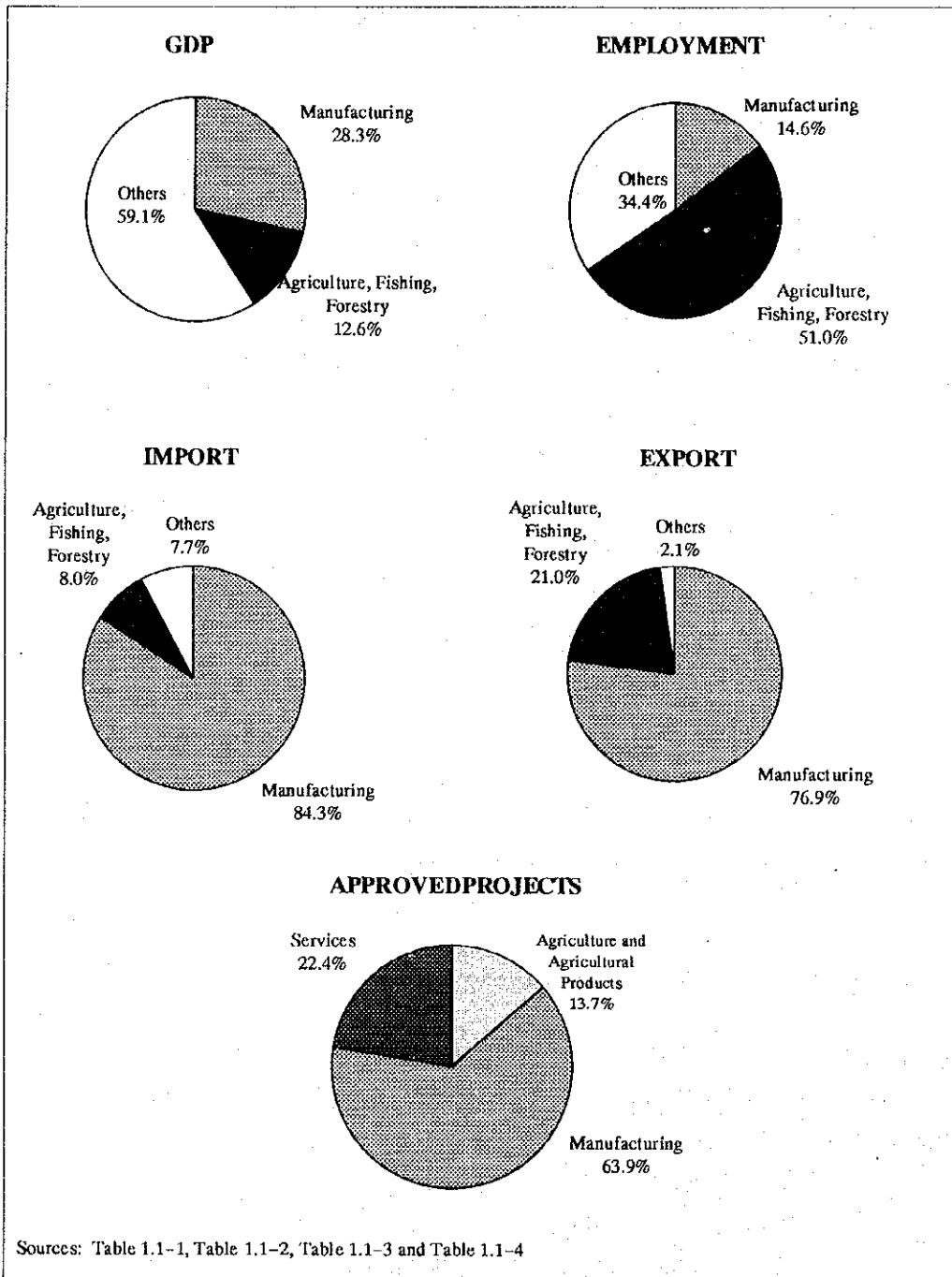


Figure 1.1-2 SHARE OF MANUFACTURING SECTOR IN 1992

1.2 Contribution of Automotive and Electrical/Electronic Industries in the Manufacturing Sector

1.2.1 Value added by industry sector

Then, analysis moves to individual industries in the manufacturing sector, particularly the relative position of automotive and electrical/electronic industries.

Table 1.2-1 shows value added by industry sector (nominal). In 1992, the automotive industry's value added accounted for 6.5% of total and the electrical/electronic industry 9.5%. The largest value added comes from the textile and apparel industry that accounts for approximately 22% (1992) of the total in the manufacturing industry. The food, beverage and tobacco industry follows with a 17.7% share (the same year). The latter served as the major industry in the 1980s and still holds a share close to 20%, although a slight decline is seen in the recent 5 years. The automotive and electrical/electronic industries are in fourth and third places, respectively. In particular, the electrical and electronic industry showed the highest growth rate of nominal value added during the 5 years, from 22.8 billion bahts (a 5.6% share) in 1988 to 75.2 billion bahts (9.5%) in 1992. On the other hand, the automotive industry, after healthy growth between 1988 through 1990, has remained flat in the ensuing 2 years, amounting to around 50 billion bahts.

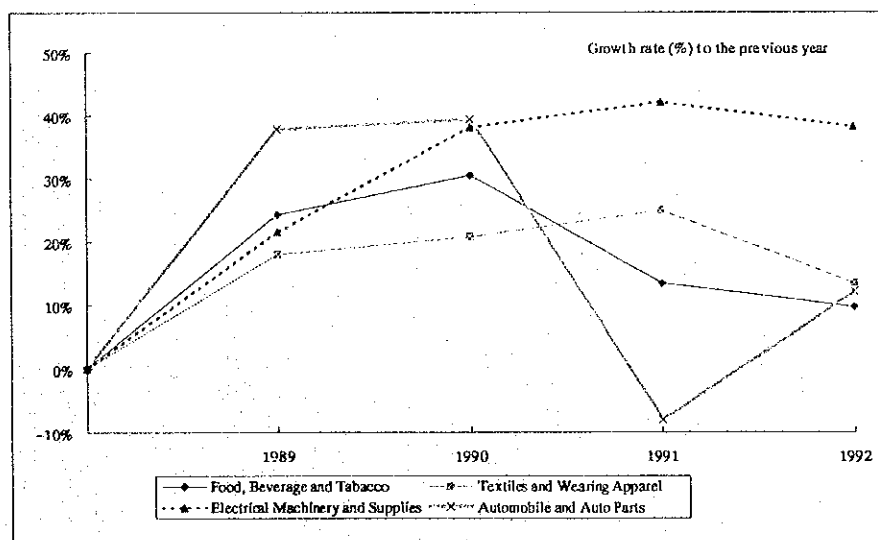


Figure 1.2-1. GROWTH RATE OF VALUE ADDED IN MAJOR MANUFACTURING INDUSTRIES

Table 1.2-1 GDP SHARE IN MANUFACTURING INDUSTRY
(At Current Market Prices)

	1988		1989		1990		1991		1992	
	Value	100.0%	Value	100.0%	Value	100.0%	Value	100.0%	Value	100.0%
Total Value Added In Manufacturing	403,034	100.0%	496,714	100.0%	595,181	100.0%	708,868	100.0%	793,449	100.0%
Food, Beverages and Tobacco	88,171	21.9%	109,642	22.1%	112,996	19.0%	128,177	18.1%	140,614	17.7%
Textiles and Wearing Apparel	87,909	21.8%	103,781	20.9%	125,436	21.1%	156,719	22.1%	177,823	22.4%
Leather, Leather Products and Footwear	14,186	3.5%	18,666	3.8%	24,706	4.2%	28,410	4.0%	30,889	3.9%
Wood and Wooden Furniture	18,427	4.6%	23,560	4.7%	29,391	4.9%	31,329	4.4%	28,297	3.6%
Paper and Paper Products	5,478	1.4%	6,250	1.3%	7,199	1.2%	8,647	1.2%	9,890	1.2%
Printing, Publishing and Allied Industries	4,828	1.2%	5,449	1.1%	5,971	1.0%	7,275	1.0%	7,988	1.0%
Chemicals and Chemical Products	12,180	3.0%	13,198	2.7%	14,901	2.5%	16,603	2.3%	18,290	2.3%
Petroleum Refineries and Products	26,921	6.7%	25,490	5.1%	25,273	4.2%	42,221	6.0%	46,211	5.8%
Rubber and Plastic Products	11,213	2.8%	12,875	2.6%	14,800	2.5%	15,722	2.2%	19,483	2.5%
Non-Metallic Mineral Products	20,939	5.2%	26,977	5.4%	36,779	6.2%	45,154	6.4%	45,013	5.7%
Basic Metal and Fabricated Metal Products	17,057	4.2%	22,073	4.4%	25,880	4.3%	29,113	4.1%	32,196	4.1%
Machinery *1	13,364	3.3%	19,851	4.0%	26,931	4.5%	31,148	4.4%	34,322	4.3%
Electrical Machinery and Supplies	22,768	5.6%	27,702	5.6%	38,276	6.4%	54,393	7.7%	75,199	9.5%
Transport Equipment *2	7,587	1.9%	11,334	2.3%	8,737	1.5%	8,767	1.2%	9,130	1.2%
- Automobile and Auto Parts	26,103	6.5%	35,989	7.2%	50,179	8.4%	46,093	6.5%	51,695	6.5%
Other Manufacturing Industries	25,903	6.4%	33,877	6.8%	47,726	8.0%	59,097	8.3%	66,409	8.4%

Source: National Accounts Division, NESDB.

Notes: *1 Household machinery and appliances such as refrigerators, freezer, washing machines and air conditioning machines were excluded from machinery category and were reclassified as Electrical Machinery and Supplies.

*2 Transport Equipment consists of ship building and repairing, railroad equipment and manufacturing of motorcycles and bicycles.

Fig.1.2-1 shows nominal annual growth rates of value added of the top 4 industry sectors during the recent 5 years. Up to 1990, both the automotive and electrical/ electronic industries showed strong growth. Then, while the electrical/electronic industry has been maintaining momentum, the automotive industry which highly depends upon the domestic market recorded negative growth in 1991 due to sluggishness of the domestic economy. The market recovered in 1992 and the automotive industry recorded all time high production in 1993, a 41% increase (preliminary estimate). Also, a survey by Department of Economic Research, Bank of Thailand reveals that the industry shows the highest growth in production index, among other industries, during the recent 5 years (see Table 1.2-2). Thus, the automotive and electrical/electronic industries are considered to be the fastest growing industry sectors in Thailand.

Table 1.2-2 PRODUCTION INDEX BY MANUFACTURING INDUSTRIES
(1988=100)

	1989	1990	1991	1992	1993
Foods	114.8	107.5	123.4	134.6	121.3
Beverages	124.1	140.9	141.9	152.3	182.1
Cigarettes	109.9	112.3	116.8	119.7	123.7
Construction Materials	127.0	151.6	160.0	179.6	214.9
Vehicles and Equipments	134.1	184.7	173.3	202.3	258.8
Petroleum Products	117.5	128.5	137.1	165.3	188.5
Textiles and Apparels	116.4	130.0	150.0	158.6	166.5
Others	100.1	115.6	129.1	150.6	167.0
All Industries	118.7	135.2	144.9	160.0	178.2

Notes: - Production Index indicated in terms of production value.
- From 34 items which account for 59 percent of the manufacturing sector.

Source: Industry Section, Department of Economic Research, Bank of Thailand

1.2.2 Export and import structure by item

Table 1.2-3 compares major export items of the automotive and electrical/electronic industries as percentage of the country's overall export value. No automotive-related item holds share over 1%. In fact, automotives and automotive parts represented only 0.6% of total exports in 1993. On the other hand, electrical and electronic products accounted for more than 20% of total exports in 1992 and 1993. Computers and parts show high share, and household appliances hold total share of 7%. As a result, the electrical and electronic industry is positioned as the largest export industry in the country. (see Fig.1.2-2)

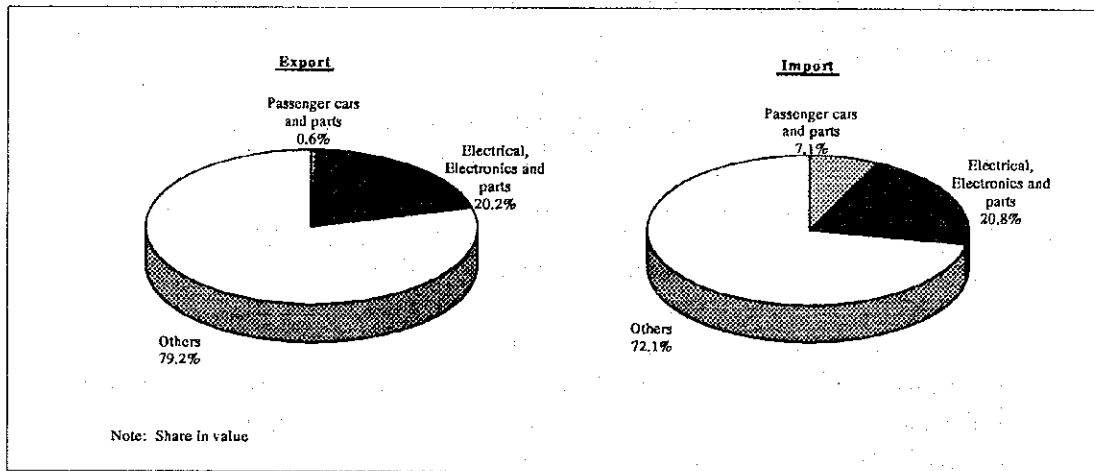


Figure 1.2-2 SHARE IN EXPORT AND IMPORT OF AUTOMOTIVE AND ELECTRICAL & ELECTRONICS INDUSTRIES, 1993

Export data by item based on trade statistics show that apparel products, rice, frozen shrimp, and tapioca are traditional export items of the country. During the recent 5 years, the largest export item was apparel products which account for more than 10% of total exports. Computers and parts are the second largest item with a 6.8% share in 1993. In addition, various new export items in the electrical and electronic industry, including semiconductors, TVs, air-conditioners and parts, have been growing steadily. On the other hand, automotives and automotive parts are not ready for full-fledged exports, as seen from the less than 1% share.

Table 1.2-3 EXPORTS OF AUTOMOTIVE, ELECTRONIC AND ELECTRICAL INDUSTRIES

	1989		1990		1991		1992		1993	
	Value	%	Value	%	Value	%	Value	%	Value	%
Total Export Value	516,315	100%	589,813	100%	725,629	100%	824,644	100%	931,572	100%
Passenger cars and parts	2,094	0.4%	1,506	0.3%	1,966	0.3%	1,653	0.2%	5,335	0.6%
Electrical, Electronics and Parts	72,163	14.0%	104,690	17.7%	139,880	19.3%	166,656	20.2%	188,218	20.2%
Computer	11,466	2.2%	9,139	1.5%	13,155	1.8%	12,914	1.6%	23,986	2.6%
Computer parts	15,361	3.0%	29,532	5.0%	33,264	4.6%	42,470	5.2%	38,758	4.2%
Integrated circuit	5,802	1.1%	7,115	1.2%	11,534	1.6%	16,448	2.0%	26,573	2.9%
Integrated circuits parts	12,622	2.4%	14,465	2.5%	14,226	2.0%	12,171	1.5%	8,977	1.0%
Telecommunication equipment	2,443	0.5%	4,354	0.7%	7,323	1.0%	7,266	0.9%	9,646	1.0%
Transformers, generator, and motors	2,073	0.4%	2,997	0.5%	7,556	1.0%	8,533	1.0%	7,266	0.8%
Insulated electric wire cable	3,545	0.7%	4,565	0.8%	4,947	0.7%	6,498	0.8%	10,381	1.1%
Electrical Appliances	18,851	3.7%	32,523	5.5%	47,875	6.6%	60,356	7.3%	62,631	6.7%
- Air-conditioning	830	0.2%	1,955	0.3%	4,906	0.7%	7,340	0.9%	8,320	0.9%
- Refrigerators and equipment	1,050	0.2%	1,370	0.2%	2,780	0.4%	3,436	0.4%	4,363	0.5%
- Microwave ovens	2,601	0.5%	2,394	0.4%	3,137	0.4%	3,692	0.4%	3,378	0.4%
- Television	1,857	0.4%	6,489	1.1%	11,889	1.6%	17,004	2.1%	18,226	2.0%
- Radio	659	0.1%	783	0.1%	681	0.1%	444	0.1%	262	0.0%
- Fan	1,060	0.2%	1,683	0.3%	1,447	0.2%	1,606	0.2%	1,918	0.2%
- Other electrical appliances	10,794	2.1%	17,849	3.0%	23,035	3.2%	26,834	3.3%	26,164	2.8%
Others	442,058	85.6%	483,617	82.0%	583,783	80.5%	656,335	79.6%	738,019	79.2%

Source: Bank of Thailand, Monthly Bulletin April 1994,

On the other hand, imports are dominated by intermediate and capital goods (See Figure 1.2-3). The largest import item is machinery and parts, particularly industrial machinery and equipment. In 1993, 174.1 billion bahts worth of machinery and parts were imported, accounting for 14.9% of total. Nominal growth rate over the 5 year period from 1989 is 83%. Then followed electrical machinery and parts (a 10.3% share in 1993), chemical products (7.5%), steel products (6.9%), and automotives and parts. The top five rank remains unchanged in the recent 5 years, except for steel products surpassing automotives and parts in 1993. During the 5-year period, all the items have grown strongly, electrical machinery and parts 2.65 times and automotives and parts 2.06 times.

Trade balance shows large deficits in the both industries. In 1993, exports of automotives and parts amounted to 5.3 billion bahts, while imports totaled 82.7 billion bahts. The difference was more than 15 times. In the electrical and electronic industry, imports exceeded exports by 30%, 242.8 billion bahts vs. 188.2 billion bahts. Table 1.2-4 shows import data on items related to the automotive and electrical/electronic industries. They were further divided into products and parts and are compared in Fig.1.2-4. As seen from the figure, imports of parts that exceed those of final products constitute one of distinctive characteristics of trade by the two industries. In particular, the ratio of parts to products measured by the value of imports is very large, 1:4, for the electrical and electronic industry. Thus, the industry, which shows a smaller trade deficit compared to the automotive industry, but mostly imports parts and components. On the other hand, the automotive industry increasingly imports assembled cars, while imports of parts are on the declining trend, their values came to a near-balance in 1993. However, a huge trade deficit (1:15) presents a problem as a sector.

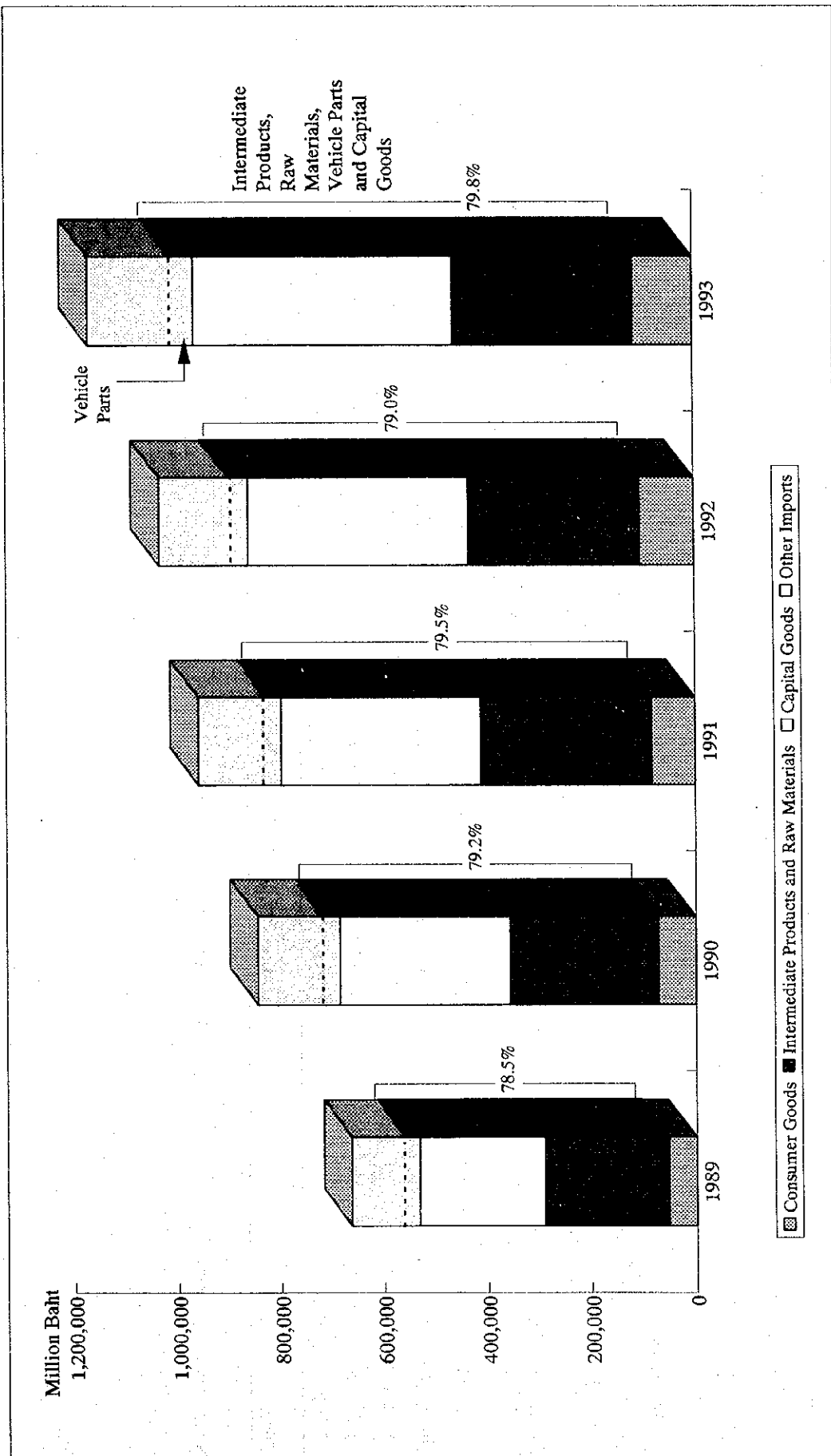


Figure 1.2-3 IMPORT STRUCTURE BY ECONOMIC CLASSIFICATION IN THAILAND

Table 1.2-4 IMPORTS FOR AUTOMOTIVE, ELECTRONICS AND ELECTRICAL INDUSTRIES

	Unit: Million Baht				
	1989	1990	1991	1992	1993
Total Import Value	662,679	844,448	958,832	1,033,242	1,169,871
	100%	100%	100%	100%	100%
Vehicles and parts	40,031	55,722	47,288	58,363	82,658
	6.0%	6.6%	4.9%	5.6%	7.1%
- Passenger cars	6,631	9,537	10,917	22,815	37,783
	1.0%	1.1%	1.1%	2.2%	3.2%
- Buses and trucks	2,448	3,908	5,624	7,614	3,466
	0.4%	0.5%	0.6%	0.7%	0.3%
- Parts including chassis and bodies	30,418	41,238	30,060	27,128	40,401
	4.6%	4.9%	3.1%	2.6%	3.5%
- Tires	552	1,039	687	806	1,008
	0.1%	0.1%	0.1%	0.1%	0.1%
Electrical, electronics and parts	107,348	148,687	170,988	195,427	242,769
	16.2%	17.6%	17.8%	18.9%	20.8%
Computer and parts	3,473	4,278	5,878	8,527	9,514
	0.5%	0.5%	0.6%	0.8%	0.8%
Computer parts and components	21,555	22,076	23,676	28,161	29,454
	3.3%	2.6%	2.5%	2.7%	2.5%
Integrated circuit and its	5,603	8,155	11,435	15,288	23,539
	0.8%	1.0%	1.2%	1.5%	2.0%
Integrated circuit parts	16,706	19,477	21,330	21,447	25,189
	2.5%	2.3%	2.2%	2.1%	2.2%
Electrical machinery and parts	45,676	72,969	84,070	91,315	120,930
	6.9%	8.6%	8.8%	8.8%	10.3%
Electrical appliances	14,335	21,732	24,599	30,689	34,143
	2.2%	2.6%	2.6%	3.0%	2.9%
Others	515,300	640,039	740,556	779,452	844,444
	77.8%	75.8%	77.2%	75.4%	72.2%

Source: Monthly Bulletin April 1994, Bank of Thailand

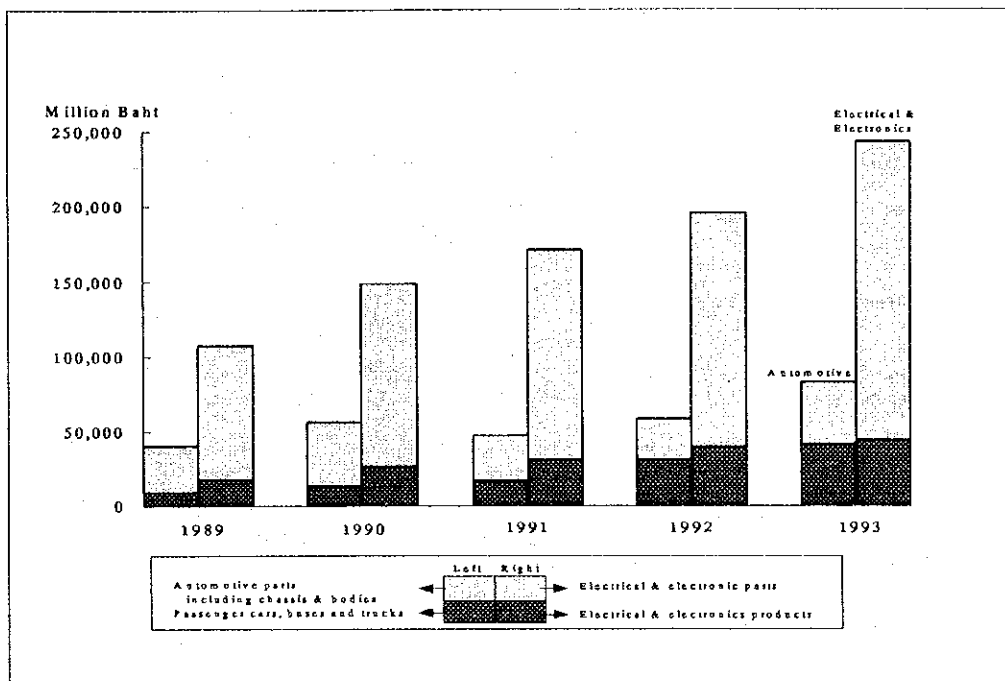


Figure 1.2-4 COMPOSITION OF IMPORT BY FINISHED PRODUCTS AND PARTS

1.2.3 Employment by industry

Employment by industry is analyzed on the basis of the following two data sources.

(1) Industrial survey report by National Statistics Office (NSO)

NSO conducts annual surveys on manufacturing industries and publishes Industrial Survey Report. Table 1.2-5 shows employees in 1988, 1989, and 1990 based on the reports, which have been recompiled by the study team. Total employees in the manufacturing sector grew from approximately 1.05 million in 1988, to 1.37 million in 1989, and 1.74 million in 1990. These figures are almost one half those in employment data in Table 1.1-4. (probably because the survey is conducted by sending questionnaire to each establishment) In 1990, 44,000 persons were employed in the automotive industry and 85,000 in the electrical and electronic industry. These figures should be considered as lower limits for employees in these industries.

Table 1.2-5 NUMBER OF EMPLOYEES CLASSIFIED BY TSIC*1

	1988		1989		1990*2	
	No. of Factories	No. of Employees	No. of Factories	No. of Employees	No. of Factories	No. of Employees
Total Employees in Mfg. Sector	10,575 100.0%	1,047,574 100.0%	11,938 100.0%	1,365,559 100.0%	10,990 100.0%	1,737,482 100.0%
Manufacture of Transport Equipment	237 2.2%	37,659 3.6%	350 2.9%	57,979 4.2%	337 3.1%	43,972 2.5%
Manufacture of Electrical Machinery, Apparatus Appliances and Supplies	141 1.3%	33,488 3.2%	164 1.4%	85,720 6.3%	131 1.2%	84,933 4.9%
Others	10,197 96.4%	976,427 93.2%	11,424 95.7%	1,221,860 89.5%	10,522 95.7%	1,608,577 92.6%

Note: *1 Industrial activities were classified according to the "Thailand Standard Industrial Classification (TSIC)"
 Manufacture of Electrical Machinery Apparatus Appliances and supplies consist of the code No. 38250, 38292, 38299, 38310, 38320, 38330, 38392, 38393 and 38399
 Manufacture of Transport Equipment consist of the code No. 38431, 38432 and 38439.
 *2 Some electrical manufactures prohibited disclosure of data.

Sources: Report of the 1989 Industrial Survey,
 Report of the 1990 and 1991 Industrial Survey,
 National Statistical office (NSO)

(2) Estimation from data of Federation of Thai Industries (FTI)

According to FTI's data, there are approximately 500 enterprises in the automotive industry including REM parts and motorcycle manufacturers and 400 in the electrical and electronic industry including heavy electrical manufacturers. (Note that the former does not include 12 assembly makers) By multiplying these figures by the average number of employees per enterprise in each industry, as shown in the NSO statistics (152 in the automotive industry, and 470 in the electrical and electronic industry), employment in the automotive industry is estimated at 76,000. Adding 12,000 employees in the assembly makers (estimated from Thailand Automotive Industry Directory), total employment reaches 88,000. On the other hand, employment in the electrical and electronic industry totals 188,000.

These figures are compared to employees in all the industries in 1990 as follows:

Total employment:	30,843,200
Employment in the manufacturing sector:	3,132,700

Employment in the automotive industry: 44,000 – 88,000
 Employment in the electrical/electronic industry: 85,000 – 188,000

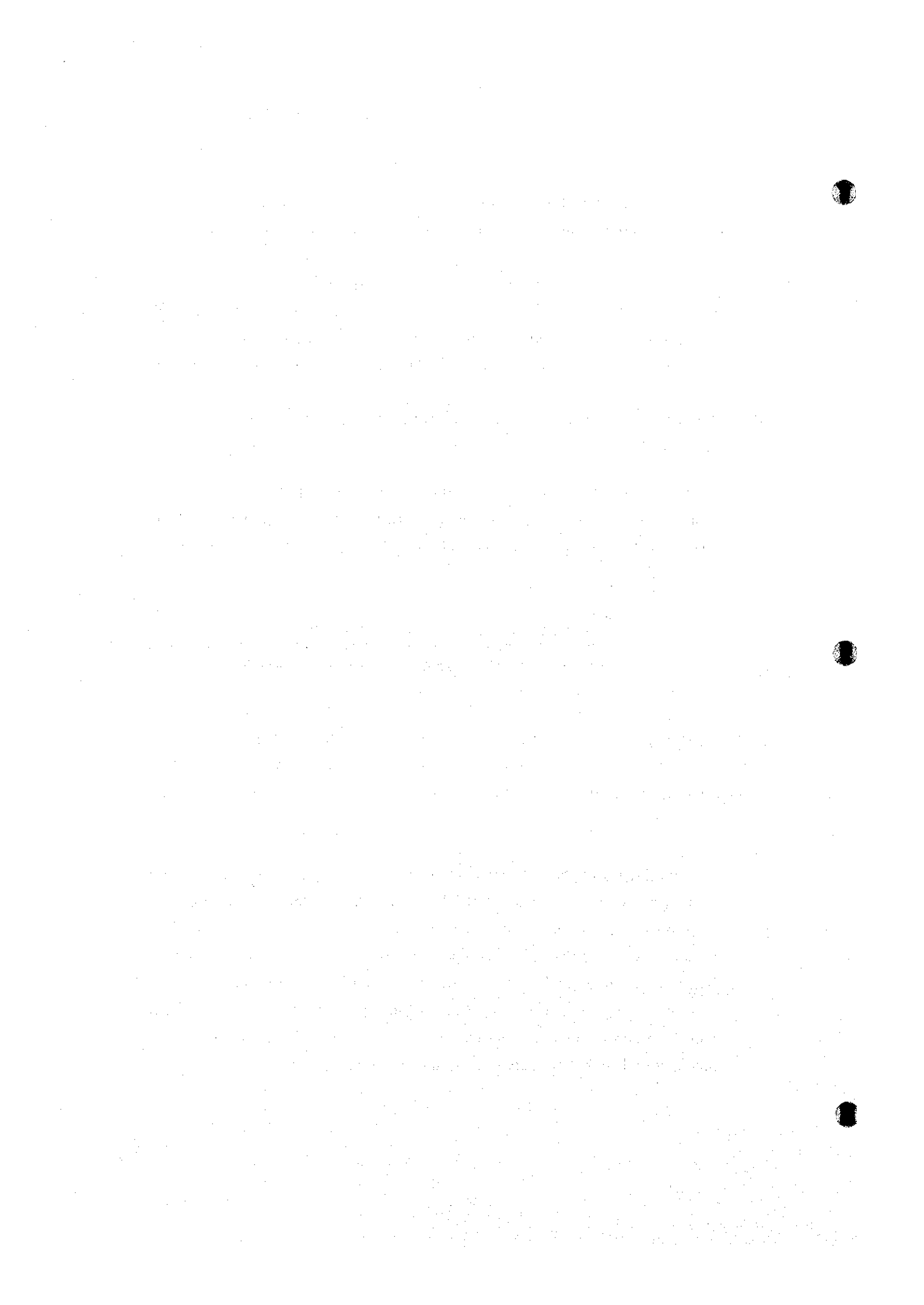
Based on the maximum number of FTI data, the automotive industry is estimated to account for 2.8% of total manufacturing population in 1990, and the electrical and electronic industry 6.0%. For comparison, in Japan, the two industries account for approximately 6% and 15% respectively.

1.2.4 Economic importance of automotive and electrical/electronic industries

Based on economic indicators analyzed above, relative importance of the automotive and electrical/electronic industries in the Thai economy and the manufacturing sector is summarized as follows (Note that employment is estimated):

	<u>Automotive industry</u>		<u>Electrical/electronic industry</u>		<u>Total</u>	
	<u>in all industries</u>	<u>in all manufacturing sector</u>	<u>in all industries</u>	<u>in all manufacturing sector</u>	<u>in all industries</u>	<u>in all manufacturing sector</u>
GDP (1992)	1.8%	6.5%	2.7%	9.5%	4.5%	16.0%
Exports (1993)	0.6%	0.7%	20.2%	25.0%	20.8%	25.7%
Imports (1993)	7.1%	8.3%	20.8%	24.2%	27.9%	31.5%
Employment (1990)	0.3%	2.3%	0.7%	4.9%	1.0%	7.2%

Generally speaking, both the automotive and electrical/electronic industries are characterized by their broad industrial base, i.e., these industries are supported by a wide range of industries including machinery, metal parts, as well as plastics, rubber, and electronic components. In addition, they embrace service industries including sales and maintenance. If each of these industries are viewed as an integrated industrial organization which includes related industries making indirect contribution, their weight in the Thai economy is much more than that measured by the above figures.



1.3 Importance of Fostering Supporting Industries from the Viewpoint of Economic Structure

1.3.1 Trade structure and supporting industries

One of the measures to analyze national economy is the import dependence ratio that indicates as to how a national economy relies on imports, i.e., the ratio of import value to GNP. Table 1.3-1 shows changes in the important dependence ratio of 4 ASEAN countries, Japan, and South Korea between 1989 and 1991, indicated in nominal price.

Table 1.3-1 IMPORT DEPENDENCE RATIO

	1989	1990	1991
Thailand	37.8%	42.1%	43.7%
Malaysia	63.9%	72.2%	73.3%
Indonesia	18.2%	21.4%	23.3%
Philippines	25.5%	29.4%	26.2%
S. Korea	29.1%	28.8%	28.9%
Japan	7.3%	7.9%	7.0%

As seen in the table, Thailand's import dependence ratio is relatively high among ASEAN countries. This indicates that the country's industrial structure is increasingly weighing exports based on processing of imported materials. From the macroeconomic viewpoint, the import dependence ratio should be counterbalanced or preferably exceeded by the export dependence ratio to maintain healthy trade balance. For instance, Malaysia also records a high import dependence ratio which is more or less matched by export independence ratio. On the other hand, Thailand and the Philippines show the import dependence ratio 30% - 40% higher than the export dependence ratio, generating trade deficit. (See Fig.1.3-1)

As shown in Table 1.2-4, share of automotive and electrical industries account 27.9% of total import. As shown in Figure 1.2-4, parts and components import ratio, which account for approximately 50% in automotive industry and 80% in electrical/electronic industry and two industries accounted for 55.3% of the total trade deficit in 1993.

An imported parts and components by electrical/electronic industry shall be exported as a parts of electrical/electronic equipment. Automotive parts for are imported for automotive assembling which shall be sold in the domestic market so that an imported parts is regarded as import substitution of automotive. Thus, importing parts is not always bad affect to the trade balance. It is, however, said that if the two industries can reduce import volume of parts while keeping or expanding export, the trade balance could be surely improved. This depend on the development of supporting industry.

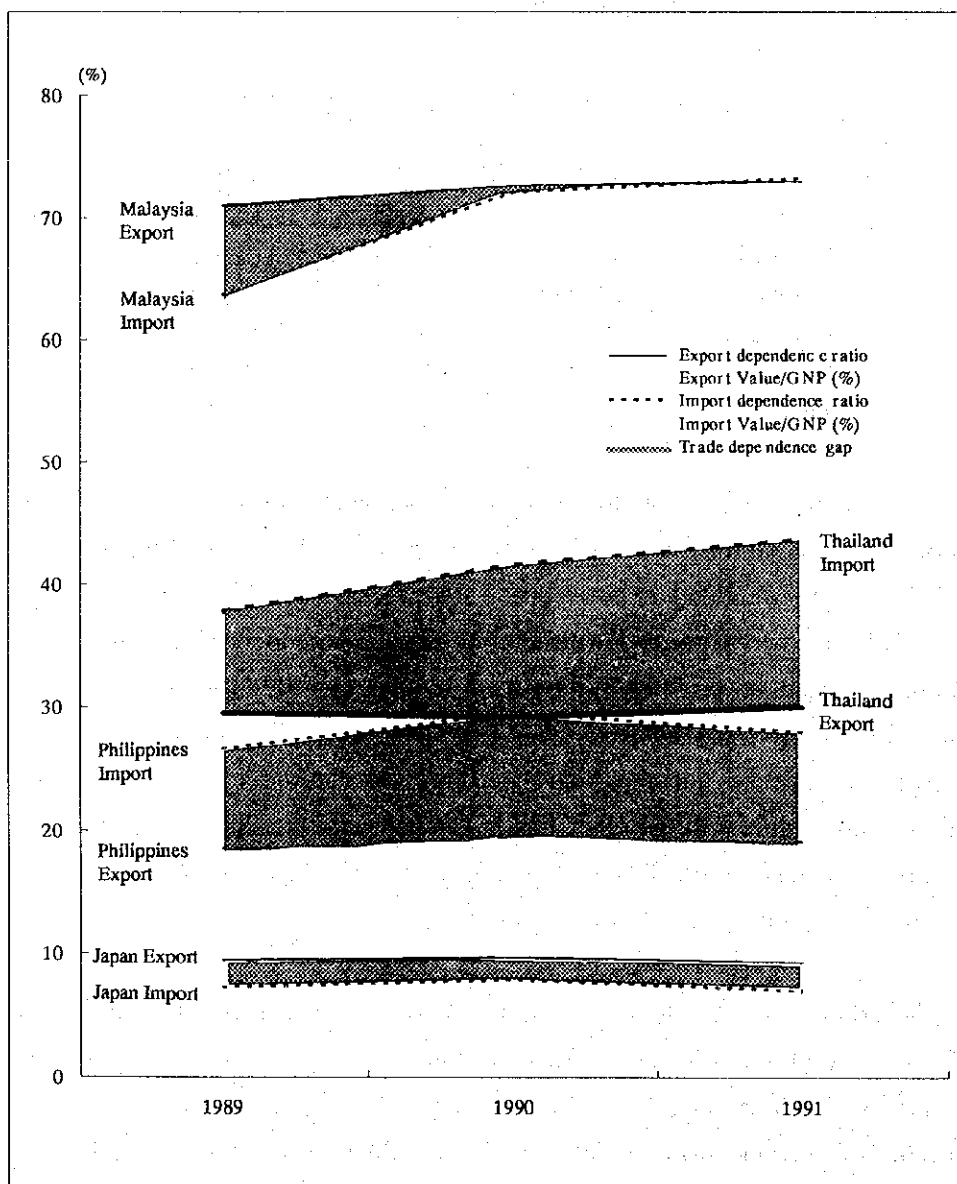


Figure 1.3-1 TRADE DEPENDENCE RATIO TO GNP

1.3.2 Industrial structure and supporting industries

Structural analysis of the automotive and electrical/electronics industries clearly indicates the shortage of local parts industries.

For instance, the automotive industry which produces 460,000 vehicles to the domestic market (in 1993) consists of 12 assembly makers including buses and trucks, and around 500 suppliers under assembly makers. ^(Note 1)

On the other hand, the Japanese automotive industry consists of 11 assembly makers that are served by around 20,000 suppliers. These suppliers are organized into a multilayered production specialization system, peculiar to Japan, starting from primary suppliers to subcontractors specialized according to parts unit and process.

Table 1.3-2 shows the ratio of parts subcontracting ratio in assembler. Generally speaking, assembly makers in Europe and the U.S. operate a procurement system different from that of Japanese and Korean makers, under which they directly purchase most of parts from suppliers, eventhough fabricating simpler parts. As a result, they deal with a large number of suppliers. On the other hand, in Japan, suppliers are organized into a multilayered structure led by primary suppliers, so that assembly makers deal with a limited number of suppliers. Furthermore, suppliers are classified as to which assembly maker they supply their products, i.e., each supplier is captive to a particular automaker and few of them deal with more than two makers.

Fig.1.3-2 shows conceptual view of relationships between assembly makers and suppliers by using hypothetical examples of Japanese company A and U.S. company B. The figure also shows the comparable structure of the Thai automobile industry, in which the number of suppliers represents that in the country as a whole. Company A (Japan) has 230 primary suppliers and 2,000

(Note 1) According to FTI information, manufacturers of automotive parts in Thailand, including those of repair parts, total as much as 500. On the other hand, 334 enterprises are listed in Thailand Automotive Industry Directory 1994, 287 in the directory prepared by Research Department, Industrial Financing Corporation of Thailand, and 395 (automotive-related enterprises) in Directory of Supporting Industries in Thailand 1993 published by SEAMICO Business Information & Research Co.

- 3,000 secondary suppliers. Company B (the U.S.) has 8,500 suppliers. If subcontractors serving primary and secondary suppliers are added, the both companies have more than 10,000 suppliers each, which are considered to be supporting industries providing a wide range of products and services. In contrast, there are 7 assembly makers (which were contacted by the Mission) in Thailand, which are estimated to have 148 primary suppliers and 124 secondary suppliers all together. If manufacturers of repair parts and motor cycle parts are added to 250 suppliers, the supporting industry in Thailand totals 500 companies only. Naturally it is difficult to compare the figures directly with those of the hypothetical Japanese and U.S. companies which production is 10 times as much as total production in Thailand. The important point, however, is that the number of suppliers is not proportional to the number of vehicles produced. According to Japan Automotive Parts Industry Association (JAPIA), automotive parts manufactured by Japanese suppliers are classified into 130 types, which do not include tires, batteries, window glass, and bearing (included in case of Thailand). When this classification is applied to the Thai automotive parts industry, it has only a few suppliers of each item. Thai autoparts industry has not been well established in terms of the number of parts suppliers especially for the secondary or more down-stream suppliers.

Table 1.3-2 RATE OF THE SPECIALIZATION STRUCTURE OF AUTOMOBILE INDUSTRIES OF U.S.A, EUROPE, AND ASIA

Automotive Manufactures	Rate of In-House Production	Transacting Enterprises
Toyota (Japan)	30%	229 (Only cooperative group members)
Nissan (Japan)	30%	193 (Only cooperative group members)
GM (U.S.A.)	70%	12,000 (1,500 firms per one factory)
Ford (U.S.A.)	50%	2,300
D. Benz (Germany)	43%	2,000 (Small vendors excluded)
Peugeot (France)	50-60%	950 (Including 300 primary suppliers)
Renault (France)	50-60%	1,100 (Planning to cut down to 700 - 800)
Fiat (Italy)	-	1,000 (Planning to cut down to 300 - 400)
Kia (S. Korea)	30%	250 (Only Korean domestic makers)

Source: International Comparison of Subcontracting Dealing Practices, March 1993, National Association for Subcontracting Enterprises Promotion.

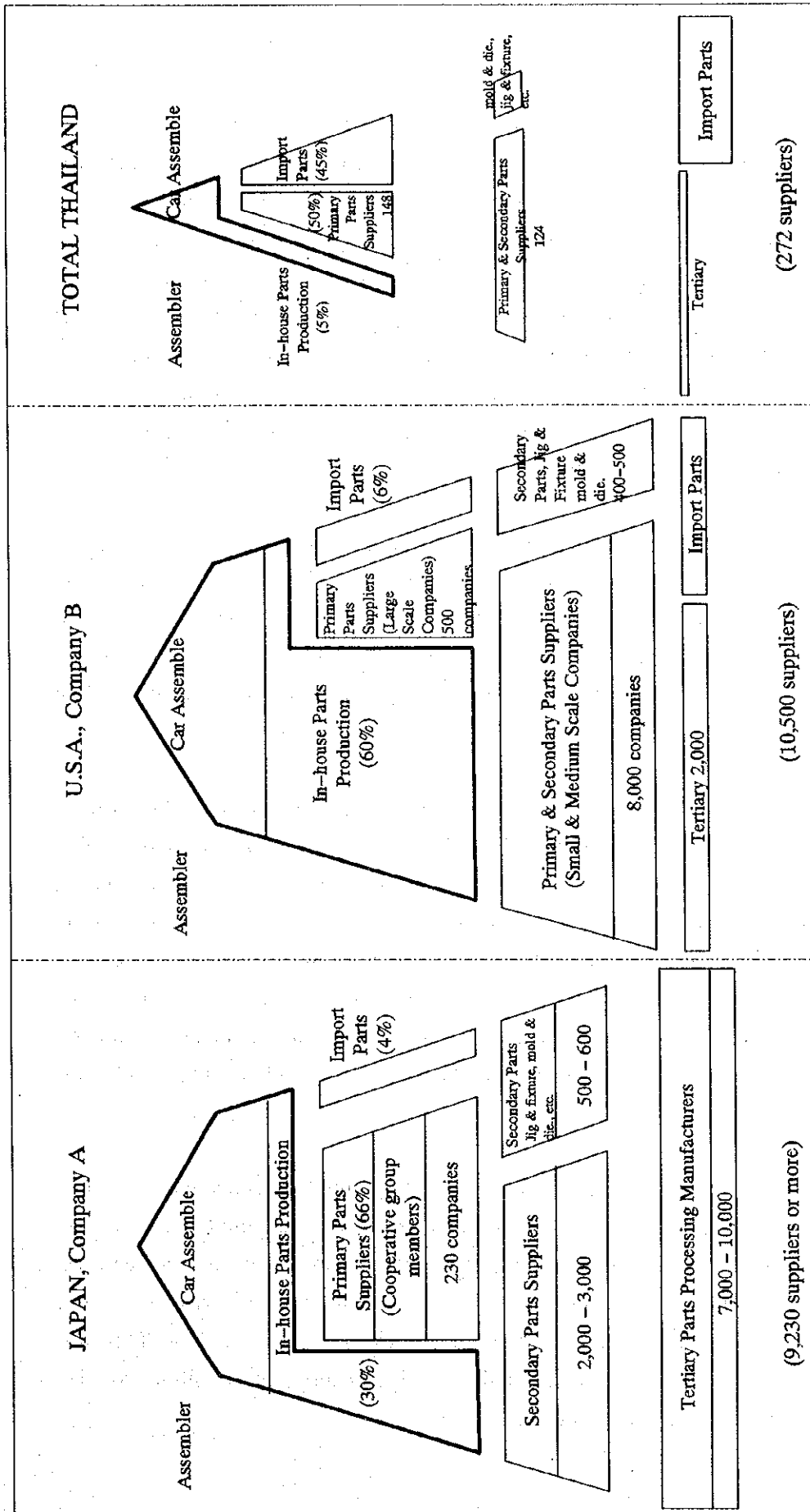


Figure 1.3-2 INTERNATIONAL COMPARISON OF CAR ASSEMBLING
(Conceptual Drawing)

On the other hand, the electrical/electronic industry generally show a higher in-house production rate than the automotive industry. However, the industry manufactures many types of products in larger quantities, it inevitably has much more suppliers. In Thailand, there are approximately 400 enterprises which are known to manufacture electrical and electronic components, and 2,000 enterprises (with 4 or more employees) classified in the electrical machinery and device manufacturing industry listed in official industrial statistics. Besides, the Study Team has established 175 primary suppliers and 126 secondary or more down-stream suppliers, totaling 201 OEM parts suppliers under 70 set makers in the target group of the Study.

In Japan, for example, there are 632 enterprises who are official members of related trade associations, and 42,000 enterprises listed in the industrial statistics. Again, there is a sizable difference between the two countries. As seen in the automotive industry, the electrical/electronic industry requires a wide range of products and services which form significant market opportunities.

In conclusion, the parts industries for automotive and electrical/electronic products in Thailand are very small in size, which limits availability of locally procured parts for assembly manufacturers. Even if these parts are produced locally, their costs become relatively high due to the lack of economy of scale so that needs for importing of parts is still existing. In other words, the continuously high import dependence ratio reflects the lack of industrial infrastructure, namely supporting industries capable of producing machinery and other capital goods and industrial materials, metal molds, and jig and tools for parts production.

According to rough estimates, if imports of automotive parts and electrical and electronic components in Thailand are reduced by half, the import dependence ratio will decrease 10% on a 1993 basis. The ratio can further decrease as local availability of machinery and industrial materials increases. Thus, fostering supporting industries should be viewed as a strategic tool for improving the country's trade balance significantly, in addition to the strengthening of the industrial structure as a whole.

Chapter 2 Development and Promotion Policies for Supporting Industries

This section describes development and promotion policies for supporting industries in terms of industrial sector development, export promotion, investment promotion, tax policy and related development policies such as industrial standardization.

2.1 General Policies for National Economic and Social Development

2.1.1 The seventh national economic and social development plan

(1) Main development objectives of the Seventh Plan

Thai national policy on social and economic development is set out in the Seventh National Economic and Social Development Plan (Seventh Plan). The Plan covers the period of 1992–1996, and the following three main development objectives have been set out.

- 1) Maintain economic growth rates at appropriate levels to ensure sustainability and stability.
- 2) Redistribute income and decentralize development to the regions and rural areas more widely.
- 3) Accelerate the development of human resources, and upgrading quality of life, the environment and natural resource management.

Overall economic growth rates to be set at 8.2 percent per year over the period of the Seventh Plan, however, it was revised at 7.9% in 1993 (Table 2.1-1 shows key economic indicators of actual result in the Sixth Plan, and targets and revised figures of the Seventh Plan).

(2) The task for future development of the industrial sector in the Seventh Plan

The industrial sector's share in relation to GDP during the Sixth Plan (1987 – 1991) grew from 23.5 percent in 1987 to 26.6 percent in 1991. The average industrial growth rate was 13.9 percent per year, much higher than the target growth rate of 6.6 percent. Despite the rapid industrial growth, the following problems have resulted from development of industrial sectors.

- 1) The majority of industrial factories continue to be concentrated in and around the Bangkok Metropolis.
- 2) The amount of pollution emitted from factories.
- 3) Shortage of manpower and skilled labor
- 4) Lack of technology transfer and enhancement of productive capability in small-and medium-scale industries

Growth rate of the industrial sector to be set at 9.5 percent per year during the Seventh Plan.

Table 2.1-1 KEY ECONOMIC INDICATORS OF THE SIXTH AND SEVENTH PLANS

	Six Plan Actual (1987-1991)	Seventh Plan Targets (1992-1996)	Seventh Plan Revised (1993)
Real Economic Growth (% p.a.)			
Agriculture	3.4%	3.4%	2.6%
Manufacture	13.9%	9.5%	11.1%
Construction	18.1%	8.9%	10.2%
Services and others	11.0%	8.0%	7.2%
Gross Domestic Product (% p.a.)	10.8%	8.2%	7.9%
Exports (Current values)			
Growth Rate (% p.a.)	24.5%	14.7%	12.3%
Imports (Current values)			
Growth Rate (% p.a.)	31.9%	11.4%	13.8%
Inflation (Consumer Price Index, % p.a.)	4.7%	5.6%	4.0%

Source: National Economic and Social Development Board

(3) The guidelines for future development of the industrial sector

In order to overcome the above problems and promote further development, the following guidelines have been formulated in the Seventh Plan for industrial development.

- 1) Promote and support industry as a whole
- 2) Revamp the tax and privileges system
- 3) Improvement of rules, regulations and promotion policies
- 4) Speed up expansion of infrastructure services
- 5) Consolidate functions of IEAT
- 6) Provide training and upgrade labor skill level

- 7) Enhance technological capability of industry to increase productivity and competitiveness
- 8) Encourage use of industrial standardization
- 9) Encourage development of target industries

(4) Further development of target industries

The following six target industrial sectors are designated as the above mentioned target industries, and form a base for long-term industrialization in the Seventh Plan.

- 1) Agro-industry
- 2) Textiles and garments industry
- 3) Metal working industry
- 4) Electronics industry
- 5) Petrochemical industry
- 6) Iron and steel industry

The development objectives of each target industry presented by MOI, and from a strategic viewpoint in the development objectives it is especially Metal working and Electronics industries which feel the need for the development as the supporting industries in Thailand. Objectives and measures for development of these two industries are summarized as follows.

(5) Development objective of metal working industry

- 1) To reduce protective measures for domestic car assembly.
- 2) To support and enhance capability of the machinery industry and intermediate metal products factories, Such as machinery industry, automotive and die industry, casting, forging, and hardening industries.
- 3) To speed up specification of relevant industrial product standards for the above sectors.
- 4) To strengthen capability to undertake sub-contract work, such as in production of parts.
- 5) To promote use of high-precision technology to increase efficiency.
- 6) To develop knowledge and designing skills for machinery and machine tools.

(6) Development objective of electronics industry

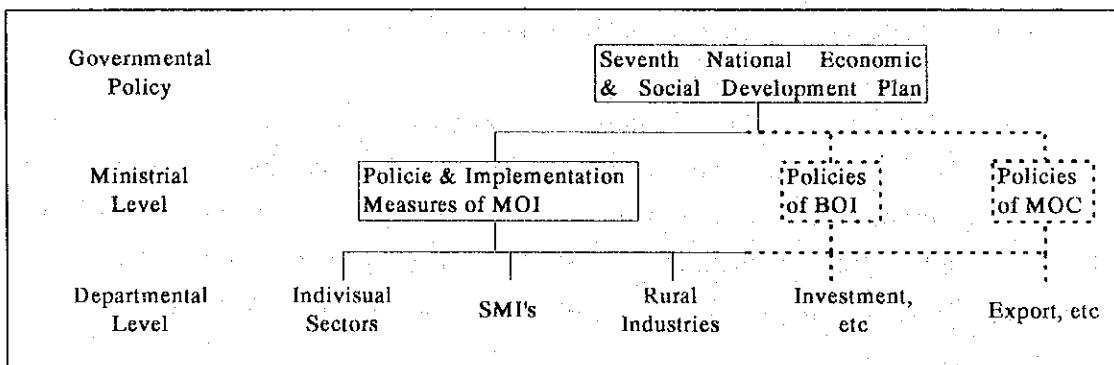
- 1) To encourage large-scale investment in the electronics industry to use as many locally products as possible to stimulate development of supporting industries.
- 2) To promote electronics industries having long-term market potential.
- 3) To encourage industrial plants and private educational institutions to play a greater role in skill training and personal development.
- 4) To support joint public and private research and development activities.

The above is the basic structure for the overall development policy of the Thai government which has been laid down in the Seventh Plan.

2.1.2 Development policy for manufacturing industry by MOI

(1) System of Manufacturing Industry Development Policy in Thailand

The overall system of manufacturing industry development policies in Thailand can be depicted as shown Figure 2.1-1. The Seventh Plan is regarded as the foundation of polices and measures by Government Ministries and Departments level. Specific development measures and programs give body and substance to the overall policies.



Note: A solid line shows main stream and a dotted line is supplemental function.

Figure 2.1-1 POLICY MECHANISM FOR THAI INDUSTRIAL DEVELOPMENT (excluding policy for financial, human development and Science & Technology)

(2) Manufacturing Industry Development Policy by MOI

The specific policy direction of manufacturing industry development is expressed in "The Policy and Implementation Measures by Ministry of Industry" which is in compliance with the Seventh Plan and referred to implementation measures.

The followings are a summary of MOI's major industrial development policies.

- 1) To promote sufficiently the following six industries (target industries). These target industries are the same sectors which are indicated in the Seventh Plan.

- Agro-industry

Encourage traditional agricultural products factories, to adapt or to change their products into processing of new agricultural products.

- Textile & garment industry

Promote the textile and garment industry with the aim of making it the leader in this field in South East Asia(SEA), by developing an integrated production system.

- Electronic industry

Upgrade the electronic industry from being only branch factories which supply some parts to foreign head factories to be capable of producing finished products with their own original product design.

- Petrochemical industry

Support and eliminate any obstacles preventing maximum potential of the petrochemical industry in its second phase.

- Metal working industry

Increase the existing capacity of the metal industry to sufficiently replace imports especially for automotive parts, machinery, agricultural equipment of exportable quality.

- Iron & steel industry

Support, create incentives and eliminate obstacles so that steel production can compete with and take the place of imported products.

- 2) To promote factory relocation to rural and industrial estate areas.
- 3) To develop and promote regional industries by utilization of materials and resources in the regions.
- 4) To develop and promote small and medium scale industries for further industrial linkage.
- 5) To promote energy saving and conservation at factories.
- 6) To improve quality certificate and standard testing.
- 7) To encourage and maintain the mutual cooperation with foreign investors.

MOI provides implementation measures in terms of urgent and general, to realize the above industrial development policies. Table 2.1-2 shows MOI's implementation measures.

There are no directly relevant, specific development policies or the Act for the supporting industries to date. MOI, however, put a heavy stress on that the country relies heavily on the import of raw materials and intermediate products from foreign countries due to lack of supporting industries in Thai manufacturing industry. MOI intends to develop the supporting industries through implementation of development policy for small and medium scale industries on the assumption that the supporting industries is mainly formed by small and medium scale industries. And in its policies, MOI emphasizes building up backward linkages or sub-contracting systems in the Thai manufacturing industry by encouraging the "manufacture" of machinery, components and parts.

Table 2.1-2 MOI'S IMPLEMENTATION MEASURES FOR MANUFACTURING INDUSTRY

URGENT MEASURES

1. Improve and revise regulations concerning permission for establishment, expansion, renewal of factories.
2. Prepare strategic industrial development plans for nine target provinces;

CHIANG MAI, PHITSANULOK, KHON KAEN,
 NAKORN SAWAN, NAKORN RACHASIMA, SARABURI,
 RACHABURI, SURAT THANI, SONGKHLA

3. Restructure and consolidate provincial industrial offices all over the country.
4. Increase incentives and privileges to investors who invest in the industrial estate areas.
5. Develop infrastructure within or surrounding areas of the Eastern Seaboard Zone.
6. Assure four years incentives for petrochemical industry project and sponge iron project.
7. Extend function of Small Industrial Finance Corporation.
8. Improve the information center at the ministry of industry.
9. Strengthen information revises through the missions abroad.

GENERAL MEASURES

1. Prepare "The annual industrial development policy and implementation plans", "Action Plans", and "Strategic industrial development plan".
2. Quarterly and annually evaluate the policy implementation plans.
3. Prepare provincial strategic industrial development plan for promoting export and joint development of natural resources in Indochina.
4. Develop labor force for industry at all levels.
5. Coordinate with private sector organizations such as FTI, TCC.
6. Coordinate with the Government Saving Bank, commercial banks, and other financial institutions to expand credits for regional entrepreneurs.
7. Develop industrial estate zones to disperse the development and prevent pollution problems.
8. Promote the standardization system to upgrade the quality of Thai products.
9. Consider the reformation of organization and delegation in the Ministry of Industry.

2.1.3 Supporting industry development policy for small and medium scale industries and industrial decentralization

(1) Position of small and medium scale industries

At present there are no official definitions for the classification by scale of companies in Thailand. The classification used by the MOI is based on the following internal agreement (Table 2.1-3) which has concluded among the divisions concerned in MOI on December, 1987.

Table 2.1-3 MOI'S INTERNAL AGREEMENT ON SCALE OF COMPANIES

	No of Employees	Amount of Fixed Assets
Small Size	Less than 50	Less than 10 million Bt
Medium Size	50 less than 200	10 million Bt 100 million
Large Size	More than 200	more than 100 million Bt

Number of companies at the end of 1991, in accordance with the above classification are as follows

Table 2.1-4 NUMBER OF COMPANY BY SCALE (1991)

	By Number of Employment		By amount Fixed assets	
Small Scale	51,393	(91%)	51,232	(90.7%)
Medium Scale	3,725	(6.5%)	4,322	(7.6%)
Large Scale	1,396	(2.5%)	872	(1.5%)
Unidentified	0		88	(0.2%)

Source: OIE

Note: Except small size rice milling companies

About 91% of Thai companies comes under the category of small scale in terms of No. of Employees and Amount of Fixed Assets, and if we include the medium scale category then the ratio becomes about 98% in any case. From the overall geographical distribution of companies, it can be said that about 45% are located in the metropolis and vicinity area namely Bangkok, Samut Prakan, Samut Sakhon, Pathum Thani, Nonta Buri and Nakhon Pathom. Considering only the large scale companies, the ratio is estimated at

about 60%.(These figures are based on data in the Center of Provincial Industrial Office of MOI.)

In view of the above we can firstly regard the development policy for small and medium industries as being equivalent to the development policy for rural industries (including cottage industries) or industrial decentralization in the "Policy and Implementation Measures of Ministry of Industry". These policies are stated concretely under the guidelines for "Social and Rural Development Policy" and the "Policy for Industrial Decentralization to the Regions".

(2) Rural development (industrial decentralization) policy

Industrial Decentralization Policy in the Seventh Plan

- 1) Decentralize administrative and decision-making authorities to government agencies at regional and provincial levels.
- 2) Develop administrative and managerial capability of rural entrepreneurs by providing training seminars on marketing, finance and administration.
- 3) Promote greater application of production subcontracting system, such as subcontracting among a parent factory and primary or secondary subsidiary factories. Another option is subcontracting between factories and cottage industries, aiming at the target groups facing problems of low income and underemployment.
- 4) Develop a marketing systems for small-scale and cottage industries by upgrading product quality standards and product design, as well as promote greater market diversification.
- 5) Encourage public and private financial institutions to expand credit to rural industries, and especially to cover a greater number of small-scale industries and cottage industries.

- 6) Disseminate industrial and marketing information to rural entrepreneurs, by promoting the role of private business organizations in both central and rural areas.

MOI's rural development policy

- 1) Sufficiently and widely promote and develop the rural cottage and handicraft industry.
- 2) Encourage the private sector to take part in developing rural industry.
- 3) Encourage big industries (factories) to support rural industrial development.
- 4) Develop capability of rural entrepreneurs and support new entrepreneurs.
- 5) Set up a rural industry development fund for cottage and handicraft industries.
- 6) Increase investigation, drilling, and repairing underground water, including setting up of water distribution systems.

In order to support the above government's policies and encourage industrial development in rural area, The Board of Investment (BOI) grants promotion privileges to the projects which will be relocated from the central to rural areas since 1993. Thus, BOI provides tax incentives to the projects which will be relocated from Zone I to Zones II or III, or Zone II to Zone III. As of October 1993, fifteen(15) projects have been granted this promotion status. (The detail of BOI's development policies is described in the Chapter 2.3.2)

(3) Subcontracting Development Program (BUILD Scheme)

In 1992, BOI started up new investment services to promote the industrial subcontracting system in Thailand namely the BOI Unit for Industrial Linkage Development (BUILD) scheme. BUILD encourages the growth of supporting industries in Thailand by providing information on subcontracting opportunities as well as support to buyer firms seeking sourcing networks in Thailand. The Unit helps small and medium scale Thai parts manufacturers to achieve the standards required to enter into productive subcontracting arrangements.

BUILD is engaged in the following five programs centering on matching services and information services for the same:

- 1) Matching services: The unit runs surveys on the following 10 subsectors, host seminars, and arranges meetings between demanders and suppliers.

- | | |
|--------------------------|-------------------------------------|
| 1. Sheet metal parts | 6. Metal machining |
| 2. Micro motors | 7. Coil and electronic transformers |
| 3. Engineering plastics | 8. Printed circuit boards |
| 4. Electronic wire | 9. Foundry |
| 5. Electronic connectors | 10. Moulds and dies |

- 2) PR for BUILD: Public relations campaigns are conducted to get small and medium scale enterprises (SMEs) in the regional areas to register in order to promote the system. In particular, Nakhon Ratchisma and Kohn Kaen are being targeted.

- 3) Training: Training is being provided to entrepreneurs with a focus on improving the skills of the management class. Half-day seminars are held 10 times a year in the metropolitan area and four times in the provincial areas covering topics such as ISO9000, statistical processing, and production and quality control.

- 4) Dispatch of missions: Missions are dispatched four times a year to Europe and Japan. In 1994, a mission is also scheduled to be sent to Taiwan. Staff members are also sent overseas with the assistance of UNDP.

- 5) Information services (Information Center): At the present time, profiles on 1,200 companies have been input into the data base (mostly for metal parts and electrical components). The policy is for improving the system and working to increase the depth of the data. One of the directions to be taken for this is further information on part suppliers through subdivision of the classes of products.

Successful examples of the matching include plastic parts, capacitor parts, plastic tubes, and coated power supply cases so far.

The BUILD scheme is already entering its second stage, according to the unit in charge. The need is rising for information of a density effective for fostering business opportunities. The point of emphasis in the plans for promotion of supporting industries currently envisioned by the unit in charge is joint ventures with foreign capital. Organization chart of BUILD Scheme is shown in Figure 2.1-2.

(4) National Supplier Development Program (NSDP)

National Supplier Development Program (NSDP) is joint program for developing supporting industry by BOI and MOI. NSDP aims at development of small and medium scale parts manufacturers in cooperate with private business groups and the government office concerned. The Permanent Secretary for Industry is appointed as the Chairman of the NSDP Steering Committee, and the secretary office set up in BOI.

The first steering committee meeting was held on June 1994 and agreed that a concrete plan shall be discussed in the appointed working group of BOI and MOI in order to implement NSDP effectively.

Assistant Secretary - General of BOI and Deputy Director General of OIE responsible for working groups in BOI and MOI respectively. A theme which shall be discussed in each working group is shown in NSDP's briefing paper as follows:

Under the Board of Investment

- 1) Promotion
 - a. Meeting "technology gaps"
 - b. Seeking foreign investors
 - c. Developing new entrepreneurs

- 2) Incentives
 - a. To promote suppliers
 - b. Principal supplier linkages
 - c. Subsidize adoption of ISO 9000

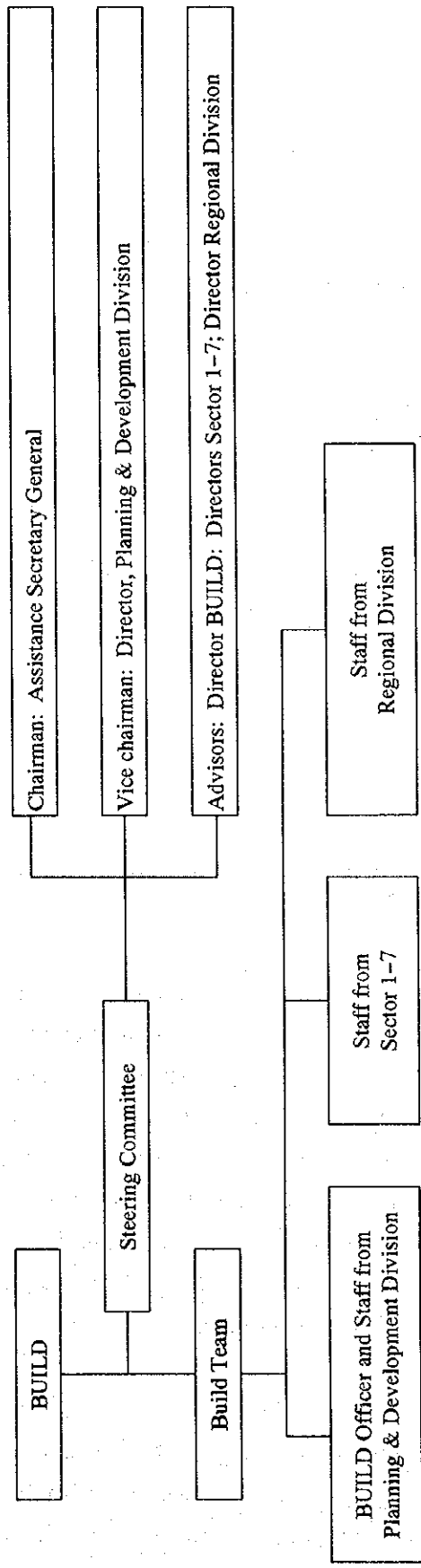


Figure 2.1-2 ORGANIZATION CHART OF BUILD SCHEME

Under the Ministry of Industry

- 1) Awareness Building
 - a. Public/private cooperation
 - b. Education on SME's role
 - c. Promoting mutual understanding
 - d. Lobby for key policy reforms

- 2) Capability Improvement
 - a. Training for SME suppliers
 - b. Promotion of ISO 9000
 - c.i Technical assistance
 - c.ii Marketing assistance
 - c.iii Management assistance
 - c.iv Finance assistance
 - d. Continuous improvement

Based on the above themes, a concrete program shall be discussed and implemented from now on.

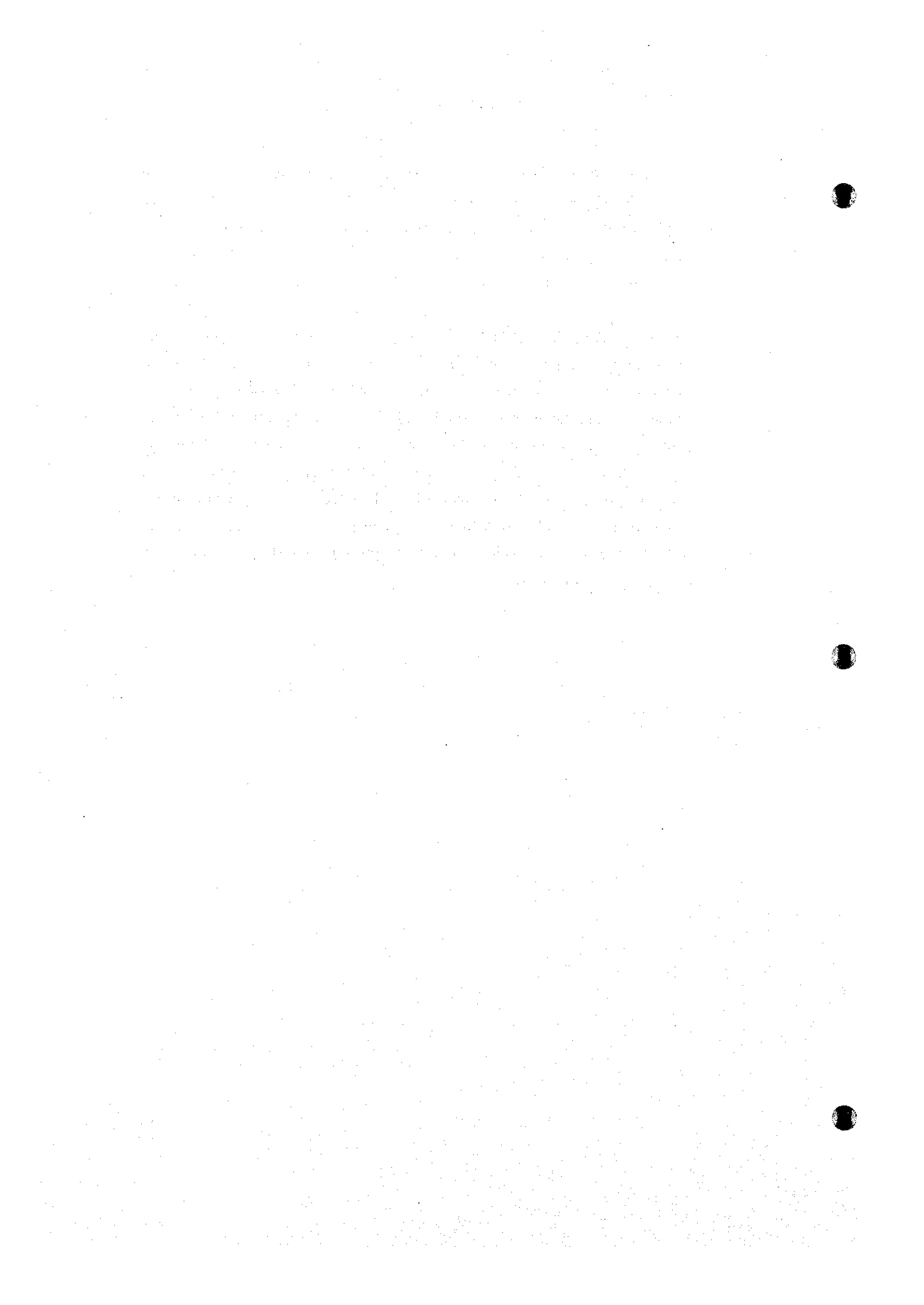
(5) Promotion of Small and Medium Scale Industries and the Supporting Industries

The importance accorded to promotion of the regional industries can be seen in the industrial development policies of Thailand outlined above, beginning with the Seventh Plan program and the policies of the various Ministries concerned. However since in terms of scale the major part of the regional industries are in fact small and medium scale industries it is recognized that the terms can be seen as virtually interchangeable. In this sense the policies for "promoting the small and medium scale industries", policies for "promoting the regional industries" and the policies for decentralization "all concern the same categories of promoting industry".

The issue of the promotion of the supporting industries has become an increasingly pressing problem over recent years as result of the evident insufficiency of "basic technology" and the inadequacy of basic industrial structures which have been highlighted by industrial development. "Basic technology" includes such sectors as forging, casting, metal pressing, powder

metallurgy, plating, heat treatment, plastic processing, machine processing, etc. It is supposed that the majority of the firms engaged in the above activities are in fact small and medium scale industries. In this sense the promotion of supporting industries can form part of the overall process of policy-making for the promotion of the small and medium scale industries.

However, despite the fact that policy agreements are gradually evolving with regard to the supporting industries (for example the new standards for preferential investment measures announced by the BOI in October of 1993), promotional and development policies taking a sector wise approach are still insufficient. In future it will be necessary to give emphasis not only to import substitution and social development aspects of the policies for promotion of the supporting industries which carry on the work of the promotion of the small and medium scale industries. It will also be necessary to undertake the promotion of the supporting industries in terms of technology development.



2.2 Export Promotion Policy

2.2.1 General policies for export promotion

(1) Keynote of Policy in Export Promotion

The keynote of the policy in Thailand's trade and development is liberalization. This has as its aim the development of free trade in accordance with the General Agreement on Tariffs and Trade (GATT), ASEAN Free Trade Area (AFTA), and other international trade agreements and regional economic cooperation agreements based on strengthening of the competitiveness of Thailand's industries and, at the same time, reduction of production costs and realization of even stronger international competitiveness through liberalization of imports.

Specific examples of the steps taken to liberalize imports include the reduction of duties on machinery in September 1990, followed by reduction of duties for production materials of auto parts in March 1992. In September 1992, major streamlining of the import duties was announced. Further, in February 1993, duties were lowered on 1474 ASEAN products as part of the CEPT measures taken for the creation of AFTA. This policy of liberalization of imports has made the business environment for domestic companies (especially parts suppliers) difficult due to the introduction of imports competing with domestic industries, but can be expected to result in stronger international competitiveness of export industries due to reduced costs and improved quality.

In the area of export promotion, in December 1988, the amount of refinancing for export credit was lowered from the 60 to 90 percent of the face value of promissory notes to 50 percent. For reinforcing the export finance, the Export-Import Bank of Thailand was established on February, 1994. In the seventh National Economic and Social Development Plan, the target rate of increase of the value of exports was set to an average 17 percent and that for the volume of exports to 12 percent. The chances for increased exports are considered to be great in view of the economic growth of Thailand's main trade partners, the opening up of new markets in Indochina and Eastern Europe, and the relocation of industries and opening up of markets of Japan and the East Asian NIEs.

Export promotion in Thailand consists of the following items:

- 1) BOI's Incentives for export-oriented investment
- 2) Drawback of import duties by the Custom Department,
- 3) Export financing by the Bank of Thailand (transferred to Export Import Bank starting February 1994),
- 4) Export processing zones of the Industrial Estate Authority of Thailand (IEAT) and bonded warehouses of the Custom Department,
- 5) Promotional activities by the Department of Export Promotion (DEP) of the Ministry of Commerce.

- 1) BOI's Incentives for Export Oriented Investments

Based on the Investment Promotion Act of 1977 and the 1991 amended Investment Promotion Act, there are general incentives given to promoted companies and also the following incentives for exporting companies:

- (a) exemption of import duties on imported materials and parts,
- (b) exemption of import duties relating to re-exported goods,
- (c) exemption of export taxes, and
- (d) deductions from the assessed corporate income of an amount corresponding to 5 percent of the increase in income caused by an increase in exports the previous year, not including insurance and shipping costs.

Further, based on the BOI Announcement No. 1/1993 and No. 2/1993, export oriented projects among BOI approved and promoted projects are given the following privileges:

- (a) Criteria of Approval

When over 80 percent of the total sales is derived from exports, the criteria that the value added has to be at least 20 percent of the sales revenue is not applied.

(b) Equity Ratio of Joint Ventures

Manufacturing projects which derive at least 50 percent of their total sales from exports may be majority owned by foreign investors. When at least 80 percent of the total sales are derived from exports, foreign investors may own all the shares.

(c) Exemption of Corporate Income Tax

Projects located in Zone 1 which derive at least 80 percent of their total sales from exports and are located in industrial estates or in industrial regions which are promoted are exempted from corporate income taxes for three years, and In Zone II, eligible for tax exemption for seven years.

(d) Abatement of Import Duties

Projects located in Zone 1 which derive not less than 80 percent of their total sales from exports enjoy a 50-percent reduction of duties on imports of machinery not included in the September 18, 1990 tariff reduction notification of the Ministry of Finance. Similarly, projects located in Zone 1 which export at least 30 percent of their total sales are exempted from import duties on materials or equipment used in export products for a period of one year.

Projects located in Zone 2 which export at least 30 percent of their total sales are exempted from import duties on materials or equipment used in export products for a period of one year.

Projects located in Zone 3, including the Laem Chabang industrial estate, which export at least 30 percent of their total sales are exempted from import duties on materials or equipment used in export products for a period of five years.

The BOI has been re-evaluating the regions for which it is promoting investment since September 1987 for the purpose of dispersing investment to the provincial areas. It is continuing to encourage

investment in export projects, but there is a clear shift in emphasis in investment promotion to investment in the provincial areas and to relocation from the metropolitan area and its outskirts (Zone 1 and Zone 2) to the provincial areas.

In the JICA reports of the Industrial Sector Development Study²⁾, it was pointed out that the abatement of duties and indirect taxes on imports contributed to stronger international competitiveness of export products, but led to slower development of the domestic parts and intermediate goods industries. The abatement of duties on imports of input goods by export companies is being continued as mentioned earlier, but in October 1993 it was announced that eight years of exemption of income taxes would be accorded, regardless of the zone, to investments in four metalworking subsectors, such as moulds and dies, and that 100 percent foreign ownership would be allowed for these as well. As a result of this, investment incentives for industries producing parts and intermediate goods, which have been engaged in indirect imports in the sense of supplying input goods to exporting companies, have been clearly set forth. It can therefore be expected that technology for these industries will be transferred through foreign investment.

New privileges and eligible activities are as follows:

Eligible Activities: 1) Mould & Die, 2) Forging, 3) Jig & Fixture, 4) Casting, (the above are since October, 1993), 5) Tools, 6) Cutting tools, 7) Milling machines, 8) Sinter 9) Heat treatment, 10) Surface treatment, 11) Metal machining 12) Electronic connector, 13) Battery, 14) Engineering plastics (since June, 1994)

Granting Privileges: 1) Corporate income tax exemption for 8 years

²⁾ JICA began a study of promising industrial sectors in Thailand from 1988 to 1990, and made recommendations on measures for industrial promotion by sector. A review of progress in implementing recommendations is summarized in ANNEX-II.

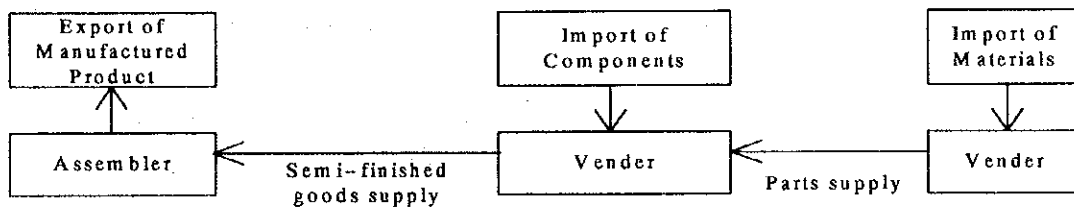
- 2) 50% import duty reduction on machinery for the projects which located in Zones I or II
- 3) Exemption of import duty on machinery for the projects which located in Zone III
- 4) No condition for foreign equity ratio (the projects applied before the end of 1996)

2) Refund of Duties

There are two systems by which duties are refunded: drawback and tax rebates. These are run by the Custom Department. The drawback system enables the import duties assessed on imported materials and parts and imported semi-finished goods used for exported products to be refunded after export. In the past, the duties, business taxes, and municipal taxes were all refunded, but the system was changed after the introduction of the added value tax in 1992 so that only duties are refunded. The requirements for use of the drawback system are as follows:

- (a) The drawback on such imported goods is not prohibited by a Ministerial Regulation;
- (b) The quantity of imported goods used in producing, mixing, assembling or packing exported goods shall be in accordance with the rules approved or notified by the Director-General;
- (c) The goods are exported through a port or place for the exportation of goods for which drawback is claimed;
- (d) The goods are exported within one year from the date of importation of the goods used in producing, missing, assembling or packing exported goods; and
- (e) The claim for drawback is made within six months from the date of exportation of the goods, provided that the Director-General may extend this time limit as he deems fit.

In utilizing this system, the manufacturer of the exported goods either pays the import duties in cash at the time of import or else submits a bank guarantee. The importer has the right to claim drawback. For example, in the following case, the importing vendor makes the request, but the assembler which exported the goods receives the refund.



According to the Custom Department, if the documents are all complete, then a refund is made within 30 days of the application.

The tax rebate system differs in that the exporter makes the request. Part of the import duties on the raw materials, facilities, and parts used for the exported goods are rebated. Rebates are paid in coupons which have a validity of three years, extended another three years. The rate of rebate is expressed as a percentage of the FOB price for goods classified by the tariff classification system. In the past, there had been two exchange rates used: the A rate applied in the case of utilizing locally made materials and the B rate applied in the case of use of imported materials, but currently these have been unified as the A rate. The rate of rebate in the case of the A rate is currently 0.45 to 14.0 percent. The rebate is supposed to be issued within one month. According to the Custom Department, tax rebates should have been abolished after the introduction of the value added tax, but continue to be used to encourage exporters purchasing domestic raw materials and exporting the finished products.

3) Export Financing

The Bank of Thailand (BOT) engaged in export financing by providing commercial banks with low interest refinancing for loans made by the commercial banks for export promissory notes issued by export companies. This system dates back to 1959 to a system for rediscounting of export promissory notes for rice. This was broadened to cover other primary products and industrial goods as well and was improved to an export credit refinancing system in 1986. After this, the amount of the financing was changed to 50 percent of the export value in 1986. In February 1994, the financing work has been transferred to the newly established Export-Import Bank. Financing by sector from 1988 to 1992 is shown in Table 2.2-1. As of July 1994, Export-Import Bank has been providing the following finance schemes.

Table 2.2-1 PURCHASE OF PROMISSORY NOTES ARISING FROM EXPORTS
(AT HEAD OFFICE)

Unit: Billion Baht

Commodity	1988	1989	1990	1991	1992
Agricultural products	50,374.0	32,104.0	33,197.0	48,450.0	41,585.5
Rice	20,090.7	13,577.2	9,985.5	12,379.4	16,522.3
Maize	2,758.5	1,588.0	1,456.7	1,259.9	143.7
Sorghum	15.3	7.4	1.5	84.1	-
Rubber	2,597.9	1,056.8	954.6	9,623.6	1,125.9
Tapioca products	12,909.8	7,437.2	7,477.5	8,125.7	7,600.6
Frozen shrimp	-	246.2	1,905.3	1,819.4	3,122.2
Seafood	2,964.6	4,611.9	7,003.0	9,581.3	8,224.4
Meat	7,024.4	2,106.3	2,987.5	2,825.5	3,179.1
Beans	486.5	175.7	411.5	270.1	98.6
Fresh fruit	-	37.1	87.2	31.9	45.0
Orchid	-	33.5	55.0	55.4	66.7
Coffee	247.5	261.1	10.6	151.7	207.9
Tobacco leaves	765.8	634.5	614.3	1,438.4	1,190.6
Cotton	50.7	15.4	80.8	1.3	58.5
Kenaf	166.3	3.6	0.3	-	-
Others	296.0	312.1	165.7	802.3	-
Manufacturing products	58,678.4	33,229.7	38,507.3	48,213.8	36,806.4
Sugar	4,039.5	3,207.9	1,961.7	1,377.8	2,319.1
Canned food	11,290.6	6,798.0	7,395.2	7,717.5	6,769.1
Canned fruit and juice	-	978.8	1,392.2	1,790.0	1,049.8
Molasses	94.9	60.5	93.2	85.2	149.3
Animal feed	423.2	232.1	210.8	124.6	213.6
Integrated circuit	-	289.7	-	45.5	1.8
Electrical appliance electronics and part	2,776.0	2,423.4	3,424.7	4,965.0	4,188.2
Ball bearing	-	-	0.7	4.5	-
Germents	-	4,726.7	5,748.2	6,470.1	6,058.1
Cloth and clothing	7,639.0	1,550.0	1,872.5	1,988.0	1,518.4
Synthetic fibre	308.0	202.4	526.5	239.5	310.5
Footwear	-	2,522.5	4,182.4	5,006.5	4,572.2
Gloves	150.7	129.3	209.1	303.9	206.4
Leathers and Leather products	1,330.6	515.9	787.2	1,247.4	1,169.8
Artificial flowers and trees	-	350.8	352.1	330.1	389.7
Plastic pellet and products	-	315.4	211.5	443.0	521.4
Pulp and paper products	81.8	33.1	42.0	55.2	55.5
Wood products	1,981.9	1,319.8	1,511.0	1,901.1	1,993.7
Metal products	4,074.2	1,386.0	1,452.4	985.2	687.4
Cereal and flour products	-	263.4	402.5	584.5	359.7
Jute and kenaf products	667.9	448.7	347.6	728.7	296.8
Rubber products	1,636.9	448.3	493.3	628.0	602.6
Ceramic	-	63.5	24.6	98.6	74.8
Mosaic tiles and Sanitary equipments	247.6	231.8	247.8	202.5	150.3
Cement	-	7.2	4.8	1.2	4.7
Glass and glassware	-	14.3	15.0	35.3	13.5
Precious stones	2,264.6	1,331.3	1,677.8	1,778.3	1,950.1
Others	19,671.0	3,378.9	3,920.5	9,076.6	1,179.9
Others	842.2	1,906.8	2,847.1	1,092.9	8,505.3
Wood	446.3	179.3	151.7	20.0	44.4
Various minerals	395.9	240.2	235.0	337.5	492.4
Others	-	1,487.3	2,460.4	735.4	7,968.5
Total	109,894.6	67,240.5	74,551.4	97,756.7	86,897.2
Total Head Office and Branches	121,643.4	75,195.5	80,607.8	95,346.3	93,217.2

Source: Bank of Thailand

(a) Basic Financial Scheme of Export-Import Bank (as of July, 1994)

Coverage: All export goods except for re-exports

Method: Purchase of export promissory note from commercial banks

- In the case of direct exports, refinancing is offered for the value of the promissory notes issued covering the value of the goods procured, not exceeding the value indicated in export documents such as letters of credit, sales contracts, purchase orders, usance export bills, and warehouse receipts.
- In the case of indirect exports, refinancing is offered for the difference between the value indicated in domestic business documents such as domestic letters of credit, domestic sales contracts, domestic purchase orders, and warehouse receipts and the value shown on export documents, not exceeding the export value.

Amount of refinancing: 50 percent of face value of promissory note

Maturity: Limit of 180 days after acquisition from EXIM Bank

Financing ceiling: Depending on credit line of commercial banks

Interests (annual): 5 percent, commercial banks can be put an interest not exceeding 10 percent.

Penalties for abuse of financing system: 6.5 percent (per year)

In addition to the basic scheme, EXIM Bank operates the following loan schemes.

- Short term pre-shipment financing
- Medium term loan for business expansion
- Medium term financing for durable goods export
- Long term loan for capital goods export
- Medium term financing for agricultural export

Export insurance scheme is scheduled to start from December of 1994.

4) Export Processing Zones

There are currently 21 industrial estates managed by the Industrial Estate Authority of Thailand (IEAT), of which the following seven are export

processing zones: Lam Phun, High Tech., Bang Pain, Bo win, Laem Chabang, Lat Krabang, and Song Kla.

Foreign companies locating in industrial estates are given the following incentives, without having to apply to the BOI, under the Industrial Estate Authority of Thailand Act of 1979. The qualifications for location in an export processing zone is export of 100 percent of the production.

- (a) Acquisition of land in the industrial estate
- (b) Thai residency permits for skilled workers, specialists, spouses, and family
- (c) Approval of employment of foreign technicians and specialists
- (d) Infusions and remittances in foreign currency

Further, the following incentives are given to companies locating in export processing zones:

- (a) Exemption from import taxes and value-added taxes on machinery for the construction of the factory and manufacture
- (b) Exemption from import taxes and value-added taxes on raw materials
- (c) Exemption from export taxes for the machinery used for factory construction, all products, and secondary products
- (d) Exemption from or rebate of import taxes on materials purchased from domestic producers

5) Export Promotion by DEP

The Department of Export Promotion (DEP) is one of the departments of the Ministry of Commerce and engages in various activities with the aim of encouraging marketing of Thai products in overseas markets.

Organization

The DEP is organized as shown in Figure 2.2-1.

In 1994, its organization was restructured so that Trade Mission Division and Market Development Division were incorporated and International Market Division I (for EU, USA) and Division II (for Asia, Africa, others)

were established. The DEP has about 300 staffs. Its operating budget included, in 1994, [1] 102.30 million baht in government allocations, [2] 37.95 million baht in foreign aid, and [3] 245.85 million baht from the International Trade Promotion Fund, which is partially funded by import taxes, for a total of 386.10 million baht.

Summary of Activities

The programs of the DEP are aimed at the following.

- (1) providing information on overseas markets to exporters and providing information to buyers relating to Thai manufacturers and exporters,
- (2) marketing promotion, and
- (3) improvement of the quality, design, and image of Thai products.

Toward this end, the DEP, implemented the following programs:

- (1) engages in market surveys and sends study missions overseas,
- (2) issues informative journals and directories,
- (3) provides information services to overseas and domestic trade centers,
- (4) hosts exhibitions and dispatches representatives to them,
- (5) receives sales missions and buyers missions, and
- (6) holds seminars and training courses.

A look at the plan of promotion for 1993 and 1994 shows that the following five guidelines have been set:

Promotion Guideline for 1993

- (a) Improvement of the image of Thailand not only in traditional export markets such as Japan, the U.S., and Western Europe, but also nontraditional export markets such as Latin America, Africa, and Eastern Europe.
- (b) Promotion of the use of distinctive Thai brands and designs.
- (c) Promotion of entry into new markets
- (d) Improvement of quality and value added
- (e) Elimination of problems and obstacles

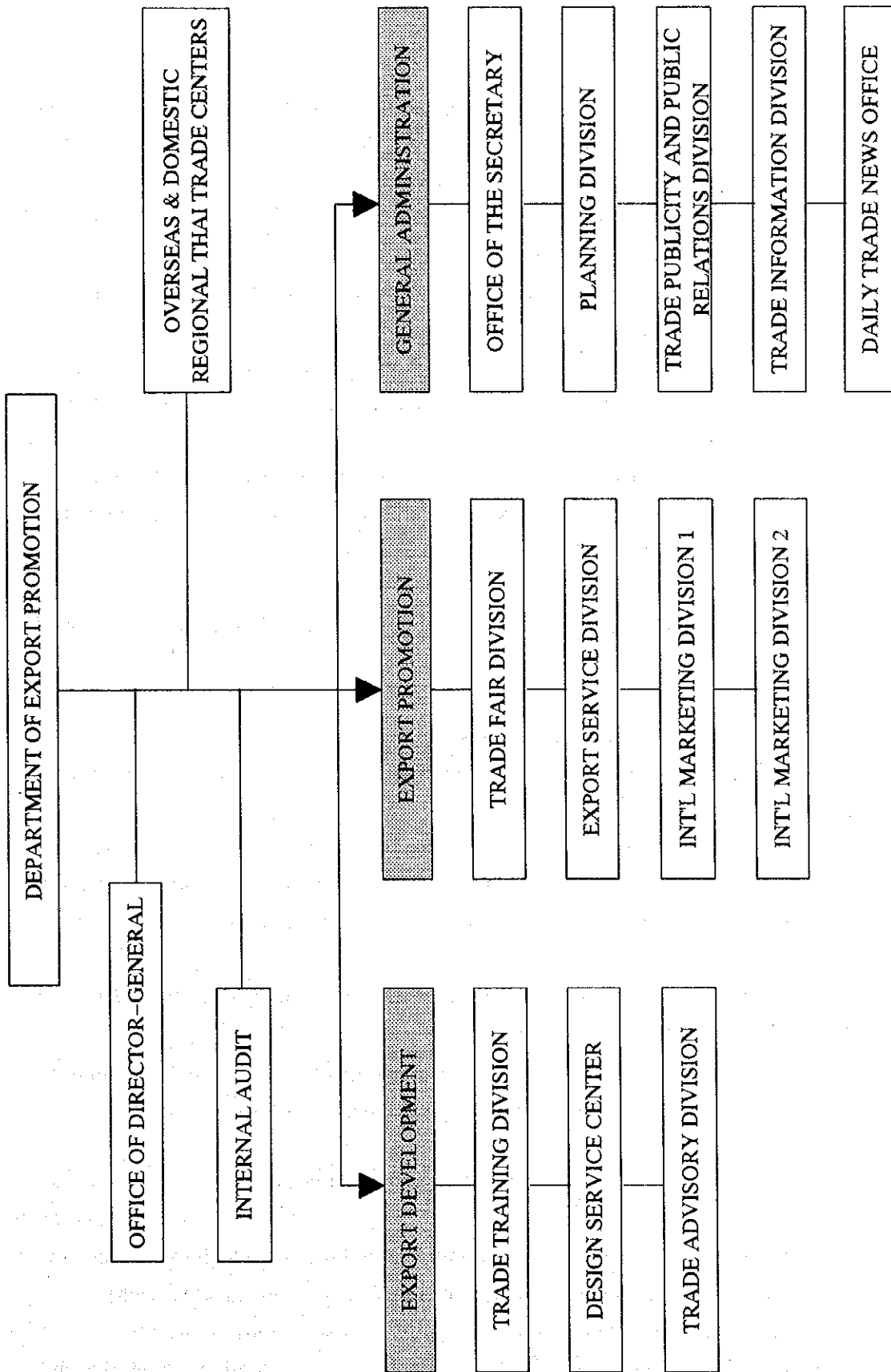


Figure 2.2-1 DEP'S ORGANIZATION CHART

Promotion Guideline for 1994

- (a) To carry out continuously an aggressive trade policy emphasizing new export markets: namely, Australia, Eastern Europe, the Middle East, Africa, Latin America, Indochina and ASEAN
- (b) To find new supply sources for Thai industries and to explore possibilities of establishing future production bases abroad.
- (c) To create a favorable image of economic and trade in order to build up buyer's confidence
- (d) To develop channels of distribution in major traditional markets such as the USA, Europe and Japan. To closely monitor strategies and new development of competitors.
- (e) To improve existing trade information system and database and to establish international trade information network in order to facilitate efficient flow of trade information for both the public and private sectors.

In view of this, in the 1994 export promotion plan, the following were mentioned as important:

- (a) To develop trade information system.
- (b) To conduct supply surveys of potential products for export in order to draw up a supporting plan.
- (c) To carry out foreign market researches so as to determine export strategies.
- (d) To organize courses and seminars in both Bangkok and provincial areas emphasizing product development, export markets and related export marketing skills.
- (e) To organize different designing activities in order to upgrade the design and quality of Thai export products.
- (f) To cooperate closely with the other government and private organization in solving and eliminating export problems and difficulties.

More specifically, the following activities are being planned:

- (a) Participation in international exhibitions (28 times, of which four in Japan)
- (b) Sponsoring of large-scale exhibitions (in Japan, U.S.A., and Canada)
- (c) Sponsoring of trade fairs (six international fairs and nine domestic)
- (d) Joint exhibitions with department stores (U.S.A., Belgium, Australia and

Canada)

- (e) Dispatch of study and selling missions (Latin America, Africa and Eastern Europe)
- (f) Receipt of buyer missions (245 times)
- (g) Invitation to foreign journalists for improving Thailand's image.

Note that the targeted export products of Automotive and Electrical/Electronic for 1994 were as shown in Table 2.2-2.

Table 2.2-2 TARGET PRODUCTS OF DEPARTMENT OF EXPORT PROMOTION IN 1994
(Extract)

1. ELECTRICAL & ELECTRONIC PRODUCTS & COMPONENTS

- Television set
- Radio receives set
- Fan
- Computer set
- Parts & Accessories of electrical & electronic without an external source
- Electronic conductors, filled with connectors, for a voltage
- Cathode-ray television picture tubes, color
- Parts of electrical transformers, static converters
- Other transformers having a power handing capacity
- Compressors of a kind used in refrigerating equipment
- Parts of electrical sound or visual signaling apparatus
- Telephone answering machine
- Parts of electrical apparatus for line telephone or line
- Other electro-thermic appliances

2. VEHICLES & PARTS

- Bicycles
- Boat & marine products
- Motor Vehicles
- Ignition wiring set
- Rubber tyre & inner tubes
- Batteries
- Other parts

2.2.2 Policy implications for export promotion and supporting industries

Among the incentives for promoting export industries, the abatement of duties by the BOI and the export credit refinancing by the Bank of Thailand both give assistance to exporting companies in the area of taxation and financing, but do not focus on any specific industries. Specific industries are targeted for assistance through the promotion plan of the DEP. The DEP designated electrical/electronic products and components, plastic products and automotive parts as a target product group for 1994. Further, in 1993, it held an exhibition for auto parts in which 61 companies participated. It has been displaying products at overseas exhibitions such as electrical/electronic components at the Hanover Fair of August 1994 and conducting surveys of demand and supply. In this way, it is already engaged in a diversified program of promotion. The plan of promotion of the DEP, however, is beneficial in assisting companies in marketing, product development, design, and other areas, but does not bring about any direct reduction of costs such as with tax and financial incentives.

Promotion of the supporting industries in Thailand can be said to mean promotion of import substitution industries in the sense of changing over from a reliance on imports of parts and intermediate goods to domestic production and supply. From this viewpoint, export promotion is considered a task for the future. One of the findings of the current field survey, however, was that the economy of scale is essential for promotion of supporting industries.

The users of the supporting industries, that is automotive industry and electrical/electronic industries, have grown tremendously since 1987. The domestic market, however, continues to be small. So that the ability to compete with imports from Asian NIEs requires that the supporting industries of Thailand be competitive in terms of price, quality and delivery, and the indispensable factor for this is large scale production. Accordingly export promotion is considered from the viewpoint of expansion of market.

2.3 Investment Promotion Policy

2.3.1 General policy for investment promotion

With the rush of applications for foreign investment quieting down in the 1990's, the government considers it high time to revise its foreign investment policy and has been taking steps toward this end.

The overall direction being taken is to improve Thailand's international competitiveness through reduction of costs and greater efficiency so as to further speed its internationalization. The government is turning increasingly to deregulation. Measures to protect domestic industries and various restrictions are fading away and an emphasis laid on fair and free competition.

This policy trend is almost same as neighboring countries policies. This chapter makes a general survey of foreign investment policies in the neighboring countries first and describe outline of investment policy in Thailand.

(1) Trend of deregulation and incentives for foreign investment in neighboring countries

Developing countries had regulated foreign investment because priority was given to protection of local firms and foreign investment was considered as supplementary. However, foreign investment has inclined to concentrate on less foreign investment regulating countries and these countries have consummated high economic growth, which created such cycle that high economic growth raises standard of living, which expands market and market expansion draws more foreign investment.

In the late eighty's, this development of open foreign investment policy countries was recognized by most countries in Asia. Now enters into the age of foreign investment inflow competition among Asian countries. Most countries proceed with deregulating foreign investment policies.

Table 2.3-1 shows in a simplified manner the changes made to major incentives and the pace of deregulation since 1986. From the table, it is clear that the main recipient countries are hurrying to promote specific industries based on their respective traditional foreign investment policies and economic parameters. The main trend of deregulation and incentives for foreign investment being taken can be summarized as follows:

Table 2.3-1 PROGRESS IN DEREGULATION AND IMPROVEMENTS IN FOREIGN INVESTMENT POLICIES IN ASIA (1/2)

Taiwan	R. Korea	Singapore	Malaysia	Indonesia	Thailand
<p>* Amendment of articles governing investment by foreign nationals ... opens door to investment in service industry etc. (May 1986)</p> <p>* Liberalization of foreign exchange transactions ... liberalizes overseas remittances of up to US\$5 million per person (per company): emergency deregulation (July 1987).</p> <p>* Amendment of securities exchange law to allow up to 40 percent foreign equity (May 1981 enforcement regulations).</p> <p>* Adoption of negative list (May 1988) and announcement of 73.2% liberalization rate.</p>	<p>* Reduction of minimum foreign investment in small and medium sized enterprise to US\$50,000 (July 1987)</p> <p>* Expansion of industries in which foreign investment is limited (liberalization rate 76.3% to 78.9%) (Feb./Sept. 1987)</p> <p>* Approval of joint ventures in advertising business (July 1987)</p> <p>* Conditional approval of joint ventures in insurance business (Jan. 1988)</p> <p>* Expansion of fields of participation of foreign investment in manufacturing sector (July 1989)</p> <p>* Approval of up to US\$100 million investment by foreign nationals in manufacturing sector (Jan. 1990)</p>	<p>* Incentives to companies establishing sales headquarters (step by step from June 1986)</p> <p>* Reduction of corporate tax rate from 40% to 33% (from 1987 tax year)</p> <p>* Incentives after expiration of pioneer status (same as above)</p> <p>* Stronger incentives to R&D etc. of service industries (from 1988 tax year)</p>	<p>* Deregulation of foreign investment .. conditional raising of ceiling on employment of foreign nationals even for 100% foreign equity investments (Oct. 1986)</p> <p>* Clarification of guidelines for deductions in taxes on investments (Aug. 1987)</p> <p>* Extension of term of exemption on corporate taxes for export companies (from 5 to 10 years) and extension of incentives for reinvestment (Nov. 1987)</p> <p>* Easing of regulations on foreign equity ratios and raising of ceiling on percentage of products allowed to be sold domestically (Aug. 1988)</p> <p>* Speeding of procedures and strengthening of functions of MIDA (Sept. 1988)</p>	<p>* Extension of period of business of foreign investments (May 1986)</p> <p>* Reduction of tariffs on imports of raw materials (Oct. 1986)</p> <p>* Equal treatment to foreign investments as with domestic companies (May 1986) (conditional)</p> <p>* Opening of export sector to foreign investment (Feb. 1987)</p> <p>* Easing of terms for obligatory localization (fade out) of capital (Pribumi) (Feb. 1987)</p> <p>* Easing of terms for approval of equal treatment of foreign investments as indigenous companies (Feb. 1987)</p> <p>* Expansion of fields of foreign investment (May 1987)</p>	<p>* Easing of criteria for encouragement (Oct. 1986)</p> <p>- Reduction of minimum investment in export industry from 5 to 1 million bahts</p> <p>- Extension of exemption on corporate tax from 3-8 to 5-8 years (Oct. 1986)</p> <p>* Reevaluation of regions for which investment is encouraged and classification of all areas into three types of regions (Sept. 1987 and Sept. 1988)</p> <p>* Transition to IMF Article 8 country and easing of restrictions on foreign exchange and capital transactions (May 1990)</p> <p>* Expansion of tax incentives such as halving of import duties on machinery other than tariff classes 84 and 85 (Oct. 1990)</p>

Table 2.3-1 PROGRESS IN DEREGULATION AND IMPROVEMENTS IN FOREIGN INVESTMENT POLICIES IN ASIA (2/2)

Taiwan	R. Korea	Singapore	Malaysia	Indonesia	Thailand
<p>* Third revision to foreign remittance regulations to allow up to US\$ 10 million remittance a year (Aug. 1989).*</p> <p>Promulgation of law on management of indirect investment and technical tieups on mainland (Oct. 1990)</p> <p>* Expansion of products for which indirect investment on mainland is allowed (Apr. 1991).</p> <p>* Opening up of insurance market for first time in 30 years (May 1992).</p> <p>* Allowal of investment in service industry on mainland</p>	<p>* Approval of foreign investment in cosmetic and information industries (July 1990)* Easing of restrictions on economic cooperation with North by private companies (Mar. 1991)</p> <p>* Opening of eight sectors, including trade agencies and aircraft leasing, to foreign investment (July 1992)</p> <p>* Allowal of up to 100% investment in farm machinery etc. (Nov. 1992)</p>	<p>* Introduction of authorized overseas trader (AOT) system: reduction of normal 31% corporate tax rate to 10% (Mar. 1990)</p> <p>* Introduction of authorized shipper system (AIS) (June 1991)</p> <p>* Raising of ceiling on foreign workers (Jan. 1992)</p>	<p>* Expansion of tax incentives (Feb. 1989)</p> <p>* OHQ incentives (May 1990)</p> <p>* OHQ incentives (May 1990)</p> <p>* Stronger incentives for R&D and OHQ bases (Nov. 1991)</p> <p>* Raising of ceiling on foreign workers (June 1992)</p> <p>*</p> <p>Establishment of human resource development fund (May 1992)</p>	<p>* Lifting of ban on wholesale activities of foreign investments (Nov. 1988)</p> <p>deregulation package)</p> <p>* Reduction of minimum investment to US\$250,000 (May 1989)</p> <p>* Deregulation package (June 1991)</p> <p>* Comprehensive deregulation (July 1992)</p> <p>* Easing of bank investment (Oct. 1992)</p> <p>* Expansion of bonded factory system (June 1993)</p> <p>* Approval of 100% foreign investment in manufacturing sector</p> <p>* Abolition of fadeout provisions (June 1994)</p>	<p>* Liberalization of new construction and expansion of sugar factories</p> <p>* Reduction of import duties on computers, automobiles, etc. (July 1991)</p> <p>* Easing of restrictions on foreign equity ratios (approval of even more than 51% in cases of investments of over 1 billion bahts in primary and tertiary industries) (Apr. 1992)</p>

- 1) Lowering of the minimum required levels of foreign investment
 - 2) Easing or abolition of export obligations for foreign investment
 - 3) Easing of restrictions on equity ratios for foreign investment
 - 4) Expansion of fields open to foreign investment, in particular the use of negative lists
 - 5) Incentives for research and development expenditures
 - 6) Linkage of investment incentives with long term "visions" for promotion of industries
- Indication of positive list for more strategic promotion of industries
 - Further subdivision and reevaluation of regions in which investment is encouraged
 - Formation of concept for promotion of local industries and supporting industries

These policy measures are all closely mutually related. Further, many of these measures are adopted by ASEAN from the Asian NIEs after a certain time lag. For example, the minimum required investment for foreign investments was lowered from the old US\$200,000 to US\$50,000 in South Korea and from US\$1 million to US\$250,000 in Indonesia. In Thailand, the requirement is a guideline in nature than a regulation, but here too it was reduced from 5 million bahts to 1 million bahts in October 1986. The aim of these reductions was to encourage the growth of small and medium scale businesses and foster a group of part and component industries with independent technology. In general, the technique has been to simultaneously come out with a policy using a positive list clearly showing industries to be promoted on a priority basis.

The expansion of fields open to foreign investment may be seen in the opening of the service industries and distribution sector and in the step-by-step liberalization of the financing and insurance businesses in the Asian NIEs of South Korea and Taiwan. In 1990, it was announced that the rate of liberalization in South Korea was 79.2 percent and that in Taiwan 86.2 percent.

(2) Foreign investment promotion policy of Thailand

Thailand's policy toward foreign investment was first set in 1960 with the establishment of the Investment Promotion Act. The Act was completely overhauled three times (1962, 1972, and 1977) and was touched up numerous instances in between as well. The current Investment Promotion Act is based on the one established in 1977.

The channels for investment promotion are the Board of Investment (BOI) and its working organization, the Office of the Board of Investment (OBOI). The BOI is chaired by the Prime Minister and is comprised of 12 members including the Secretary-General of the BOI and economically related ministers. It make decisions on the industries eligible for investment promotion, incentives for promotion, and policies. The OBOI, on the other hand, is in charge of administrative matters relating to promotion of investment and of actual investment promotion activities. It is organized under the Secretary-General of the BOI and falls under the jurisdiction of the Prime Minister's Office.

The investment incentives may be roughly classified into [1] fixed periods of abatement of corporate income taxes, import duties on machinery needed for facilities, and import taxes on materials and parts required for production, and other privileges accorded encouraged businesses and [2] special incentives devised by the BOI.

The Thai economy has been growing steadily and has dramatically elevated that country's presence in the international community. Along with this, the focus in investment promotion changed from the import substitution of the 1960's to export promotion in the 1970's. It is now becoming increasingly necessary to approach investment from diverse directions from the perspectives of deregulation and internationalization.

A typical example of this may be found in Thailand's transition to an Article 8 country of the IMF in May 1990. In that month, Thailand eased controls over foreign exchange and in October lowered import duties on machinery (reducing the tariff rate on machinery falling under Custom Codes 84 and 85, which had been an average 40% to 50%, to 5% to 20%). These measures had

the effect of wrecking one of the main incentives offered by the BOI, the exemptions on import duties of machinery. The substantive merits of investment incentives as a whole have gradually faded. In this sense, the main issues which the BOI is being pressed to deal with in its investment promotion in the early 1990's may be summarized as follows:

- 1) Regional development: The close to double-digit growth in the late 1980's resulted in an extreme imbalance in development in the provincial areas. Improvement of this situation is urgent, as is clearly set forth in the seventh development plan.
- 2) Decline in merits of investment incentives: The merits of previous incentives have declined in value along with the internationalization and deregulation of the economy.
- 3) Necessity for development of supporting industries: Along with the diversification in the types of companies investing in the country, industries for supporting these companies (supporting industries) are becoming necessary. It is becoming necessary to move on from the stage of simple assembly industries and build a more sophisticated industrial structure with linkage among industries.
- 4) Dealing with intensified competition in investment promotion: New players like China and Vietnam have appeared and are aggressively pursuing foreign investment. It is necessary to build relative superiority in the investment environment with a broad perspective and to stress this to the rest of the international community.

In recent years, Thailand has been promoting investment while focusing on the above issues. A policy has been announced of making the BOI not just a regulatory authority or organization for managing incentives, but a service organization for implementing various projects for promoting investment. Further, in relation to regional development and the promotion of supporting industries, the mood is now for devising measures more clearly indicating the priority ranking of industries instead of the conventional style of general incentives.

2.3.2 Framework of changes to main policies and institutions

The main measures taken for promotion of investment in the BOI and elsewhere since 1991 may be summarized from this viewpoint as follows:

(1) Reorganization of Office of Board of Investment (BOI)

The office was significantly reorganized in April 1992. The administrative processing for promotion of investment was arranged to flow according to the type of industry so as to improve services.

The old organization was set up functionally, that is, was divided into project analysis departments for examining projects, promotion management departments for deciding on incentives, incentive management departments for following up on projects to see if conditions were being met or not, etc.

After the reorganization, things are set up so that an investor need only access the division of the industry concerned and then can expect subsequent procedures to flow smoothly.

Further, to deal with the new international environment surrounding Thailand, a new unit, BUILD (BOI Unit for Industrial Linkage Development), has been launched in the planning division to promote the growth of supporting industries (Figure 2.3-1).

(2) Investment Incentives and Preferential Privileges for Regional Development

In recent years, the stress in the investment promotion policy has been on the promotion of export industries and also putting together requests for cooperation in provincial development. Specific measures toward this end were devised at the time of the amendment of the Investment Promotion Act in September 1987. The country has been divided into three zones and investment is being promoted in the lesser developed regions that is Zone 3 by allocating priority in investment incentives while the developed regions that is Zone 1 is controled new investment. This method has been reevaluated each year and has been revised several times. On January 28, 1993, three new zones, the present day ones, were designated and the subsectors to be promoted in each were clearly set down.

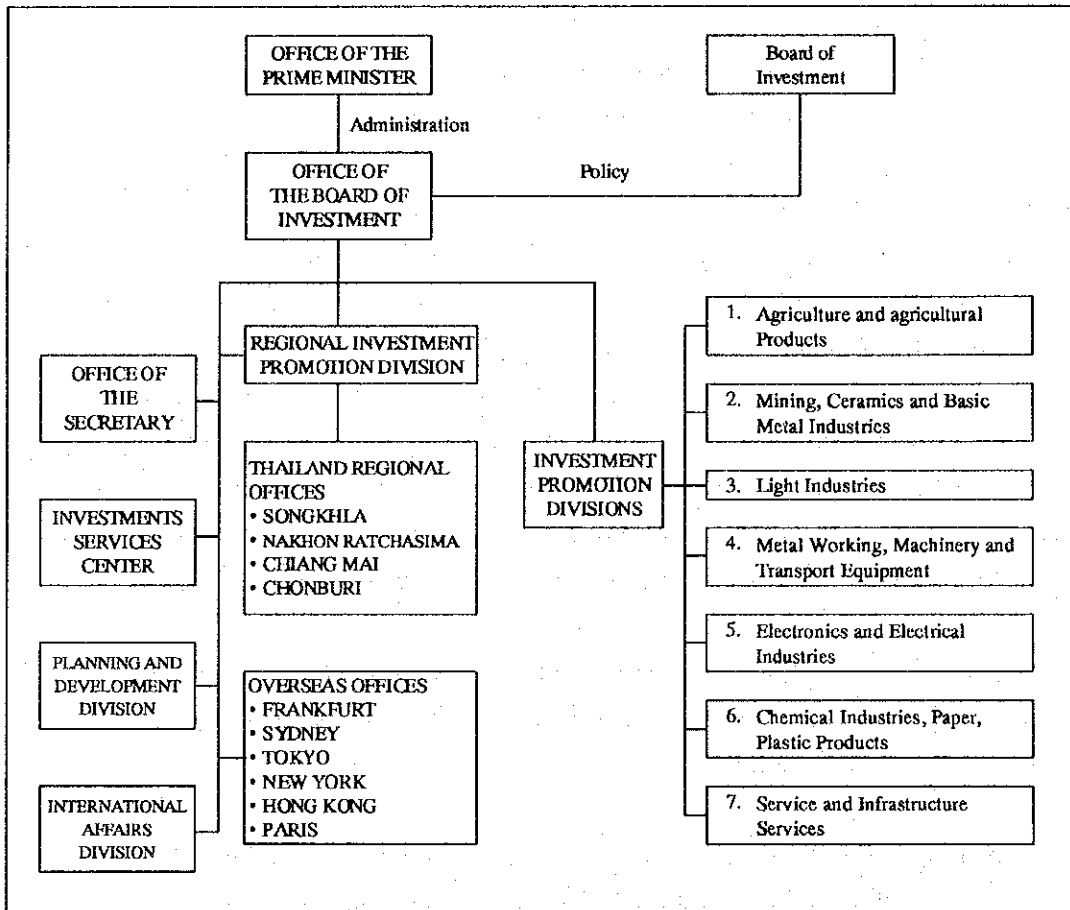


Figure 2.3-1 ORGANIZATION OF BOI

	Designated Zones as of 1987	Designated Zones as of January 1993
Zone 1	Bangkok, Samut Prakan (except industrial estates of the above)	Bangkok, Samut Prakan, Samut Sakhon, Nonta Buri, Pathum Thani (special incentives in industrial estates)
Zone 2	Nakhon Pathom, Nonta Buri, Pathum Thani, Samut Sakhon (including industrial estates of the above)	Samut Songkhram, Ratchaburi, Kanchanaburi, Suphanburi, Angthong, Ayutthaya, Saraburi, Chachoengsao, Chonburi, Nakhon Nayok (special incentives in industrial estates)
Zone 3	67 provinces not mentioned above	Other 57 provinces and Laem Chabang industrial estate

The main amendments made in January 1993 (BOI Announcement No. 1/1993 and No. 2/1993) were as follows:

- 1) Amendment of subsectors eligible for investment promotion to strengthen and support investment in provincial areas

In place of the former promoted subsectors, subsectors were designated in accordance with the Thailand Standard Industrial Classification (TSIC). Key subsectors in which location of investments in provincial areas was to be promoted without specific export requirements were set down for Zone III. (Another 20 activities which will be located in Zone II could be eligible for investment promotion without any export obligation by BOI Announcement of June, 1994)

- 2) Strengthening of Tax Incentives

Extension of income tax holiday in Zone III: from six years to eight years even for companies located outside industrial estates.

Greater abatement of import duties on machinery in Zone III (applied even to machinery with import duties of less than 5 percent).

Extension of income tax holiday for companies residing in industrial estates in Zone II: From five to seven years.

Note that companies not exercising their tax holiday rights, even companies approved before the introduction of these privileges, may apply for the next tax incentives.

3) Assistance in Factory Relocation

Incentives for companies relocating to Zone II or Zone III is exemption of corporate income tax. Companies relocating to Zone III enjoy an extendible eight-years income tax holiday and companies relocating to Zone II enjoy three-years and relocating to industrial estates or promoted industrial Zone in Zone II an extendible seven-year one.

Companies relocating to Zone III enjoy a further five-year 50 percent reduction of the income tax in addition to the initial eight-year income tax holiday. Expenses for water, electric power, and transportation may be deducted from the assessed income as well. Expenses for building infrastructure can be deducted up to a limit of 25 percent of profits.

The condition for receiving the above privileges is that the subsector be a promoted one. Companies facing environmental problems and required by the Ministry of Industry to relocate must relocate into an industrial estate. The new factories after relocation must start operating within two years of enjoyment of the privileges.

(3) Policy Implications for Promotion of Investment and Supporting Industries

The series of BOI measures established in the 1990s show that the BOI has moved on from its conventional role as a regulating authority and is starting to stress investment promotion as its main function.

The Board of Investment (BOI) Announcement No. 1/1993 stated that special emphasis would be given to the following projects while maintaining the legal aspects set down in the Investment Promotion Act of 1977. This is closely related to the policies of the Ministry of Industry ("Policy and Implementation Measures by Ministry of Industry") relating to the seventh development plan set forth in the section on Industrial Development Policy.

- 1) Projects which locate operations in provincial areas
- 2) Projects which establish or develop industries which form the base for further stages of industrial development
- 3) Projects which develop public utilities and basic infrastructure
- 4) Projects which conserve natural resources and reduce environmental problems
- 5) Projects which conserve energy or replace imported energy supplies
- 6) Projects which contribute to technological development
- 7) Projects which significantly strengthen the balance of payments

The criteria for project approval include a certain minimum level of investment capital, a stress on exports as a criteria of performance, guidance of industries by a positive list (Investment Promotion List) indicating groups of industries in which investment is welcome combined with promotion of dispersion of industry, and further the impact of the investment project on other industries and the contribution to technological progress.

The approach taken by the BOI in promoting supporting industries is a broad one aimed at fostering deeper linkage among industries. The BOI has started a series of schemes focusing on individual sectors. The list of promoted industries and industries for specific regions based on the TSIC, given in BOI Announcement No. 2/93, is one effort in this direction. The reduction of the minimum required investment amount from the past 2 million baht to 1 million baht may also be considered to have opened up further the chances for investments relating to the supporting industries, which include numerous small and medium scale industries.

In October 1993, the following four industries were declared in a BOI Announcement as desirable industries for promoting supporting industry.

- 1) Die and Mould making
- 2) Jigs and Fixture
- 3) Forging
- 4) Foundry using induction furnace

BOI's incentives for investment of these desirable industries are as follows:

- a) Corporate income tax holiday:
total exemption for 8 years for any zone
- b) 50 percent tax exemption for import machinery:
according to factory location in zone 1 and 2.
- c) Total tax exemption for import machinery:
according to factory location in zone 3.

Promotion effort for developing specific industries is still continuing in 1994. In April 1994, it was declared in a BOI Announcement that investments made in export oriented auto-assemble and located in Zones II or III would be provided higher incentives, and also encourage relocation of automotive assemble to the country area. In June 1994, another 10 industries were added as desirable industries for promoting supporting industry.

- | | |
|----------------------|-------------------------------------|
| 1) Tooling equipment | 6) Heat treatment |
| 2) Grinding tools | 7) Machining center |
| 3) Cutting tools | 8) Electronic connector |
| 4) Sintered products | 9) Ni-Cd and rechargeable batteries |
| 5) Surface treatment | 10) Engineering plastics |

Comparison between old and new incentives for those 10 industries are shown in Table 2.3-2.

Table 2.3-2 NEW BOI INCENTIVES (JUNE, 1994)

	Activity	Location		Incentives	
		Old	New	Old	New
1.	Tools & jigs	Zone II or III	Any Zone	<u>Corporate Income</u>	<u>Corporate Income</u>
2.	Cutting tools			<u>Tax Holiday:</u>	<u>Tax Holiday:</u>
3.	Grinding tools			according to factory location	total exemption for
4.	Sintered products			- Zone I outside I.E.	8 years for any zone
5.	Surface treatment			gets no privilege	
6.	Heat treatment			- Zone I inside I.E.	
7.	Machine shop			& export > 80% gets 3 year	
				- Zone II outside I.E. gets 3 years	
				- Zone II inside I.E. gets 7 years	
				- Zone III outside or inside I.E. gets 8 years	
8.	Ni-Cd Battery & Rechargeable Battery	Zone III		<u>Tax Exemption for Machinery:</u>	<u>Tax Exemption for Machinery:</u>
9.	Engineering Plastics			according to factory location	- Zone I & II gets 50% reduction
				- Zone I inside or outside I.E. with > 80% export gets 50% reduction	- Zone III gets total exemption
				- Zone II gets 50% reduction	
				- Zone III gets total exemption	
10.	Electronic Connector	Any Zone		*I.E. = Industrial Estate	

Source: BOI Investment Review May 30, 1994. Vol. 3, No. 2

