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THE ECONOMIC AND INDUSTRIAL STRUCTURE OF VIET NAM

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## CHAPTER 1

### Introduction and objectives of paper

The government and people of Vietnam are currently reappraising their industrial development position and prospects. Factors which have prompted this re-examination are:

- \* the Law on Trade and Foreign Investment being promulgated in 1988, following the 1986 policy reforms.
- \* renewed private foreign investment inflows, chiefly, but not exclusively, involved in offshore oil.
- \* awareness of large amounts of industrial and processing capacity throughout the country lying idle.
- \* early experiences with private enterprise, there now being some 26 private businesses in operation.

Three sets of factors will shape the debate over Vietnam's industrial prospects. This Issue Paper is intended to provoke, clarify and inform that debate. The three factors that need to be kept in mind to ensure that the discussion, while lively, is above all fact-based, are:

- \* factor endowments and the current industrial situation ("where are we today?").
- \* plausible first moves, e.g. to develop the latent fishing resources ("where could we go next?").
- \* a reasonably widely shared statement of the framework for the economy's development - in other words, a vision ("where we would like to be?").

Each of these three needs to be documented clearly and concisely. While this can more readily be done for the first topic than the second, the second certainly needs to be informed by the first; moreover, the third needs to recognise the first two, just as the second will be dependent upon the third.

This statement of interdependencies might be seen as obvious, but this would not be entirely correct. For the central role of policy, in setting the right macroeconomic framework and letting the microeconomics - price signals in particular - work, is increasingly identified as a critical characteristic of many developing countries which have enjoyed high growth-rates. Interestingly, nowhere has this been more convincingly demonstrated than in Asia, where some countries near Vietnam have seen real incomes doubling each seven to fifteen years. Thus, throughout this document, the policy aspects of industrial change will be kept to the fore.

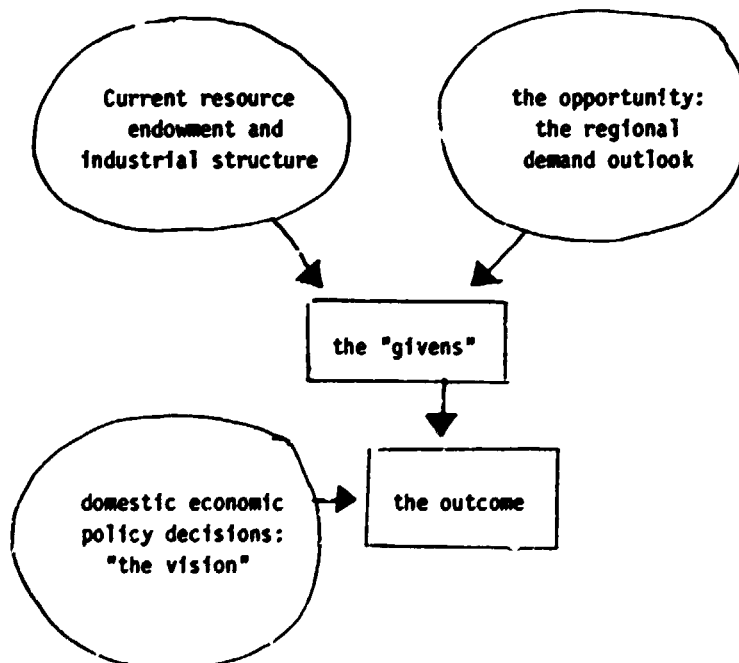
The objectives of this document are threefold:

- \* to present a concise statement of the current state of Vietnam's industry
- \* to document and interpret the industrial development patterns pursued in a number of other Asian countries, and to draw parallels and lessons for Vietnam where appropriate
- \* to raise issues regarding the future Vietnamese industrial structure: its main elements and the policy

environment within which it might flourish.

To achieve these objectives, the paper is organised as follows. In the rest of chapter 1 an overview of Vietnam's current resource endowment and industrial structure is presented. In chapter 2 the industrial growth evolution of a peer group of Asian countries - consisting of Malaysia, Thailand, Indonesia and Republic of Korea - is assessed, with the intention of developing some insights of use for officials in Vietnam. In chapter 3 some of the major themes from the peer group are highlighted. Chapter 4 pulls together the ideas developed in the preceding chapters with the intention of laying out a pointed and even controversial framework for policy discussion.

A simple diagram is shown below. It attempts to capture the paradigm used in this paper to provoke a lively debate on Vietnam's industrial prospects:



## Current structure of Vietnam's production and trade

Vietnam's economy is dominated by its agricultural sector, which accounted in 1986 for about 53% of national income. Some 73% of the labour force are involved in this work. Principally, agriculture means rice cultivation, since rice accounts for 85% or so of total foodgrain output, although, as will be seen, there is potential in moving away from this pattern of single crop dominance. Estimates of Vietnam's national income are presented in table 1.1; labour force statistics are presented in table 1.2. Industrial production structure is shown in table 1.3 and production estimates by product are shown in table 1.4.

Since 1982-83 the country has been practically self-sufficient in food, although there have been periodic shortages since then. Foodgrain production fell by 4.7% in 1987 after having increased at an annual average rate of 3% over the 1983-86 period. Investment in agriculture is estimated to have grown from 2,652 mm dong in 1976 to 4,050 mm dong in 1986 (at 1982 prices); this represents an increased share of total investment going to agriculture.

As shown in table 1.1, MVA grew steadily over the 1982-86 period and in 1987 grew by a further 9.7%. During the early period 1982-85 annual increases of output of 12 to 13% were attained.

There are several aspects of the country's industrial growth which are worthy of note:

- \* light industry has tended to grow faster than heavy industry. In 1980 light industry accounted for 62% of industrial production, while by 1987 it accounted for around 70% of the total.
- \* more and more industries are coming under the control of local, rather than central, management. In 1976 locally-managed company output was 56%, whereas by 1987 it had reached 67%.
- \* total industrial employment has risen markedly, from 520,000 in 1976 to about 840,000 in 1988. The main growth of employment has been in the food industry, where employment by 1988 reached 131,000 (or 16% of the total in industry) and construction materials (109,000; 13%).

Before going on to discuss the current state of selected industrial sectors, some of the main problems facing industry in general are described. Among the central difficulties are:

- \* persistent energy shortages and 'brown outs'
- \* transport bottlenecks, making it difficult for companies to receive supplies of inputs then making distribution of finished goods uncertain
- \* lack of spare parts and maintenance materials - most critically, imported ones
- \* a policy environment characterised by uncertainty, as centrally-determined prices and supplies came to be questioned then revised



- \* investment which was at best flat during the early 1980s. In 1986 total industrial investment was 7,400 mn dong (1982 prices) equivalent to some 5% of GNP in that year
- \* machine tools, numbering some 40,000, which are typically of 1960s vintage, best-suited to short runs of low precision products
- \* few managers with experience in competing internationally and with experience in taking full responsibility for all aspects of the enterprise under their control.

There is now a brief discussion of each of the key industrial sub-sectors of the economy.

#### 1. Metallurgical industries

At present Vietnam's two iron and steel complexes, one on the North (Thai Nguyen) and one in the South (Bien Hoa), produce only between 60,000 - 70,000 tons of steel per year. The Thai Nguyen mill has capacity of 130,000 tons a year of rolled steel but currently produces only 35,000 tons. Both plants use conventional blast furnace technology which requires imported coking coal, but Vietnam's reserves of coking coal are limited. It is hoped that abundant electricity from the big power projects in the north will underwrite planned growth of output to 150,000 tons of steel per year.

The most important secondary metallurgical industry is the foundry industry which provides basic products for the entire engineering sector (e.g. engine blocks, new and replacement brake drums, frames for machine tools, sugar mills and other industrial equipment, construction items, such as pipe couplings, and castings for all operating industries).

Tin processing. Vietnam is in the tin belt of South East Asia and possesses large reserves of tin ore comparable to those of other major tin-producing countries. The tin ores in Vietnam are spread over large areas with poor beneficiation characteristics. Tin output in 1985 was 500 tons. It is expected to reach 700 tons in 1990.

Chromite - The Co Dinh mine has an annual production capacity of 20,000 tons, but produced only 3,300 tons in 1986.

Bauxite processing. The Government is considering ways to establish industrial scale mining and processing of bauxite, from the country's extensive and rich deposits. The exploitation of the (recently discovered) deposits could, together with hydro-electric power form the basis for establishing an alumina/aluminium industry. UNDP/UNIDO technical assistance is being provided to assist the State Copper and Aluminium Corporation in establishing a testing laboratory for geological exploration and ore evaluations.

## 2. Building materials industries

Cement production has increased threefold during the 1980s from around 538,000 tons in 1981 to 1,635,000 in 1987 as the result of new production facilities having come into operation. The cement programme includes three plants with an annual production each of about 1 million tons. Total output is expected to reach 2.6 million tons in 1990.

Brick production capacity is about 4,000 million pieces/year. However, due to shortage of coal only about 3,000 million pieces can presently be produced. Tile production is 600 million pieces per year. Stone extraction is 13 million cubic metres.

Glass production has varied between 40,000 and 60,000 tons. However, a new sheet glass factory is under construction in the North using floating technology. Its capacity is to be 2.4 million square metres/year.

## 3. Engineering industries

The engineering/metalworking industry sector consists mostly of small and medium sized enterprises. Out of 600 enterprises in the sector only 180 have fixed assets of over 200,000 roubles/dollars. Of these 20 enterprises are of medium-to-large size with fixed assets between 4 and 60 million roubles/dollars. In addition there are about 750 co-operatives, 3,800 other collective groupings and a number of individual families engaged in engineering work all over the country.

One of the most important consumer items in the country is the bicycle. It is produced in large numbers, about 0.3 million per year. While the overall design and manufacturing of bicycles is adequate, problems exist in areas related to material sciences, e.g. electro-plating and heat treatment.

Tin canning. At present time there are 13 factories which process canned fruit and vegetables, 10 belonging to the state corporation Vegetable and Fruit Export Import Corporation and 3 belonging to local municipal committees. Each of the factories has its own can-making workshop equipped with simple machineries. The use of uncoated tin materials, the hand-spraying of coatings and the use of improper varnish solutions for packaging of acidic foods result in substandard and non-exportable products.

#### 4. Electronics industry

The electronics industry sector is embryonic in Vietnam. there are about 20 establishments in the country. Capacity utilization is low, sometimes only around 20 per cent of the designed capacity. The production is typically of assembly work using imported parts. Some products are for export, e.g. transistors and resistance condensers, with a total yearly export value of 10 million roubles/dollars. (Total yearly imports of parts and components for the domestic as well as export production is also about 10 million roubles/dollars.) A number of electronic products produced internally, such as loud speakers, amplifiers are

made on an experimental basis only.

#### 5. Chemical industries

Vietnam has a small domestic fertilizer industry (producing phosphate and nitrogenous fertilizers) although most of the required fertilizers, in particular nitrogen and potash, have to be imported. It is anticipated that significant fertilizer imports will continue at least until the year 2000.

An urea fertilizer pilot plant based on antracite, established through co-operation with China, has a production target for 1988 of 30,000 tons. A phosphate fertilizer plant based on apatite now produces about 300,000 tons/year and is planned to be expanded to 500,000 tons/year under a co-operation agreement with the USSR.

Caustic soda domestic production capacity is 25,000 tons/year, including 10,000 tons related to various factories like Bai Bang paper mill. The country has to import 15,000 tons/year of soda ash.

Rubber products. Some 9 million bicycle tyres are planned to be produced in 1989, down from the peak of 15 million in 1984. Some 7 million tubes were planned for 1988. Three local car tyre producers make some 20,000 tons/year of car tyres (in different sizes). Natural rubber is exported to Hungary and Czechoslovakia (in buy-back agreements, relating to the development of the plantations).

## 6. Agro- and forest-based industries

The average land area per head of population is low: 1 hectare/10 persons. The cultivated areas have increased from 8.25 million hectares in 1980 to 8.56 million hectares in 1985. According to the plan targets there will be a further increase in the future to 9.75 million hectares in 1990, 10.8 million in 1995 and 12.6 million in 2005. The agricultural land area for food crops is only 5 million hectares, of which 4.7 million hectares have been cultivated.

Food grains. The Ministry of Agriculture is responsible for monitoring the production of paddy and for the operation of 963 rice mills. The country in 1983-87 produced between 15 and 16 million tons of paddy and around 2.3 million tons paddy equivalent of other subsidiary crops (such as Cassava, corn and millet) (see Table 3).

Present rice milling requirements are about 16 million tons of paddy. This is expected to increase by 1995 to more than 20 million tons. There are some 10,000 rice mills in the country, of which about 963 of these are government-operated. There is one large mill with a milling capacity of 170 tons per day. Between 70 and 80 per cent of all paddy is processed in small mills. The existing mill capacity is, however, insufficient to meet the requirements of urban areas. The main problems are poor quality of rice milling equipment, shortages of spare parts and as a result, high losses and a high percentage of broken rice.

Food processing and canning industry. There are 13 canneries with an annual production of more than 30,000 tons of pineapple juice, slices and chunks, orange juice, lychees, banana nectar, lemon juice, etc.

Sea food is a major item processed for export (as well as local consumption). There could be up to 1.3 million tonnes of fish and 50-60,000 tons shrimp/year landed, but in recent years catches have been 800-900 tons.

Other exported processed food products include rice noodles, jams, lotus seeds and canned mushrooms. The main exporters make their own packaging - wood pallets, corrugated cartons, duplex printed cartons, plastic laminates, etc. Packaging problems cause as much as 10-30 per cent of finished product losses, depending on the product.

Large quantities of seaweed, agar-agar, are available in the Binh Tri province. some 300 hectares were in experimental production in 1986. The intention is to increase this to 3,000 hectares with possible annual production of 3,000 tons of agar-agar and 500 kg of alginate. In total 300,000 hectares of salty and/or brakish waters are used for cultivating sea food at present.

Industrial crops include annual crops such as sugar cane, peanuts, soybeans, rush and jute, and tree crops, such as tea, coffee, rubber and coconut. The production of

annual crops is at individuals' and localities' initiative, while production of tree crops is under state management. The coffee plantations are relatively well-developed, while the new rubber plantations are not yet fully productive (and productivity is low in the older areas).

There are six major central state sugar mills in the country and four on a provincial level which process some 5,000-6,000 tons of sugar cane. Total sugar production is about 300,000 tons, of which one-third is white sugar.

#### 7. Textile industry

The textile industry in Vietnam, comprising some 20 large mills and some 90 smaller mills with a total of 860,000 spindles and 10,900 looms, is evenly divided between the North and the South. Its rated installed capacity is approximately 87,000 tons of yarn and 320 million square metres of cloth per annum. However, only about half of the installed equipment is in operational condition. Two large spinning factories with 100,000 spindles each were being constructed in 1985/86. Apart from the recently set up spinning plants almost all machinery and equipment is of 1950s and 1960s vintage. Part of the yarn production is being exported in exchange for raw cotton and other fibre materials, which have to be imported. Efforts are being made, under UNIDO assistance, to locally produce some essential spare parts such as shuttles, spindles and pickers.



Garments sector. There are 13 central management and 14 provincial management enterprises in garment production. In addition there are some 400 co-operatives. The total capacity of the sewing machines in enterprises under central or local management is 70 million pieces/year. They are mainly used for the production of subcontracted goods for export. The Vietnamese garments industry is very labour-intensive using semi-automated knitting and sewing. Most of the machines are very old and repair and maintenance is a problem.

Jute carpet and handicraft co-operatives. A significant number of people are employed in co-operatives producing jute goods, especially in the Thanh Hoa Province. The products range from jute bags and jute carpets to seed mats and other products such as rags, carrying bags, straps, etc.). Most of the work is done manually. A limiting factor is availability of jute yarn.

#### 8. Leather industry

The tanning and leather products industry is based primarily on cattle and buffalo hides. Pig skin is mainly used for food. There are nearly 6 million bovine animals (3.1 million cattle and 2.8 million buffalo) and with a slaughtering rate of 10 per cent some 600,000 hides should be available to the leather industry annually. In general, the quality of hides as well as of tanned leather is not up to desirable levels.

## 9 Wood processing and paper industries

There are 15-16 million hectares of forest of which 8 million hectares are under forestry. The forest resource is poor; average timber per head is 9.4 m<sup>3</sup>. Sawn-wood production amounts to 1.0 million m<sup>3</sup>/year.

Wood processing industries. Some 1.5 million cubic metres of wood is exploited annually, mainly in large logs, while 250,000 cubic metres of smaller logs, branches and partly rotten wood is left unutilized. At the same time, the furniture industry is underdeveloped and short of raw material.

Further insight into the nature of Vietnam's industrial position comes from export data. Total exports to convertible currency trade partners grew from \$224 mm in 1983 to \$430 mm in 1987. Of this total, the following were, in 1987, the significant processed elements: marine products (\$73 mm); handicrafts and light industrial goods (\$10 mm); and agricultural and forestry products (\$38 mm).

The following could serve as a summary of the present position:

- \* abundance of certain natural resources
- \* in practice, extreme difficulty in trying to exploit these resources because of the severe infrastructural problems
- \* agro-based processing capacity which could serve as the basis for further rural, labour-intensive developments,

but which again is in disrepair

- \* industrial capacity which suffers from spares shortages, and the ubiquitous infrastructural deficiencies
- \* a willing labour force
- \* a policy environment which has only recently encouraged individuals on farms and in plants to take risks and think explicitly of anticipating their customers' needs.

Table 1.1

## Viet Nam - National income and GDP, 1982-1986

	1982	1983	1984	1985	1986
	(in millions of dong at 1982 prices)				
Agriculture	71,000	76,760	80,020	80,600	81,750
Industry (MVA)	32,710	34,880	38,400	41,150	43,010
Commerce, transportation and communications	2,510	2,680	2,610	2,790	n.a.
Construction	3,580	4,080	4,610	4,770	4,760
Commerce	14,010	14,610	17,660	19,110	n.a.
Gross national income	123,800	133,010	143,300	148,420	153,340
Non-material services	16,090	17,290	18,630	19,290	n.a.
Depreciation	6,190	6,050	7,170	7,420	n.a.
GDP (at 1982 prices)	146,080	155,950	169,100	175,130	n.a.
GDP deflator (1982=100)	1,000	1,520	2,020	4,510	n.a.
GDP at current prices	146,080	238,720	341,580	790,000	n.a.

Source: Data provided by the Vietnamese authorities.

**Vietnam employment in industry**

Table 1.2

(1000 employed)

	! 1987	! 1988
<b>Heavy industry (group A)</b>	! 458.9	! 410.1
<b>Light industry (group B)</b>	! 401.3	! 433.8
<b>Total</b>	! 860.2	! 843.9
<b>Under central management</b>	! 434.8	! 432.5
<b>Under local management</b>	! 425.4	! 411.4
<b>Total</b>	! 860.2	! 843.9
<b>Food industry</b>	! 122.5	! 131.4
<b>Textile, leather</b>	! 155.4	! 170.9
<b>Wood processing</b>	! 84.0	! 51.1
<b>Construction materials</b>	! 108.7	! 108.8
<b>Ceramics, glass</b>	! 21.8	! 22.1
<b>Chemical industry</b>	! 70.0	! 70.7
<b>Metallurgy</b>	! 26.7	! 27.6
<b>Engineering</b>	! 157.5	! 150.7
<b>Coal</b>	! 53.3	! 49.1
<b>Energy</b>	! 26.8	! 28.4
	!	!
	!	!

Table 1.3 Vietnam Structure of industrial production  
(in millions of dong at 1982 prices)

	1977	1988	1989 (est)
Gross industrial production	122,379	137,828	139,700
heavy industry (group A)	39,303	40,882	...
light industry (group B)	82,591	96,946	...
By industrial branches			
Energy, Combustibles	7,393	7,395	
Metallurgy	1,659	2,057	
Machinery	18,600	20,653	
Chemical industry	12,073	12,979	
Construction materials, earthenware, porcelain, glassware, wood, forest, products, cellulose, paste, and paper industries	24,439	24,431	
Food and foodstuffs	32,455	36,957	
Wearing, leather, sewing, dyeing, printing and cultural products	20,390	27,221	
Other industries	4,839	5,327	
(Percentage share)			
Heavy industry	32.2	29.7	
Light industry	67.8	70.3	
(Annual growth percentage)			
Gross industrial production	8.0	12.6	- 5.2
Heavy industry	9.8	3.8	
Light industry	3.4	16.8	

Vietnam Major industrial products

Table 1.4

	! 1987	! 1988	! 1989 (est)
<u>Production goods</u>	!	!	!
Steel ('000 tons)	! 69.5	! 74.1	! 60.0
Chromium ('000 tons)	! 4.0	! 2.6	!
Coal (mn tons)	! 6.8	! 6.9	! 4.5
Cement ('000 tons)	! 1,663	! 1,954	! 1,928
Bricks (mn pieces)	! 3,691	! 3,807	! ...
Glass and glass products ('000 tons)	! 47.4	! 53.0	! ...
Porcelain (m.n pieces)	! 215.1	! 207.7	! ...
Chemical fertilizer ('000 tons)	! 485	! 502.8	! ...
Insecticides ('000 tons)	! 10.8	! 13.0	! ...
Bicycle tires ('000 pieces)	! 12,672	! 11,265	! 13,800
Bicycle tubes ('000 pieces)	! 5,676	! 6,431	!
Timber, sawn wood ('000 s u.m)	! 1,483	! 1,390	! 1,000
Paper ('000 tons)	! 88.0	! 88.0	! 80.0
Matches (m.n packets)	! 139.2	! 117.1	!
Metalworking machine tools (piece)	! 1,191	! 1,115	!
Diesel motors (pieces)	! 6,656	! 7,158	!
Electric rotating engines (piece)	! 13,146	! 19,833	!
Transformers (piece)	! 690	! 860	!
Water pumps (piece)	! 690	! 1,227	!
Rice mill equipment (piece)	! 1,176	! 1,209	!
Ploughs and harrows ('000 pieces)	! 336	! 316	!
Bicycles ('000 pieces)	! 299,5	! 286,1	!
Tractors (12 HP) (pieces)	! 2,006	! 2,203	!
Textile fibres ('000 tons)	! 58.7	! 62.6	!
Cotton fabrics (m.n metres)	! 361.4	! 383.5	!
Cotton fabrics for mosquito net (m,n metres)	! 112.9	! 105.6	!
Soap for Washing ('000 tons)	! 46.8	! 52.4	!
Salt ('000 tons)	! 847.3	! 850.5	!
Sugar ('000 tons)	! 323	! 366	!
Fish sauce (m.n liters)	! 155	! 176	!
Beer (m.n liters)	! 84.0	! 97.6	! 90.0
Cigarettes (m.n packets)	! 981,5	! 887.7	! 750
	!	!	!

## CHAPTER 2

### Industrial experience in the peer group

This brief chapter presents an overview of the group of Asian countries whose industrial development experience will serve as a source of issues for discussion. While on first glance these countries might seem like an implausible source for analogies for Vietnam, in fact all of them, two or three decades ago, were in some important respects comparable to Vietnam. Through a combination of natural resource endowment, policy measures, and the initiative of their citizens, each has been able to offer rapidly rising real incomes with little discernable deterioration in income equality.

The salient points about the peer group can be summarized as follows:

- \* growth of industrial production: in all except Thailand, industrial output more than doubled between 1975 and 1986; in one case, Republic of Korea, output rose nearly six-fold
- \* GDP/capita: over the period 1975-86 this grew around 80% or so
- \* value added per worker: this more than doubled everywhere over the period 1975-86
- \* share of manufacturing in GDP: rising to a worldwide high of 36% in the case of Republic of Korea; rising to lower levels (16% in Indonesia; 20% in Malaysia) elsewhere



- \* structural change within industry: each country has exhibited a fairly consistent pattern of raw materials-based processing evolving - although to different degrees, and at different rates - to labour-intensive manufactures production, followed by more sophisticated high value-added forms of manufacturing
- \* policy framework: as will be discussed later, while each country has a unique policy environment, the drift in all the countries was toward liberalization of markets for both inputs and for finished goods
- \* consumer goods as a percent of manufacturing value added fell in all the countries. As table 2.1 shows, the decline was different in degree, and in starting point, for each.

The table of basic indicators for the peer group (table 2.2) shows fairly rapid growth of income, and moderate inflation; agricultural output growing about twice as fast as population, on average; and manufacturing output growing considerably faster than that. Further indicators are provided in table 2.3.

Tables 2.4 to 2.7 indicate the way the industrial structure of each country evolved. The diagrams show annual average growth-rate over the period 1975-85 (1970-85 for the Philippines) on the vertical axis, absolute share of production of the branch within total production on the bottom axis; and the circle indicating both coordinates as well as dollar value of value added in 1985. A number of

interesting observations can be made about the countries from these diagrams.

- \* Food, beverages and tobacco (shown as 'food') is the biggest or second-biggest branch in all the countries in 1985 except Republic of Korea. This shows the enduring importance of food related production even after a decade or more of rapid growth, and confirms that for Vietnam a imperative policy is getting the agrarian economy back on its feet.
- \* Apart from food being fairly dominant within manufacturing, there was considerable heterogeneity across the countries regarding their branch structure. For instance, iron and steel lies above the average growth of MVA in two countries and below it in two; wood is above the average in two countries and below it in two.
- \* Large branches (shown by the size of the circle) tend not to have begun to grow slowly - in fact, the big branches are among the fastest-growing. For instance, metal products ('metal') in Republic of Korea and Thailand, petroleum in Indonesia, and food, beverages and tobacco in the Philippines are all large and fast-growing.
- \* In all four countries the biggest three branches account for between 55% and 70% of total MVA. The three dominant branches always include food, and, as noted already, in the Philippines and Thailand food is the largest single branch. The other dominant branches in 1985 are metal products (in three countries),

textiles (in three countries), petroleum (in one country) and chemicals (in one country).

Having found quite a number of common patterns across the peer group of countries, the discussion now turns to review the policy environment within which industrialization has taken place in the peer group.

Table 2.1

Change in importance of consumer goods  
in Manufacturing Value Added (%)

	1975	1984
Indonesia	59.2	44.2
Republic of Korea	41.5	32.7
Malaysia	N/A	N/A
Thailand	N/A	N/A

Table 2.2

Basic indicators

	Population, mid.1987, millions	GNP/ capita 1987 \$	Annual average growth of GNP/ capita, 1965-87	Annual average rate of inflation 1980-87	Annual average growth rates	
					agriculture 1980-87	manufacturing 1980-87
Indonesia	171.4	450	4.5%	8.5%	3.0%	7.8%
Republic of Korea	42.1	2,690	6.4%	5.0%	4.4%	10.6%
Malaysia	16.5	1,810	4.1%	1.1%	3.4%	6.3%
Thailand	53.6	850	3.9%	2.8%	3.7%	6.0%
Vietnam	65.0	N/A	N/A	N/A	N/A	N/A

Source: IBRD (1989), Statistical Appendix

Table 2.3  
BASIC INDICATORS  
Inter-country comparison of selected indicators

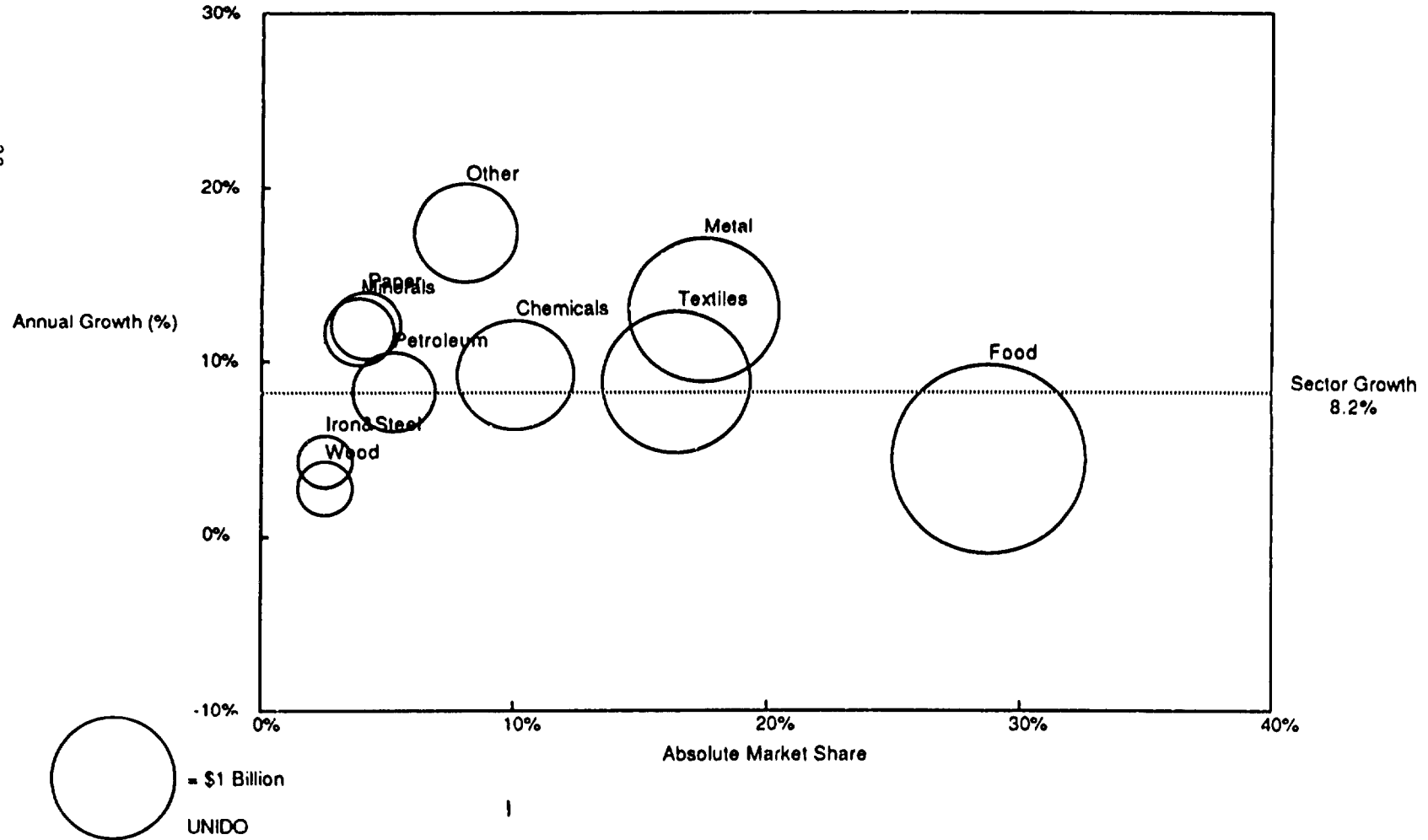
	Unit	<u>Indonesia</u>	Malaysia	Philippines	Republic of Korea	Taiwan Province of China <sup>a/</sup>	Thailand
<b>I. Demographic indicators</b>							
Population (mid-1985)	millions	<u>162.2</u>	15.6	54.7	41.1	18.9	51.7
Population growth (1980-85)	per cent per annum	<u>2.1</u>	2.5	9.5	1.5	1.8 <sup>b/</sup>	2.1
Infant mortality <sup>c/</sup>	per thousand	<u>96</u>	98	48	27	11 <sup>d/</sup>	43
Area	'000 sq. km.	<u>1,919</u>	330	300	98	36	514
Density (1985)	persons/km <sup>2</sup>	<u>84.5</u>	47.3	182.3	419.4	525.0	100.6
<b>II. Economic indicators</b>							
GDP (1985)	US\$ million	<u>86.5</u>	31.3	32.6	86.2	57.3	38.2
GMP per capita (1985)	US\$	<u>530</u>	2,000	580	2,150	3,060	800
GDP growth (1980-85)	per cent/annum	<u>3.5</u>	5.5	-0.5	7.9	7.6 <sup>b/</sup>	5.1
Agriculture (1985)	per cent of GDP	<u>24</u>	21 <sup>e/</sup>	27	14	6.5	17
Industry (1985)	per cent of GDP	<u>36</u>	35 <sup>e/</sup>	32	41	52	30
Manufacturing (1985)	per cent of GDP	<u>14</u>	19 <sup>e/</sup>	25	28	42	20
Services (1985)	per cent of GDP	<u>41</u>	44 <sup>e/</sup>	41	45	41	53
Exports of goods and non-factor services (1985)	per cent of GDP	<u>23</u>	55	22	36	58	27
Gross domestic investment (1985)	per cent of GDP	<u>30</u>	28	16	30	92	93
External public debt (1985)	per cent of GDP	<u>32</u>	47.8	42.7	35	11.4	26.8
<b>III. Industrial indicators</b>							
MVA (1984)	million \$ at constant 1980 prices	<u>13,165</u>	6,770	8,544	96,650	11,875	8,325
Share of MVA in GDP (1985)	per cent	<u>13.5</u>	21.7	26.5	30.9	42	21.8
Growth of MVA (1980-85)	average annual per cent	<u>6.4</u>	6.1	-1.2	9.0	8.9 <sup>b/</sup>	5.3
MVA share in world manufacturing value added (1981)	per cent	<u>0.22</u>	0.13	0.28	0.52	0.5	0.13
Share of manufactured <sup>f/</sup> exports in total exports	per cent (1984)	<u>10.01</u>	24.62 <sup>g/</sup>	94.27 <sup>g/</sup>	85.28 <sup>g/</sup>	91.0	39.78

<sup>a/</sup> 1984. <sup>b/</sup> 1973-84. <sup>c/</sup> Aged under 1 year. <sup>d/</sup> 1980. <sup>e/</sup> 1983. <sup>f/</sup> SITC 5-8 less (67 + 68). <sup>g/</sup> 1985.

**SHARE OF MANUFACTURING BRANCHES IN MVA  
Thailand  
Absolute Sector Graph**

*Table 2.4*

28

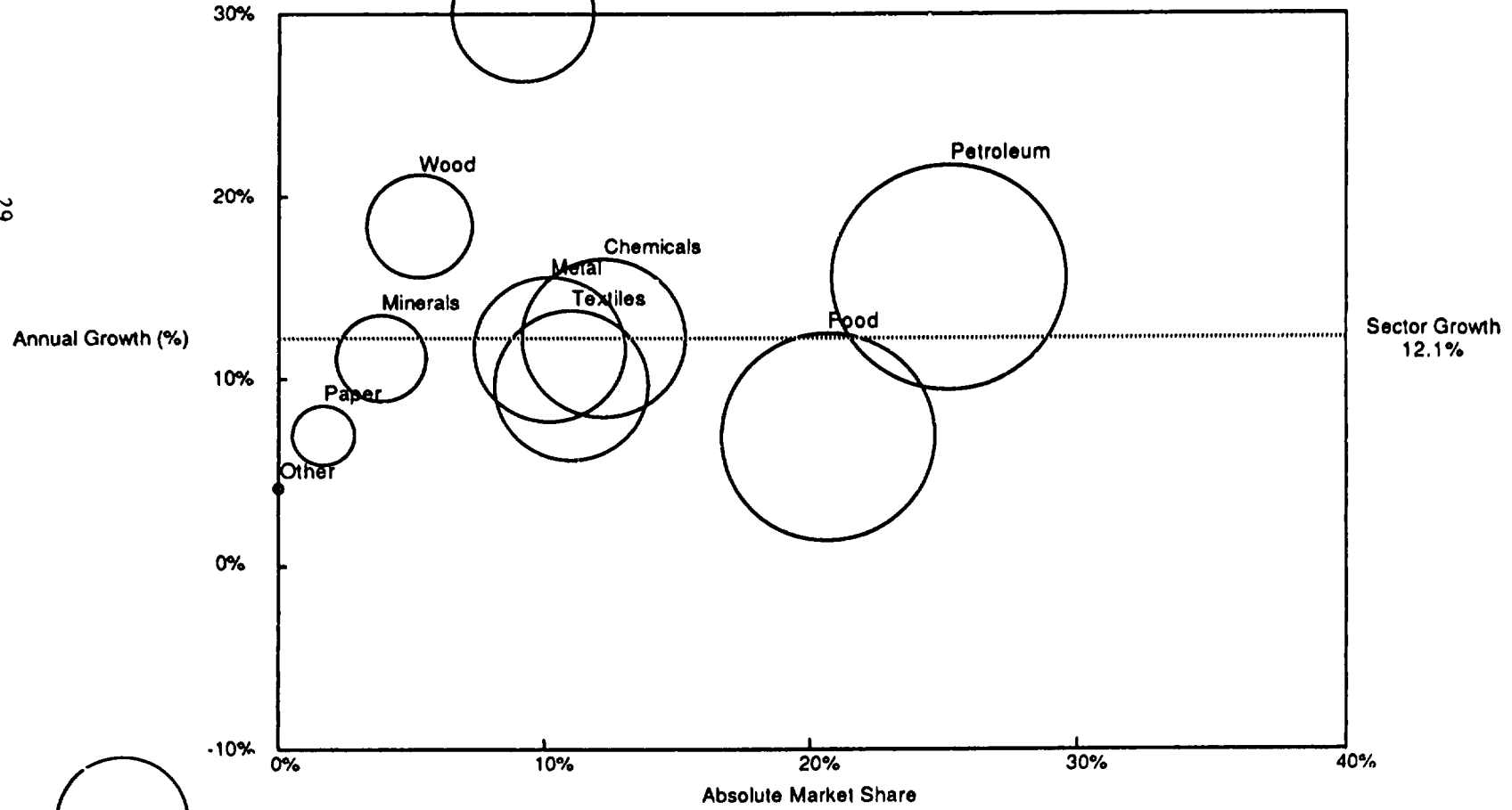


**SHARE OF MANUFACTURING BRANCHES IN MVA  
Indonesia**

**Absolute Sector Graph**

*Table 2.5*

29

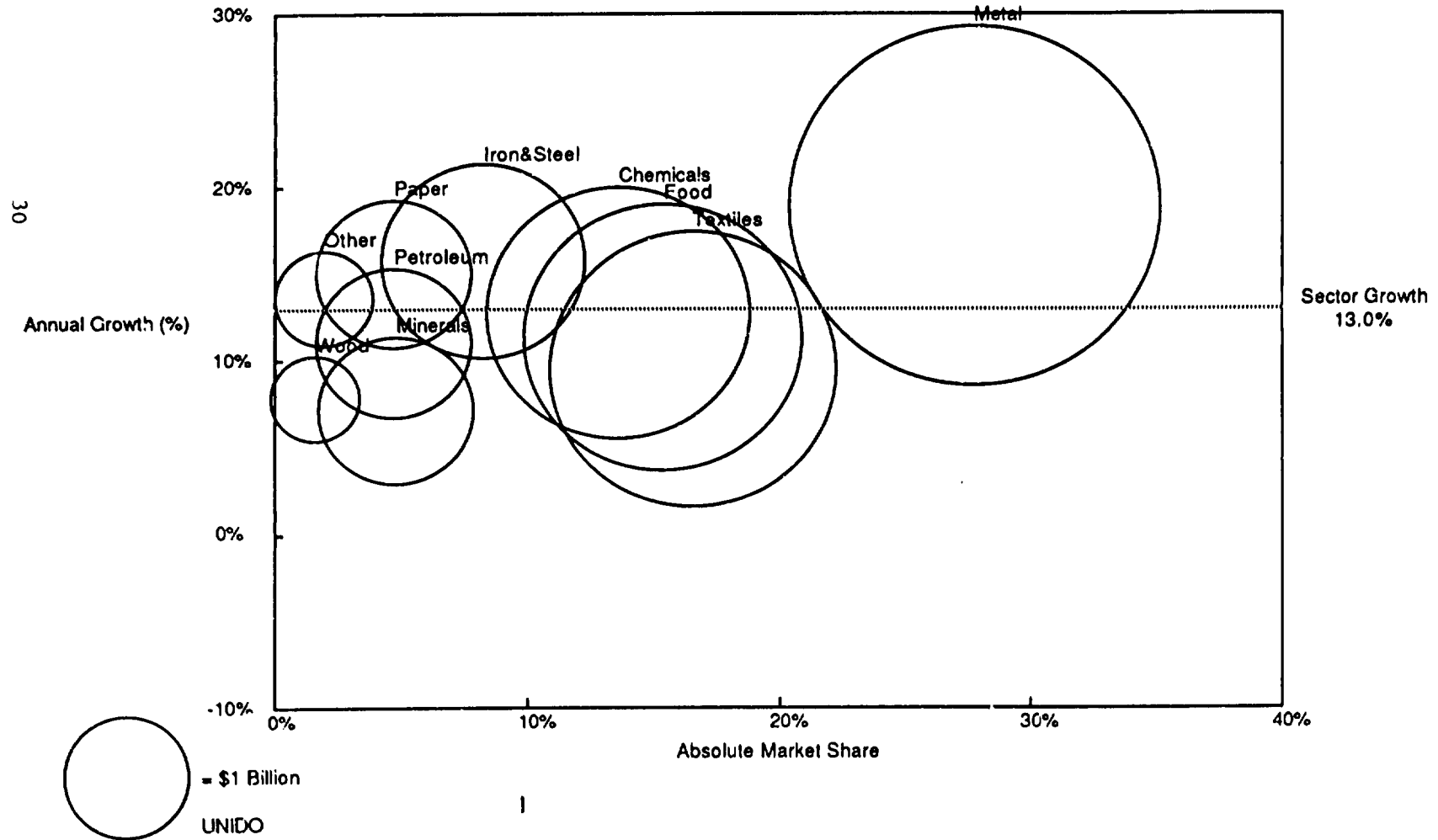


○ = \$1 Billion  
UNIDO



**SHARE OF MANUFACTURING BRANCHES IN MVA**  
**Republic of Korea**  
**Absolute Sector Graph**

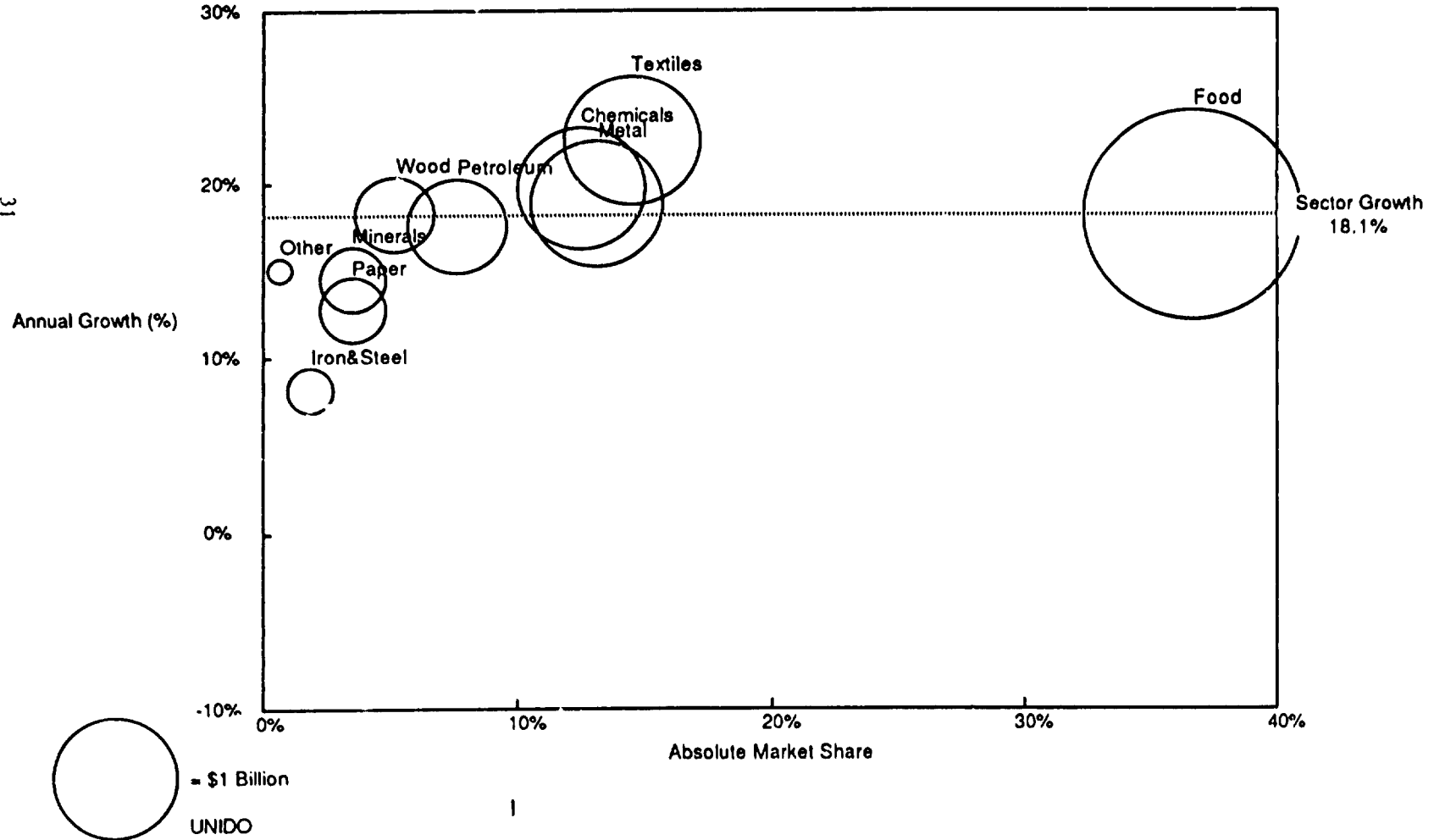
*Table 26*



**SHARE OF MANUFACTURING BRANCHES IN MVA  
Philippines  
Absolute Sector Graph**

*Table 2.7*

31



## CHAPTER 3

### Summary of other countries' experience

The important insights for Vietnam to be gleaned from looking at other countries' experience can be summarized as follows:

- \* resource-based industrialisation has served well. In Indonesia, output of rubber, plywood and wood products grew very fast before being supplanted by textiles, clothing and more sophisticated goods. In Malaysia, output of goods based on rubber, tin and timber did well, as did food, beverages and tobacco. In Republic of Korea, growth of value added in food and rubber products exceeded that of total manufacturing during the 1975-83 period.
- \* resource-based industrialisation can coexist with and support labour-intensive export orientation. In all the countries studied, there was at least some initial dominance of simpler, primary product-based industrialisation and this grew - albeit at different rates, partly reflecting the differing degrees by which industrialization was "forced" by policy - into a more complex industrial structure over time.
- \* the importance of different branches within manufacturing changes very quickly, especially within exports. In Malaysia, food, beverages and tobacco fell from 18% of export value in 1970 to 6% in 1984, while electrical machinery grew from 3% to 52% over the same period. This can only happen to the extent that policy allows resources to move fluidly between alternative uses.

\* while there has been a general drift to liberalization of policy, each country has had a unique approach to intervention. Many choices exist; the benefit for latecomers like Vietnam lies in being able to observe empirically the consequences of the liberalizing carried out elsewhere.

#### Resource-based industrialisation has served well

Growth of agricultural output over the period 1965 to 1987 was buoyant in all the countries in the peer group, with some deceleration of growth apparent in Indonesia and Thailand. The absolute value of value added in agriculture grew strongly, (see table 3.1) in all cases, in part underwritten by large increases in fertilizer consumption. Food production per capita grew between 1979-81 and 1985-87, on average, in all the countries except Republic of Korea.

#### Resource-based industrialisation can coexist with and support a labour-intensive export orientation.

Given the current overwhelming dominance of agriculture and related rural pursuits in Vietnam, talk of export-led, labour-intensive industrialisation might seem irrelevant. Yet the experience of the peer group has been that agrarian development can lead naturally into processed goods exporting so long as the policy environment facilitates resource reallocation. Table 3.2 indicates how far this reallocation has gone in the case of exports: in each country (except for Indonesia, where oil is of course still dominant) there was a significant shift in the structure of exports over the period.

The importance of different branches within manufacturing changes very quickly.

A striking aspect of the countries' industrial experience is its heterogeneity. Although writers often lump fast-growing Asian countries together as if they may be treated as a group, in fact there has been marked disparity in the way they have grown. The following facts illustrate this:

- \* Malaysia had only one manufacturing branch whose value added over the period 1975-86 grew by more than 10% annually; while Thailand had four and Indonesia ten.
- \* Only two branches (wood products and professional and scientific equipment) appear in more than one country as having exhibited over 10% per annum growth of value added.
- \* Despite the consistently high growth of manufacturing output exhibited by the countries, they tended to share one broad pattern - the erosion of the share of food and agriculture within total output. Beyond that, however, each tended to have a different 'leading sector'. In the case of Malaysia, for instance, the dynamism of the machinery and transport equipment branches was startling, with its share of manufacturing value added rising from 8% in 1970 to 23% in 1986.

Each country has had a unique approach to intervention.

The Asia-Pacific region contains a rich set of observations from which policy-makers in Vietnam can find lessons. While there has, in general, been a considerable amount of intervention in these countries' industrial

structure, each has pursued its own path and each has changed its policy stance in different ways over time. Table 3.3 summarizes the approaches and methods adopted. Overall, the Republic of Korea exhibited the most comprehensive set of controls, with emphasis on building up big groups straddling many industrial branches coupled with protection for industry. Thailand and Malaysia shared a shift in the early 1980s to promotion of heavy industry, with regional and small scale industry emphasis in parallel. In Indonesia too regional balance was a consideration.

Having noted sources of difference between the countries, similarities can also be observed: <sup>1/</sup>

These include:

- \* prudent macro policy, intended to achieve a measure of price stability.
- \* ability to learn from errors, willingness to be eclectic, and commitment to flexibility.
- \* helping keep labour markets as free as possible, and, by pursuing comprehensive education policies, upgrading the quality of the labour force consistently.

In addition to these approaches, there was some similarity regarding the ambitions pursued in the countries, in that heavy industry (petrochemicals, iron and steel, paper, engineering, etc.) was seen as a desirable stage for the countries to attain.

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<sup>1/</sup> For a full discussion, see UNIDO (1986), pp 30-58.

**Table 3.1**

**Selected indicators of resource-based industrialization**

	Annual average growth of agricultural output		Index of food production/capita (1979-81 = 100)	Fertiliser consumption (hundreds of grams/hectare arable land)		Valued added in agriculture (\$ mn, current)	
	1965-80	1980-87	1985-87	1970	1986	1970	1986
Indonesia	4.3	3.0	117	133	980	N.A.	2,436
Republic of Korea	3.0	4.4	100	2,450	3,853	489	4,410
Malaysia	N.A.	3.4	126	489	1,570	130	N.A.
Thailand	4.6	3.7	107	59	236	486	2,910

Source: IBRD (1989), various appendix tables

**Table 3.2**

**Structure of merchandise exports, 1965-87**

	Fuels, minerals, metals		Other primary commodities		Machinery and transport equipt.		Other manuf's		(of which: textiles & clothing)	
	1965	1987	1965	1987	1965	1987	1965	1987	1965	1987
Indonesia	43	54	53	18	3	3	1	24	0	5
Republic of Korea	15	2	25	5	3	33	56	59	27	25
Malaysia	35	25	59	36	2	27	4	13	0	3
Thailand	11	2	84	45	0	12	4	41	0	18

SOURCE: IBRD (1989), pp.194-5

Table 3.3

Overview of chief policy measures used in peer group

	Indonesia	Republic of Korea	Malaysia	Thailand
bank lending as source of control	✓	✓		
tariffs, non-tariff barriers	✓	✓	✓	✓
exchange controls	✓	✓	✓	✓
promotion of labour-intensive exports			✓	✓
promotion of exports generally		✓		
promotion of heavy industry		✓		✓
'picking winners'		✓	✓	✓
allowing industries to decline		✓		
small-scale emphasis				✓
regional balance emphasis	✓		✓	✓
protection for agriculture		✓		



## CHAPTER 4

### An Agenda for the issues debate

This last chapter pulls together the insights developed in the preceding chapters. It has four sections, designed to provoke a lively discussion of the policy issues facing Vietnamese industry. First there is a discussion of how Vietnam might become more integrated into the neighbouring economy; next, there is a discussion of the policy framework choices facing the country; thirdly, there is an analysis of how the industrial policy debate should proceed; and finally, a list of discussion topics is presented.

#### 1. Can the flying geese accept a new member?

It would very probably be of great advantage to certain companies in Vietnam if their economy were to become integrated with the dynamic neighbouring economies of ASEAN and the so-called 'Little Dragons' of Hong Kong, Singapore, Republic of Korea and Taiwan, Province of China. The reasons for saying this come from considerable historical experience in the region. Among the more important are:

- \* the salutary effect of international competition upon product quality, costs and delivery times
- \* the consequent gains to domestic consumers of having internationally competitive companies serving them
- \* demonstration effects from internationally-oriented companies to inward-focussed companies.

Evidence on the prospects for this in Vietnam is necessarily limited, although there have been encouraging signs of companies based in Thailand thinking, over the long-term, of moving some of their more labour-intensive activities to Vietnam. A number of joint ventures involving companies based in the two countries are reportedly being considered at present (Business Asia, 2:13:89).

In what way are the flying geese becoming more tightly integrated, and to what extent could this offer an attractive vehicle for Vietnam to develop faster?

Evidence on trade flows shows that intra-regional integration is proceeding fast. By the late 1980s, Japan, Republic of Korea, Taiwan, Province of China, and Hong Kong were selling more to one another than to the USA. Much of this growth of intra-regional trade represents flows of semi-finished and finished goods in and out of Japan as more and more Japanese companies treat the region as a network of tightly-coupled workshops, the precise use of which evolves with relative factor costs, transportation facilities, and so on. Indeed, Japanese private investment in the region exceeded \$8 billion in 1989 (out of estimated total Japanese overseas private investment of \$40-45 billion) (Business Asia, 2:13:89). Prospects of further developments like this seem good: MITI has carried out studies pointing to half of all automobile, machine tool, office machinery and computer production moving out of Japan by the mid-1990s. In 1988, intra-Asian merchandise trade grew 33% to \$259 billion,

equivalent to 9% of total world merchandise trade (Wall St. Journal, Nov 9 1989).

Data on investment flows buttress this picture. Foreign investment in Taiwan, Province of China, has grown from \$770 million in 1986 to \$1,183 million in 1988, and in Republic of Korea from \$354 million to \$1,283 million over the same period. Korean companies' investments in ASEAN have grown from about \$2 million per year in the early 1980s to \$130 million in 1987, while combined Little Dragon investment in ASEAN has risen fourfold since 1983 to reach \$550 million in 1987 (Park, 1989).

Just as the higher-income countries of the region are now delegating lower-value, labour-intensive production out to the more distant geese of the flock, so too are they actively seeking new sources of value added. In Hong Kong, for instance, officials are looking for investors who will absorb labour which is being relinquished from electronics, garments and textiles production.

Data on exports confirm the evolution of the flying geese. Exports to Japan show an increasing concentration in electrical machinery, general machinery, transport equipment and the like. Park (1989, p.143) has referred to the "phenomenal" rate at which this handing-down of production by Japan, with consequent import growth to Japan, is taking place.

Policy does not exist in a vacuum, obviously. A full policy discussion would consider the following questions, given what has been observed in the peer group:

- \* what is the most appropriate policy environment for stimulating output given today's distribution of value added? That is, what will help get agricultural output and related processing activities fastest?
- \* how and when should this policy evolve into one of assisting or facilitating movement on the broader front of industrial output generally?
- \* how best can policy in Vietnam be cognizant of policy changes in its neighbouring countries?

The policy options, or levers, which will readily fall to hand are listed below. However, experience from the peer group strongly suggests that a list such as this cannot be plucked from ad hoc: there are good combinations and bad combinations. In principle, the following might be a good starting-off point for thinking about policy choices as they affect the industry:

- \* there should not be a policy for everything. Some variables need to be left independent. For instance, in the macroeconomic sphere, money supply, interest-rates and credit allocation by industry cannot all be controlled at once, only a subset.
- \* emphasis has tended to change with industrial structure itself.
- \* macro and micro policy levers must be in harmony.

For instance, a highly interventionist macro policy environment, with controls on exchange-rates, prices, employment levels and so on, will not easily coexist with a loose microeconomic framework intended to push decision-making to plant level. The former will tend to frustrate and distort moves at the latter level.

A list of policy levers, most of which have a bearing on the evolution of the country's industrial structure, is as follows:

- public ownership
- exchange-rate movements
- foreign exchange allocation
- interest-rate movements
- interest-rates differ across industries
- regional incentives
- small-scale industry emphasis or aid
- prices for output and/or inputs
- tariffs, non-tariff barriers
- wage scales and differentials
- physical labour mobility
- subsidies
- public sector prices reflecting other than costs
- "picking winners" policy (will typically embrace some of the above.)

### 3. The framework for industrial policy debate

A last observation is that there might profitably be a

debate about the debate. A diagram such as that shown below can be used to precipitate discussion about the feasible choices facing the country. In the example shown, the variables are: extent of economic policy shift (small to large) and orientation of the economy (inward or outward); development consequences are suggested in the boxes.

Different axes could of course be used. The type of debate envisaged here could have three benefits:

- \* It would flush out an explicit statement of what the dimensions of choice are. For instance: how big a policy shift is envisaged; is there an outward orientation which can, in practice, be encouraged through microeconomic policy measures as have been seen throughout the region; and so on.
- \* it forces an explicit consideration of what the policy levers are and what the 'correct' set of policy levers might be. Given the administrative apparatus that, realistically, will be available, would it be more reasonable to abandon complex forms of intervention and retreat to a few tools such as control of the money supply, public expenditure, etc.?
- \* it encourages explicit recognition of the costs of not doing things differently. If the presumption that there is a huge opportunity in Vietnam's region is accepted, then the opportunity cost of pursuing policies which inhibit or forego the benefits of full-scale participation in that regional structure will be large. If foregoing this is (even in part) the chosen route, it should be made explicit.

#### 4. Summary of discussion topics

##### I. Where are we today?

- agreement on current status of industrial output
- agreement on natural resource endowment
- agreement on key constraints to further output  
(infrastructure; skills; capital; foreign exchange)

##### II Where can we go from here?

- restoring extant but ill-utilised capacity
- how to maximise spinoffs from the foreign investments now appearing
- priorities: which paths appear to offer the fastest growth of value added
- subject to other objectives (e.g. income distribution concerns)?

##### III What policy framework will best facilitate this?

- what has happened in other countries in the region?
- what policies help?
- what policies hinder?
- which levers (macro and/or micro) can be readily freed by the authorities in the short-term?
- what levers will only be gradually freed?
- is it clear what the consequences of this will be?

A framework for industrial policy debate

<u>Policy shift</u>	large	fulfils home needs first but likely to be sub-optimal as insulation from competition will harbour domestic inefficiencies	opportunity to join flock of flying geese: a very ambitious but potentially very rewarding option
	small	experience elsewhere is not encouraging for raising living standards quickly	probably not an option due to quality needs of overseas markets, even in raw materials
		inward	outward

Basic orientation of economy