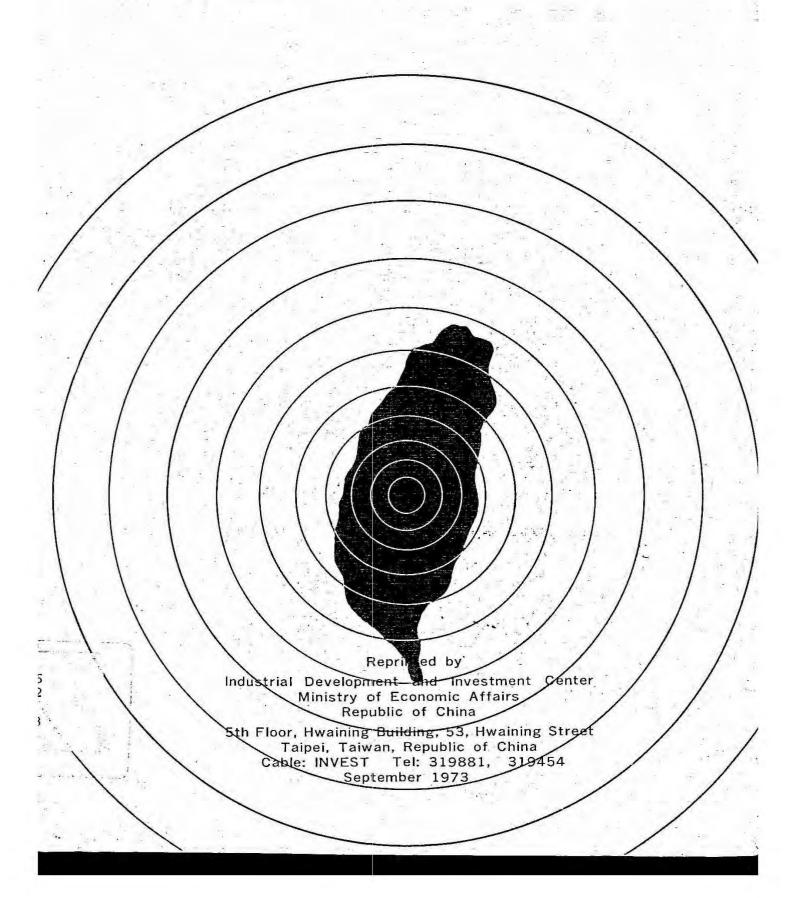
Perspective on Industrial Investment in Taiwan



INDUSTRIAL DEVELOPMENT & INVESTMENT CENTER

STANDS FOR PROVIDING SERVICE TO INVESTORS
IN TAIWAN

IDIC

Promotes direct private investments, analyzes and reviews investment projects, identifies investment opportunities, studies and recommends the ways and means to improve investment laws and regulations, furthermore, it also takes active steps to:-

- Improve the investment climate.
- Seek and encourage overseas capital inflow.
- Provide every assistance needed by any investor.



14

PERSPECTIVE ON INDUSTRIAL INVESTMENT IN TAIWAN



Report No. 5 of 13 prepared for the Council for International Economic Cooperation and Development, Republic of China

Arthur D. Little International, Inc. September, 1973 C-75406-09

A NOTE ON EXCHANGE RATES

Except where specifically indicated otherwise, the following exchange rates have been used throughout this report in conversions between U.S. dollars and values in foreign currencies:

- 1 US\$ = 40 NT\$ (Taiwan)
- 1 US\$ = S\$2.82 (Singapore)
- 1 US\$ = HK\$5.66 (Hong Kong)
- 1 US\$ = 308 Yen (Japan)
- 1 US\$ = 400 Won (Korea)
- 1 US\$ = 6.80 Pesos (Philippines)
- 1 US\$ = 2.82 M\$ (Malaysia)
- 1 US\$ = 415 Rupiah (Indonesia)
- 1 US\$ = 20.8 Baht (Thailand)

TABLE OF CONTENTS

inst .

	A .	Page No.
1.	INTRODUCTION: THE COMPARATIVE ADVANTAGE OF TAIWAN AS A SITE FOR MANUFACTURING	1
II.	AVAILABILITY, QUALITY AND COST OF MAJOR PRODUCTION FACTORS	3
	A. LABOR	3
i.	1. Wage Rates	3
	2. Fringe Benefits	3
	3. Worker Quality and Attitude	3
	4. Work Week and Productivity	5
	5. Labor Relations	5
	6. Communications with Workers	5
	7. Size and Distribution of the Labor Force	5
	8. Manpower Development Programs	7
	9. Comparative Wage Rates in Asia	9
OII	B. INFRASTRUCTURE FOR INDUSTRY	13
4	1. Support Industries	13
	2. Transportation	14 .
	3. Industrial Land and Buildings	18
	4. Electric Power	24
	5. Water for Industrial Use	26
-	C. MATERIALS AND COMPONENTS	26
II.	OTHER LOCATIONAL FACTORS	29
- 1, T	A. TAX RATES AND INVESTMENT INCENTIVES	29
	B. MONETARY CONDITIONS	31
	C. SOCIAL AND POLITICAL CONDITIONS	31

•	Page No.
D. GOVERNMENT SERVICES IN SUPPORT OF MANUFACTURING INVESTMENT	32
1. Government Organizations Concerned with Foreign Investment	32
 Government Publications Helpful in Evaluating Taiwan as a Manufacturing Location 	33
E. FINANCIAL INSTITUTIONS AND SERVICES IN TAIWAN.	33
F. LIVING AND WORKING CONDITIONS FOR FOREIGNERS	33
G. TAIWAN AS A MARKET	33
H. BUSINESS AND INDUSTRIAL ASSOCIATIONS IN TAIWAN	33
I. NATIONAL PLANNING	35
1. Acceleration of Industrialization	35
2. Cultivation of International Economic Relations	36 -
3. Expansion and Improvement of Transportation and Communication Services	37
4. Effective Utilization of Fiscal Policy	38
5. Effective Application of Monetary Policy	38
6. Development of Human Resources	38
7. Modernization of Agriculture	39
8. Promotion of Regional and Urban Development	39
IV. FOREIGN INVESTMENT IN TAIWAN	41
V. OPPORTUNITIES IN HIGH-PRIORITY INDUSTRIES	45
VI. BACKGROUND ON TAIWAN AND ITS ECONOMY	53
A. GEOGRAPHY, POPULATION, GOVERNMENT; ECONOMIC TRENDS	53
B. THE TAIWAN ECONOMY	54
1. Background	54

			Page No
	2.	The Outlook	59
Ç,	IN	DUSTRIAL PATTERNS	66
4	1.	An Overview of Industry	66
	2.	The Manufacturing Sector	69
APPENDIX	A:	GOVERNMENT ORGANIZATIONS CONCERNED WITH FOREIGN INVESTMENT	A- 1
APPENDIX	В:	OVERSEAS INVESTMENT SERVICE AGENCIES	B- 1
APPENDIX	B2:	ORGANIZATION CHART OF INDUSTRIAL DEVELOPMENT AND INVESTMENT CENTER	B- 2
APPENDIX	C:	ORGANIZATION CHART OF THE OVERSEAS CHINESE & FOREIGN INVESTMENT COMMISSION	C- 1
APPENDIX	D:	SELECTED PUBLICATIONS DEALING WITH INVESTMENT CLIMATE AND PROCEDURES	D- 1
	7	1. General Economic Information and Issues	D- 1
		 General Industrial Statistics and Investment Opportunities 	D- 3
		3. Infrastructure, Manpower and Industrial Land	D- 8
		 Regulations, Laws and Incentives Relating to Industrial Development 	D-10
APPENDIX	E:	MAJOR INDUSTRIAL ASSOCIATIONS	E- 1
PPENDIX	F:	FOREIGN INVESTMENT IN TAIWAN, BY INDUSTRY	F- 1
PPENDIX	G:	LARGE AMERICAN INVESTMENTS ON TAIWAN, THROUGH JUNE, 1973	G- 1
PPENDIX	Н:	STAFF ACKNOWLEDGMENTS	

LIST OF TABLES

-			Page No.
TABLE	1:	TYPICAL ACTUAL AVERAGE WAGE RATES IN TAIWAN	4
TABLE	2:	KEY MANPOWER STATISTICS, TAIWAN	7
TABLE	3:	INDUSTRIAL VOCATIONAL TRAINING, TAIWAN	8
TABLE	4:	COMPARATIVE ANALYSIS OF WAGE RATES	10
TABLE	5:	REPRESENTATIVE OCEAN FREIGHT RATES TO MAJOR DESTINATIONS	19
TABLE	6:	REPRESENTATIVE AIR FREIGHT RATES TO MAJOR DESTINATIONS	19
TABLE	7:	TAIWAN'S EXPORT PROCESSING ZONESSUMMARY INFORMATION	22
TABLE	8:	EXAMPLES OF MATERIAL AND COMPONENT AVAILABILITY AND COSTS	28
TABLE	9:	OVERSEAS CHINESE AND FOREIGN INVESTMENTBY INDUSTRY, 1952-1972	42
TABLE	10:	OVERSEAS CHINESE AND FOREIGN INVESTMENTBY YEAR	43
TABLE	11:	POTENTIAL PROJECTS IN HIGH PRIORITY INDUSTRIES	46
TABLE	12:	INVESTMENT OPPORTUNITIES IDENTIFIED BY IDIC	47
TABLE	13:	GROWTH OF REAL GROSS NATIONAL PRODUCT IN THE REPUBLIC OF CHINA, 1953-1972	55
TABLE	14:	GROWTH IN PER CAPITA INCOME, TAIWAN, 1953-1972	57
TABLE	15:	FOREIGN INVESTMENT APPROVALS IN TAIWAN, 1953-1972	58
TABLE	16:	GNP AND EXPORTS, TAIWAN	60
TABLE	17:	MACROECONOMIC TARGETS IN THE SIXTH FOUR-YEAR PLAN	62
TABLE	18:	SOME KEY ECONOMIC TARGETS AND ACTUAL PERFORMANCE, TAIWAN	65
TABLE	19:	CHANGING STRUCTURE OF NET DOMESTIC PRODUCT, TAIWAN,	67

			P	age No.
TABLE	20:	CHANGES IN THE STRUCTURE OF INDUSTRY IN TAIWAN, 1962-1972		68
TABLE	21:	GROWTH IN MANUFACTURING EMPLOYMENT BY INDUSTRY SECTOR, TAIWAN, 1968-1971	*	72
TABLE	22:	REAL GROWTH IN MANUFACTURING PRODUCTION, IN RANK ORDER BY MAJOR INDUSTRY GROUPS, TAIWAN, 1966-1971		73

LIST OF FIGURES

- 5			Page No.
FIGURE	1:	LOCATION OF LABOR FORCE	6
FIGURE	2:	MAJOR TRANSPORTATION SYSTEMS	15
FIGURE	3:	REPRESENTATIVE TRANSPORT COST OF 1 TON OF MACHINE TOOLS AND 1 TON OF ELECTRONIC EQUIPMENT (US DOLLARS)	17
FIGURE	4:	LOCATION OF EXPORT PROCESSING ZONES AND INDUSTRIAL DISTRICTS FOR GENERAL AND HEAVY INDUSTRIES	20
FIGURE	5:	POWER SYSTEM	25
FIGURE	6:	MAJOR FINANCIAL INSTITUTIONS	34
FIGURE	7:	LOCATION OF MANUFACTURING	,70

I. INTRODUCTION: THE COMPARATIVE ADVANTAGE OF TAIWAN AS A SITE FOR MANUFACTURING

Arthur D. Little International, Inc. (ADL), under contract with the Government of the Republic of China, has recently completed a survey of opportunities for manufacturing higher technology products in Taiwan. The output of the survey includes a series of studies of selected, specific new opportunities in the electronics, electrical machinery and general machinery industries. However, these studies by no means exhaust the range of opportunities for new types of higher technology manufacturing in Taiwan and it is the purpose of this report to present findings and supporting data growing out of the ADL survey which will be useful to manufacturers interested in examining Taiwan as a site for production whether within the specific industries studied by ADL or in any other sectors.

In summary form, the comparative advantage Taiwan offers as a site for many types of manufacturing arises from the existence of the following conditions:

- The availability of low-cost, trainable and productive labor across many skill levels.
- The absence of labor strife.
- Well-developed infrastructure for support of industry.
- A positive and consistent government attitude toward the private industrial sector and foreign investment.
- A strong and strongly-growing industrial economy guided by sound, indicative national planning.
- Monetary and internal political stability.
- Modest tax rates and attractive investment incentives.
- Good living conditions for expatriate personnel.
- A broad and well established industrial base.
- A rapidly expanding domestic market and easy access to world markets.

Many of these attributes translate directly into low manufacturing costs. For example, the type of electrical, mechanical and electronic products studied by ADL can be produced in Taiwan at costs on the order of 60% of similar costs in the United States. A cost differential of this order--or even greater--can be expected in many other product lines. The principal factor is the relatively low cost of qualified labor. Both skilled and unskilled labor of the types required for manufacturing relatively high technology products is available at rates which range from 10% to 20% of comparable U.S. costs, even after adjustments for productivity. Raw materials and many types of components are available at costs similar to those in Japan and the United States; in certain cases components and intermediate products of Taiwan manufacture are available at sharply lower prices than those in the more highly developed economies. Land costs are similar to and construction costs are approximately onethird those in the United States. Water, power and transportation costs are at competitive levels.

In the remainder of this report we expand and detail each of these attributes of the Taiwan manufacturing environment.

II. AVAILABILITY, QUALITY AND COST OF MAJOR PRODUCTION FACTORS

The major factors of production are available in Taiwan at levels of quality and cost which would be difficult to find together in any other manufacturing economy. In this section we characterize prevailing conditions with respect to labor, infrastructure for industry, and the availability of materials and components of kinds frequently required in machinery manufacturing.

A. LABOR

1. Wage Rates

Both skilled and unskilled labor for manufacturing is available at rates which range from 10% to 20% of comparable U.S. rates, even after adjustment for productivity. As an example, Table 1 presents an array of typical average wage rates in Taiwan in the electrical machinery and equipment industry in 1973.

Statistics of the U.S. Department of Labor show that average wages in the United States for production labor in activities comparable to those shown in Table 1 are on the order of US\$830 per month, including 20% fringes. Taiwan's average wage rate in electrical equipment manufacturing is in the range of US\$92.50 per month including 22% fringes, using a typical labor mix. Allowing for the 48-hour week which is normally worked in Taiwan and an efficiency of 50% versus United States performance, we estimate that the effective Taiwan labor rate is on the order of 15% of the U.S. rate for equivalent production. Supervisors and executives are paid accordingly. Wage rates in Taiwan rose in early 1973; an average increase of 15% per year is forecast for the foreseeable future. This is in line with other Asian wage trends.

2. Fringe Benefits

Fringe benefits for workers in Taiwan average 20 to 25% of the base wage rate. Fringes include approximately two months' bonus, clothes, dormitory, and insurance (80% paid by the company, 20% by the worker).

3. Worker Quality and Attitude

The quality of worker available in Taiwan is uniformly reported by foreign firms as exceptionally good. Virtually all potential workers coming onto the job market have a minimum of a ninth-grade education. Assembly workers can be trained within one month, machine operators in one year; three to five years are required for the skilled occupations. Trained technicians will have as much as six years of additional formal education before coming on the job market

TABLE 1

TYPICAL ACTUAL AVERAGE WAGE RATES IN TAIWAN AUTOMOTIVE ELECTRIC EQUIPMENT, 1973

Function	Skill Level	Base Wage US\$/mo.	Wage Incl. 22% Fringes
General and			
assembly labor	Un-to semi-skilled	42-53	51-65
Machine operator	Semi-skilled	. 68	83
Coil winder	Semi-skilled	68	83
Machinist	Skilled	79	96
Foreman	Skilled	86	105
Tester	Skilled	105	128
Mold maker/	Company of		
die caster	Skilled	105	128
Quality control	\$ s	+	8.
inspector	Highly-skilled	105	128
Manufacturing			.4
Supervisor	Highly-skilled	132	160
Engineer	Professional	132	160

as qualified workers. Workers are diligent and apply themselves with inherent dexterity augmented by their education. The average employment period for production work is three years, indicating a significant degree of loyalty to the employer.

4. Work Week and Productivity

The normal work week is six eight-hour days. While two-shift operation is not common as yet in Taiwan, this is becoming a reality as industries become more capital-intensive. While productivity is still somewhat lower than that of equivalent United States workers, it is widely believed to be improving rapidly primarily because of improvements in manufacturing techniques and management. It is expected that productivity will very nearly equal that of U.S. workers within a few years.

5. Labor Relations

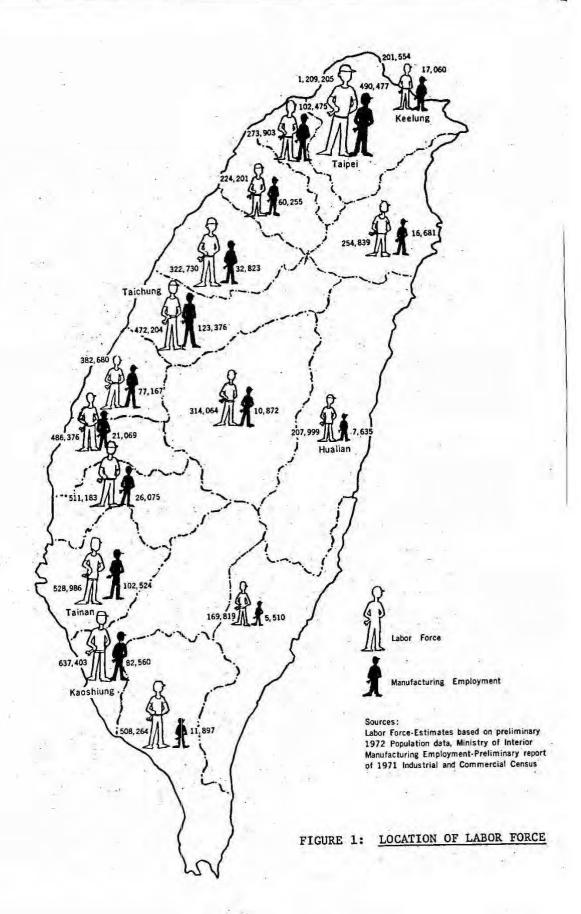
Taiwan does not have an active labor movement and the Government does not interject itself into wage negotiations. Strikes are virtually unheard of.

6. Communications with Workers

Virtually all workers can read and write Chinese and many are also able to read and some to write English. The Taiwan dialect is spoken primarily among workers. Supervisors and professional people are virtually all capable of speaking both the Taiwan dialect and Mandarin Chinese—which is the language of business in Taiwan. In addition, most supervisors, engineers and executives speak English to an acceptable level of fluency. Verbal communication is not difficult for these reasons and, as the written Chinese is common throughout Taiwan, communication through the printed page is no problem.

7. Size and Distribution of the Labor Force

Taiwan's population at the end of 1972 was approximately 15.3 million, and its labor force approximately 6.7 million. Employment in manufacturing was over 1.2 million, 18% of the total. Figure 1 indicates the distribution of the labor force and manufacturing employment by district. It will be noted that both the total labor force and that portion engaged in manufacturing is concentrated around Taipei in the north and Kaohsiung in the southwest, with smaller concentrations around the West Coast cities of Taichung and Tainan.



8. Manpower Development Programs

Table 2 summarizes key manpower statistics bearing on manufacturing employment.

TABLE 2

KEY MANPOWER STATISTICS, TAIWAN

	2		
- 2	1970	1980	Comment
Population (million)	14.6	17.8	Expected annual average in- crease, approximately 1.9%
Civilian labor force (million)	4.64	6.48	Participation rate approxi- mately 57%; rate of unemployment, 4%
Civilian employment (million)	. 4.43	6.23	Annual average increase, 179,000 (3.5% per year)
Percent employed in secondary industries	30	35	Mining, manufacturing, construction, power, public utilities
Civilian employment in manufacturing only (million)	0.989	1.67	Net annual increase, 68,000

Source: CIECD

E

In an effort to keep manpower supply in balance with demand in the face of Taiwan's high rate of economic growth, the Government has evolved a highly-organized manpower development planning process. Among other outputs, this process produces projections of industrial labor demand and supply, by industry and by occupation, which are now available for annual periods up to 1980.

Currently, according to the fourth manpower development plan, 98,100 skilled and semi-skilled workers will be needed annually for the years 1971-1974 to meet secondary industry requirements (excluding mining and quarrying). To meet this need, the Government has developed a comprehensive variety of vocational education and training programs, aimed at keeping the output of trained manpower closely aligned with emerging requirements.

At present, highest priority is being given to the training of workers in the metalworking crafts--e.g., tool makers, machinists,

plumbers, welders--skilled workers in precision instrument manufacture, electricians, and related electrical and electronics workers.

There are now 23 industrial vocational schools which offer three-year programs for the training of skilled workers. As can be seen from Table 3, steady and significant expansion of training has taken place and is projected for the future.

TABLE 3
INDUSTRIAL VOCATIONAL TRAINING, TAIWAN

		Enrollment	Graduates
1950		8,800	2,341
1970	-	61,000	8,660
1971		79,516	12,261
1972		99,300	17,100
1971-75 Plan (Annual Average)		108,300	26,450
.1980 Plan		135,000	A 22 3

Source: CIECD

Government assistance to industry in meeting these additional needs is provided through 17 agricultural schools, two industrial skill centers devoted primarily to the upgrading of workers and to the training of foremen and instructors, regional training centers providing basic courses to entry workers, and the National Vocational Training Service for Industry, a demonstration and training unit which trains vocational school instructors and offers vocational courses to students as well.

All of these government-operated schools work closely with industrial companies in the development and offering of special courses to meet individual company requirements. A number of programs, which supplement the formal industrial vocational education programs, are now in effect:

Cooperative Training - Such programs, which combine factory work with classes in nearby vocational schools, are receiving increasing attention. About seven of the industrial vocational schools now provide such "sandwich" programs, under which courses ranging in length from three to six months are offered, subsidized by the sponsoring companies. One variation is an arrangement under which junior high school students

in remote areas transfer to schools near plants which employ them, spend six hours per day working and three hours in school during evenings. We understand that the Government intends to promote expansion of such programs, particularly those under which graduates can be awarded certificates.

Special Courses - A broad variety of additional courses, designed and conducted in close collaboration with industry, are sponsored by such institutions as the Metal Industries Development Center, the Auto Technicians Training Center, and the China Productivity Center. Many of these are oriented toward supervisory and middle management.

Most larger firms established in Taiwan now operate a variety of in-plant training programs as a matter of self-interest. The smaller and medium-sized firms, however, have generally neglected such activity, offering training to new workers strictly on an onthe-job basis. Accordingly, to encourage such firms to strengthen their activities, the Government passed a law (effective April, 1973) which applies to all industrial firms employing 40 or more. Briefly, such firms are required to contribute 1.5% of their payroll to a new organization called the National Vocational Training Fund Board. Firms already having in-plant training programs can apply for a deferment of up to 80% of their total assessed payment. Of the funds collected by the Board, 80% are used to finance training activities for the contributing companies, which are contracted to the various training centers and schools mentioned above. The objective of the entire program is to broaden the base of trained workers available to industries in all categories. Thus, firms wishing to establish their own training programs can receive help in doing so, including subsidization of instructors by the Board.

9. Comparative Wage Rates in Asia

In the course of ADL's study we carried out a survey of comparative wage rates in Taiwan and competitive Asian locations. The results are compiled in Table 4.

The information from this survey suggests the following conclusions as to Taiwan's competitive position:

- Taiwan's labor force ranks among the highest in Asia in terms of breadth and depth of skills; the only country which clearly surpasses it in these attributes is Japan;
- Wage rates in Taiwan in nearly all job categories are lower than in most Asian nations, although seldom the lowest; furthermore, productivity is among the highest;
- Taiwan wages are lower than those of either Singapore or Hong Kong in all job categories;

TABLE 4

COMPARATIVE ANALYSIS OF WAGE RATES

		. 3				7-1
Type of Job	Country Rank	ing	Ŧ	Ave	age Was	ze_
Type of Sob				(US\$	per mor	ith)
						4
Engineers	Philippines	1.6	rise.		134	
<u>Mirganegr</u> o	Taiwan				200	
(includes industrial,	India				207	
civil, electrical,	Korea				213	
mechanical and	Vietnam			Car.	.224	
chemical engineers)	Indonesia				314	
CHUMZOUZ TI-BZIIT-T-,	Thailand		5.5		411	
	Hong Kong				451	
	Japan				557	
	Malaysia				594	
	Singapore				762	
*	Australia				781	
		8				
Craftsmen	India		8		45	
<u>Other Comment</u>	Indonesia				47	
(includes toolmakers,	Philippines				50	
sheetmetal workers,	Vietnam				83	
welders, and elec-	Thailand				91	
tricians)	Korea				96	
CIICIANS)	Taiwan			3	99	
	Malaysia		*		99	
	Singapore		7		133	
	Hong Kong			*	142	
	Japan				262	
	Australia		5		463	
w a						
Skilled Workers	Indonesia			*	53	
BRITIES WOLKELD	India		-		54	(8
(includes skilled	Philippines				63	
machine operators,	Vietnam				69	
mechanics and other	Taiwan				73	
skilled workers)	Malaysia				92	
SKIIICU WOINCID)	Korea				102	
	Thailand				117	
~	Hong Kong			1	122	
	Singapore				183	
	Japan				272	
4	Australia				442	

TABLE 4 (Continued)

COMPARATIVE ANALYSIS OF WAGE RATES

Type of Job	Country Ranking	5	Average Wage
			(US\$ per month)
Semi-skilled Workers	Indonesia		32
	Philippines		47
(includes semi-skilled	Malaysia		56
machine operators and	Korea		66
mechanics and other	Taiwan		73
semi-skilled workers)	Hong Kong		84
The second secon	Singapore		87
4	Japan		240
	Australia		337
Unskilled Workers	India		16
	Indonesia		26
(includes unskilled	Philippines		42
workers performing	Taiwan		45
heavy and light	Malaysia		45
manual labor)	Vietnam		53
	Thailand		- 53
	Singapore	- 2	60
	Korea		68
	Hong Kong	, m.	82
	Japan		120
¥ .	Australia		303
Electrical and Electronic	Taiwan		(25)
Assemblers	Singapore		39
	Philippines -		57
	Hong Kong		72
**	Thailand		74
	India		120
	Japan		180
	Australia		299
Quality Inspectors	Taiwan		35
w	Korea		42
	Indonesia	Ŧ	53
*	Vietnam		67
	Philippines		76
	Singapore		82
	Hong Kong		87



TABLE 4 (Continued)

COMPARATIVE ANALYSIS OF WAGE RATES

			. *	
Type of Job	Country Ranking	8 8	Average	Wage_
			(US\$ per	month)
		-3-		
Quality Inspectors	Thailand		122	
(continued)	Malaysia	+	141	
	India		153	4
	Japan	-	257 .	
	Australia		462	
			,	
Management	Vietnam		231	
	India	3	360	
	Korea		388	
	Taiwan	**	467	
	Philippines	1.	486	
	Indonesia		496	1
	Thailand		559	
* * *	Malaysia		635	
	Hong Kong	711	647	*
*	Singapore		869	
	Japan		901	
	Australia		1,216	13
¥				

- Of Taiwan's major competitors in export-oriented industries,
 Korea's wage structure is closest to Taiwan's;
- Wages paid by US firms in Taiwan to engineers, skilled workers, semi-skilled workers, unskilled workers and quality inspectors are less than those paid by U.S. firms in Korea. However, Korean wages appear to be marginally lower in the case of craftsmen and managers.
- Taiwan wages appear to be particularly low relative to others in the case of engineers, electrical and electronic assemblers, and quality inspectors.
- Wages in Japan are generally 3 to 4 times those in Taiwan (and Korea). Although wages paid in Japanese management categories are only 2-3 times those in Taiwan, wages for electrical and electronic assembly work may be 7-8 times those in Taiwan.

The extent to which bonuses and fringe benefits are offered in addition to wages varies substantially among countries and by industry, type of worker and type of employer. This makes meaningful and consistent cross-country comparisons difficult. In general, however, the scale of bonus/fringe benefit packages usually provided in these countries suggests that in Taiwan, Korea, Singapore, Hong Kong and Japan employees receive as a matter of course a bonus equal to at least one month's wages, plus fringes of at least another 10% of base wages. The bonus/fringe benefit packages in those countries provided by foreign investors to local employees range from 20% to 50% of wages.

B. INFRASTRUCTURE FOR INDUSTRY

1. Supporting Industries

Taiwan has an unusual complement of supporting industries for a developing country. Its substantial machine tool industry supplies machinery of conventional and special design at prices which are 50% or less than equivalent European or United States machine prices. The quality of these machines is not up to the standards of foreign equipment, but they are suitable for many applications. Such services as plating, painting, machining, die casting, welding and metal forming are readily available on a subcontract basis. Special hardware and piece parts of low to moderate precision can be ordered to print from local subcontractors.

2. Transportation

a. Facilities

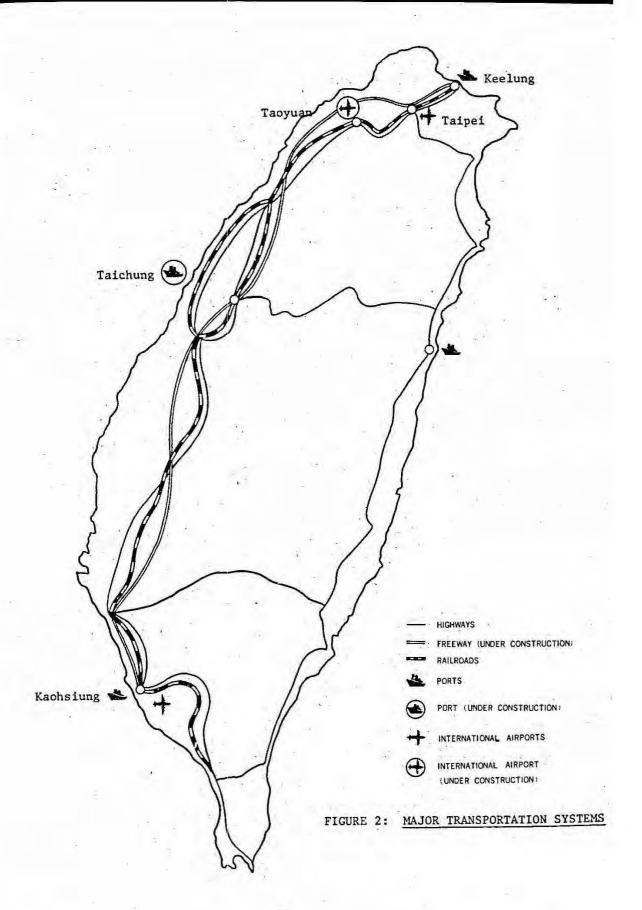
Taiwan has particularly well-developed highway and rail systems. These are concentrated along the West Coast connecting the Northern and Southern ports of Keelung and Kaohsiung and the three major cities of Taipei, Taichung and Kaohsiung. Figure 2 indicates the location of Taiwan's major highways and rail lines. Of particular note is the new North-South Freeway which is under construction. This freeway will further stimulate industrial growth along the heavily populated Western side of the Island. It is expected to be completed in 1978 at a total cost of nearly US\$600,000,000. Taiwan's existing highway system covers 15,673 km. Its rail system covers an additional 1,179 km.

There are approximately 60,000 trucks in Taiwan which, in 1972, transported an estimated 42 million tons of cargo more than 1.6 billion ton-kilometers. During 1972 the rail system transported more than 17 million tons of cargo nearly 2.7 billion ton-kilometers.

As is indicated on Figure 2, Taiwan's major ports are in Kaohsiung and Keelung. Although the extraordinary rate at which Taiwan's trade has grown in recent years places a considerable strain on existing facilities, Kaohsiung in 1972 handled a total of 19,466,000 tons and Keelung 7,998,000 tons. Although both ports are currently handling containers, Kaohsiung, with much more space in which to expand, will have the country's greatest capacity in the future to handle and store containers.

In addition, a new port is under construction at Taichung for the purpose of handling the rapid increase in industrial growth of that area already taking place around the Taichung Export Processing Zone. When the first stage is completed in mid-1976, the harbor will be capable of handling 2.8 million tons of cargo per year. Eventually, the port of Taichung will have the capacity to handle 16 million tons per year and will include specialized berthing facilities for container cargo, general cargo, grains, ores, cement and timber.

Taiwan's existing international airports, handling cargo as well as passengers, are located outside Taipei and Kaohsiung (see Figure 2). Both are capable of handling the world's largest cargo planes. In 1972, Taipei International Airport handled 63,840 tons of cargo and 2,066,568 passengers. A major new airport is under construction in Taoyuan, 17 miles southwest of Taipei, adjacent to an area of particularly rapid industrial growth.



b. Costs

The major costs which will be incurred in moving goods from a factory in Taiwan to a destination abroad are:

- * Trucking and/or rail charges,
- * Custom broker fees,
- · Handling and storage charges at ports and airports,
- * Sea freight and air freight charges, and
- · Insurance.

The following is a general summary of each of these costs for electrical machinery and equipment. Figure 3 provides a brief summary of transport costs for one ton of machine tools and for one ton of electronic equipment.

(1) Truck and Rail Charges

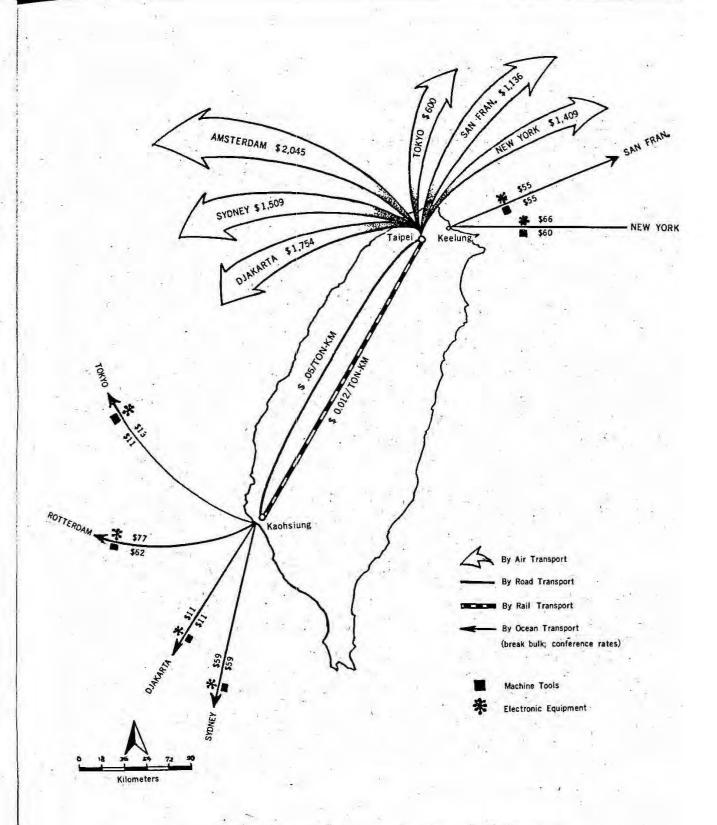
Trucking charges are subject to negotiation. Rates are principally a function of distance, size of load, type of load and type of truck. A normal charge is US\$.05 (NT\$2) per ton-kilometer.

Rail charges are fixed by category of good and computed on a distance basis. Machinery or electronic goods are charged US\$0.012 (NT\$0.45) per ton-kilometer. The rate for 20-foot containers is US\$1.05 (NT\$40) per kilometer while that for 40-foot containers is US\$1.53 (NT\$60) per ton kilometer.

(2) Custom Broker Fees

A custom broker is usually hired to obtain an export license and other documents and clear customs. For exported goods charges range from US\$9.50 (NT\$360) to US\$23.70 (NT\$900) but average US\$13.15 (NT\$500) per bill of lading.

U.S. dollar costs quoted in this section were based upon an exchange rate of 1 US\$ = NT\$38, which existed at the time this data was collected.



)

FIGURE 3: REPRESENTATIVE TRANSPORT COST OF 1 TON OF
MACHINE TOOLS AND 1 TON OF ELECTRONIC EQUIPMENT
(US DOLLARS)

(3) Handling and Storage Fees

At the ports of Kaohsiung and Keelung, the handling and storage fees charged to the shipper average between US\$1 to US\$2 (NT\$38 to NT\$76) per ton of cargo for breakbulk. This charge includes storage of the goods for five days. This is usually adequate since the shipper is not likely to send the goods to the port until five days before the ship is ready to receive them. After this period, there is a charge of approximately US\$1 (NT\$38) per ton for each additional five-day period.

Because of limited container storage space at the port of Keelung, and to a lesser extent at Kaohsiung, container storage depots outside the port are owned by private firms which charge storage fees of US\$.80 to US\$2.37 (NT\$30 to NT\$90) per day per container.

At Taipei and Kaohsiung International Airports a storage fee of US\$4.78 (NT\$182) per ton for the first three days is charged, plus US\$10.50 (NT\$400) for handling.

(4) Freight Rates

Table 5 provides representative ocean freight rates for breakbulk cargo to major destination areas. These are summarized in Figure 3. Breakbulk is given on a revenue ton/freight ton basis, i.e., 40 cubic feet or 2,000 pounds, whichever will provide the most revenue to the shipping company.

Table 6 provides representative air freight data to these same destinations.

3. Industrial Land and Buildings

The Government does not require that investors locate manufacturing facilities in any specific area of the country nor are tax devices used to influence such decisions. The location of existing industries, labor, transport systems, power and other service facilities will, however, affect where a particular facility might best be located. In addition, in order to satisfy investor requirements, the Government has established a number of Export Processing Zones (EPZ's) and other Industrial Districts designed for general and heavy industry. These are noted in Figure 4.

U.S. dollar costs quoted in this section were based upon an exchange rate of 1 US\$ = NT\$38, which existed at the time this data was collected.

TABLE 5

REPRESENTATIVE OCEAN FREIGHT
RATES TO MAJOR DESTINATIONS

(Conference Rates in US\$ per revenue/freight ton)

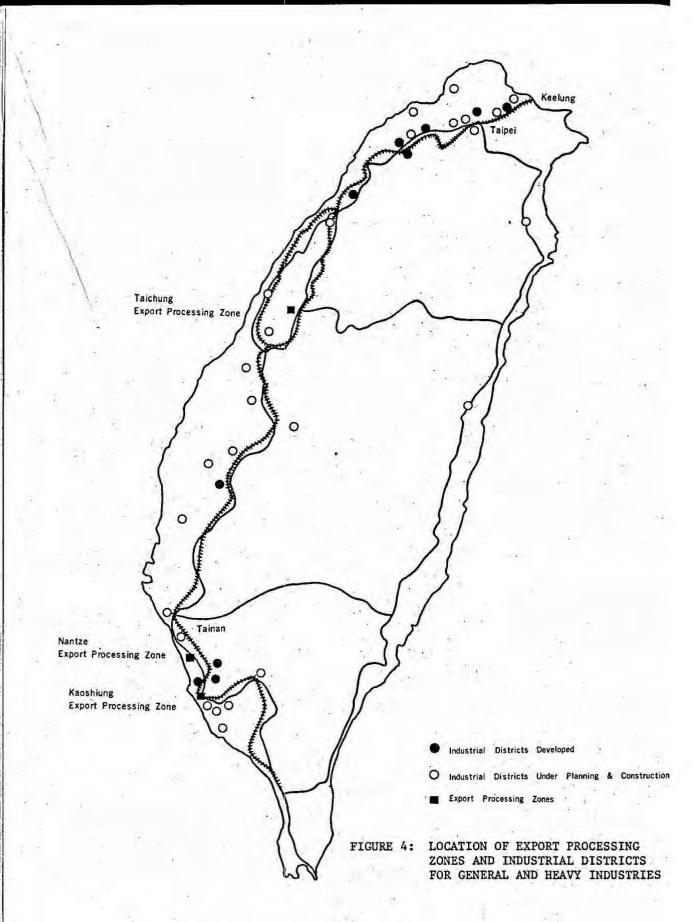
*	Electronic Products	Machinery	
Destination	Breakbulk	Breakbulk	
New York	66	60	
San Francisco	55	58	
Rotterdam	77	62	
Sydney	59	59	
Tokyo	13	11	
Djakarta	11	11	

TABLE 6 REPRESENTATIVE AIR FREIGHT RATES TO MAJOR DESTINATIONS

(US Dollars)

	Per Metric Ton	Chartered Plane*
New York	1,409	51,000
San Francisco	1,136	30,000
Amsterdam	2,045	On negotiation basis
Sydney	1,509	On negotiation basis
Tokyo	600	7,900
Djakarta	1,754	On negotiation basis

^{*}Maximum load of 85,000 pounds and 8,500 cubic feet.



a. Export Processing Zones

In an effort to make Taiwan particularly attractive to export-oriented manufacturing investors, the Government embarked in the early 1960's on a vigorous program to develop strategically-located Export Processing Zones. Enterprises located in these zones receive the favorable tax treatment provided by the Statute for Encouragement of Investment. Table 7 provides summary information on the three Export Processing Zones.

- Kaohsiung EPZ This was the first EPZ to be established. It is conveniently located next to the Port of Kaohsiung, Taiwan's major port. 154 factories are now operating in the zone.
- Nantze EPZ This newer zone, also near Kaohsiung, is particularly well laid out and has adequate land available for new plants.
- Taichung EPZ Taiwan's move toward becoming a major site for skill- and technology-intensive industries led to the recent creation of the Taichung EPZ. Taichung's environment is particularly well suited for such industries.

The three EPZ's are administered by the Export Processing Zone Administration, under the Ministry of Economic Affairs. The EPZ Administration has responsibility for (1) developing the zones, (2) assisting investors interested in locating in the zones, including the processing of all applications, and (3) administering the zones.

As suggested above, the EPZ administration has already built the basic infrastructure--roads, power, and sewerage systems. A service fee of US\$0.53 to US\$0.58 (NT\$2.01 to NT\$2.19) per square meter for standard factory space per month is charged for such services, including installation charges.

Land in the EPZ's is leased at US\$.06 (NT\$2.30) per square meter per month to those wishing to construct their own factories. Standard factory buildings are also available and may be purchased for US\$37.05 to US\$47.16 (NT\$1,408 to NT\$1,792) per square meter. The land on which these standard factory buildings are located is rented at US\$.042 to US\$.054 (NT\$1.614 to NT\$2.054) per square meter per month.

truction

SIES

22

TABLE 7

TAIWAN'S EXPORT PROCESSING ZONES—SUMMARY INFORMATION

		KEPZ (Kaohsiung)	NEPZ (Nantze)	TEPZ (Talchung)	<u>Total</u>
1.	Area (Hectares)	68.5	90.0	23.8	182.3
2.	Approved Applications	1			
	Number:	164	46	16	226
	Total amount of invest- ment (US\$)	50,701,723	18,009,457	9,150,840	77,862,020
	Projected total annual export sales (US\$)	370,763,518	103,666,769	66,326,076	540,756,363
	Projected total number of employees	63,152	18,232	8,548	90,932
3.	Number of Enterprises in Operation:	156	24	.13	193
4.	Approved Investment by Source (US\$)				
	Domestic investment Overseas Chinese investment Foreign investment Joint ventures	6,918,130 6,346,567 28,513,239 8,923,786	4,520,102 3,819,355 2,025,000 7,645,000	150,000 315,000 5,310,840 3,375,000	11,588,232 10,480,922 35,849,079 19,943,786
5.	Present Employment	Staff Workers	Staff Workers	Staff Workers	Staff Workers
	Number of employees	4,417 45,831	746 6,074	828 3,318	5,991 55,223

Source: Export Processing Zones, Essential Statistics, December 31, 1972.

b. Industrial Districts

The Government has identified 50 tracts of land throughout the island as prime areas for future industrial development.
Many of these tracts have already been purchased by the Industrial Land Department of the Industrial Development and Investment Center (IDIC) and designated "Industrial Districts". Figure 4 shows the location of those industrial districts, already
developed or planned, which are for general or heavy industry.
Seventeen industrial districts, comprising 1,589 hectares, have
already been developed during the past few years and sold to
investors.

In each industrial district the Government provides the basic infrastructure, including roads, water, power, drainage and sewerage systems. Prices range from US\$.15 to US\$.73 per square foot, depending upon the location of the property. In addition, the Government has constructed standard factory buildings which can be purchased by domestic or foreign investors. For the most part, however, investors build their own plants in the industrial districts.

c. Private Land Located Outside the EPZ's or Industrial Districts

Tracts of land which have been designated as industrial land, but have not been purchased by the Government, may be purchased directly from a private owner or requisitioned by the Government on behalf of the company planning to use it for industrial purposes.

In the past, many foreign investors have tended to locate around Taipei, rather than in one of the EPZ's or other industrial areas described above. Although this may continue to be the case in many instances, a number of factors will encourage investors to explore other locations as well. These include (1) the rapid development of the industrial districts, (2) improvements being made in the transport system, particularly along the West Coast, and (3) rapidly-developing alternative urban areas such as Taichung with lower land costs and greater labor availability.

Purchases of rice paddy land for industrial purposes by foreign investors near Taipei in early 1973 were reported to be in the range of US\$.70 to US\$1.00 per square foot. Similar land near other urban areas in early 1973 was reported to be available at US\$.35 to US\$.50 per square foot.

d. Bonded Factories

Although investors interested in establishing an exportoriented industry in Taiwan may choose to locate in one of the
Export Processing Zones in order to avoid paying duty on imported capital equipment and raw materials, they may also obtain similar duty-free status for a factory located elsewhere
by establishing a bonded enterprise. Customs bonded factories
may be established for enterprises which are "exclusively engaged in the manufacture of export goods not for domestic sales
and have a paid-up capital of more than NT\$5,000,000" (approximately US\$130,000). Any products processed by one bonded factory and sold to another bonded factory for further processing
and export will also receive favorable duty-free treatment.

e. Construction Costs

Construction costs for reinforced concrete factories being built in Taiwan in 1973 averaged US\$5 to US\$6 per square foot.

4. Electric Power

As of December 1972, the total installed capacity provided by the Taipower Company was 3,519,000 kw of which 901,000 kw came from hydro-electric facilities and 2,618,000 kw from thermal facilities. The location of all major facilities in the power system is given in Figure 5. Power rates in U.S. dollars are quite low. They are given below.

Secondary voltages

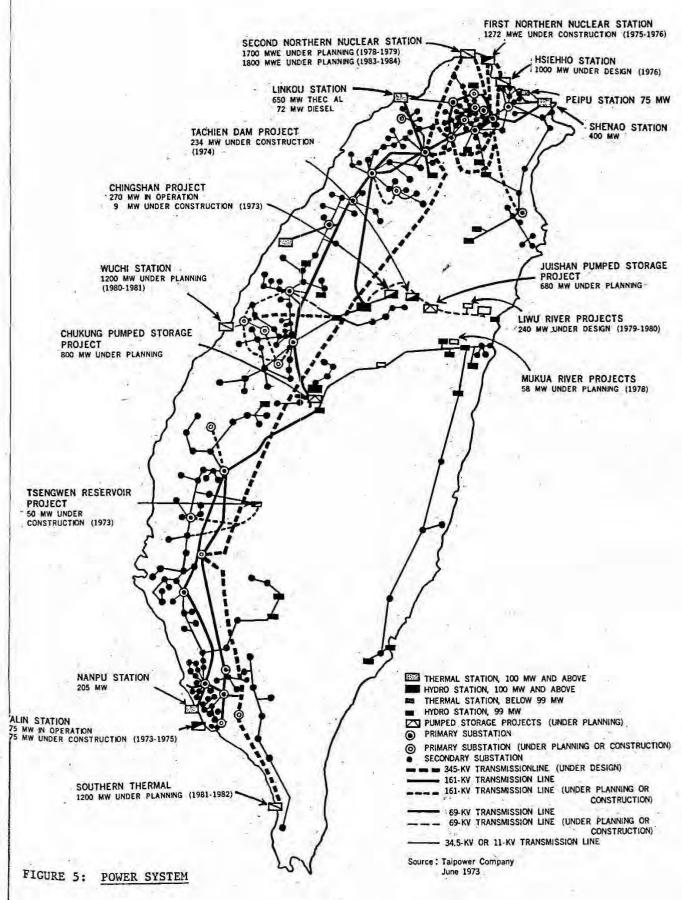
Demand chargeby	US\$.95/kw/month
installed capacity	

Energy charge

Below 1,000 kwh	US\$:0105/kwh
1,001 to 10,000 kwh	US\$.0097/kwh
Over 10,000 kwh	US\$.0082/kwh

Primary voltages

Demand chargeby	US\$.87/kw/month	
installed capacity,		*
by contracted demand	US\$1.13/kw/mont	h



Energy charge

Below 10,000 kwh US\$.0097/kwh 10,001 to 100,000 kwh US\$.0092/kwh 100,000 to 1,000,000 kwh US\$.0074/kwh 1,000,001 to 5,000,000 kwh US\$.0071/kwh Over 5,000,000 kwh US\$.0066/kwh

Taiwan's power supply has been expanding at an annual rate of more than 12% in recent years, but the rapid growth of the economy has occasionally resulted in shortages. During the 1973-1976 period, Taiwan's generating capacity will be raised to 6,657,000 kw, or approximately double the present level.

5. Water for Industrial Use

At the present time the rates charged to industrial users vary with each locality. For instance, the rate in Taipei for small scale industrial users is US\$.046 (NT\$1.75) per cubic meter, while the rate in Kaohsiung is US\$.105 (NT\$4.00). These rates may be adjusted under special circumstances for larger users of industrial water. Many factories have chosen in the past to develop their own water resources.

C. MATERIALS AND COMPONENTS

well as semi-processed materials, must be imported, Taiwan finds itself in a situation similar to that of Japan with respect to the domestic availability of raw and semi-finished materials. With respect to components, however, the existence of a growing, diversified domestic industry means that some portion of components required for many types of manufacturing can be obtained from local sources. For example, in the ADL study of minicomputer manufacturing potential we came to the conclusion that, through working closely with Taiwan electronic component manufacturers, it should be possible within two years for a minicomputer manufacturer to secure locally components whose value would account for at least 50% of the minicomputer's material value.

Chinese plants already manufacture intermediate products ranging from integrated circuits and semi-conductors to hardware, sheetmetal and plastic parts. Plants owned by foreigners are now producing processed materials and components for export-directly or indirectly-and should be able to furnish components of suitable quality over a wide range of requirements.

An adequate copper finishing and copper wire industry exists in Taiwan producing a broad spectrum of copper products including enameled magnet wire, solid and stranded copper wire, and insulated cables. Raw copper is purchased at London market prices or lower, and finishing is done in Taiwan. Aluminum castings for housing and end shields can be obtained locally from small foundries. Cold rolled steel sheets are also produced locally. Ball bearings can be obtained from domestic manufacturers. In the case of both aluminum castings and ball bearings, however, close liaison with manufacturers is required to ensure that quality standards will be met.

Table 8 provides examples of selected materials and components available from domestic sources in Taiwan with their costs as of early 1973; the items illustrated are typical of those required by a manufacturer of automotive electric equipment.

With air freight transportation readily available and ship transportation frequent, the problem of supply of raw and semi-finished materials from foreign sources to complement domestic supplies should be minimal.

TABLE 8

EXAMPLES OF MATERIAL AND COMPONENT AVAILABILITY AND COSTS
(For use in manufacturing automotive electric equipment)

				*	
Ġ.		<u>Use</u>	Source	Cost	Unit of Measure
76		· ·	10	(US\$)	
	Copper magnet wire	Windings	Local	277.81	100 kg
	Electronic components	Regulators, rectifiers	Local/Japan	Equal to or less than Japanese prices	16
28	Enameled wire, average all sizes	Ignition coils	Japan	250.00	100 kg
	Molding resins, type B	Ignition coils distributor caps	Local	0.64	kg
	Steel sheet, cold rolled	Starter housings	Local	308-315	MT
	Steel shafting	Shafts	Local	320	MT
	Silicon steel	Laminations	Japan	375-475	MT
	Copper	Armatures	Import	London market price-\$1,200 typical	MT
	Aluminum castings	Alternators, distributors	Local	5.25	kg
	Ball bearings	Alternators, starters	Local/Japan	Japanese price	

III. OTHER LOCATIONAL FACTORS

There are a number of other features of Taiwan which should prove to be significant to a potential foreign investor. Foremost among these is the Government's attitude toward foreign investors which is both positive and consistent. There is an effective laissez faire philosophy with respect to most of the activities of the private sector although there is government ownership in certain industries such as petroleum refining. Foreign investment is welcome and is not discriminated against. Although joint ventures are frequent, local participation is not required by law or policy. There is no indication that these fundamental policies will change.

The Government's attitude toward the private sector in general and foreign investors in particular can be best seen in the tax incentives offered, the wide range of government services made available to investors, and the efforts of the Government to prepare comprehensive economic plans as a guide for both the public and private sectors. These factors are discussed below.

A. TAX RATES AND INVESTMENT INCENTIVES

The Government recognizes that foreign investment is an essential ingredient in Taiwan's continued economic growth. Foreign investors are needed to provide much of the technology and knowhow required to develop "sophisticated" industries; they are also needed in certain manufacturing industries to help secure overseas markets which may be precluded to local manufacturers. Foreign investment is also seen by the Government as an important means by which Taiwan can maintain critical political, as well as economic, ties with other nations. Even though the type of foreign investors Taiwan is seeking may base their location decisions on financial or tax incentives to a lesser extent than in the past (i.e., they are likely to place most emphasis on the availability and reliability of the production factors discussed above), it is commonly recognized that incentives often act as "tie breakers" in the selection of one country over another or as a final inducement to a potential investor. For these purposes the Republic offers investment incentives to foreign investors engaged in "high-priority" industries.

The incentive laws, procedures, and guidelines are set forth in the Statute for Investment by Foreign Nationals and the Statute for the Encouragement of Investment. Incentives are provided for foreign investment in a wide range of industries with special attention currently being given to petrochemicals, metal, machinery, glass and man-made fibers.

Although there are 19 taxes levied in the ROC and a great many tax incentives authorized by the Statute for Encouragement of Investment for projects falling within the "Categories and Criteria of Productive Encouragement", the following are the most significant for foreign manufacturing investors:

Tax	Description	Incentive			
Corporate Income Tax	Taxes to 25% on net profit	Exemption for 5 years or accelerated depreciation of fixed assets			
Business Tax	0.6% of "gross business revenues"	Exemption for amount of export sales.			
Import Duty	Rates for machinery and equipment up to 25%, applied to the "duty paying value" (CIF price	Capital equipment exempt under certain conditions.			
	plus 20%)	Raw material import duty paid by export industries refundable.			

Subject to their meeting certain general and special criteria, the following manufacturing industries are currently eligible for tax incentives.

- * Food processing,
- * Wood processing,
- * Pulp and paper,
- Rubber processing,
- Chemicals/petrochemicals,
- Non-metallic mineral processing,
- * Basic metals,
- Machinery,
- Electrical equipment,
- · Electronic equipment,
- Transportation equipment,
- · Ceramics,
- Textiles,
- * Construction materials,
- * Clinical and surgical instruments,
- Photographic and optical instruments,
- *IDIC NOTE: 35% Starting from January 1, 1974

- . Watches, clocks and parts thereof and,
- Precision instruments.

Potential investments which do not fall into these categories but meet criteria similar to those used in establishing the foregoing list may also be deemed qualified for incentives.

In addition to the standard tax incentives, Taiwan offers foreign investors unlimited remittance of profits and interest, repatriation of capital at a rate of 15% annually after two years, a 20-year guarantee against expropriation, quick processing of investment applications and requisition of agricultural land for industrial use.

B. MONETARY CONDITIONS

S

ets.

e.

In spite of a GNP growth rate of more than 10% in real terms over the past decade and substantial international monetary disturbances in recent years, the Republic of China has maintained a remarkable degree of monetary and price stability. From 1962-1971 the wholesale price index rose by an annual average of only 1.5%. The New Taiwan Dollar which was pegged at 40:1 with the U.S. dollar in 1963 remained unchanged and extremely close to the market rate until the U.S. dollar devalued in early 1973 and the Chinese adjusted their rate to 38:1. This has been achieved without wage or price controls.

C. SOCIAL AND POLITICAL CONDITIONS .

There is also evidence of internal political stability which has been enhanced by the economic progress that has been made in recent years. In a speech late last year, Dr. C. C. Chang, then Vice Chairman and Secretary General, CIECD, linked political stability with Taiwan's economic progress in the following way:

"With a steadily rising per capita income, our people now are enjoying better health and more amenities of life. Their increased purchasing power now allows them to buy not only the necessities but also a growing variety of merchandise formerly considered as luxury goods. The social security program carried out by the government, including labor and government employee insurance, has further improved the welfare of the people. Anyone who has visited our urban and rural areas and made comparisons with what he finds in other developing countries need not look into the statistics to be convinced of the absence of such great inequities in income and wealth as exist elsewhere. And it is no wonder that we have been free from social and political unrest.

"We also have been fortunate in that we have been free from harassing labor problems that have plagued many a country. Throughout

the years, there have been no riots, no strikes, and no labormanagement strife of serious proportions."

Although there was considerable speculation two years ago about the potentially disruptive effects of major changes which have taken place in international relations, the substantial increases in new foreign investment and expansions of existing foreign investments which have occurred since that time (see Chapter III) indicate that investors in Taiwan have concluded that prospects for foreign investment remain bright.

D. GOVERNMENT SERVICES IN SUPPORT OF MANUFACTURING INVESTMENT

1. Government Organizations Concerned with Foreign Investment

The Government provides assistance both in Taiwan and in many foreign countries to help potential foreign investors evaluate new opportunities and become established in Taiwan.

Initial contact should normally be made with the Industrial Development and Investment Center (IDIC) of the Ministry of Economic Affairs in Taipei. IDIC is responsible for assisting all potential investors, carrying out preliminary negotiations prior to the submission of a formal investment application, and providing continuing assistance after approval has been given. Addresses and telephone numbers of IDIC and all other Government organizations in Taiwan concerned with foreign investment are listed in Appendix A.

The Republic of China also has investment service organizations in New York, Milan, Rotterdam, Frankfurt and Hong Kong from whom preliminary information and assistance may be obtained. Their addresses and telephone numbers will be found in Appendix B.

IDIC also provides support through 19 local investment service offices throughout Taiwan.

The Overseas Chinese and Foreign Investment Commission (OCFIC) is an organization in the Ministry of Economic Affairs which is responsible for approving all foreign investment applications except those concerning investment in the three Export Processing Zones. The latter are handled by the Kaohsiung Export Processing Zone Administration, also under the Ministry of Economic Affairs. Both of these organizations have simplified their procedures in recent years to enable investors to receive more rapid approval of applications. To this end the OCFIC has representatives from all pertinent national ministries and provincial organizations. The organization chart of the OCFIC will be found in Appendix C.

2. Government Publications Helpful in Evaluating Taiwan as a Manufacturing Location

The Government publishes a wide range of reports and data services which can be helpful in evaluation of Taiwan as a manufacturing site. A selected list of these publications may be found in Appendix D.

E. FINANCIAL INSTITUTIONS AND SERVICES IN TAIWAN

Foreign investors interviewed in the course of ADL's study report that Taiwan's financial institutions and services are well adapted to their needs. Figure 6 lists major financial institutions in Taiwan.

The Government permits unlimited conversion from authorized currencies into New Taiwan dollars. But this function and foreign currency financing of imports and exports is limited to appointed foreign exchange banks. These are also identified in Figure 6.

Borrowing in local currency at rates varying between 9.75% per annum for export credit and 13.75% for unsecured loans is permitted by the banking laws. Rates for borrowing foreign exchange are lower. Foreign exchange is readily available.

F. LIVING AND WORKING CONDITIONS FOR FOREIGNERS

Living and working conditions for foreigners and their families are attractive. The cost of living is comparatively low, household help is readily available. There are English language newspapers published locally and imported papers and magazines are on sale. English language broadcasts on radio and TV are regular features. More than adequate housing, school (including English language schools of high quality), medical and recreational facilities are also available, especially in and around Taipei. Appendix D contains a listing of a wide range of publications in which additional data on these subjects will be found.

G. TAIWAN AS A MARKET

Taiwan as a market may prove to be attractive to manufacturers of some products. While its population of more than 15 million is not expanding rapidly, per capita income is, having increased from US\$103 in 1952 to US\$372 in 1972 and continues to rise sharply.

H. BUSINESS AND INDUSTRIAL ASSOCIATIONS IN TAIWAN

There are a number of private associations which can be of assistance to industrial investors. The major associations likely to be of interest to a prospective manufacturer are listed in Appendix E.

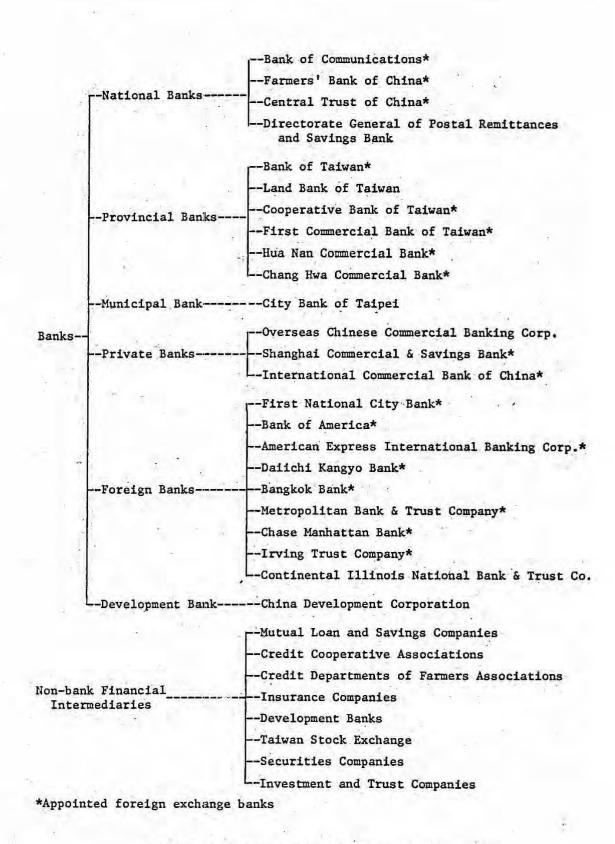


FIGURE 6: MAJOR FINANCIAL INSTITUTIONS

I. NATIONAL PLANNING

: Co.*

Taiwan has a history of successful economic development planning. The most recent plans (the Ten-Year Economic Plan for 1971-1980 and the Sixth Four-Year Economic Plan for 1973-1976) give major emphasis to the acceleration and modernization of industry. They also call for the creation of stronger international economic relations which includes encouragement of foreign investment. The economic plans are indicative in nature, leaving the private sector with much of the responsibility of achieving the targets. However, they set forth a wide range of policy measures to improve the industrial environment so that the targets can be met. In addition to the economic plans, the Government is also formulating separate long-range plans for transportation, electric power, and manpower development.

Summarized below are the highlights of the basic policies and measures enunciated in the comprehensive Sixth Four-Year Economic Flan. Their significance to a potential investor is in the way they reflect the Government's view of the importance of industrialization.

1. Acceleration of Industrialization

In order to accelerate industrialization and develop the full potential of the economy, the Government has formulated a number of basic policies described in "Outlines for Acceleration of Industrialization", and "Industrial Development Tendency and Its Assistance and Guidance Together with Guidance Policy for Other Related Industries". These policy documents have been incorporated into the latest Four-Year Plan and include the following areas for action:

- Accelerate development of capital and skill-intensive industries. The Plam points out that, in view of the ever increasing competition in the products of the light industries in the world, as well as the rise of protectionism in many foreign countries, it would be disadvantageous in the long run to continue relying on light industry as the mainstay of the Republic's development. Furthermore, in order to achieve accelerated industrialization, productivity must be increased and, hence, there will be a greater demand for machinery and equipment. Thus, the Plan calls for (a) the establishment of an integrated steel mill; (b) accelerated development of the machinery manufacturing industry; (c) promotion and development of the petrochemical industries; and (d) accelerated development of electronics and other high-precision industries.
- Continue assistance to export industries. Increased competition from other developing nations, together with the rise of protectionism, necessitates assistance in increasing exports, especially in diversification of

products in export areas. A number of measures in the Plan are recommended for achieving this objective with respective to high-priority industries.

- Continue improvement in the investment climate. The revised Statute for Encouragement of Investment, which prescribes the program for achieving this objective, has been in effect since 1971. It calls for efforts to be directed toward: (a) continued expansion of various basic infrastructure facilities; (b) promotion of fair competition among domestic enterprises; (c) simplification of administrative procedures; (c) intensification of investment services conducive to the creation of a favorable investment climate; (e) expansion of training facilities; and (f) stabilization of commodity prices.
- Rationalize operation of industrial production. A significant impediment to more rapid economic growth is the fact that economies of scale cannot be realized in many family-type organizations which remain small and lack modern facilities and knowledge of up-to-date management practices. A large proportion of Taiwan's industries fall into this category. The Plan calls for efforts to be directed at:

 (a) making available training for top and middle-level management personnel; (b) providing a modernized marketing system; (c) establishing more programs in the field of management science; (d) establishing quality-control programs; and (e) providing assistance and guidance to small and medium industries in such areas as operational method, technical standards, financing and market promotion.
- Step up industrial and applied science research. At present, much technology for industrial purposes must be imported. Research institutions in Taiwan are limited by funds, facilities, and personnel. In cognizance of these facts, the Plan indicates the following actions to be taken: (a) improve government research institutions through the expansion of funds and facilities; (b) raise funds to be used as bonuses to encourage new product development; and (c) encourage public and private enterprises to invite Chinese scientific and technical experts abroad to return to the ROC.

2. Cultivation of International Economic Relations

Taiwan's heavy reliance on international economic relations makes it imperative that the Republic formulate policies in support of continued expansion of overseas markets for Taiwan-made goods and continued interest in investment by foreigners. The following measures are recommended in the Plan:

- Encourage the inflow of medium— and long-term capital. The Plan proposes that private foreign investments be encouraged in situations where manufacturing techniques and processes must be obtained abroad and where the industry will directly or indirectly raise the level of domestic industrial development and that loans be acquired from international financing institutions for expansion of infrastructure facilities.
- Encourage technical cooperation between local and foreign manufacturers. The Plan proposes that local manufacturers enter into technical cooperation agreements with reputable foreign firms for the use of patent rights on a royalty basis and that application procedures for technical cooperation projects be simplified.
- Expand exports. The Plan sets a target for exports to reach 50.8% of GNP by 1976 as compared to 45% in 1972.
- Relax import controls. The Plan recognizes the necessity of continuing imports of equipment and raw materials needed for increasing the export of processed goods and the importance of enhancing the competitiveness of domestic products in international markets. It therefore proposes further liberalization of import restrictions and replacement of these restrictions by customs duty as a means of protecting domestic industry.
- Adjust foreign exchange receipts and payments. The level of foreign exchange reserves is to be appropriately adjusted so as to utilize resources more effectively, maintain the credit worthiness of the nation and regulate the money supply.

3. Expansion and Improvement of Transportation and Communication Services

The Plans recognize the need to expand and improve transportation and communication facilities, strengthen overall transportation planning and promote modernization and rationalization of transportation and communication services. The most important actions indicated in the Sixth Four-Year Plan are as follows:

- Accelerate railway electrification;
- Construct freeways and improve facilities of existing North-South Arterial Highway;
- Expand harbor facilities;
- Purchase and construct new vessels and replace old ones;

- * Expand airport facilities;
- · Expand telecommunications capabilities; and
- Expand meteorological and weather forecasting facilities.

4. Effective Utilization of Fiscal Policy

While the Government's fiscal policy has been successful in providing economic stability during a period of rapid economic growth, more effective utilization of fiscal policy will be needed in light of the large capital requirements of the next four years. One of the more challenging aspects of the fiscal program will be the renovation of the present tax system. Government revenues from taxation have not greatly increased in the period of rapid growth. The measures proposed in the Plan include strengthening fiscal administration, and reforming taxes.

5. Effective Application of Monetary Policy

In order to meet the needs of economic development in the years ahead, sounder and more efficient banking systems are to be established. Banking operations are to be modernized and streamlined so that banks will function more efficiently in regulating money and credit supply and in promoting commercial and industrial development. The local banking system is presently quite conservative and does not extend widely enough to achieve the objective of building up smaller and middle-sized industry in Taiwan. The following measures are proposed for creating a more effective monetary policy:

- Strengthen the control over money supply and credit by the Central Bank;
- Streamline the structure of interest rates;
- Modernize banking operations;
- Mobilize private savings; and
- Streamline the short-term capital market and develop the long-term capital market.

6. Development of Human Resources

During the Plan period, special emphasis will be given to the study of educational economics including establishment of better budgets for educational expenditures and more effective utilization of educational resources. Special emphasis will be placed on the development of vocational training, strengthening employment safety and development of scientific and technical personnel. To achieve these goals, the following measures are proposed:

- Strengthen manpower cultivation and training;
- Establish a vocational training system and expand vocational training;
- Strengthen employment safety and expand the scope of employment with special emphasis on problems confronting school graduates; and
- Improve and strengthen research and statistical work in connection with the labor market.

7. Modernization of Agriculture

The Plans call for actions to be taken in the following areas to support modernization of the agricultural sector:

- Change the structure of the agricultural sector, raise productivity and expand output;
- Improve the marketing system and price regulation of agricultural products;
- Improve the agricultural financing system to increase agricultural investment;
- Reduce prices for agricultural implements and supplies;
- · Improve farmers' organization;
- Improve farmers' living conditions; and
- Strengthen agricultural administrative organizations and agricultural personnel.
- Implement population policy for the enforcement of family planning and related measures;
- Increase employment opportunities in the non-agricultural sectors.

8. Promotion of Regional and Urban Development

The rapid population growth and industrial development in recent years has placed a burden on transportation, communications, residential housing and public facilities. Special emphasis has been placed on opening of new streets, improvement of sewage, expansion of public water supply, and execution of housing projects.

The Plan places special emphasis on promoting rational utilization of land, balanced distribution of population, and improvement of the physical environment and adequate provision of public utilities. The measures proposed include promoting regional planning, streamlining urban systems, and promoting rational population distribution in urban areas.

IV. FOREIGN INVESTMENT IN TAIWAN

As of the end of 1972, there were about 700 businesses in Taiwan which were partly or entirely owned by foreign investors. Foreign investment totaled US\$622 million in some 20 industries (see Table 9)\(^1\). More than US\$500 million, or 80% of total foreign investment, has occurred since 1967, and involves over 500 separate projects (see Table 10). These numbers reflect growing interest in Taiwan as a manufacturing location on the part of the international business community.

A number of large, internationally known firms have invested and are continuing to invest in Taiwan's industry. Companies well established in Taiwan include Ford Motor Co., Philips of Holland, Digital Equipment, Timex, IBM, Hitachi, Matsushita, Mitsubishi, Imperial Chemical Industries, Ltd., Ciba-Geigy, Alps Electric Co., Du Pont, Motorola, Solvay & Cie, S.A., of Belgium, and Sumitomo. A representative list of foreign investors appears in Appendix F.

In the early months of 1972, following Taiwan's withdrawal from the United Nations, there was some hesitation regarding Taiwan in investment plans of international companies. This resulted in only US\$23 million of new investment for the first half of that year. Foreign investors soon regained their confidence in the country's future, however, and by the end of the year approved foreign investments topped US\$100 million, including US\$16 million for expansion of existing enterprises². In early 1973, announcements regarding major investments were made by ITT, GTE, and Amoco.

American capital has been the largest single source of foreign investment in Taiwan. The total amount committed by U.S. investors since 1955 is US\$336 million for 124 projects. A list of major American investments appears as Appendix G. Japanese investors have thus far committed US\$110 million for 430 projects. European investments in Taiwan increased significantly in recent years with the total standing at US\$150 million for 30 projects. Over the past 20 years overseas Chinese investors committed a combined total of US\$227 million in 900 projects. Manufacturing industries, especially electronics, chemicals, petrochemicals and basic metals, account for the bulk of the investments by non-Chinese foreigners while service industries are the major fields of the overseas Chinese investments.

In addition, there have been over 900 applications approved and implemented for investments by overseas Chinese totaling US\$230 million.

Overseas Chinese investments added an additional US\$27 million to this figure.

TABLE 9

OVERSEAS CHINESE AND FOREIGN INVESTMENT--BY INDUSTRY
(1952-1972)

Unit: US\$1,000

	<u> </u>	verseas	s Chinese	Fo	Foreign		otal
		Cases	Amount	Cases	Amount	Cases	Amount
1.	Agriculture and Forestry	11	1,667			11	1,667
1 2.	Fishery and Animal Husbandry	2	220				= 4 = 4 ×
	Industry	27	4,392	5	1,487	32	5,879
3.	Mining	. 1	310	1	73	2	383
4.	Food and Beverage Processing	.61	15,125	28	6,799	89	21,924
5.	Textile	43	17,390	25	14,410	68	31,800
6.	Garment and Footwear	88	12,455	54	9,566		22,021
7.	Lumber and Bamboo Products	30	3,518	13	1,075	43	4,593
8.	Pulp, Paper and Products	15	3,313	. 9	1,761		5,074
9.	Leather and Fur Products	16	1,991	11	1,043	27	3,034
10.	Plastic and Rubber Products	79	10,124	59	14,661	138	24,785
11.	Chemicals	49	7,458	82	89,287	131	96,745
12.	Non-metallic Minerals	52	7,955	21	8,066	73	16,021
13.	Basic Metals and Metal			- 77	4,477		,
	Products	38	5,392	81	82,812	119	88,204
14.	Machinery, Equipment and		F-37		,		00,204
	Instrument	16	4,084	45	53,412	61	57,314
15.	Electronic and Electric						.,,,,,,
194	Appliances	42	7,180	161	266,864	203	274,044
16.		79	32,816	6	9,196	85	42,012
17.	Trade	56	2,972	2	712	58	3,684
18.	Banking and Insurance	15	19,985	12	31,385	27	51,370
19.	Transportation	25	9,389	4	5,647	. 29	15,036
20.	Services	53	46,316	15	11,088	68	57,404
21.	Others	105	13,640	49	12,208	154	25,848
	Total	901	227,290	683	621,552	1.584	848 842

Source: CIECD

TABLE 10 OVERSEAS CHINESE AND FOREIGN INVESTMENT--BY YEAR

Unit: US\$1,000

000		Overseas Chinese		· ·	0 4 5	1000			
					reign		Total		
_ 1		Cases	Amount	Cases	Amount	Cases	Amount		
ount	1952	- 5	1,067	**	-	5	1,067		
667.	1953	12	1,654	2	2,041	14	3,695		
,667	1954	3	128	5	2,092	8	2,220		
070	1955	. 3	176	2	4,423	5	4,599		
879	1956	13	2,484	2	1,009	15	3,493		
383	1957	10	1,574	4	48	14	1,622		
924	1958	6.	1,402	3	1,116	9	2,518		
300	1959	4	820	2	145	2	965		
)21	1960	6	1,135	8	14,338	14	15,473		
593	1961	24	8,340	5	5,964	29			
74	1962	10	1,660	26	3,543	36	14,304		
34	1963	22	7,703	16	10,347	38	5,203		
85	1964	28	8,007	13	11,890		18,050		
45	1965	30	6,470	36	35,140	41	19,897		
21	1966	51	8,377	. 52	20,904	60	41,610		
	1967	105	18,340	107		103	29,281		
)4	1968	203	36,449	122	38,666	212	57,006		
	1969	90	27,499	111	53,445	325	89,894		
.4	1970	80	29,731	71	81,938	201	109.437		
	1971	86	37,808		109,165	151	138,896		
4	1972	114		44	125,148	130	162,956		
L2	13/2	114	26,466	52.	100,190	166	126,656		
84	Total	901	227 200	600			WWW. 1975.55		
70	TOLAT	901	227,290	683	621,552	1,584	848,842		
36									
04	Source:	CIECD	ā		1				
48	Bource:	CIECD	1			4			
F9'									

342

V. OPPORTUNITIES IN HIGH-PRIORITY INDUSTRIES

The new stage of industrialization in Taiwan, i.e., the development of sophisticated and basic industries, offers a wide range of opportunities. In an effort to define more precisely those industries and projects which would contribute most to national goals, and would appeal to the private sector as well, the Government engaged the services of Arthur D. Little International, Inc., to identify the most promising opportunities in four leading industries—petrochemicals, electrical machinery, non-electrical machinery and electronics¹. Within those four broad industry groups, a number of industry subdivisions have been selected on the basis of their potential to:

- enhance the technological content of industry in general;
- o increase national output; and
- ° strengthen the industrial structure.

High priority has been assigned to industry subdivisions (referred to as "selected industries") only if, in addition to meeting the above criteria, they would be likely to contain new project possibilities attractive to investors.

The ADL survey then explored the high-priority industry subdivisions and identified 24 projects within them which appear to represent favorable prospects, both to a potential investor and the economy in general. The projects identified in the survey are listed in Table 11. Six of these, indicated by an asterisk (*) in the table, were studied in more detail. Prospectuses describing these six projects were prepared by ADL for use by IDIC in promoting their development.

In addition to the opportunities identified in the ADL survey IDIC recently prepared a list of more than 70 potential projects which they view as especially favorable for overseas investors. These projects are listed in Table 12.

It must be stressed that the selection of specific industries and industrial products for investment by both ADL and IDIC is aimed at providing the general direction for investment and should not be interpreted to imply that investment in the manufacture of a product which is not listed is in any way restricted by the Government.

See The Outlook for The Petrochemical Industry in Taiwan (Report No. 1), The Outlook for The Electrical Machinery and Equipment Industry in Taiwan (Report No. 2), The Outlook for Non-Electrical Machinery and Equipment Industry in Taiwan (Report No. 3), and The Outlook for The Electronics Industry in Taiwan (Report No. 4), prepared for CIECD, June 1973, by Arthur D. Little International, Inc., Cambridge, Massachusetts, U.S.A.

TABLE 11

POTENTIAL PROJECTS IN HIGH PRIORITY INDUSTRIES (As Identified in the ADL Investment Opportunities Survey)

PETROCHEMICALS

- 2-ethyl hexanol
 Acetaldehyde acetic acid
 Polybutadiene
- •• Vinyl acetate polyvinyl acetate
- •• Phthalic anhydride
- •• Phenol
- •• Maleic anhydride
- •• Ethylene propylene rubber
- •• ABS resins
- •• Methyl methacrylate polymethyl methacrylate

* ELECTRICAL MACHINERY

- ** Electrical equipment for internal combustion engines*
- •• Low-voltage motor starters and circuit breakers*
- •• Special motors (cassette tape drives)

NON-ELECTRICAL MACHINERY

- •• Packaging machinery
- Automotive repair equipment
- Precision machine tools, including numerically controlled machine tools*
- Commercial food-preparation equipment
- Pulp mill equipment

ELECTRONICS

- Computer peripherals*
 Computer terminals*
- ... Minicomputers*
- •• Numerical control systems
- · Integrated circuits
- · Electronic calculators

Investment prospectus prepared by ADL for IDIC.

TABLE 12

INVESTMENT OPPORTUNITIES IDENTIFIED BY IDIC

- BASIC METAL, INDUSTRY
 - •• Iron and steel (limited to the manufacture of sophisticated steel products such as alloy steel, die steel, stainless steel, silicon steel, special steel, and sophisticated cast iron, cast steel, forged steel, etc.);
 - •• Aluminum (limited to those processed aluminum products which require sophisticated technology, such as enamelled aluminum wire, aluminum foil, aluminum evaporators, etc.);
 - •• Copper industry (including sophisticated copper processing, such as enamelled copper wire);
- * MACHINERY INDUSTRY
 - Prime movers (priority given to internal combustion engines for ships and prime movers for power generation);
 - Machine tools;
 - ** Chemical processing machinery;
 - Textile machinery (priority given to latest type precision weaving and knitting machines);
 - •• Sewing machines (limited to those for industrial use);
 - •• Food processing equipment (priority given to sophisticated canning, refrigerating and dehydrating equipment);
 - .. Clocks and watches;
 - Tools, dies and measurements;
 - ** Ball bearings;
 - Sophisticated locks;
 - •• Typewriters;
 - Automatic vendor machines;
 - Cash registers;

TABLE 12 (Continued)

- TRANSPORTATION EQUIPMENT MANUFACTURING INDUSTRY
 - •• Gear changes set for bicycles; latest type of brakes for bicycles;
 - Carburetors, spark plugs and instruments for motorcycles and automobiles;
 - .. Engines of latest design/engines for mini-motorcycles;
 - Automobile parts (to be partly exported because of the limited domestic market);
 - •• Marine equipment (such as life saving equipment, lifting equipment, unanchoring equipment, etc.);
 - · Yachts, hydrofoil boats;
 - •• Railway locomotives, wagons and parts and components thereof;
- ELECTRONICS INDUSTRY
 - Electronic products: (a) Electronic computers; (b)
 Electronic therapy equipment; (c) Electronic testing
 equipment; (d) Video recording machines; (e) Latest
 type telephone switchboards and telephone sets; (f)
 Hearing aids; (g) Digital computing scales.
 - Electronic components: (a) Semi-conductors and integrated circuits; (b) Electronic tubes (excluding black and white picture tubes); (c) Microphones;
 (d) Amplifiers; (e) Transistors; (f) Ferrite cores;
 - (g) Recording heads;
- * ELECTRIC MACHINERY AND APPARATUS INDUSTRY
 - Power generators;
 - Electric motors of 500 horsepower or above; supermicro motors and special purpose motors (such as refrigerator motors; explosion-proof motors; waterproof motors, etc.);
 - Special transformer and new type transformers;
 - ** Rectifiers;
 - Communications cables;
 - •• Enamelled wires;

TABLE 12 (Continued)

- Switches and circuit breakers;
- ** High voltage electric insulators;
- Artificial graphite electrodes;
- •• New type dry batteries (such as alkaline dry cells, mercury dry cells);
- •• Freon compressors for air conditioners;
- Elevators and escalators;
- CHEMICAL INDUSTRY
 - Dyestuffs and dye intermediates (priority given to acid dyes, direct dyes and disperse dyes);
 - ** Agricultural chemicals (raw materials);
 - Pharmaceuticals (raw materials);
 - · Photographic films;
 - Acetylene and polyvinyl acetate;
 - · Plasticizers;
 - Ethylene glycol;
 - · Freon;
 - Sound recording tapes;
- PLASTICS AND SYNTHETIC RESIN INDUSTRY
 - Polyurethane;
 - •• Fiberglass reinforced plastics;
 - Polypropylene
- MAN-MADE FIBER INDUSTRY
 - .. Acetic acid filer;
 - · Polynosic fiber;
 - •• Fiberglass (long fiber);
 - ** Polyvinyl alcohol (fiber);

TABLE 12 (Continued)

- FOOD PROCESSING INDUSTRY
 - Baby food;
 - Canned fruits and fruit juice concentrates;
 - •• Dehydrated and processed agricultural products;
 - •• High-quality confectionery;
 - •• Canned sweet potatoes;
 - Pineapple peeling processing;
- OTHER MANUFACTURING INDUSTRIES
 - ** Cameras and optical equipment;
 - .. Wigs;
 - · Cigarette paper;
 - .. Nylon lining for tires;
 - Sophisticated glass (such as refractory glass, optical glass, one side transparent glass, crystal glass, etc.);

The selection of industrial products which are favorable for overseas capital investment in Taiwan is carried out by the Industrial Development and Investment Center on the basis of three principles:

- that there is an existing domestic market for the products
- that there are good prospects for export
- that there are supporting industries for the manufacture of the products.

To develop detailed market information on any particular product, however, it is necessary for the investor to make his own study.

VI. BACKGROUND ON TAIWAN AND ITS ECONOMY

A. GEOGRAPHY, POPULATION, GOVERNMENT; ECONOMIC TRENDS

The seat of the Central Government of the Republic of China has been located on the Island of Taiwan since 1949. Situated on the edge of Asia's continental shelf, about 90 miles east of the Chinese Mainland and 200 miles north of the Philippines, Taiwan is at the crossroads of one of the busiest air and sea routes in Asia. Transportation between Taiwan and the rest of the world is well developed and principal areas in East Asia can be reached within a few hours by air. The island is approximately 240 miles long and 85 miles wide at its broadest points. Its total land area is 13,885 square miles. It is roughly 1.7 times the size of the state of Massachusetts in the United States and slightly smaller than Switzerland.

Its land mass is predominantly mountainous. The Central Range, which runs north to south, covers approximately two-thirds of the island's land area and leaves less than one-third of the land arable. Coastal plains and basins are concentrated to the west and southwest of the Central Range. The eastern coast of the island, facing the Pacific, consists mainly of terraced table lands and coastal low lands.

Over 15 million people comprise Taiwan's population, which is increasing at an annual rate of slightly less than 2%. The population is composed of two distinct ethnic groups, the Chinese and the aborigines; however, the latter account for less than 3% of the total. Roughly 84% of the inhabitants are Taiwan-born (Taiwanese); the remaining 14% of the inhabitants consists of those generally referred to as Mainlanders, who migrated to Taiwan in 1948-1949.

Overall, Taiwan is experiencing a continuing process of urbanization, which reflects the shift in the economy from agriculture to industry. Over 25% of the island's inhabitants live in the five major urban centers along the west coast.

Taiwan became Chinese territory many centuries ago. During the period of 1895 to 1945, however, it was occupied by Japan. After World War II, the island was retroceded to China and became a province of the Republic of China.

Taiwan enjoys a very high degree of internal political stability. Under the leadership of President Chiang Kai-shek, the Chinese Government is making all-out efforts to strive for further development of the nation's economy and to make domestic as well as overseas investments in Taiwan even more prosperous. Among the Central Government agencies, the Ministry of Finance, Ministry of Economic Affairs and the Council for International Economic Cooperation and Development are the organizations which are most closely connected with the economic development of the nation.

The history of uninterrupted economic success of Taiwan since the early 1950's and the favorable long-range outlook for the economy make the island a favorable site for manufacturing investment. Present signs suggest sustained economic growth in the future, with the target set at 9.5% per year in real GNP. The country's infrastructure is sound and able to support rising industrial activity. Production levels are at all-time highs in nearly every existing industry and there is ample room for the development of new industries. As the country moves into its Sixth Economic Development Plan (1973-1976), emphasis is increasingly being given to the heavy basic industries (such as iron and steel, aluminum, shipbuilding and machinery), and to the higher technology industries (such as electronics and petrochemicals). This will result in increased reliance on foreign investors and manufacturers as well as on exports. The flow of foreign investment exceeds US\$100 million each year and the Government is expanding its programs to encourage industrial and agricultural development.

B. THE TAIWAN ECONOMY

1. Background

The economic development program of the Republic of China (ROC) in the past two decades has been both energetic and successful. The result has been the emergence of one of the fastest-growing economies in the world. In the 20 years since the launching of the first Four-Year Economic Development Plan in 1953, real Gross National Product has increased at an average annual rate of 8.6%. Since reaching its economic takeoff level in 1962, growth has been even higher, averaging 10.4% per year (see Table 13).

Over these last two decades, Taiwan's economy has been converted from one in which the agricultural sector was dominant to one in which manufacturing holds the commanding position. Industry's contribution to Net Domestic Product (NDP) rose from 24.7% in 1960 to 36.6% in 1972. Concurrently, the share held by agriculture dropped from 32.5% in 1960 to only 15.7% in 1972. The contribution of the manufacturing sector grew from 16.7% to 27.9% over the same period, having surpassed agriculture for the first time in 1969.

The ROC, through a series of carefully constructed Four-Year Development Plans, has achieved successive levels of economic strength. This has resulted in two distinct phases of growth. The first, extending from 1953 to 1962, stressed stability and the establishment of a solid economic base. During this period, the country generally followed a four-pronged policy approach, which consisted of a strengthening of the agricultural base, development of a physical and social infrastructure, achievement of price stability, and emphasis on import-substitution industries. The result was a system of power, transportation, and communication

TABLE 13

GROWTH OF REAL GROSS NATIONAL PRODUCT
IN THE REPUBLIC OF CHINA, 1953-1972

(Values in NT\$MM, 1966 Prices)

	GNP	Annual Increase		GNP	Annual Increase
1953	45,876	9.1%	1963	92,431	9.6%
1954	49,659	8.2	1964	103,642	12.1
1955	53,751	8,2	1965	115,661	11.6
1956	56,249	4.6	1966	125,554	8.6
1957	60,307	7.2	1967	138,522	10.3
1958	64,358	6.7	1968	151,383	9.3
1959	69,066	7.3	1969	164,604	8.7
1960	73,346	6.2	1970	182,992	11.2
1961	78,640	7.2	1971	203,974	11.5
1962	84,373	7.3	1972	226,400	11.0

Source: CIECD

lgns it

gly mi-

s h

OC) The facilities, second only to Japan in Asia and a secure base for an industrial economy, supported by a productive agricultural sector. This, in turn, created a spillover effect on the consumption segment of the economy. With increased per capita income (see Table 14) and purchasing power, these improved conditions enhanced the climate for industrial activity and enabled local producers to rely more confidently on the development of domestic markets. In short, by the early 1960's, the ROC had reached the point of economic "take-off" and was able to pursue a pattern of self-sustaining growth which launched the country into its second phase of rapid industrial development.

The Four-Year Development Plans covering 1962 to 1972 called for intense industrialization. Primary consideration was assigned to the improvement of the investment climate and the promotion of exports. Midway through the third Economic Development Plan, the economic indicators began to take off. In 1963, real GNP increased over 9.6%, largely due to the increased contribution of industry. For the first time in the history of Taiwan, industry represented a greater share of NDP than agriculture. The U.S. foreign aid program, which had played a significant role in the early development of the economy, was terminated in 1965. Henceforth, Taiwan's external capital inputs originated mainly from the World Bank, the Asian Development Bank, other foreign financial institutions, and private foreign investment. Between 1953 and 1962, the amount of foreign investment approvals accumulated in Taiwan industry was US\$35 million. By the early 1970's, this value had jumped to over US\$600 million (see Table 15)

In spite of its rapid growth over the last 20 years, and substantial international monetary disturbances in recent years, the ROC has maintained a remarkable degree of monetary and price stability. From 1962-1972 the wholesale price index rose by an annual average of only 1.4%. The New Taiwan Dollar, which was pegged at 40:1 with the U.S. dollar in 1963, remained unchanged and extremely close to the market rate until the U.S. dollar devalued in early 1973 and the Chinese adjusted their rate to 38:1. This record has been achieved without wage or price controls.

While industry was concerned with import substitution, priority was assigned to industries such as cotton, textiles, clothing, shoes and leather products. This was designed to alleviate the pressure caused by scarce foreign exchange. During this period, food processing was the only major export industry. As the orientation of industry shifted to the promotion of exports, the whole profile of growth industries changed. The island's good, inexpensive labor force, coupled with exchange reforms and export promotion, resulted in the acceleration of such light, basic industries as textiles, apparel, and wood and paper products. As the composition of industry with export capabilities shifted away

TABLE 14

GROWTH IN PER CAPITA INCOME, TAIWAN, 1953-1972

(NT\$)

nt

te

4	Current Prices	1966 Prices
1953.	2,215	4,420
1962	5,189	5,752
1972	14,887	11,628
	Growth Rate (%)	
1953-1972	11.4	5.1
1953-1962	11.7	3.0
1963-1972	11.1	7.3

Source: Directorate General of Budgets, Accounts and Statistics

TABLE 15

FOREIGN INVESTMENT APPROVALS IN-TAIWAN, 1953-1972

(US\$1,000)

		*		
	Cases	Amount	-	Aggregate Amount From 1952
1953	2	2,041		2.041
1954	5	2,092		2,041
1955	2	4,423		4,133
1956	2	1,008		8,556
1957	1.			9,565
1958	2	48		9,613
1959	3	1,116	1	10,729
	2	145		10,874
1960	8	14,338		25,212
1961	5	5,964	1	31,176
1962	26	3,543		34,719
1963	16	10,347		45,066
1964	13	11,890		56,956
1965	36.	35,140	1	92,096
1966	52	20,904		113,000
1967	107	38,666		151,666
1968	122	53,445		205,111
1969	111	81,938		287,049
1970	71	109,165		396,214
1971	44	125,148		521,362
1972	52	100,190		621,552
1973	130	172,222		793,774
(JanNov.)				,00,7,1
(OGHHOV.)				*

Source: Council for International Economic Cooperation and Development

from agricultural products, foreign markets began to open up. As a consequence, exports which had consistently been equivalent to only 12% of GNP in the earlier phase began to increase sharply in importance (see Table 16). They jumped to almost 20% in 1964 and by the early 1970's they had doubled to almost 40%. Consequently, with exports growing at nearly 30% per year and imports increasing at just slightly more than 20% per year, the balance of payments situation is continually improving.

2. The Outlook

The basic elements in the new direction for industrial development are found in both the Ten-Year Plan promulgated in 1971 and the Sixth Four-Year Economic Development Plan (1973-76). They have also been expressed in a document "Outline for Accelerated Industrial Development". They include the following essential points:

- A shift of the industrial structure toward basic and hightechnology industries;
- Coordinated development among agriculture, industry and merchandising, together with expanded trade;
- An improved and streamlined tax system, credit facilities, and construction of infrastructure and industrial sites;
- Coordinated development and modernization of military, public and private enterprises;
- Less protection of domestic industries to encourage greater competition;
- Encouragement of greater consolidation of facilities in order to achieve economies of scale;
- Greater selectivity in screening foreign investments, encouraging such investments in the production of finished goods for exports, manufacturing processes involving advanced technology, joint ventures exploring and developing natural resources, basic industries requiring large capital outlays and particular knowhow, and ventures undertaking research and development which will improve domestic technical standards; and
- Strengthening industrial research institutions and encouraging the development of new products, new designs, quality control, scientific management and recruitment and training of both technical and managerial personnel.

TABLE 16

GNP AND EXPORTS, TAIWAN
(Current Prices - NT\$ Million)

4	GNP	Exports	Percent of GNP
1953	22,988	1,977	8.6
1962	76,882	10,064	13.1
1963	87,134	15,444	17.7
1964	102,209	19,202	18.8
1965	112,867	20,806	18.4
1966	125,554	26,065	20.8
1967	143,045	31,507	22.0
1968	167,975	41,134	.24.5
1969	190,806	51,477	27.0
1970	218,428	66,864	30.6
1971	249,275_	91,898	36.9
1972	287,273	129,276	45.0
	GNP Grow	th Rate	Export Growth Rate
1953-1972	15.		25.6%
1953-1962	16.1	%	21.9%
1963-1972	T4.3	%	29.3%

Source: Council for International Economic Cooperation and Development

The economic targets, as set forth by the national development Plans, have been established in support of three basic goals, as outlined in both the long-range and intermediate economic plans. The first goal is to "hasten the modernization of the economy". It calls for further industrialization with special emphasis on heavy and chemical industries of a high technology nature and for rationalization of enterprises to enhance productivity. The second goal is to "sustain stability and growth". The targets related to this goal are more specific. Together, these two basic goals lead to what could be considered to be the ultimate goal of the economic Plans, which is to "improve the standard of living of the people". The major targets for 1976 are:

- Increase GNP by an average annual rate of 9.5%. Both the long-range and intermediate Plans call for the mobilization of economic resources for increased national output under stable conditions. The two Plans are at variance, however, in the rates set for economic growth. The Ten-Year Plan calls for an 8.5% annual increase to 1976, whereas the intermediate Plan calls for a 9.5% annual increase.
- Raise real per capita income by 7.2%, annually. This target, taken from the intermediate Plan, is also higher than the one for per capita income found in the long-range Plan, which calls for an annual increase in per capita income of only 6.3%.
- Expand exports of commodities and services at a rate of 12.9%, annually. The long-range Plan has set a target of around 11.8% per annum for this same period. The Plans call not only for increased exports, but also for continued improvement of export structure, in terms of both commodities and markets.
- Allow imports to grow at a rate of 15%, annually. Along with increased exports will come increased imports. Again, the target of the intermediate Plan exceeds that of the long-range Plan for the same period which calls for an annual increase of imports of 11.4% per annum. Using the targets of the intermediate Plan, external trade of commodities will increase from US\$5.6 billion in 1972 to US\$11 billion in 1976 at current prices.
- Increase production of the manufacturing sector at an annual rate of 14.2%. This target, taken from the intermediate Plan, is based largely on the intention of the Government to promote capital and skill-intensive industries. The long-range Plan: calls for only an 11.5% annual increase in manufacturing output for this period.

The macroeconomic targets of the Sixth Four-Year Plan are summarized in Table 17.

TABLE 17

MACROECONOMIC TARGETS IN THE SIXTH FOUR-YEAR PLAN
(1972 Prices)

		× ,		5	Nation	al Consumpti	on	Gross Ca	pital Form	ation			
				Gross Domestic Product	Private	Government Consumption		Fixed Capital	Inventory Changes		Exports	Imports	Import Surplus
	1					(1) Amor	unt (NT	\$ billion)	,				
	1972 1973 1974 1975 1976	(base	year)	287.3 316.1 346.6 379.0 413.1	151.1 163.5 177.4 191.8 206.7	48.6 53.5 58.8 64.3 70.2	199.7 217.1 236.1 256.1 276.9	71.7 83.5 96.2 110.3 125.7	7.7 8.9 10.0 11.1 12.4	79.4 92.5 106.2 121.4 138.1	129.3 147.4 168.7 190.1 209.9	121.1 140.8 164.5 188.7 211.8	(-)8.2 (-)6.6 (-)4.2 (-)1.4 1.9
62					13 131 1 41	(2) Per	centage	(%)	, .				12
	1972 1973 1974 1975 1976	(base	year)	100.0 100.0 100.0 100.0 100.0	52.6 51.8 51.2 50.6 50.1	16.9 16.9 16.9 17.0	69.5 68.7 68.1 67.6 67.1	25.0 26.4 27.8 29.1 30.4	2.7 2.8 2.9 2.9 3.0	27.7 29.2 30.7 32.0 33.4	45.0 46.6 48.7 50.2 50.8	42.2 44.5 47.5 49.8 51.3	(-)2.8 (-)2.1 (-)1.2 (-)0.4 0.5
						(3) Annu	ial Grov	th Rate (%)					*
-	1973 1974 1975 1976 Avera	ge	· · · · · · · · · · · · · · · · · · ·	10.0 9.7 9.3 9.0 9.5	8.2 8.5 8.1 7.8 8.2	10.1 9.8 9.5 9.1 9.6	8.7 8.8 8.4 8.1 8.5	16.5 15.2 14.6 14.0 15.1	15.7 12.0 11.6 11.2 12.6	16.4 14.9 14.3 13.7 14.8	14.0 14.5 12.7 10.4 12.9	16.3 16.8 14.7 12.3 15.0	

Source: Sixth Four-Year Economic Plan for the ROC

It is expected that if this target is achieved, the contribution of the manufacturing sector to GNP will increase from its present level of 26.5% to 31.3% in 1976. The long-range target calls for the manufacturing sector to contribute only 28.8% to GNP by 1976.

- Increase average annual agricultural production by 4.1%. The long-range Plan has set an annual target of only 3.6% for this period. The 4.1% target of the intermediate Plan implies that by 1976 agricultural production would contribute 11.3% of GNP as compared to 13.8% at present.
- Increase power and water supply at an average annual rate of 12.1% and transportation and communication services at a rate of 9.5% per annum. The long-range Plan sets a somewhat lower target for the increase of power supply (11.9% per annum) and a slightly higher target for transportation and communication services (10.2%). In light of the more critical problems facing the power industry, it seems that the shift in emphasis between the two sets of Plans is sensible.
- Create 180,000 new employment opportunities each year from the present to 1976. This target, set by both Plans, increases the need for intensification of educational and training programs.
- Control the annual average in commodity prices to remain less than 3%. Both Plans call for effectively utilizing financial and monetary policies to prevent wide-range price fluctuations.
- Expand the number of scientific personnel to 63 per 10,000 by 1980. The long-range Plan calls for a step-up in scientific research and development technology transfer and sets this target as compared to 32 scientific personnel per 10,000 people in 1970. The Plan also sets a target for R&D expenditures to equal 1% of GDP by 1980, up from 0.6% in 1970.

Specific sectoral targets have been set in the intermediate plan (1973-76) as indications to the private sector of what the Government is hoping to achieve and on what it is basing its own plans for public expenditures. The targets call for the fastest growth to occur in the manufacturing sector (14.2% per year) which would also require the largest share of total gross investments (NT\$170 billion or 40%).

Investment will be a key to the realization of these targets. In order to build up the high technology industries and provide the necessary supporting social and physical infrastructure,

large amounts of capital for fixed investments will have to be accumulated. The ratio of gross fixed capital formation to GDP is targeted to increase from around 26% (NT\$71.7 billion) in 1972 to 30% (NT\$125 billion, at 1972 prices) in 1976. This represents an average rate of increase in fixed investments of 15% per year. In addition, funds will be needed for inventory changes, repayment of external debts, maintaining reserves, returns on foreign investments made in Taiwan, etc. The total amount of required funds for the period 1973-76, therefore, is projected by the Plan to be NT\$514.8 billion.

These funds are expected to come largely from domestic sources. Domestic sources would supply roughly 91% of the funds and foreign sources only 9%. Within the category of foreign sources, the target for foreign private investment is set at only 1.6% or US\$210 million over the four-year period.

For whatever strategy the ROC plans to adopt, the economic performance of the next four years has in large part been predetermined by decisions and trends of the last several years. In light of recent performance, the targets set forth in the Sixth Plan should be easily achieved and very likely exceeded. Comparing past performance to the targets of the Fifth and Sixth Plans and the targets for 1976 laid out in the Ten-Year Plan, it can readily be seen that, in almost all cases, the targets are below past performance.

In the case of industrial output, the real growth experienced during the Fifth Plan period averaged 21.3%, more than twice the rate targeted (see Table 18). Exports increased at an annual rate of 28.9% versus the planned rate of 12.1%, and imports registered an annual real gain of 23.4% versus the planned rate of 10.9%.

Consequently, it appears that these targets are not only easily attainable but in the case of industrial output may even understate the actual growth potential. The major reasons for the seemingly understated targets are:

- The growth patterns covering the next four years are a function of the existing trends and decisions—primarily concerning investment which has been vigorous, i.e., growth in total fixed capital formation from 1969-1971 equaled 16.3% per year. Therefore, there is no basis for suspecting that the growth rates would decline as sharply as suggested by the levels targeted in the Sixth Four-Year Plan.
- Although there may have been some hesitation in investment plans in the early months of 1972 following the ROC's loss of its U.N. seat, investors soon appeared to regain confidence in Taiwan's future. By the end of the year,

SOME KEY ECONOMIC TARGETS AND ACTUAL PERFORMANCE, TAIWAN
(Average Annual Growth Rates in Percent)

	- x			
	Fifth Plan 1969-72	Actual 1969-72*	Ten-Year Plan 1971-76	Sixth Plan 1973-76
GDP	7.1	10.7	8.5	9.5
Consumption - Total	5.8	6.5	8.0	8.5
Government	7.8	5.7	9.5	9.6
Private	5.1	6.7	7.4	8.2
Total Investment	10.0	14.8	10.0	14.8
Gross Fixed		1.5	- 2	
Capital Formation	11.5	15.9	10.2	15.0
Exports	12.1	28.9	12.1	12.9
Imports	10.9	23.4	11.9	15.0
Industrial Growth	9.2	21.3	11.5	19.2
Real Per Capita Income	4.7	7.9	6.3	7.2**

^{*} Preliminary 1972 figures.

^{**} Per capita income in 1976 is estimated to be US\$492 in 1972 prices or \$554 in 1976 prices.

approvals of foreign investments had reached US\$126.7 million, and actual investments installed totaled US\$100 million. The future plans apparently overstated the effect of this diplomatic change. Several major international corporations have already announced plans to make heavy investments in Taiwan and a number of others are giving careful consideration to doing likewise. In short, investments, both realized and expected, have shown no reversal from recent trends.

Finally, there is reason for optimism about the targets arising from the fact that changes have been and will be occurring in the policies, regulations, and administration of public activities related to economic development. A number of such improvements involving investment, trade, manpower development, and financing have already occurred. Other changes are being recommended and the resulting actions should not only help to offset any adverse conditions that may arise and thereby help sustain the present momentum, but they could even increase it.

C. INDUSTRIAL PATTERNS

1. An Overview of Industry

Since the launching of the First Four-Year Economic Development Plan in 1953, industry's share of Net Domestic Product in the Republic of China has more than doubled, climbing from 18% to 37% (see Table 19). Concurrently, the share held by agriculture has dropped from almost 40% to only 16%.

As described in the previous section, the long-term growth of the economy was actually divided into two distinct phases. The former period (1953-1962) concentrated on the development of a solid economic base, while the more recent period (1962-1972) emphasized industrialization through the promotion of exports, thereby encouraging industry to expand to meet this greater demand. As the economy became more export-oriented, industry moved into the production of more "sophisticated" products, such as electronics. In 1971, the share of total exports made up of manufactured goods was 80% compared with only 5% 20 years ago.

The shift toward more sophisticated products resulted in deemphasis of the so-called light industries, such as the food, textile, wood, and related industries (see Table 20). Even though the combined value of production grew at an annual rate of 16%, the share of total industrial production held by the light industries

¹ Includes mining, construction, manufacturing and utilities.

TABLE 19

CHANGING STRUCTURE OF NET DOMESTIC PRODUCT, TAIWAN
1953-1972

- X	1953 (NT\$MM)	1962 (NT\$MM)	1972 (NT\$MM)	1953- 1962 (%)	1962- 1972 (%)
Net Domestic Product	19,546	61,646	226,557	13.6	13.9
Agriculture	7,436	17,891	35,482	10.3	7.1
Industry ¹	3,433	15,857	82,833	18.5	18.0
Other ²	8,677	27,898	108,242	13.9	14.5
Percentage Distribution	* · · · · · · · · · · · · · · · · · · ·			. *	
Agriculture	38.0	29.0	-15.7-	î.	- 1
Industry ¹	17.6	25.7	36.6		
Other ²	44.4	45.3	47.8		

¹ Includes mining, construction, manufacturing, and utilities.

Source: Council for International Economic Cooperation and Development,
April 1973, Industry of Free China, p. 60ff.

Includes transportation, communications, commerce, and other service industries.

TABLE 20

CHANGES IN THE STRUCTURE OF INDUSTRY IN TAIWAN, 1962-1972
(NT\$MM)

		Value of	Production		ge Share of stry Total
9		1962	1972	1962	1972
	Manufacturing				
	Food	6,848.9	19,254.5	17.7	
	Beverages	1,686.6		17.7	8.5
	Tobacco			4.4	2.8
	Textiles	2,585.8		6.7	2.9
	Apparel	5,770.4		14.9	17.0
	Wood & Wood Products	625.8	THE RESERVE OF THE PARTY OF THE	1.6	3.5
	Furniture	1,517.4		3.9	3.7
		68.1		0.2	0.2
	Paper & Paper Products	1,476.6		3.8	3.3
	Leather	83.1		0.2	0.1
	Printing	693.4	2,978.7	1.8	1.3
	Light Industry Total	21,356.1	97,515.7	55.1	43.3
	Rubber & Rubber Products Chemicals & Chemical	538.9	2,842.9	1.4	1.3
	Products	3,643.0	20,931.9	9.4	9.3
	Petroleum & Coal Products	2,045.9		5.3	5.8
	Non-Metallic Minerals	2,227.7	8,437.2	5.7	3.7
-1	Basic Metals	2,080.5	9,220.1	5.4	4.1
	Metal Products	600.4		1.5	0.7
	Electrical Machinery	807.2		2.1	13.5
	General Machinery	606.2		1.6	2.8
	Transport Equipment	516.9	10,852.9	1.3	4.8
	Miscellaneous Manufacturing	138.1	346.6	0.4	0.2
	Basic & Heavy Industry				
	Total	13,204.8	103,806.4	34.1	46.1
	Total Manufacturing	34,560.7	201,322.3	89.2	89.4
•	Mining	1,664.7	3,540.1	4.3	1.6
•	Construction	263.0	8,511.4	0.7	3.8
•	Utilities	2,275.8	11,837.2	5.9	5.3
A.	ll Industry Total	38,764.2	225,219.1	100.0	100.0

Note: Columns may not sum to totals due to rounding.

Source: Council for International Economic Cooperation and Development, Industry of Free China, March 1970 and April 1973.

fell 12 percentage points from 55% in 1962 to only 43% in 1972. At the same time, the share held by basic and heavy industries increased 12 percentage points, to 46% in 1972. These industries, combined, experienced a vigorous growth of 23% per year.

All the major components of the light industry group suffered a decline of their share of production, except textiles. The textile industry registered an annual rate of growth of 21% and emerged as the largest industry in Taiwan in terms of production. This new position was predominantly at the expense of the food industry. Although annual production in this sector increased at a rate of 11%, its share of total industrial output dropped from 18% to only 9%.

Most of the growth in the basic and heavy industries was attributed to the electrical machinery industry, whose annual production increased by a factor of 37. This resulted in an average growth rate of over 40% per year, and an increase in its share of industrial output to 13.5%. Consequently, it is currently the second largest industry in Taiwan.

While the Government has played a very active role in the planning of industrial development, its own share of ownership and operation of industries has declined. Consequently, private industry has been able to increase its share of industrial output from 43% in 1953 to more than 70% at present. In addition, the private sector now dominates all industries except those considered to be of strategic importance (power, petroleum refining, aluminum, steel, and certain chemical facilities). During this period of transition, the Government encouraged private investors by extending credit, providing technical assistance, and developing industrial estates to promote the entry of new industries.

2. The Manufacturing Sector

Taiwan's nearly 45,000 manufacturing concerns are concentrated near the capital of Taipei, along the west coast highway and rail lines, and near the industrial districts and export processing zones developed by the Government (see Figure 7).

Although the food industry has lost its former position of first in terms of production, it still accounts for the greatest number of enterprises, 14,000. The metal products and machinery sectors, with 11,000 enterprises, are second largest. They are followed by the chemical and petrochemical products industry, with 5,000, the non-metallic mineral products, with 3,000, and the basic metal industry, with 500.

Total employment in the manufacturing sector is well over one million. Over the three-year period, 1968-1971, the number of workers increased at an average growth rate of 9.2% per year (see

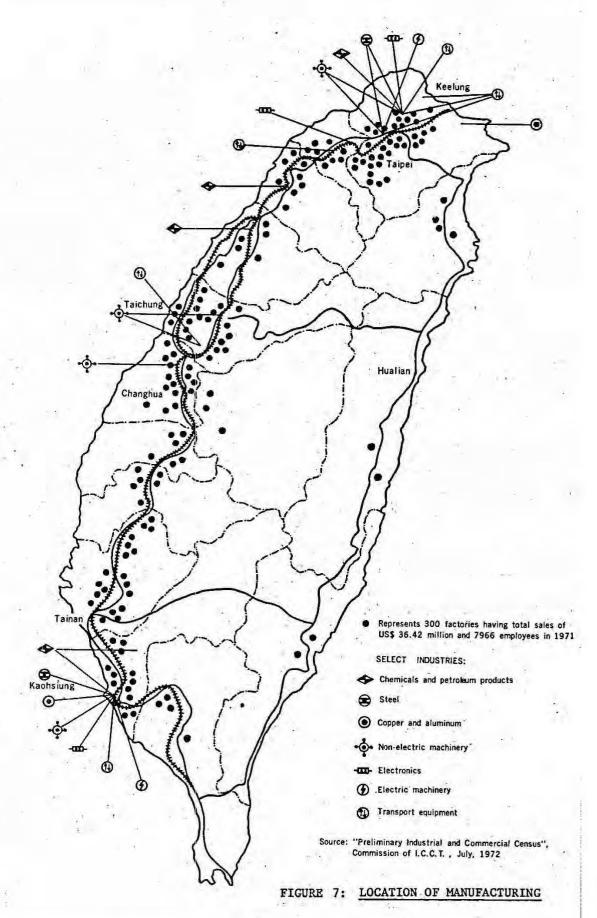


Table 21). The work force in basic and heavy industries has increased, while certain sectors in the light industries have experienced a decline. The five fastest growing areas of employment have been in apparel processing (65%), electrical machinery (18%), rubber products (15%), petroleum refining and coal products (22%), and textiles (11%). While many of these manufacturing operations are relatively small in terms of average employment and sales and require improvements in quality control and management, there are a number of large, efficient firms producing increasingly high-quality products.

The most dynamic manufacturing industry in Taiwan is the electrical machinery industry, which registered an average annual rise in production of over 50% between 1966 and 1971 (see Table 22). Production, valued at US\$493 million in 1971, increased another 54% to US\$758 million in 1972. The development of this industry' is truly astonishing, considering that output in 1960 was recorded at under US\$10 million. Beginning with items such as simple household appliances and cables, the industry progressed into the manufacture of larger and more complex appliances such as air conditioners, washers, and dryers. Although the electronics equipment and apparatus industry was an offshoot of the electrical machinery group, its impressive growth (almost 60% per year from 1966 to 1971) and its tremendous potential for further development have entitled it to the status of a separate, independent industry. There are more than 350 manufacturing operations which produce over 100 different types of electronic equipment, apparatus, and components. The industry was launched by the investment of an American firm in 1964. Since then, many other foreign manufacturers have invested in the industry, and at present there are more than 100 electronic plants which are either owned by subsidiaries of foreign firms, or operated as joint ventures with local investors. Although the major area of development to date has been in the area of telecommunications, which experienced an annual rise in production of 80% between 1966 and 1971, the whole sphere of electronics production is being explored and developed. The industry is dominated by Japanese and American firms. There are also some 170 small-scale electronic plants which are wholly Chinese-owned which because of their limited technological skills and inadequate machinery and equipment are limited in scope. Their sales are largely restricted to the domestic market, although they also supply components to the foreign-controlled plants. In 1971, Taiwan produced nearly 1.9 million television receivers and more than 4.2 million transistor radios.

Other industries which will receive priority in the next stage of industrialization are the general machinery and transportation equipment industries, the petroleum products and chemical industries and the metals industry.

sales of es in 1971

0

30

TABLE 22

GROWTH IN MANUFACTURING EMPLOYMENT BY INDUSTRY SECTOR, TAIWAN,

1968-1971

	Number o	f Employees	Growth Rate (%)
	1968	1971	1968-1971
Food	136,331	160 056	
Beverage	9,349	160,056	5.5
Tobacco		9,286	-0.5
Textile	4,554	4,448	-1.0
Apparel Processing	120,901	166,584	11.3
Wood & Wood Products	19,706	53,708	65.0
Furniture	39,338	53,800	11.0
Paper & Paper Products	6,286	6,174	-0.7
Printing	20,350	24,021	5.7
Leather	14,024	13,083	-2.0
	1,572	1,618	1.0
Light Industry Total	372,411	492,778	9.8
Rubber Products	12,538	10 000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Chemicals	78,787	18,908	14.7
Petroleum Refining & Coal	70,707	102,280	9.0
Products	8,133	11	
Non-Metallic Mineral Products		14,732	22.0
Basic Metal	48,261	50,482	1.5
Metal Products	26,528	27,733	1.4
Machinery	25,717	29,207	4.3
Electrical Machinery	37,926	46,474	7.0
Transport Equipment	57,151	94,156	18.1
Miscellaneous Manufacturing	31,897	35,424	3.4
	19,903	22,996	4.9
Basic & Heavy Industry Total	346,841	442,392	8.4
TOTAL MANUFACTURING	719,272.	935,170	9.2

Source: Department of Statistics, Ministry of Economic Affairs, Taiwan
Industrial Production Statistics Monthly, August 1972

TABLE 22

REAL GROWTH IN MANUFACTURING PRODUCTION, IN RANK ORDER BY MAJOR INDUSTRY GROUPS, TAIWAN¹

1966-1971

(Annually compounded average percentage rates of growth)

	Industry	Growth Rate
1.	Electrical Machinery (32)	52.0
	• Telecommunications Equipment (7)	80.0
	• Generators and Motors (5)	54.0
	• Electrical Apparatus (9)	33.0
-	• Insulated Wires and Cables (5)	30.0
2.	Apparel Processing (3)	41.0
3.	Textile (33)	28.0
	• Artificial Fibers (6)	65.0
	* Knitted Products (6)	33.0
	Artificial and Synthetic Fibers	12212
	Textile Products (8)	24.0
	* Woolen Textile Products (5)	21.2
4.	Rubber Products (16)	27.0
1	* Miscellaneous Rubber Products (4)	26.0
-	* Rubber Footwear (2)	35.0
	• Tires and Tubes (10)	23.0
5.	Transport Equipment (8)	19.0
a J	* Shipbuilding and Repairing (2)	41.0
	• Other Transport Equipment (4)	15.9
Ly.	• Motor Vehicles (2)	14.1
6.	Furniture (2)	18.8
7.	Petroleum Refining and Coal	
	Products (16)	17.4
	Miscellaneous Petroleum Products (6)	26.0
-	• Petroleum Refineries (9)	18.4
8.	Machinery (17)	16.5
	and the same of th	
9.	Paper and Paper Products (6)	16.4
10.	Beverage (5)	14.2
	Nonalcoholic Beverages (3)	19.5

¹ Data refer to private industrial production.

TABLE 22 (Continued)

	<u>Industry</u>	Growth Rate
11.	Chemicals (41) Plastic and Plastic Products (12) Paints Variables I record (5)	13.8 29.0
14	Paints, Varnishes, Lacquers (5)	16.8
12.	Non-Metallic Mineral Products (12)	13.5
13.	Basic Metal (11)	13.4
14.	Wood and Wood Products (5)	10.5
15.	Leather (2)	9.2
16.	Food (22) • Edible Oil Compressing (4)	6.0 18.4
17.	Metal Products (8)	5.6
18.	Miscellaneous Manufacturing (7)	4.5
19.	Tobacco (3)	3.8
, (a	TOTAL MANUFACTURING (219)	20.0
		20.0

Number of establishments covered by survey for given industry category.

Source: Department of Statistics, Ministry of Economic Affairs,
Taiwan Industrial Production Statistics Monthly, August 1972.

The general machinery and equipment industry has had a relatively healthy growth rate (17% per year from 1966-1971) and it is now able to produce a wide range of products, including various kinds of machine tools and machinery for canneries, sugar and flour mills, and spinning and weaving mills. The last two years have shown especially strong growth--44% in 1971 and 41% in 1972. The machine tool industry which represents over 10% of the shipments of general machinery is one of the more dynamic members of its parent group-averaging a rise in production of 30% per year between 1966 and 1971.

The transport equipment industry is also showing strong growth potential. Annual gains in output have been averaging almost 20% in the recent past, and the shipbuilding and repair component has been growing at twice that rate.

The petroleum and chemical industries represent a major sector of Taiwan's economy. The state-owned Chinese Petroleum Corporation refines imported crude petroleum at its large refinery in Kaohsiung, which can now satisfy most domestic requirements for refined products. The growth of the industry which has averaged over 17% per year between 1966 and 1971, together with the discovery of abundant natural gas at Miaoli in the north in 1960 and subsequently in central Taiwan, made it feasible to establish a petrochemical industry in the early 1960's. Taiwan is now able to supply many raw and intermediate materials for its important plastic, synthetic fiber, and synthetic rubber industries, and the range of its petrochemical products is constantly being expanded.

The chemical industry originally consisted mainly of the production of fertilizers for Taiwan's agriculture. During the 1950's, however, it became increasingly diversified, and in the 1960's it entered upon a period of spectacular growth; in the latter half of the decade, production was growing at an annual rate of 14%. Its products include many basic industrial chemicals, explosives, detergents, toilet preparations, pharmaceuticals, and petrochemicals. Plastics and plastic products have been enjoying an average annual growth of almost 30%.

The heavy metals industry is also receiving high priority under present plans although until the middle 1960's it was not given preference because of limited technological capabilities and capital. Since then the Government has pushed the development of the iron and steel industry. By 1970, capacity had been raised to about 1.6 million metric tons per year, and output had increased to 1.2 million tons. Recognizing that the industry suffered from a number of weaknesses in processing and quality control, the Government has taken steps to remedy this situation. A major international steel company has been engaged to engineer Taiwan's first integrated steel mill.

Although the apparel and textile industries are no longer assigned high priority in government plans, they have shown impressive

growth. The apparel processing industry registered an annual gain of 40% from 1966 to 1971 in terms of output. However, much of this growth was dependent on the growth in its export markets, which are beginning to present problems for the industry. Many of their markets, especially in Asia, are developing their own production capabilities. Consequently, production in Taiwan fell 7.6% in 1972.

The textile industry showed a growth of 28% per year over the five-year period 1966-1971, and since 1967 it has replaced the food sector as the leading industry in Taiwan in terms of production. The industry suddenly emerged in 1949, when numerous plants were transferred from the Mainland. In the earlier years, the industry produced primarily cotton yarn and cloth, but synthetic textiles have since become the more important part, as evidenced by the growth of artificial fibers (65%), knitted products (33%), and artificial and synthetic fiber textile products (24%). Consequently, they now represent approximately three-fourths of all textile products.

As is the case with apparel processing, much of the growth in the textile industry is dependent on export markets. Exports were initiated in 1954 and began to climb rapidly, accounting for over 60% of production in 1971. In addition, this industry is also facing difficulties in the export arena as its principal markets not only develop self-sufficiency at home but also enter competition for world export markets. Although the industry is experiencing over-production due to the export situation, it managed to retain a fairly healthy growth of just under 20% in 1972.

Although it is no longer one of the fastest growing industries (6%), the food industry still represents the fourth largest industry in Taiwan in terms of production. Food processing was the first major industry to develop, and until the beginning of the 1960's it provided most of the island's export earnings. For the last two decades, however, its growth has lagged far behind that of other manufacturing industries generally. In 1972, it contributed only 10% of the total value of manufacturing output, compared with 24% in 1964 and 42% in 1952. Food processing industries operated by the private sector have fared well, however. Tea processing and flour milling registered growth rates of 8% and 6.5% between 1962 and 1971, while the dynamic canning industry, with canned pineapples, mushrooms, and asparagus as its leading products, hit an annual growth rate of 21.3%. With an annual gain of 19% between 1968 and 1971, the edible oil-compressing sector of the industry is also experiencing healthy growth.

APPENDICES

APPENDIX A

GOVERNMENT ORGANIZATIONS CONCERNED WITH FOREIGN INVESTMENT

I. CENTRAL GOVERNMENT

A.	Ministry of Interior	107 Roosevelt Road, Sec. 4, Taipei
- 14		m-1. 7/50/1

В.	Ministry	of	Foreign	Affa:	irs	.1	Chi	eh	Show	Road,	Taipei.
				1		Te	1:	35	35959		

C.	Ministry of Finance	2 Aikua W. Road, Taipei
		Tel: 351610-6

Inspectorate General of Customs	85 Shin Shen S. Road Tel: 569181	Sec. 1, Taipei

Commissioner of Keelung		
Customs	Tel:	352875

Commission	er of	Taipei			and the
Customs			-8	Tel:	777570

Commissioner	OT	Kaons Lung		
Customs	-		Tel:	552426

D.	Ministry	of	Economic	Affairs	15	Fo	ochow	Street,	Taipei
					Te	L:	3572	71	

* 1.	Industrial Development and Investment Center	5th Floor, 53 Hwai Ning Street, Taipei
	(IDIC)	Tel: 319881

2.	Overseas Chinese and			73 Ku	Ling S	treet,	Taipei
	Foreign Investment	-	y	Tel:	353151		70-5-2-7
	Commission (OCFIC)						

3.	Board	of	Foreign	Trade	1 Huk	ow Street,	Taipei
					Tel:	360271 -	360286

4	. Industrial Development	109 Hankow Street, Sec. 1, Taipei
	Bureau	Tel: 337530 - 337539

5.	. Kaohsiung Export	5th Floor, 27 Pao-Ching Road,
	Processing Zone	Taipei
	Administration	Tel: 330012, 330014

^{*} Normally the point of initial contact for a foreign investor.

APPENDIX A (Continued)

TAIWAN PROVINCIAL GOVERNMENT II.

12 Nanking West Road, Taipei Tel: 360541, 326037

(Taipei Office)

A. Department of Reconstruction

Tel: Chunghsin 331

III. TAIPEI MUNICIPAL GOVERNMENT

39 Changan West Road, Taipei

Tel: 543411

A. Bureau of Reconstruction

Tel: 556502

B. Bureau of Tax

Tel: 341271

APPENDIX B

OVERSEAS INVESTMENT SERVICE AGENCIES

Name	Address	Telephone/Cable
Industrial Development and Investment Center	5th Floor 53 Hwai-Ning Street Taipei, Taiwan Republic of China	319881 INVEST
Chinese Investment and Trade Office	515 Madison Avenue New York, N.Y. 10022 U.S.A.	752-2340 New York CITOCABL
Free China-Europe Industrial Institute	Exchange Building Rotterdam Holland	(010) 139020 Rotterdam KHYRO
Centro Commerciale per L'Estremo Oriente	Via Fabio Filzi 2-20124 Milano Italy	635070 Milan FAREASTRAD
Mr. Richard Tsing	415 Central Building P. O. Box 2769 Hong Kong	243337 HK TSINGRICH
Mr. Lawrence Lu Representative	Lange Strasse 57, 6 Frankfurt/Main 1 West Germany	(0611) 293439 Frankfurt SINOINVEST

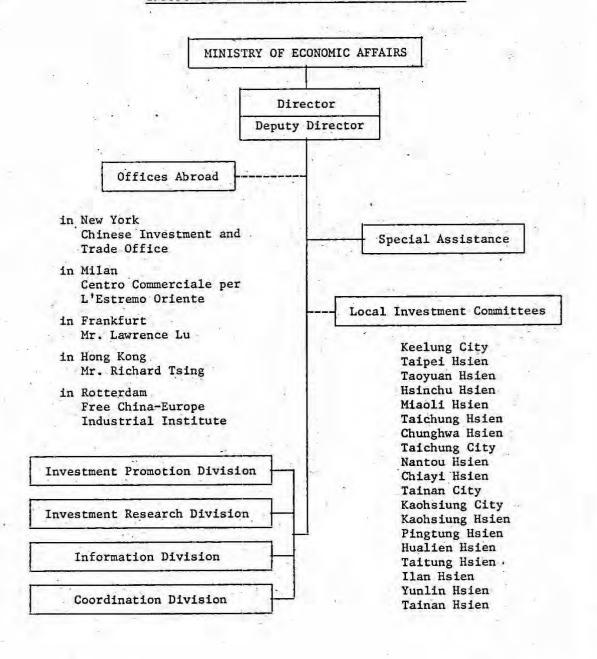
Overseas investors who are interested in obtaining detailed information on making an investment in the Republic of China are invited to contact any of these agencies.

APPENDIX B2

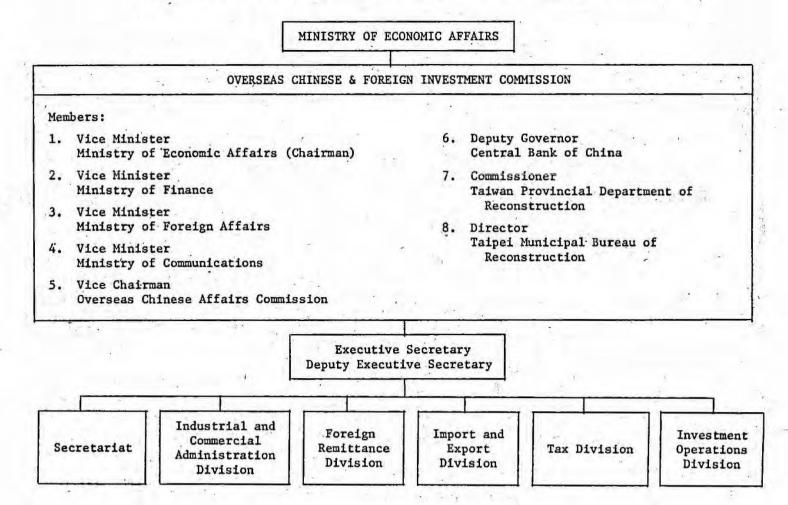
ORGANIZATION CHART

OF

INDUSTRIAL DEVELOPMENT AND INVESTMENT CENTER



APPENDIX C ORGANIZATION CHART OF THE OVERSEAS CHINESE & FOREIGN INVESTMENT COMMISSION



APPENDIX D

SELECTED PUBLICATIONS DEALING WITH INVESTMENT CLIMATE AND PROCEDURES

1. General Economic Information and Issues

Title of Publication	Author/Publisher	D-1-
	iscendificationer	Date
Economic Development in Taiwan After WW II	Chien-Sheng Shih, Reprint Article	1968
A Brief Report on Taiwan's Economy	CIECD	March, 1971
Industry of Free China	CIECD	Monthly
A Short-Term Macro- economic Model of Taiwan	Tzong-Shian Yu	April, 1971
Long-Range (1971-1980) Economic Development	CIECD	Jan., 1972
Plan for The Taiwan Area, Republic of China		
Two Decades of Economic Development in The Republic of China	Text of address by Finance Minister, K. T. Li	June, 1971
Public Finance and The National Economy	Speech by Minister of Finance, K. T. Li	April, 1971
Financing Economic Development of The Republic of China	Delivered by K. T. Li, Minister of Finance	Nov., 1972
A Financial Sketch of The Republic of China	K. T. Li, Minister of Finance	Oct., 1972
The Economic Structure of Taiwan, 1952-1969	Shirley W. Y. Kuo	Dec., 1970
Economic Position and Prospects of The Republic of China, Vol. I, Main	IBRD.	Sept., 1970
Report		

1. General Economic Information and Issues (continued)

Title of Publication	Author/Publisher	Date
Monthly Statistics of The Republic of China	Directorate-General of Budgets, Accounts and Statistics	Monthly
National Income of The Republic of China: National Accounts in Taiwan	Directorate-General of Budgets, Accounts and Statistics	Annual
Input-Output Tables, Taiwan, Republic of China	CIECD	1969
The Taiwan Economy: An Input-Output Study	Reprint from Industry of Free China, Vol. XXX, No. 5, CIECD, by John Shih-Yao Chiu	Nov., 1968
Fifth Four-Year Plan for Economic Development of Taiwan, 1969-1972	CIECD	Feb., 1969
Sixth Four-Year Plan for Economic Development of Taiwan, 1973-1976	CIECD	1973
Economic Study of Taiwan	Stanford Research Institute	1969
Economic Progress in The Republic of China	CIECD	1971
ROC's New Industrial Policy: Assessment by U. S. Embassy	Department of State, Ambassador McConaughy	April, 1970
National Income Accounts Analysis by U. S. Embassy	Department of State, Ambassador McConaughy	March, 1971
ROC's Ten-Year Economic Development Plan: Assessment	James Klemstine, Economic Officer U. S. Embassy	Aug., 1971
Taiwan: Outlook Remains Favorable	International Finance, Chase Manhattan Bank, Biweekly Newsletter	Dec., 1972

1. General Economic Information and Issues (continued)

Title of Publication	Author/Publisher	Date
Economic Development Issues: Greece, Israel, Taiwan, Thailand	Committee for Economic Development, Supplemen- tary Paper, No. 25	Sept., 1968
Taiwan, Review of	Far Eastern Economic Review, Yearbook	1972
Toward Greater Economic Achievements in the Face of Diplomatic Adversities	Speech by Economic Minister, Y. S. Sun	Sept., 1971
Taiwan: The Place to Invest in Asia	Industrial Development and Investment Center CIECD	June, 1970
The Taiwan Contract: Litmus Test for Peace	By Robert W. Barnett, Pacific Community Quarterly	Oct., 1972
Economic and Trade Devel- opment of Taiwan	By C. F. Koo, Pacific Community Quarterly	Jan., 1972
Yearbook of Financial Statistics of The Republic of China	Department of Statistics Ministry of Finance	1972
N. Carlotte and Ca		

2. General Industrial Statistics and Investment Opportunities

Feb., 1972
.4
Nov., 1972
Dec., 1972
Nov., 1972
1
4

2. General Industrial Statistics and Investment Opportunities (continued)

Title of	*	**************************************
Publication	Author/Publisher	<u>Date</u>
The Food Processing Industry in Taiwan	Overseas Business Reports	Oct., 1968
An Introduction to Taiwan Machinery Manu- facturing Corporation	Taiwan Machinery Manu- facturing Corporation	Jan., 1971
European, US Investors Display Unshattered Confidence in Taiwan	From Business Asia	March, 1972
Despite Diplomatic Setbacks		
Taiwan Moves to Encourage Foreign Capital Inflow	From Business Asia	Aug., 1972
Industrial Investment Opportunities in Taiwan, Republic of China	Industrial Development and Investment Center - CIECD	April, 1972
Industrial Development and Investment Opportuni- ties	Industrial Development and Investment Center - CIECD	Oct., 1971
Industrial Development Tendency and Guidance Measures	IDB, MOEA	May, 1972
Taiwan: A Market for U. S. Products	U. S. Department of Commerce - Bureau of International Commerce	Oct., 1967
World Markets for U. S. Exports	International Marketing Information Service	Oct., 1970
The Impact of United States Trade and Economic Policy on Private Investment and	Johann H. Brinckmann, Vice-President, Conti- nental Illinois National Bank and Trust Company of	Nov., 1972
Trade in Asia A Banker's Perspective	Chicago	
Private U. S. Capital Investment in The ROC	Industrial Development and Investment Center - CIECD	Nov., 1972
	the state of the s	~

2. General Industrial Statistics and Investment Opportunities (continued)

Title of		
Publication	Author/Publisher	Date
Taiwan's Industrial Growth and Structure	T. K. Tsui, CIECD	April, 1970
Data Guide Book (Revised Edition)	Transportation Planning Board, Ministry of Communications	June, 1972
Business Directory of Taiwan, ROC	E. T. Tsu Publisher	1972-73 Ed.
Foreign-Invested Enter- prises in Taiwan, Republic of China	Industrial Development and Investment Center - CIECD	Oct., 1972
List of American In- vestors in Taiwan, ROC	CIECD/IDIC	Nov., 1972
List of Major Japanese Invested Manufacturing Enterprises in ROC	CIECD/IDIC	Nov., 1972
List of Foreign Invest- ments in Taiwan, Republic of China	Industrial Development and Investment Center	Dec., 1972
Buyer's Guide to Taiwan Electric and Electronic Industries	Taiwan Electric Appliance Manu- facturers Association	Oct., 1970
Electronics Industry - A Preliminary Report	CIECD	Dec., 1972
Electronic Industry of Republic of China	S. Skoumal, DiplIng.	Oct., 1970
The Development of Petro-Chemical Industry in Taiwan: Assessment	Translated from article in Economic Daily News	May, 1972
by U. S. Embassy		
Petrochemical and Related Industries in Taiwan	CIECD	Dec., 1972
A COMPT COST		1.4

General Industrial Statistics and Investment Opportunities (continued)

-Title of		
Publication	Author/Publisher	<u>Date</u>
Consumption of Refined	American Embassy,	June, 1972
Petroleum Products, 1971	Taipei	4
World Man-Made Fiber	American Embassy,	April, 1971
Survey-1970	Taipei	
The Plastics Industry in Taiwan	From Industry of Free China	Sept., 1972
Metalworking Equipment .	U. S. Department of	1972
and flachine Tools Supplement to "Exhibitor's	Commerce	1972
Export Market Guide"		
Textile Manufacturing	U. S. Department of	1972
Equipment Supplement to "Exhibitor's	Commerce	
Export Market Guide"		
Pumps, Valves and	U. S. Department of	1070
Compressors	Commerce	1972
Supplement to "Exhibitor's Export Market Guide"		6 -
Construction and	U. S. Department of	1972
Materials Handling Equipment	Commerce	1712
Supplement to "Exhibitor's		
Export Market Guide"	ù ₩a	¥.
Industrial Investment	Industrial Development	Oct., 1971
Opportunities in Taiwan Republic of China	and Industrial Center	
Country Comparisons of	Text of speech by	Nov., 1972
Investment Experience - Problems and Rewards	W. A. N. Hartigan, Ford Asia-Pacific, Inc.	1.07., 15/2
	rote Asia-racific, inc.	
World Markets for U. S. Exports	International Marketing Information Service, U. S. Dept. of Commerce	March, 1971
Taiwan Statistical	CIECD	1972
Data Book		

2. General Industrial Statistics and Investment Opportunities (continued)

	Title of	*	
	Publication	Author/Publisher	<u>Date</u>
*	Taiwan Industrial Production Statistics, Republic of China	Department of Statistics MOEA	Monthly.
	The Total of Miles 1070		222
	The Trade of China, 1970	Statistical Department, Inspectorate-General of Customs	1971
	E R		
	The Trade of China, 1971	Statistical Department, Inspectorate-General of Customs	May, 1972
	Exports of the Republic	China Proposed To-1-	1070
	of China, 1971-1972	China External Trade Development Council	1972
	Taiwan Exports, 1971,	Posed of Francis manda	1051
	Chemical Products	Board of Foreign Trade, MOEA	Jan., 1971
	Taiwan Exports, 1971, Machinery & Metal Products	Board of Foreign Trade, MOEA	Jan., 1971 .
	Export and Import Exchange Settlements, 1971	Foreign Exchange Depart- ment, The Central Bank of China	March, 1972
-	Punished to de Tudeste		Zana Azza
	Export and Import	Foreign Exchange Depart-	Sept., 1972
	Exchange Settlements, (For the First Half	ment, The Central Bank of China	7
	Year of 1972)		
	Associate Action works		
	Buyer's Guide: Taiwan	Taiwan Electric Appli-	1972
	Electric & Electronic	ance Manufacturers'	
	Products	Association	4.4
	Elizabeta compressor A		*
	Electronic Production and Test Equipment	U. S. Department of Commerce	1972
	Supplement to "Exhibitor's		·
	Export Market Guide"		28
×	Instruments	U. S. Department of	1972
	Supplement to "Exhibitor's	Commerce	- CAL
	Export Market Guide"		,
	and the state of t		
	7	4	

2. General Industrial Statistics and Investment Opportunities (continued)

Title of		
Publication	Author/Publisher	Date
	* * .	×
Office Equipment	U. S. Department of	1972
Supplement to "Exhibitor's	Commerce	
Export Market Guide"	*	
Air Conditioning and	U. S. Department of	1972
Refrigeration Equipment	Commerce	
Supplement to "Exhibitor's		
Export Market Guide"		
		*
Power Hand Tools and	U. S. Department of	1972
Hand Tools	Commerce	
Supplement to "Exhibitor's		
Export Market Guide"		
alle car accessor years		

3. Infrastructure, Manpower and Industrial Land

		9 1
Utility Rates Table	Industrial Development and Investment Center	Oct., 1970
EPZ Introduction- Utopia for Industrial Entrepreneurs	Export Processing Zone Administration, MOEA	Nov., 1971
A Brief Introduction to The Industrial Dis- tricts in Taiwan,	Industrial Development and Investment Center	May, 1972
Republic of China		

Taichung Export Processing Zone, Taiwan, Republic of China

KEPZ Facts: KEPZ-Utopia for Industrial Entrepreneurs

KEPZ Answers	Kaohsiung Export Pro-	May, 1970
Sixth Edition	cessing Zone Admini-	
	stration, MOEA	
11.47%		

Export Processing Zones: Essential Statistics Dec., 1970

3. Infrastructure, Manpower and Industrial Land (continued)

Title of	ed to the state of the	*
Publication	Author/Publisher	Date
The Kaohsiung Export Processing Zone: Its Current Situation and Its Contributions to The Economy		1968
Exports of KEPZ	Kaohsiung Export Pro- cessing Zone Administra	ation
Industrial Development Bureau: Organization and Functions	MOEA	Aug., 1971
Taichung Export Pro- cessing Zone: Questions and Answers	Taichung Export Pro- cessing Zone Working Group, MOEA	Nov., 1971
Transportation and Communications Information	Transportation Planning Board, Ministry of Communications	g Sept., 1972
Regional Distribution of Imports and Exports by Railway and by Highway, 1971	Transportation Planning Board, Ministry of Communications	g Sept., 1972
Transportation Policies and Planning Goals for Taiwan	Dr. George W. Wilson, Transportation Planning Board	Aug., 1972
Statute for Technical Cooperation	Industrial Development and Investment Center	Jan., 1972
Science Development in Taiwan, 1970	National Science Counce Republic of China	11,
Quarterly Report on The Labor Force Survey in Taiwan, Republic of China	Taiwan Provincial Labo Force Survey and Research Institute	r Quarterly
Establishment Survey on Employment, Hours, Earnings and Labor Turnover in Secondary Industries in Taiwan Area, Republic of China	Taiwan Provincial Labo Force Survey and Research Institute	r Oct., 1970
ಎಲ್ಎಕ್ ಸಾತ್ಮಿಸಲ್ಪಡತ್ತಾರ್ವ ಸಲ್ಪಾಣಗ		

3. Infrastructure, Manpower and Industrial Land (continued)

Title of		
Publication	Author/Publisher	Date
Economic Information of Traffic Zone (Population 1961-1971)	Transportation Planning Board, Ministry of Communications	June, 1972
Manpower Development: A Joint Endeavor of Government and Business	Text of Speech by Finance Minister, K. T. Li	April, 1972
Manpower Development in The Republic of China	CIECD	June, 1972

4. Regulations, Laws and Incentives Relating to Industrial Development

Income Tax Law	Industrial Development and Investment Center	March, 1972
Income Tax Law	Industrial Development and Investment Center	Oct., 1972
What Can IDIC Do For You?	Industrial Development and Investment Center	Oct., 1971
Tax Incentives for Investment In The Republic of China	Industrial Development and Investment Center	April, 1972
Customs Law	Industrial Development and Investment Center	Oct., 1971
Regulations Governing Customs Bonded Factories: Working Rules for Customs Supervision of Bonded Factories	Industrial Development and Investment Center	April, 1972
Categories and Criteria of Productive Enter- prises Eligible for Encouragement	Industrial Development and Investment Center	Feb., 1972
Questions and Answers on The Investment Laws of The Republic of China	Industrial Development and Investment Center	April, 1972

4. Regulations, Laws and Incentives Relating to Industrial Development (continued)

Title of	*	
Publication	Author/Publisher	<u>Date</u>
Statute for Investment by Foreign Nationals	Industrial Development and Investment Center	Feb., 1972
Industrial Development Tendency and Guidance Measures	IDB, Ministry of Economic Affairs	May, 1972
Taxes in Taiwan, Republic of China	Industrial Development and Investment Center	Oct., 1972
Revised Service Life of Fixed Assets	Industrial Development and Investment Center.	Feb., 1972
The Current Investment Climate in The Republic	Text of speech by Dr. C. C. Chang, Vice	Nov., 1972
of China and The Incentives for Foreign Investors	Chairman and Secretary General, CIECD	
Investors		
Tax Incentives for Investment in The Republic of China	CIECD	April, 1972
mepadata of online		
Statute for Investment by Foreign Nationals	Industrial Development and Investment Center	Aug., 1972
Statute for Investment by Overseas Chinese	Industrial Development and Investment Center	June, 1972
Statute for Encourage- ment of Investment	Industrial Development and Investment Center	June, 1971
Enforcement Rules of The Statute for Encouragement of Investment	Industrial Development and Investment Center	Feb., 1972
Tilvescment		
Industrial Development and Investment Opportu- nities	Industrial Development and Investment Center	Oct., 1971
HTETES		× 3.5
Industrial Investment Opportunities in Taiwan, Republic of China	Industrial Development and Investment Center	April, 1972

4. Regulations, Laws and Incentives Relating to Industrial <u>Development</u> (continued)

Title of Publication	Author/Publisher	Date .
Overseas Investment in The Republic of China	Industrial Development and Investment Center	April, 1971
Investor's Guide	The Kaohsiung Export Processing Zone Adminis-	Sept., 1971
× × ×	tration, Ministry of Economic Affairs	****
Enforcement Rules Governing the Payment in	Industrial Development and Investment Center	Jan., 1972
Installments of and Exemption from Duties and Dues Leviable on Machinery and Equipment Imported by		= at-
Productive Enterprises: The Criteria for Encouragement Establishment or Expansion	of	
Industrial and Mining Enterprises		
Securities and Exchange	Industrial Development and Investment Center	Oct., 1971
Rules Governing Trust and Investment Companies	Industrial Development and Investment Center	Aug., 1971
Taxes in Taiwan, Republic of China	Industrial Development and Investment Center	Oct., 1972

APPENDIX E

MAJOR INDUSTRIAL ASSOCIATIONS

Major industrial associations which can be of assistance to investors in the manufacturing industries are noted below. A complete list of trade associations is available from IDIC.

Chinese National Federation of Industries
Address: 4th Floor, 13-4 Hsiangyang Road, Taipei
Tel: 785618

This Federation has 62 major industrial associations as members. Its principal functions are to encourage improved production techniques and stimulate cooperation among its members in many fields. It also serves as a communications link between government and industry.

Taiwan Provincial Industrial Association Address: 70 Huaing Street, Taipei Tel: 319041

This association has some 350 members, including manufacturers from various industries and several industrial associations. Its functions are quite similar to those of the Chinese National Federation of Industries, although it has more of a regional orientation.

Taiwan Association of Machinery Industry Address: 110 Hwai Ning Street, Taipei Tel: 315473, 316872

All the major manufacturers of the machinery and basic metals industries are members. Total membership is approximately 1,000. Its major function is to assist its members in the importation of raw materials.

Taiwan Association of Iron and Steel Industries
Address: 3rd Floor, 4 Sec. 1 Changan E. Road, Taipei
Tel: 572585, 572574, 572540

230 members related to the iron and steel industry are members of this association. One of its major functions is to improve the marketing capacities of its members.

APPENDIX E (Continued)

Taiwan Regional Association of Light Metal Product Manufacturers
Address: 77 Hankou Street, Sec. 1, Taipei
Tel: 315650

240 of the major manufacturers of light metal products are members. Its principal function is to help its members obtain lower cost financing.

Taiwan Electrical Appliances Manufacturers Association Address: 9 Chengan E. Road, Sec. 1, Taipei Tel: 546154, 551305

The association's membership includes 600 major manufacturers of electronic and electrical machinery products. It acts as a communication link and analyzes potential problems of interest to its members.

APPENDIX F

FOREIGN INVESTMENT IN TAIWAN, BY INDUSTRY 1

Industry/Enterprise	Nationality of Investor	Product Line
FOOD AND BEVERAGE PROCESSING		, f
China Dairy Co., Ltd:	N.A.	Milk powder, fresh milk, etc.
Foremost Dairies (Taiwan) Ltd.	U.S.A.	Milk and ice cream
Premier Frozen Foods, Inc	U.S.A.	Frozen vegetables, fruits and Chinese foods
Shiono Koryo Kaisha, (Taiwan) Ltd.	Japan	Flavoring essences, food colors and food additives
Taiwan Calpis Food Industry Co., Ltd.	Japan	Calpis
Taiwan Confectionery Co., Ltd.	Japan	Sweetmeat, fruit juice, jam, preserved fruits, canned fruit and vegetables
Taiwan Farm Industry Co., Ltd.	Japan	Frozen pork cut meat, ham, bacon, sausage
Taiwan Kagome Co., Ltd.	Japan	Canned pineapple, mush- room, asparagus, tomato paste, tomato ketchup, juice, bamboo shoots, straw mush- room, tomato sauce, etc.
United Meat Packing Co., Ltd.	U.S.A.	Meat packing and processing
Universal Industrial (Taiwan) Corporation	N.A.	Livestock and poultry feeds, cobb breeder and broiler chicks
Yakult Co., Ltd.	Japan	Fermented milk

Source: Industrial Development and Investment Center, Foreign Invested Enterprises in Taiwan, Republic of China, 1972.

	Nationality	**
Industry/Enterprise	of Investor	Product Line
Industry/Enterprise		
TEXTILE		
	U.S.A.	Texturized nylon and
Allied Industrial Corp., Ltd.	U.5.A.	polyester yarns;
		cigarette filters
		Cigatette titters
	*	
Allied Textile Corporation	U.S.A.	Knitwear: 14 gauge and
Ltd.	1 1	full fashioned; wool,
Ltu.	3	polyester, acrylic and
		other synthetic fibers;
- A		plus custom dyeing
	B.	
		Acetate cloth
Chung Ling Dyeing & Weaving	N.A.	Acctate var-
Co., Ltd.		
		ata the second rower
Eastern Synthetic Co., Ltd.	Japan	T/R polyester and rayon
		blended fabrics
Fwu Nan Textile Ltd.	Japan	Yarn dyed polyester
rwu Nan Textile Ltd.		65% combed cotton 35%
was a second of the second of	4	blended, plain gingham
	N. A	Cloth
Great Bell Printing &	N.A.	0200
Dyeing Co., Ltd.		**
		Worsted and woolen yarn,
Hung Lung Industrial Co.,	Japan	worsted and woolen fabrics
Ltd.	H4 125	worsted and woolen labiles
2.5	7	
Litong Spinning & Weaving	Japan	Cotton yarn/fabrics,
		T/C yarn/fabrics
Co., Ltd.		
	Japan	Machine knitting wool
Seaward Taichung Wool	Japan	yarn, hand knitted wool-
Textile Co., Ltd.		yarn, machine knitting
	4	woolen yarn; worsted fancy
		suiting cashmilon yarn;
4	7. "	tetoron/wool tropical
		tetoron/wood tropical
- ~		suiting polyester/wool
		weaving yarn; overcoating
₹ 10M.	· L	woolen fancy suiting
m t Bank New Co. Ital	N.A.	Sisal rope, sisal silver
Tai Fong Rope Mfg. Co., Ltd.		sisal yarn, sisal twine
	-	
	Taman	Acrylic fiber yarn, mixed
Tai Ling Textile Co., Ltd.	Japan	yarn, synthetic fiber yarn
	Y	January

	Nationality	
Industry/Enterprise	of Investor	Product Line
TEXTILE (continued)		*,
Tai Shih Textile Industry Corp.	Japan	Acrylic yarn
Taili Industries Inc.	Japan	Dyeing knitting synthetic yarn (cheese and hank)
Taiwan Ho Tai Embroideries	Japan	Embroideries lace, lace cloth, Spandex girdle, Spandex powernet
Tong-Hwa Synthetic Fiber Co., Ltd.	Japan	Acrylic fiber, top
Tri-Union Weaving Mill Co., Ltd.	N.A.	Worsted and woolen fabrics, terylene wool suiting
Union Spinning Co., Ltd.		Worsted acrylic yarn and other mixing yarn
GARMENT AND FOOTWEAR		
Feng Tar Wool Industry Co., Ltd.	Japan	Wool tops
Formostar Garment Co., Ltd.	U.S.A.	Specialized in rain- coat, jacket, bushcoat, pants, dress and stuffing toys in different fabrics and styles
Ho Fong Chemical Industry Co., Ltd.	Japan	Chemical shoes
Maruwa Clothing Mfg., Co., Ltd.	Japan	Sports and dress shirts (woven and knit)
National Garment Manu- facturing Co.	U.S.A.	Gloves and mittens
Orion Gloves Ltd., (Taiwan)	N.A.	Gloves
Ozeki Industrial Co., Ltd.	Japan	Chemical shoes, work shoes, stretch boots, snow boots, sport shoes

Industry/Enterprise	Nationality of Investor	Product Line
GARMENT AND FOOTWEAR (continued)	
Prince Garments Manu- facturing Co.	Japan	Men's (boys') shirts, ladies blouses
Reward Wool Industry Corporation	Japan	Wool tops, carbonized wool
Self Knitwear Corporation	N.A.	Babies' and children's knitwear
Taiwan Knitting Co., Ltd.	Japan	100% acrylic sweaters
The Shine Mills (Taiwan) Ltd.	Japan	Machine knit and hand made sweaters, pants set, mufflers, etc.
Three Bell Knitting Mfg. Co., Ltd.	Japan	100% acrylic (machine made) sweaters
Triumph International Ltd.	Bermuda	Brassieres, pantygirdles, corselets, girdles and other lady foundation garments and leisure wears
Union Garments Co., Ltd.	Japan	Shirt
Universal-Marusan Corporation	Japan	Acrylic fibre sweater
LUMBER AND BAMBOO PRODUCTS		
Hsin Hsin Wood Products Co., Ltd.	N.A.	Furniture
International Plywood & Lumber Co., Ltd.	U.S.A.	
PULP PAPER AND PRODUCTS		· · ·
International Enterprise Co., Ltd.	Japan	Carton boxes of single and double wall
Taiwan Felt Co., Ltd.	Japan	Paper making felt
Taiwan Kikusui Tape	Japan	Self-adhesive paper tape, Kikuraft tape, label tape

Industry/Enterprise	Nationality of Investor	Product Line
PULP PAPER AND PRODUCTS (conti	nued)	
Taiwan Office Supplies Co., Ltd.	Japan	Continuous forms for computer use
PLASTIC AND RUBBER PRODUCTS	1	
Cathay Plastic Industry Co., Ltd.	Japan	Sheet, film, leather, spong leather, PVC resin, caustic soda (45% liquid) 35% hydrochloric acid, bleaching solution (5%)
China Folex Corporation	U.S.A.	Polyethylene bag, cloth; polypropylene bag, cloth; jute bag, cloth, polysulfide base sealants
China Gulf Plastics Corporation	Panama	Polyvinyl chloride resin and fabricated products; caustic soda and chlorine
Chung Kwan Rubber Goods Mfg. Co., Ltd.	N.A.	Spring-helper, rubber
Eng Hwa Industrial Co., Ltd.	N.A.	Plastic and rubber shoes
Federal Plastic Manufacturing Co., (Taiwan) Ltd.	U.S.A.	Plastic artificial flowers, trees and foliages, etc.
Fu Hwa Rubber Industry Co., Ltd.	Japan	Rubber, boots, chemical shoes, canvas shoes
Goodyear Taiwan Limited	U.S.A.	Pneumatic tires and tubes
Hualon-Teijin Corporation	Japan	Polyester chips, poly- ester staple, polyester filament, blended yarn and Hualon fabric
Kodoma Taiwan Industrial Co., Ltd.	Japan	Plastic attache cases, travel cases, and beauty cases

Industry/Enterprise	Nationality of Investor	Product Line
PLASTIC AND RUBBER PRODUCTS (continued)	×
Poly Chemical Co., Ltd.	Japan	General purpose poly- styrene, high impact polystyrene, expandable polystyrene, high impact polystyrene sheet, and polydia sheet
Seda Chemical Products Co., Ltd.	Japan	Polyurethane moulded foam (flexible, rigid, semi-rigid)
Tah Kong Chemical Industrial Corp.	Japan	Pigment for PVC, rubber, paint, ink, PRC, etc., color
Taiwan Chao Yang Chemical Co., Ltd.	N.A.	Plastic frames for TV, radio, tape recorders, camera, etc.
Taiwan Zippers Co., Ltd.	Japan	Nylon zipper
Wonderful Industries, Ltd.	Japan	PVC toys
USI Far East Corporation	U.S.A.	Low and medium density polyethylene resins
CHEMICALS	-	3
Atlas Taiwan Corporation	U.S.A.	Commercial explosives
Bristol Industries Limited	Panama	Pharmaceutical products and other related items
Central Carbon Co., Ltd.	Japan	Carbon brushes, mechanical seal, graphite jig and boat, impervious carbon products
China Gulf Oil Company	U.S.A.	Lubricating oils and related products
China Man-Made Fiber Corporation	U.S.A.	Viscose rayon filament yarn, rayon staple fiber, chinaphane paper

Industry/Enterprise	Nationality of Investor	Product Line
CHEMICALS (continued)	*	
China Metal and Chemical Co., Lt	d. Japan	Titanium dioxide
Chung Jih Metal Treatment Chemicals, Inc.	Japan	Metal treatment materials, cleaning materials; design and sale of equipment and apparatus for using the chemical products noted above
Cosmos Chemical Company Limited	Japan	Pigment resin colors for textile printing, binders, textile auxiliaries, emul- sifiers, polyvinyl acetate and acrylic emulsions, and phthalocyanine blue pigments
Cyanamid Taiwan Corporation	U.S.A.	Medicals, feed supple- ments, veterinaries, and chemicals
Dai Nitto Nanpen Co., Ltd.	N.Á.	Suboid, pelican, auose uriamin, lacquer, vinylose
Eli Lilly and Company (Taiwan) Inc.	U.S.A.	Pharmaceuticals
Formosa Optical Industrial Co., Ltd.		Meniscus color coating lens
Fu Pao Chemical Company, Ltd.	N.A.	Basic, cationic dyes
German Remedies Taiwan, Ltd.	West Germany	Pharmaceutical specialty products of Farbwerke Hoechst AG and Schering AG
Hisamitsu Pharmaceutical Co., Ltd.	Japan	Salonpas, adhesive tape, salon band
Lissom Chemical Industries, Ltd	d.	Surface active agents
The Orchard Corporation of Taiwan, Ltd.	U.S.A.	Vinyl films
Parke Davis Corporation	U.S.A.	Pharmaceuticals

Industry/Enterprise	Nationality of Investor	Product Line
CHEMICALS (continued)		
Pfizer Limited	Panama	Pfizer labelled anti- biotics, pharmaceuticals, veterinary and animal health products
Pioneer Chemical Corporation	U.S.A.	Cokes, coal gas, pitch, creosote oil, benzene, naphthalene, toluene, ammonium, sulphate
Sino-Japan Chemical, Co., Ltd.	Japan	Emulsifier for agri- culture chemicals, nonionic, anionic, cationic surfac- tants
Taiwan Arakawa Chemical Industries, Ltd.	Japan	Fortified resin size for paper chemical
Taiwan Dainippon Pharma. Co., Ltd.	Japan	Pharmaceuticals
Taiwan Dyestaff and Chemical Corp.	Japan	Naphthol colors, direct dyes, acid dyes, disperse dyes, etc.
Taiwan Green Cross Co., Ltd.	Japan	Bromelain paste, urokinase, gamma globulin placenta origin
Taiwan Lion Chemistry Co., Ltd.	Japan	Dental cream, dental powder, tooth brush
Taiwan Shionogi & Co., Ltd.	Japan	Pharmaceuticals
Taiwan Soda Aromatic Co., Ltd.	Japan	Natural essential oils, synthetic aromas, compound perfumes
Taiwan Tanabe Seiyaku Co., Ltd	N.A.	Pharmaceuticals
Takeda Chemical Industries (Taiwan) Ltd.	Japan	Pharmaceuticals
		2

<u>Industry/Enterprise</u>	Nationality of Investor	Product Line
CHEMICALS (continued)		
Tang Eng Paint Co., Ltd.	Japan	Latex paint, ready mixed paint, varnish, marine paint, lacquer enamel, clear lacquer
Yueh Hsing Chemicals Co., Ltd.	Japan	Surface active agent
NON-METALLIC MINERALS		
Formosan Glass Corporation	Japan	Glass bottles
Young Brothers Enterprises, Inc.	Philippines	Glass bottles
BASIC METALS AND METAL PRODUCTS	. "	
China First Steel Ropes Mfg. Co., Ltd.	N.A.	Steel wire, steel rope
Fan Hou Metal Co., Ltd.	N.A.	Metal necklace
Tai Yang Alloy Industrial Co., Ltd.	Japan	Zinc alloy ingot
Taiwan Bear Corporation	Japan	Metallic watch bands and mesh materials
Taiwan Fuso Industrial Corp.	Japan	Die casting products of aluminum alloy and zinc
Taiwan Welds Co., Ltd.	Japan	Leading wire
Taiwan Yazaki Corporation	N.A.	Auto wire components
Toyo Vacuum Metallizing Co., Ltd	. N.A.	Metallic film, stamping and decoration foil
MACHINERY, EQUIPMENT AND INSTRUM	ENTS	*
China Agricultural Machinery	Japan	Agricultural machineries and implements
China Grinding Wheel Corporation	Japan	Grinding wheel, sharpening stone

Industry/Enterprise	Nationality of Investor	Product Line
MACHINERY, EQUIPMENT AND INSTRUM	ENTS (continued)	
China Ryoden Co., Ltd.	N.A.	Elevator, escalator
China Surveying Instruments Co., Ltd.	Japan	Surveying equipments and accessories
Du Pont Taiwan Limited	U.S.A.	"MYLAR" polyester film
Ho Hsing Steel Mold Co., Ltd.	N.A.	Steel molds
International Shoe Machine Corp. of Taiwan	U.S.A.	Various shoe machines
Jih Cheng Steel Mold and Machinery Co., Ltd.	Japan	Steel molds
Kuang Ming Industrial Co., Ltd.	Japan	Steel molds
Liang Sheng Industrial Co., Ltd	. Japan	Drilling and tapping machinery
Mattel Molds Ltd.	U.S.A.	Molds
San Kwang Gear Manufacturing Co., Ltd.	N.A.	Precision gears
Shin Taiwan Agricultural Machinery Co., Ltd.	N.A.	Agricultural machines
Summit Taiwan Corporation	U.S.A.	Rebuild and overhaul for diesel engines; rebuild and overhaul for construc- tion equipment, special trucks; generator set assembly
Taiho Industries Inc.	U.S.A.	Piston ring, cylinder sleeves and liners, other casting articles, engine bearings
Taiho Tool Mfg. Co.	Japan	Screw thread taps and dies
Taiwan Diamond Industrial Co., Ltd.	Japan	Diamond bits, saws, wheels, dies, dressers and bites

Nationality

Industry/Enterprise of Investor Product Line

MACHINERY, EQUIPMENT AND INSTRUMENTS (continued)

Taiwan General Tool & Die Japan Die castings dies and Corp. Die castings dies and plastic molds

Taiwan Hydraulics Manufacturing N.A. Hydraulic vane pumps, Co., Ltd. hydraulic vane motors.

hydraulic vane motors, pressure control valves, direct control valves, flow control valves, hydraulic cylinder, hydraulic power units

Taiwan Jin Gang Bearing Mfg. N.A. Bearings Co., Ltd.

Taiwan Nittan Industrial Co. Japan Engine valve for bus and

truck, motorcycle and agricultural machines

Taiwan Nitto-Seiko Co., Ltd. Japan Precise screws and tapping

screws for electronics and

optics

Taiwan Precision Tool Mfg. N.A. Drills and taps Co., Ltd.

Taiwan Richo Co., Ltd. Japan Cameras and copying

machines

Taiwan Riken Industrial Co., Ltd. Japan Piston ring, cylinder block, cylinder liner, special iron casting

Taiwan Sintong Machinery Japan Foundry equipment and

Co., Ltd. machinery

Taiwan Tsubakimoto Chain Co., Ltd. Japan Motorcycle chain, roller chain, conveyor chain, chain coupling, sprocket

Titan (Taiwan) Pty. Ltd. Australia Tungsten carbide products incl. tooling tips, wire

drawing dies, etc.

TTC Equipment & Service N.A.

Tung Cheng Machine Co., Ltd. Japan Plastic injection mold, aluminum die

Industry/Enterprise	Nationality of Investor	Product Line
MACHINERY, EQUIPMENT AND INSTRU	MENTS (continued	1)
Tung Yang Bearing Mfg.	N.A.	High carbon chrome steel ball bearings
Union & NHK Auto Parts Corp.	N.A.	Auto parts
Yokowo Mfg. Co., (Taiwan) Ltd.	Japan	Parts of rod antenna, spring bar
Yung Hwa Machinery Industries	N.A.	Front forks, front cushion and rear cushion assembly, jack, and door closer
Yung Tay Enginee ing Co.	Japan	Elevator, dumb waiter, escalator, air conditioning and refrigerating equipment
ELECTRONIC AND ELECTRICAL APPL	IANCE'S	*
Ampex Taiwan, Limited	N.A.	Array, stack, memory module, printed circuit board, PCBA, core, semiconductor, packaging and tape recorder sub-assemblies
Arvin Taiwan, Ltd.	U.S.A.	AM radio, AM/FM radio, speaker enclosure, etc.
Bendix Taiwan Limited	U.S.A.	Automobile radios, printed circuit board assemblies and home electronic equipment and accessories
Better Electronics Corp.	N.A.	Audio transformer, power transformer, choke, vertical output transformer, UL and CSA approved trans- former
Centralab Taiwan, Ltd.	U.S.A.	Ceramic capacitor
China Electric Mfg. Corp.	Japan	CE brand fluorescent lamp, electric lamp bulb, auto lamp, bulb, etc.

Industry/Enterprise	Nationality of Investor	Product Line
ELECTRONIC AND ELECTRICAL APPLIA	ANCES (continued)	. * *
Chunghwa Electronics Developmen Company, Limited (CEDC)	t Japan and U.S.A.	VHF and UHF TV tuners, Hsiang volume controls, variable resistors and other components
Clinton Taiwan Corporation	- U.S.A.	Cathode ray tube
Cornell-Dubilier Electronics (Taiwan), Inc.	U.S.A.	Dipped mica capacitors, sub-miniature aluminum electrolytic capacitors, wrapped polyester film capacitors, electro- mechanical devices
CTS Components Taiwan, Ltd.	U.S.A.	Variable resistor, selector switch, snap switch, dial tuning assembly, metal and plastic parts
Dah Hsing Electric Co., Ltd.	Japan	Carbon film resistors
Dahsen Electronic Ind., Ltd.	N.A.	Transistor radios, integrated circuits
Eastern Electronic Co., Ltd.	N.A.	VHF TV tuner, UHF TV tuner, FM tuner
Ebarson Electric Co., Ltd. Taiwan	Japan and U.S.A.	Electrolytic capacitor
Far Eastern Electric Utility Industry Co., Ltd.	Japan	Communication equipment
Forward Electronics, Co., Ltd.	Japan	VHF & UHF television tuners, FM radio tuner, potenlimeters, variable condensers, switches, tape recorder heads, etc.
. Funai Electric Company of Taiwan	Japan	Multi band transistor radio
General Instrument Micro- electronics, Taiwan	U.S.A.	Integrated circuits

Industry/Enterprise	Nationality of Investor	Product Line
ELECTRONIC AND ELECTRICAL APPLIA	ANCES (continue	ed)
General Instrument of Taiwan, Ltd.	U.S.A.	UHF tumer, VHF tumers, yokes, flybacks, delay lines, convergence coils electrolytic capacitors, mica capacitors, mylar capacitors, IFT coils, semiconductor diode, rectifiers
Hitach Maxwell (Taiwan), Ltd.	Japan	Dry battery
Hitachi Electron Tube (Taiwan) Ltd.	Japan	Vacuum tube, mount for vacuum tube, mount for numerical indicator tube
ITW Paktron Limited	U.S.A.	Polyester capacitor
Kaohsiung Hitachi Electronics Co., Ltd.	Japan	Memory plan, parts of indicator tube
Kenly Precision Industrial Co.,	, Japan	Metal parts for electronics
Littlefuse (Taiwan), Ltd.	U.S.A.	Electrolytic capacitors, television coils, fuses, convergence yokes
Mabuchi Taiwan Co., Ltd.	N.A.	Miniature motors (toy motor)
Matsushita Electric (Taiwan) Co., Ltd.	Japan	Consumer electronic products and electrical appliances
Motorola Taiwan Electronics Corporation	U.S.A.	TV, stereo, EVR and subassemblies
Pacific Sound Industrial Co.,	N.A.	Cassette tape recorder, clock radio
Philco-Ford Taiwan Corporation	U.S.A.	Radio, TV and TV chassis; Hi-Fi chassis, home entertainment system
Pioneer Electronic (Taiwan)	Japan	Loud speaker and speaker cone

Industry/Enterprise	of Investor	Product Line
FLECTRONIC AND ELECTRICAL APPL	IANCES (continued	d)
RCA Taiwan, Limited	U.S.A.	Solid state, TV component
Sanyo Electric (Taiwan) Co., Ltd.	Japan	Refrigerator, washer, TV set, air conditioner, radio, juicer, cooker, fan, battery, etc.
	80	
Shihlin Electric & Engineering Corp.	Japan	Power & distribution transformers, high voltage and low voltage
	*	power capacitors, electric fans, lightning arresters, fuse-cutout switches, non- fused breaker and auto- electric components
Shing-Yah Electric Co., Ltd.	, N.A.	Wire wound resistor, metal oxide film resistor, rheostat
Shinwa Industries, Ltd.	N.A.	Sewing machines
Singer Industries (Taiwan) Ltd.	U.S.A.	Singer sewing machines and related products
Sunetics Limited Taiwan	N.A.	Electro-mechanical devices
Taian Electric Mfg. Co., Ltd.	Japan	Magnetic switches and contactors
Taimatsu Industrial Co., Ltd.	Japan	Carbon rods for dry cells
Taiwan Capacitor, Ltd.	Japan	Electrolytic capacitors
Taiwan Hi-Sonic Co., Ltd.	Japan	Transistor radio, trans- ceiver, recorder
Taiwan Hitachi Co., Ltd.	Japan	Air conditioner, water cooling tower, motor pump
Taiwan Hosiden Co., Ltd.	Japan	Tuner parts, earphones, jack, switch, microphone, headphone and connector, etc.

Nationality

	Nationality of Investor	Product Line
ELECTRONIC AND ELECTRICAL APPLIA	NCES (continue	(bd)
Taiwan Janome Sewing Machine Co., Ltd.	Japan	Sewing machines
Taiwan Noble Electronic Co., Ltd	. N.A.	Variable resistor, rotary switches, carbon resistor
Taiwan Tai Yang Electronic Co., Ltd.	Japan	Plastic film capacitor
Taiwan Taiyo Yuden Co., Ltd.	Japan	Ceramic capacitor or condensers, ferrite core, ferri inductor
	r, it	- 1 1 tolophone
Taiwan Telecommunication	Japan	Telephone, telephone switchboard and equipment, spare parts
Taiwan Toko Electronics Co., Lt.	d. Japan	Coil plastic base, bar antenna, variable capacitor (AM/FM), trimmer
Taiwan Toyo Radio Co., Ltd.	Japan	Transistor radio
Taiwan Tracon Co., Ltd.	Japan	Electrolytic capacitor
Taiwan Yutaka Electronics Co., Ltd.	N.A.	TV and radio transformers: AOT VOT PT and HOT
TDK Electronics (Taiwan) Corp.	Japan	Ferrite magnet, ceramic capacitor, memory plane, memory stack, peaking coil, and balun transformer,
	3:	etc.
Texas Instruments Taiwan Limit	ed U.S.A.	Semiconductor components
Tongya Telecom. Industry Co., Ltd.	Japan	Public telephone, tele- phone message register, counter
TRW Electronic Components Co.	U.S.A.	Coils, transformers, capacitors and resistors
Union Electronics, Inc.	u.s.A.	Electronic receiving tubes, mounts, cage assembly

	ationality f Investor	Product Line
FLECTRONIC AND ELECTRICAL APPLIAN	CES (continued)	
Wang Laboratories, (Taiwan) Ltd.	U.S.A.	Calculators and computers
Yuasa Battery Taiwan Co., Ltd.	Japan	Battery plate and batteries for automobiles, motorcycles and industrial uses
Yung Tay Engineering Co., Ltd.	Japan	Elevator, dumb waiter, escalator, air conditioning and refrigerating equipment
CONSTRUCTION		
China Fluor Engineering & Construction Co., Ltd.	U.S.A.	Design engineering, con- struction, procurement, and related services
SERVICES		
Air Asia Company, Limited	U.S.A.	Aviation management, technical and administra- tive services
American Express International, Taiwan, Inc.	U.S.A.	Travel service
Bristol Research Institute of Taiwan, Ltd.	U.S.A.	Research and development of new drugs
Central Computer Center Corp.	Japan	Data processing
China Investment & Trust Co., Ltd	Japan	Trust fund, real estate trust, loans, guarantees, dealing and underwriting of securities, leasing,
*	4	transfer agency
Formosa Mercantile Co., Ltd.	U.S.A.	Storage of bulk fats and oils
Taiwan Auto Machinery Parts Reclaiming Industry Co., Ltd.	Japan	Reclaiming and repairing of auto parts and construction machinery
2		

Industry/Enterprise	Nationality of Investor	Product Line
SERVICES (continued)	14)	
Taiwan First Investment & Trust Co., Ltd.	N.A.	N.A.
Taiwan Fuji Xerox Corp.	Japan	Rental business of Xerox copiers
Tatung-Genesys Co., Ltd.	U.S.A.	Engineering and con- sulting services for design and installation of communication systems, industrial microwave systems and related equipment
OTHER INDUSTRIES		
Apollo Wig Co., Ltd.	Japan	Synthetic wigs
Bulova Toyo Corporation	Japan and U.S.A.	Wrist watch case for gentlemen and ladies
Enesco Taiwan, Ltd.	N.A.	Housewares, giftwares, novelties, kitchenware, toys, sporting goods, PVC products
Fu Chuan Steel Works, Ltd.	Japan	Hoops, strips and fluted ribs for umbrella frames
Maeda Printing Co., Ltd.	N.A.	Printing matters
Maruri Taiwan, Ltd.	N.A.	Novelties, chinaware, porcelain wares
Mattel, Ltd. (Taiwan)	U.S.A.	Toys and toy components
Mei Ya Publications, Inc.	U.S.A.	Books, magazines and printed matters
Mizuno Sporting Goods (Taiwan) Corp.	Japan	Baseball glove, ball, golf-bag, etc.
S. Mantsuna & Co., Ltd.	Japan	Toy fireworks
Sunward Corporation (Taiwan) Ltd.	Japan	Porcelain, papiermache, decoration novelty

Industry/Enterprise	Nationality of Investor	Product Line	
OTHER INDUSTRIES (continued)			
Tai Hwa Umbrella Industry Co., Ltd.	Japan :	Umbrella	
Taishin Printing Co., Ltd.	Japan 1	Printed matters for albums	
Taiwan Food & Kitchen Machine Manufacturing Co., Ltd.	Japan	Kitchen utensils and machines	
Taiwan Neiwai Steel Works, Ltd.	Japan	Umbrella ribs	
Taiwan Net & Twine Co., Ltd.	N.A.	Synthetis fishing net	
Taiwan Organ Needle Co.	Japan	Needles for sewing machines	
Taiwan Sakurai Mfg. Co., Ltd.	Japan	Baseball gloves, ice hockey gloves, baseball softball, American football, soccor ball, sporting shoes, golf head cover	
Taiwan Stanley Electric Co., Ltd.	Japan	Auto bulbs	
Taiwan Tachikawa Industrial Co., Ltd.	Japan	Packing staples, office staples	
Ting Chang Hardware Industries Co., Ltd.	N.A.	Stainless steel flatware	
Tong Fang Art China Co., Ltd.	N.A.	Porcelain ware and earth ware	
Union Fireworks Company	N.A.	Fireworks	

in in

II

APPENDIX G

LARGE AMERICAN INVESTMENTS ON TAIWAN, THROUGH JUNE, 1973

(US\$4,000,000 or more in approved amount)

Registry	American Investor/s	% of U.S. Ownership	Main Products	Approved Amount
Oct 63	Gulf Oil Corp.*	70	Lubricating oil and related products	8,132,000
Apr 64	Gulf Oil Corp. (Panama)*	60	PVC film, leather, and pipe	5,890,839
May 64	General Instrument Corp.	100	VHF tuners, yokes, flybacks, capacitors	22,842,125
Jun 64	World Homes Inc.	49	Public housing construction	7,322,500
May 65	National Distillers and Chemical Corp.*	100	Low and medium density polyethylene	8,711,500
Dec 65	Philco-Ford Corp.*	100	Radios, TVs, TV chassis	18,097,699
May 66	Bermuda RCA Int. Ltd. (Bermuda)*	100	TV's, solid state TV components	21,343,454
Sep 66	IBM Corp.*	100	Various core planes	9,407,271
Nov 66	Admiral Corp.* (Switzerland)	100	TVs, AM radios, stereo chassis	7,769,327
Dec 66	IBM World Trade Corp.*	100	IBM punch cards	4,748,326
Jul 67	World Tableware Corp.*	90	Tableware	4,637,528
	A DE LES STEENSTEIN, MILES			

^{*} One or more reinvestment/s by U.S. company.

Registry Date	American Investor/s	% of U.S. Ownership	Main Products	Approved Amount 4,891,733
Dec 67	Bermuda TMX Ltd. (Bermuda)*	100	Watches	15,273,522
Jun 68		100	Arrays, stacks, memory modules	
May 69	Texas Instruments Inc.*	100	Semiconductors	8,760,824
nay 07	(Holland)		Car radios, home electronic	5,100,000
May 69	Bendix International Finance Corp.*	99.9	equipment	
Jul 69	Motorola International	100	TVs, stereo equipment	10,000,000
	Development Corp. Zenith International Inc.*	100	TVs and subassemblies	8,253,400
Jun 70		90	TV bulbs	13,427,356
Jul 71	Corning Glass Works*	70	Automobiles and engines	46,300,000
Nov 72	Ford Motor Co. (Canada)	-	Shipyard, tanker construction	11,000,000
Apr 73	Gatx Oswego Corp. et. al.	40	PHOE (

^{*} One or more reinvestment/s by U.S. company.

APPENDIX H

STAFF ACKNOWLEDGMENTS ADL INVESTMENT OPPORTUNITIES STUDY

ARTHUR D. LITTLE INTERNATIONAL, INC.

William A. W. Krebs, Vice President, ADL, Project Director Wilford H. Welch, Deputy Project Director and Taiwan Resident Manager Bruce M. Bare Linsay R. Clark Joseph J. Harrington Deetta Hausman Daniel F. Hefler, Jr., Team Leader, Electronics Gregory C. Kekopoulos, Team Leader, Non-Electrical Machinery Frederic March Harry W. Mathews, Jr. Dana C. Pierce Susan K. Raskin William Reinfeld, Chief Economist Auguste E. Rimpel, Team Leader, Petrochemicals Edward G. Schwarm, Team Leader, Electrical Machinery Edward R. Squibb Richard A. Stephan, Coordinator, Industry Specialists Philip F. Valence Edward J. Wygard

MANAGEMENT CONSULTANTS CORPORATION

Gilbert Mar, Executive Partner, MCC Project Director Wan-Ling Kiang Danny Fong Joseph Chou

COUNTERPART PROFESSIONAL STAFF

- H. Y. Chen, Senior Mechanical Engineer, CIECD
- P. Chen, Chemical Engineer, CPC
- Y. C. Chen, Junior Engineer, IDB

Charles H. Chu, Senior Engineer, IDB

Walter Kung, CIECD

- C. H. Lin, Economic Analyst, IDB
- Y. F. Lin, Senior Engineer, CIECD
- W. H. Liu, Senior Specialist, CIECD
- J. C. Lu, Senior Specialist, CIECD
- S. F. Tan, Senior Specialist, CIECD
- H. C. Wang, CIECD
- C. H. Wei, Senior Specialist, IDB

Robert Yang, Senior Specialist, IDIC



中華民國

經濟部投資業務處

地址:台北市懷寧街53號懷寧大樓五樓

電話:319881,319454

電報:INVEST