

INTERNATIONAL COMPARISONS OF THE DEVELOPMENT FEATURES OF
THE ASIAN COUNTRIES 1960 - 1972*

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I. Main Findings of the Study

The general trends and the individual development characteristics of the Asian countries drawn from this study during the period under review can be listed as below¹⁾:

A. General Trends:

1. Except from Japan, Singapore and Hong Kong, it seems that Asian countries remain in a less developed stage.
2. It appears that, except from Japan, the growth of population of the Asian countries was rather high during the past. There is, however, an indication that the growth trend has been curbed for those rapidly growing countries, such as Korea (South), Hong Kong, Singapore, Taiwan.
3. It is quite significant that the growth rate of population is negatively correlated with the growth of the saving ratio and with that of per capita income among the Asian countries and over time.
4. Among the Asian countries and over time, the GDP share of the primary sector tends to be declining. By contrast, those of the industrial and other service sectors are increasing, while that of transport and communication follows no clear trend.
5. The outward-looking feature enables the Asian countries to achieve a high rate of economic growth; Hong Kong, Singapore, Taiwan and Korea are examples which are able to absorb a huge amount of foreign capital. As a matter of development policy, these countries instead of making import substitution successful, adopt the path of export promotion. The inward-looking

feature adopted by Burma, India and Pakistan stagnates the growth of the economy.

6. The trends of the percentage shares of exports of the four categories of goods are as follow: the share of food and the related products tends to be declining; chemicals and basic manufactures and machines and transport equipment are increasing; crude materials and mineral fuels show no general trend.
7. The percentage shares of imports of the four categories of goods appear to be rather stable among the Asian countries and over time. The import coefficients (M/M+GDP) show no declining tendency, particularly for rapidly growing countries, such as Korea, Taiwan, Hong Kong, Singapore and Japan.

B. Individual Characteristics:

Burma	less developed; inward-looking feature; low investment ratio; lag in the dissemination of technical know-how; low productivity; service and agricultural sectors dominant.
Hong Kong	developed; outward-looking feature; high investment ratio; high income growth; rapid absorption of foreign capital and dissemination of technical know-how; efficient use of capital goods; low population growth; service sector dominant.
India	less developed; inward-looking feature; inefficient use of capital goods; low investment ratio; low income growth; high population growth; significant structural disequilibria; low productivity; agriculture dominant.
Indonesia	less developed; mixed feature; inefficient use of capital goods; low investment ratio; low income growth; high population growth;

- significant structural disequilibria; low productivity; agriculture dominant.
- Japan highly developed; mixed feature; efficient use of capital goods; high investment ratio; high income growth; high saving ability; high productivity; low population growth.
- Korea (South) less developed; mixed feature; efficient use of capital goods; high investment ratio; high income growth; rapid absorption of foreign capital and dissemination of technical know-how; low saving ability; high population growth; significant structural disequilibria.
- Malaysia less developed; outward-looking feature; low investment ratio; agricultural and service sectors dominant.
- Pakistan less developed; inward-looking feature; inefficient use of capital goods; low investment ratio; low income growth; low saving ability; high population growth; significant structural disequilibria; agriculture dominant.
- Philippines less developed; mixed feature; inefficient use of capital goods; high investment ratio; low income growth; high population growth; significant structural disequilibria; medium saving ability; agricultural and service sectors dominant.
- Singapore developed; outward-looking feature; low investment ratio; high income growth; rapid absorption of foreign capital dissemination of technical know-how; low population growth; efficient use of capital goods; service sector dominant.

Sri Lanka	less developed; mixed feature; inefficient use of capital goods; low investment ratio; low income growth; significant structural disequilibria; high population growth; medium saving ability; agricultural and service sectors dominant.
Taiwan	less developed; outward-looking feature; efficient use of capital goods; high investment ratio; high income growth; rapid absorption of foreign capital and dissemination of technical know-how; high saving ability; high population growth; service sector dominant.
Thailand	less developed; mixed feature; inefficient use of capital goods; high investment ratio; high income growth; high population growth; service and agricultural sectors dominant.

II. Size of the Asian Countries and Their Development Features

Development features of the Asian countries are, to a large extent, related to the size of the nation²⁾: Small open economies like Singapore, Hong Kong and Taiwan are bound to have an outward-looking feature³⁾ in which foreign trade plays a prominent role in the course of economic growth. In contrast, large nations like India and Pakistan are able to adopt an inward-looking feature in which the foreign sector is of minor importance. Other Asian countries whose size is between these two cases, follow either one of the two features or a mixed one⁴⁾. However, Burma and Pakistan are inclined to be inward-looking thoroughly.

Table 1 displays the scene in which some developed countries, Israel, Denmark, Netherlands, Australia, Canada, Italy and U.S.A. are also included for the purpose of comparison. Table 2 further takes notice of the size of the na-

Table 1: Size of Country and Development Feature

Fea- ture Size	Outward-looking				Mixed				Inward-looking					
	Country	N	$\frac{E+M}{GDP}$ (%)	$\frac{E}{M}$ (%)	Country	N	$\frac{E+M}{GDP}$ (%)	$\frac{E}{M}$ (%)	Country	N	$\frac{E+M}{GDP}$ (%)	$\frac{E}{M}$ (%)	$\frac{M}{GDP}$ (%)	
Large	Indonesia	121.6	82	24.2	72.1	16.3	84	9(4)	India	563.5	172	9(4)	8(4)	5(4)
	Japan	106.0	287	18.4	117.4	9.3	106.4	17.9	Pakistan	56.0	70	12(3)	63.5	8.1
	Italy	54.4	180	31.2	106.4	17.9	10.6	10.6	U.S.A.	208.8	22	10.6	99.3	5.6
Medium	Philippines	39.0	130	29.4	89.5	18.3	29.4	89.5	Burma	(1)	(1)	(2)	84.1	11.4
	South Korea	32.5	214	32.4	59.0	25.5	32.4	59.0						
	Thailand	36.3	71	32.8	84.4	21.6	36.3	84.4						
Small	Canada	21.9	2	35.9	106.1	21.1	21.9	106.1						
	Sri Lanka	13.0	199	33.5	86.4	21.8	13.0	199						
	Australia	12.9	2	27.5	101.5	15.5	12.9	2						
	Hong Kong	4.1	3944	99.2	97.7	100.9	4.1	3944						
	Malaysia	10.9	70	55.8	113.2	35.5	10.9	70						
	Singapore	2.2	3695	105.2	90.4	123.5	2.2	3695						
	Taiwan	15.3	425	46.3	105.0	29.3	15.3	425						
	Israel	3.1	149	52.5	59.6	49.2	3.1	149						
	Denmark	5.0	116	46.3	95.5	31.0	5.0	116						
	Netherlands	13.3	326	62.5	99.7	45.6	13.3	326						

Sources: 1. Population (N) and population density (N/D): United Nations, Demographic Yearbook, 1972.
 2. Export (E) and GDP: United Nations, Yearbook of National Accounts Statistics, 1973.
 3. Taiwan: Taiwan Statistical Data Book, 1974, Taipei, Taiwan; Economic Planning Council.
 4. Singapore: Yearbook of Statistics, Singapore, Department of Statistics, Singapore, 1974.
 5. Hong Kong: Estimates of Gross Domestic Product 1961-1973, Census and Statistics Department, Hong Kong, 1975.

Notes: 1. List of Symbols: N: population (million); N/D: population density (person/km²); E: Exports; M: imports; GDP: gross domestic product.
 2. E and N/D data are in 1972 unless otherwise indicated; (1) 1970.
 3. (2) 1965-1967; (3) 1968-1969; (4) 1969-1970; (5) 1967-1971.

Table 2a: Size of Country and Stage of Development

Level	Highly-developed					Developed					Less-developed				
	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$
Large	Japan	2,797	870	19.01	43.85	Italy	2,164	677	23.86	52.17	India	(1)	(1)	(1)	(1)
	U.S.A.	5,551	1,400	13.92	33.72	U.S.A.	5,551	1,400	13.92	33.72	Pakistan	(2)	(2)	(2)	(2)
Medium	Canada	4,805	980	25.38	28.96	Canada	4,805	980	25.38	28.96	Indonesia	124	11	448.18	12.09
	Australia	3,769	626	27.66	35.39	Hong Kong	10,39	309	5.68	35.81	Burma	(3)	(3)	(3)	(3)
Small	Denmark	4,170	1,080	2.85	39.57	Singapore	1,904	301	12.99	25.83	Philippines	299	46	173.57	17.95
	Netherlands	3,437	708	18.43	39.61	Israel	2,279	459	21.16	29.32	South Korea	304	71	112.22	27.43
										Thailand	210	33	139.78	23.17	
										Malaysia	(4)	(4)	(4)	(4)	
										Sri Lanka	(5)	(5)	(5)	(5)	
										Taiwan	477	128	63.64	32.26	

Sources: 1. GDP, M, Y, Q, A: C: United Nations, Yearbook of National Accounts Statistics, 1971, 1973.

2. Population: United Nations, Statistical Yearbook, various issues, 1966, 1969, 1973.

3. Exchange rates: International Monetary Fund, Statistical Tables, Geneva, 1966, 1969, 1973.

4. For Taiwan, Singapore and Hong Kong, see Table 1.

Notes: 1. List of symbols: Manufacturing: I: primary sector; II: secondary sector; Q: all sectors;

2. GDP/M (US\$), M/Y (US\$/person), and A/Q (US\$/person) are in 1972 unless otherwise indicated;

3. 1/11 and 11/0 are the average of 1967-1972 unless otherwise specified;

(1) 1966-1967; (2) 1968-1971; (3) 1967-1970; (4) 1966-1969; (5) 1970-1972.

Table 2b: Size of Country and Stage of Development

Level	Highly - developed					Developed					Less-developed				
	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$	Country	$\frac{GDP}{M}$	$\frac{M}{Y}$	$\frac{Y}{Q}$	$\frac{Q}{\$}$
Large	Japan	10.49	1.22	9.17	23.9	Italy	4.53	0.80	3.71	24.4	India	3.78	2.18	1.58	41.8
	U.S.A.	4.09	1.10	2.95	28.5	Singapore	11.28	2.00	9.12	37.7	Pakistan	5.17	2.35	2.82	54.7
Medium	Canada	5.44	1.59	3.79	29.6	Israel	8.41	2.91	5.34	33.0	Indonesia	5.30	2.85	2.45	3.7
	Australia	4.99	1.89	3.03	28.8	Hong Kong	8.57	1.98	6.45	35.8	Burma	4.77	2.99	1.70	58.3
Small	Denmark	4.78	0.71	4.03	23.5	Singapore	11.28	2.00	9.12	37.7	South Korea	9.71	2.07	7.48	58.3
	Netherlands	5.76	1.20	4.50	27.0	Israel	8.41	2.91	5.34	33.0	Thailand	7.45	3.42	3.82	3.0

Sources: See Tables 1 and 2a.

Notes: 1. GDP: at 1965 constant prices unless otherwise indicated; Indonesia: 1960.

2. The years for averaging the growth rates: India, 1964-1970; Pakistan, 1964-1969; Sri Lanka, 1964-1971.

3. Age structure: 1971 data unless otherwise specified; Denmark, 1969; Japan, South Korea, U.S.A.: Philippines, 1970.

tion and the degree of development; it can be found that just as the well-developed category covers the large, medium and small countries, so do the developed and less-developed categories⁵⁾. However, attention must be paid to the fact that except Japan, Singapore and Hong Kong, most of the Asian countries remain in a stage of low development. They belong to a agriculture-dominated economy. The share of the agricultural sector in the overall economy has been decreasing rather slowly as income was rising. This coincides with one of the salient characteristics of the less developed economy as disclosed in (2), (4), (13), (15) and (18).

Combining the time series with the cross section data⁶⁾, it can be shown that the percentage share of agriculture is declining, whereas that of industry and other services are increasing. Strangely enough, there is no sign of an increasing share of transport and communication among the Asian countries and over time.⁷⁾

Other criteria which can be used for gauging the degree of development are (1) Engel's Law test⁸⁾: most Asian countries spent more than 40 % of total private consumption on foods in contrast to a 30 % or less in the advanced countries. (2) Productivity test: per capita manufacturing (M_u/N) and labour productivity (GDP/L) are positively correlated with the level of income, in which most Asian countries lagged far behind the advanced countries (see Table 2a). Part of the reasons can be explained by the fact that a relatively small portion of manufacturing industries absorbed only a limited amount of the labour force available. As a result, quite a large number of underemployed workers cluster around the agrarian society with a very low marginal productivity⁹⁾. Moreover, Indonesia, Malaysia, Thailand and the Philippines which have been endowed with relatively high per capita resources¹⁰⁾, are incapable of overcoming the prevalence of under-utilization in the production activities¹¹⁾. The exceptional cases are Japan, Singapore and Hong Kong, which own low per capita resources and are able to step in a developed stage. (3) Demographic test: in Asia

Hong Kong, Singapore, Taiwan and Korea with a high population density and a moderate but declining rate of population growth achieved a relatively high level and rapid growth of income during the past decade. In contrast, Burma, Pakistan, Thailand, Indonesia, Philippines, India, Sri Lanka, with a relatively low density and a rapid growth of population attained only a low level and snail's pace of economic growth (see Table 2b). There exists an oversupply of unskilled manpower coupled with the shortage of other complementary inputs such as limitation of technical know-how, deficiency of capital, poor public services, etc., which make the underutilization of the available resources¹²⁾. As a result, there rarely appear greater opportunities for economies of scale as population grows¹³⁾.

In addition, Table 2b further shows that, except Japan, most of the Asian countries had to take the burden of a high portion of dependent population (0-14 years) compared with that of the advanced countries. This fact diverted an increasing amount of resources to the fields of social capital and consumption which would otherwise be deployed in more productive investments.

Last but not least, Tables 1 and 2 expose the fact that Japan, Singapore, Korea, Taiwan and Hong Kong attained a prodigious growth rate of GDP with the adoption of an outward-looking feature. It seems true that the promotion of foreign trade performed a key impetus to growth of these economies¹⁴⁾ in the period 1963-1972. The reasons behind this picture can perhaps be pointed out as follows: Firstly, by its nature, a small country is destined to be short of material resources for its domestic production. This can be made up one way or another by imports from the rest of the world. Without this, part of the domestic resources will lack the complementary production factors to carry out production or to make a breakthrough in the bottlenecks of development. Secondly, foreign trade is one of the most effective ways to acquire more productive means and advanced technology for the domestic economy. The extent of this diffu-

sion effect will, of course, depend upon the absorption ability of the importing country. Most Asian countries which made a strong effort on absorbing the impacts from foreign trade emerge with enormous growth of their economies; Japan, Singapore, Hong Kong, Taiwan and Korea are examples. Thirdly, as a matter of development policy, import substitution is neither easy nor cheap for a small country to adopt because of its lack of economies of scale. Instead, it is the promotion of exports which performs an active role in economizing domestic resources and supplying foreign exchanges for imports. Fourthly, according to the doctrine of comparative advantage, international trade is one of the possible ways to raise the level of national income. In trading with other countries, the domestic economy will export the products produced more efficiently in order to exchange for goods which are usually produced less efficiently. Consequently, a country of outward-looking feature will be normally more efficient in its national production and reaps the gain in the increase in national income¹⁵⁾.

III. Causes of Economic Growth

A further examination of the production side of the Asian economies is shown in Table 3, from which several observations are drawn:

1. Japan and Taiwan allocate a relatively large portion of their resources for investment, in contrast to the rest of the Asian countries which spent a predominant proportion of their GDP for private consumption. It also can be seen that countries with a higher ratio of capital formation (Japan, Singapore, Taiwan, Hong Kong, and Korea) are associated with higher levels and a rapid growth of per capita income.
2. Korea, Singapore, Hong Kong and Taiwan absorb an enormous amount of foreign capital. It has to be pointed out that other countries, including Pakistan, Indonesia and Thailand, receive also a large amount of foreign resources,

Table 3: Indicators of the Production Side of the Economy

Size Level	Country	Year	% Share				I/GDP	F/GDP	I/GDP _t -GDP ₀	Feature
			S ₂₁	S ₂₂	S ₂₃	S ₂				
			(1)				(2)			
Large highly-developed	Japan	1972	32.88	7.51	1.88	42.27	36.57	-2.35	4.13	m
		1960-72	33.76	6.75	2.22	42.73	36.51	-0.77	3.69	
Small developed	Hong Kong	1972	28.5	4.3	1.7	34.5	22.58	0.39	2.97	o
		1970-72	30.77	3.83	1.80	36.40	22.89	9.54	2.79	
	Singapore	1972	24.38	7.55	2.31	34.24	34.81	15.91	2.04	o
		1960-72	16.05	4.50	2.25	22.80	17.99		1.91	
Medium and large less-developed	Burma	1967	9.07	2.28	0.66	12.01	14.65	5.38	NA	i
		1963-67	9.45	1.78	0.60	11.83	9.79	0.34		
	Philippines	1972	19.04	2.94	0.54	22.52	20.18	0.81	4.44	m
		1960-72	18.42	3.41	0.63	22.46	20.14	1.20	4.94	
	Korea	1972	23.66	4.69	1.88	30.23	20.71	5.13	2.79	m
		1960-72	19.24	4.37	1.35	24.96	22.72	10.29	2.54	
	Thailand	1972	16.67	5.18	1.37	23.22	22.89	1.60	3.49	m
		1960-72	14.87	5.85	0.95	21.67	21.79	2.36	3.06	
	India	1970	13.66	5.37	1.16	20.19	15.99	0.66	4.33	i
		1960-70	14.29	4.77	0.89	19.95	16.35	1.80	4.89(1)	
Pakistan	1970	12.46	5.23	0.84	18.53	14.62	2.95	3.08	i	
	1960-70	11.39	4.02	0.71	16.12	15.19	4.10	3.36(2)		
Indonesia	1972	9.23	3.54	0.41	13.18	17.42	2.74	2.00	m	
	1968-72	8.23	2.37	0.26	10.86	10.24	3.15	2.45		
Small less-developed	Malaysia W.	1971	13.88	4.07	2.53	20.48	16.18	-1.87	NA	o
		1960-71	11.22	3.94	2.17	17.33	15.07	-5.17		
	Sri Lanka	1971	10.33	6.44	0.68	17.45	19.92	1.08	3.59	m
		1963-71	9.35	5.99	0.60	15.94	16.01	2.28	3.32	
Taiwan	1972	26.8	5.1	2.2	34.1	24.69	-6.76	2.75	o	
	1960-72	20.97	4.75	1.83	27.55	22.66	1.64	2.43		
Range	Lower		8.23	1.78	0.26	10.86	9.79	10.29	1.91	
	Upper		33.76	6.75	2.25	42.73	36.51	-5.17	4.94	
Median			14.87	4.37	0.95	21.67	17.99	2.28	3.06	
Advanced Countries			28.85	7.25	2.58	38.68	23.38		4.53	

Sources: See Tables 1 and 2a.

- Notes: 1. List of symbols: S₁: industrial sector; S₂: manufacturing; S₂₂: construction; S₂₃: electricity; I₁: gross domestic capital formation; P: inflow of foreign capital (=M-E); m: mixed feature; w: outward-looking feature; i: inward-looking feature.
2. Col. (1) excluding 1961-62 unless otherwise indicated: (1) covering the whole period Col. (2): (1) 1960-72; (2) 1968; (3) 1962-68; (4) excluding 1961-62, 1964-67; (5) 1969; (6) 1960-69; (7) 1960-72; (8) 1960-71
- Col. (3) at 1965 constant prices and the averaging years covering the period 1964-1972 unless otherwise indicated: (1) 1968-70; (2) 1964-69; (3) 1964-71.
3. Advanced countries include U.S.A., Canada, Italy, Israel, Australia, Denmark and Netherlands.

yet their economies did not grow as fast as the former ones did.

3. It seems quite obvious that most Asian countries could achieve further growth, provided they can enlarge the scope of the manufacturing industries. This implies a better utilization of the domestic agricultural products and raw materials on the one hand and a rapid absorption of the surplus labor from the agricultural section on the other hand¹⁶⁾.
4. Considering the average of the incremental capital-output ratio of the advanced countries in the period of 1964-1972 (4.53) as a yardstick¹⁷⁾, India, Philippines and Sri Lanka have a relatively high ratio in the period under review. One way to explain this is that these economies did not place much emphasis on the development of labour-intensive industries; and the productivity of the incremental capital over the years was pervasively low.

In what follows, a macroeconomic identity equation governing the demand and supply sides of the national product is used for gauging the growth of the Asian countries:

$$\frac{\Delta y}{y} = \frac{s + f}{k} - u \quad (1)$$

where $\frac{\Delta y}{y}$: growth of per capita GDP [$\Delta(Y/N)/Y/N$]

s : ratio of domestic savings (S) to GDP (S/Y)

f : ratio of foreign capital (F) to GDP (F/Y)

k : marginal capital-output ratio ($I/\Delta Y$)

u : growth rate of population ($\Delta N/N$)

Because of the limitation of the available statistical data, only seven countries, i.e. Hong Kong, Japan, Korea, Pakistan, Philippines, Sri Lanka and Taiwan will be analysed here; Table 4 shows the outcome from which a number of findings are obtained.

Firstly, it appears that in Asian countries a higher growth rate of GDP accompanies a higher saving ratio and a

Table 4: Factors Accounting For The Growth of Income For The Asian Countries (At 1966 constant prices)

		1967	1968	1969	1970	1971	1972
Hong Kong	y/y	5.81%	2.03	9.87	3.61	2.29	4.81
	s	15.27%	11.76	15.15	13.12	7.04	9.87
	f	4.23%	6.52	4.12	7.28	16.05	12.62
	k	2.45	5.01	1.55	3.47	7.62	3.32
	u	2.15%	1.58	2.59	2.27	0.74	1.96
Japan	y/y	10.81%	11.02	11.25	6.48	5.02	6.80
	s	37.42%	39.96	40.66	43.01	42.84	42.68
	f	-0.11%	-0.76	-1.31	-0.94	-2.66	-2.52
	k	3.13	3.21	3.18	5.47	6.36	4.96
	u	1.12%	1.19	1.13	1.21	1.29	1.30
Korea S.	y/y	7.05%	11.83	11.17	6.55	6.43	7.23
	s	11.15%	11.27	16.62	15.57	16.55	16.37
	f	12.04%	15.65	15.77	13.84	12.55	7.06
	k	2.52	1.96	2.49	3.57	3.59	2.63
	u	2.13%	1.90	1.82	1.69	1.67	1.70
Pakistan	y/y	4.15%	-1.65	2.54			
	s	11.75%	11.78	12.48			
	f	2.17%	2.69	1.96	NA	NA	NA
	k	1.79	7.29	2.34			
	u	3.64%	3.63	3.63			
Philippines	y/y	-1.03%	0.78	2.17	0.50	4.32	1.95
	s	18.25%	16.12	15.49	17.18	18.96	20.51
	f	3.57%	6.23	6.00	3.10	0.85	-1.55
	k	10.93	5.93	4.14	5.97	2.73	3.82
	u	3.03%	2.99	3.02	2.90	2.95	3.02
Sri Lanka	y/y	3.98%	3.88	4.19	3.98	-0.79	
	s	13.82%	14.09	16.61	19.22	21.11	
	f	0.88%	2.76	4.70	0.38	-1.46	NA
	k	2.28	2.78	3.38	3.28	14.75	
	u	2.48%	2.17	2.12	2.00	2.12	
Taiwan	y/y	7.23%	5.68	2.92	8.01	8.69	9.08
	s	23.50%	24.37	25.21	28.21	28.07	20.20
	f	2.69%	4.15	2.28	1.51	1.66	6.67
	k	2.75	3.40	3.47	2.86	2.73	2.42
	u	2.3%	2.7	5.0*	2.4	2.2	2.0

Sources: See Tables 1 and 2a

Note: * = including servicemen since 1969.

lower population growth during the period under review. Secondly, most of the Asian countries are in a situation to absorb foreign capital; however, the foreign capital ratio (F/Y) seems to be declining as GDP per capita grows. Thirdly, one of the main reasons why the Asian countries are suffering from a lower growth of per capita GDP is that the growth rate of population is high. Fourthly, the growth rate of population has a negative correlation with the saving ratio. The general path shows that a high rate of population growth is not helpful to rapid growth of income. Fifthly, a higher capital-output ratio associated with a less-developed stage implies an inefficient use of capital goods, which causes a lower rate of economic growth. Of the Asian countries, the Philippines, Sri Lanka, India, Pakistan, Thailand and Indonesia pertain to the case (see Table 4).

IV. Structure of the Manufacturing Industries and Their Productivity

In this section, we investigate into the stage of industrialization of the Asian countries¹⁸⁾. Chenery and Taylor classify those industries which furnish the daily essential goods and require a relatively simple technology as the "early industries". Food, leather goods and textiles will be under this category. As shown in Table 5, except Japan and Singapore, the value-added percentage share of the "early industries" in the Asian countries is double that of the advanced countries. By contrast, the percentage share of the "late industries" in Asian countries is less than half that of the advanced ones, of which the significant items are metal products, and basic metals. As for the percentage share of the "middle industries", it appears that there is not much difference among the Asian and the advanced countries. It should be noted that the productivity of the former's industries is much lower than that of the latter. As far as the composition of the manufacturing industries is concerned, the Asian countries, except Japan,

remain likely in a stage of the "early" or "middle industries".

In addition to the above analysis, a formula is used to make an international comparison of the degree of the productivity differential in the manufacturing industries:

$$(\bar{Z}_{i*}/Z_{ij})^2 \sum_1^n (Z_{ij} - \bar{Z}_{ij})^2 \quad (j = i, 2, \dots) \quad (2)$$

where Z_{ij} : productivity of the manufacturing industry i ($i = 1, 2, \dots$) in country j ($j = 1, 2, \dots$)

\bar{Z}_{ij} : average productivity of the manufacturing industries ($= \sum_1^n Z_{ij}/n$) in country j .

\bar{Z}_{i*} : average productivity of the manufacturing industries in the U.S.A., taken as a base for comparison.

The results are shown in Table 5 from which we can draw at least five findings. First of all, the industrial productivity of the advanced countries is much higher than that of the Asian countries' in the years under review. In general, the differential gets higher as it moves to the later industries. However, the low productivity measured in this way may partially stem from the adoption of a relatively labor-intensive production technique. Taiwan is an example¹⁹⁾. Secondly, the variance of the productivity differentials reflects the degree of imbalanced growth among the industries within each country. This characterizes in some sense the structural disequilibrium²⁰⁾. Of the Asian countries, Sri Lanka, Taiwan, Pakistan, Indonesia, Philippines and Korea are in a relatively imbalanced condition. Thirdly, among the Asian countries, the productivity of the "late industries" in Japan, Singapore and Malaysia is higher than that of the "early industries". In Burma and Sri Lanka the reverse is true. The others are not much different in this respect. Fourthly, of the manufacturing industries, the data uniquely show that the productivity of chemicals, petroleum and coal products industries is the high-

est among all the industries. This perhaps results from the highly capital-intensive production techniques and an effective application of the international technical know-how in these industries. Fifthly, regarding the industries horizontally extended, the countries which undergo significant changes in structure from the early and middle industries to the late industries are Japan, Korea and Singapore.

V. Performance of Foreign Trade

By and large, Malaysia, Sri Lanka, Burma, Philippines, Thailand and Indonesia, belong to the primary trade, while Japan, Hong Kong, Singapore, Taiwan and Korea belong to the manufactured one. The exports of various commodities of the Asian countries can be seen in some details in Table 6.

The exports of primary products, including (1) food and live animals, beverage and tobacco, animal, vegetable, oil fat, (2) crude materials excluding fuels, (3) mineral fuels etc., tend to be declining as income rises; whereas the categories of (4) chemicals, (5) basic manufactures, miscellaneous manufactured goods and (6) machines, transport equipment increase. The basic manufactured goods, machines and transport equipment play a remarkable part in the promotion of the exports during the period under review. Among the Asian countries in Japan, Taiwan, Korea, Hong Kong, Singapore, Malaysia and the Philippines, exports performed the role of a "leading sector", stimulating the growth of the rest of the sectors. In contrast, in countries like Pakistan, India, Burma, Sri Lanka, Indonesia, and Thailand, exports play the role of a "lagging sector", in that their actual imports outstripped their potentials for imports, resulting in an enormous trade deficit. The imports of the Asian countries are presented in Table 7.

It is obvious enough that, except Japan, all countries import a tremendous part of manufactured goods which are likely to be the more precise and sophisticated ones. Strangely enough, except Burma, Sri Lanka, Indonesia and

Table 61 Percentage Share of Exports of the Asian Countries

	Food & live animals (1)a	Beverages & tobacco (1)b	Animals & vegetable oil (1)c	Crude materials exd. fuels (2)	Mineral fuels etc. (3)	Chemicals (4)	Basic manufactures (5)a	Misc. manufactured goods (5)b	Machines & transport equipment (6)	Goods not classified by kind	Total commodity export (million US\$)
Large & highly developed	Japan 2.76 3.24	0 0.02	0 0.04	1.72 1.81	0.26 0.28	6.21 6.35	32.05 33.94	11.98 14.06	44.21 39.61	0.81 0.65	23,957
Developed	Hong Kong 3.31 3.36	0.48 0.47	0.08 0.08	2.16 2.44	0.27 0.25	4.11 4.48	19.14 20.51	58.04 58.35	12.02 10.76	0.39 0.30	2,871
Small	Singapore 10.02 12.04	1.28 1.34	3.87 2.59	22.23 26.81	25.72 24.01	3.45 3.10	9.96 9.60	6.37 5.02	13.79 9.28	3.31 4.41	1,755
Developed	Malaysia 6.75 5.73	1.34 0.91	10.09 6.08	44.56 51.33	1.18 1.62	1.67 1.57	28.47 28.08	1.89 1.43	2.62 2.16	1.43 1.09	1,280
Small	Sri Lanka 67.62 67.86	0.36 0.19	7.71 6.28	21.47 24.02	0 0	1.37 2.55	0.56 0.46	0.46 0.36	0.97 0.07	0.18 0.18	323
Developed	Taiwan 15.76 63.73	0.01 0	0.07 0	3.46 31.01	0.60 0.77	1.91 0.06	53.57 4.07	17.73 0	8.93 0	0.08 0	1,993
Small	Burma 28.53 24.05	1.42 1.78	9.31 8.26	51.30 56.10	2.17 1.56	0.56 0.61	5.88 5.88	0.83 1.45	0 0.01	0 0.30	1,113
Developed	Korea S. 6.53 8.82	1.43 1.92	0.01 0.01	8.89 13.23	1.06 0.79	1.39 1.19	30.77 29.68	41.74 38.00	8.49 6.79	0 0.01	1,067
Small	Thailand 48.08 49.58	1.39 1.29	0 0.01	26.33 27.87	0.90 0.67	0.33 0.24	14.59 14.59	1.32 0.76	0.69 0.49	6.37 4.43	830
Large & highly developed	India 26.67 27.21	2.79 2.55	0.44 0.47	15.10 16.11	0.54 0.78	2.22 1.90	41.72 42.15	5.17 4.09	5.02 3.65	0.33 0.49	2,043
Small	Pakistan 12.34 9.19	0.51 0.50	0.23 0.18	30.25 35.56	1.15 1.10	0.60 0.91	60.13 45.29	5.37 3.85	1.26 3.29	0.16 0.13	668
Developed	Indonesia 14.97 13.95	1.47 1.35	3.78 3.14	36.42 39.69	39.85 39.35	0.46 0.34	2.08 1.51	0.04 0.04	0.53 0.30	0.40 0.63	1,199
Range	Lower Upper	0.00 2.55	0.01 8.26	1.81 56.10	0.00 39.35	0.05 6.35	48.92 48.92	0.00 58.35	0.00 39.61	0.00 4.43	
Median		13.05	0.91	27.87	0.78	1.15	20.51	3.85	3.29	0.36	
Advanced Countries		20.35	1.15	12.40	4.44	7.45	20.75	7.73	23.78	1.15	

Sources: United Nations, Yearbook of International Trade Statistics, 1969, 1971, 1972-73, New York.
 Taiwan: Monthly Statistics of Exports and Imports, The Republic of Taiwan, Department of Statistics, Ministry of Finance, various issues.
 Notes: 1. There are two series for each country, the upper one is of 1971 figure, the lower shows the average of 1967-1971 unless otherwise indicated: Burma, 1970, & 1967-70.
 2. Australia, Canada, Netherlands, U.S.A., Italy, Israel, Australia, Canada, Netherlands.

Table 7: Percentage Share of Imports of the Asian Countries

	Food & live animals (1) _a	Beverages & tobacco (1) _b	Animal vegetable oil fat (1) _c	Crude Materials exd fuels (2)	Mineral fuels etc. (3)	Chemicals (4)	Basic manufactures (5) _a	Misc. manufacture goods (5) _b	Machines transport equipment (6)	Goods not classified by kind	Total commodity imports (million US \$)
Large & highly developed											
Japan	14.11 13.96	0.64 0.56	0.38 0.40	32.12 35.55	24.11 20.97	5.06 5.22	7.84 9.88	3.63 2.90	11.37 10.09	0.74 0.47	19,712
Small developed											
Hong Kong	17.07 18.98	2.18 1.95	0.59 0.62	7.20 8.43	3.22 3.29	7.62 8.17	32.71 32.13	12.07 11.38	17.11 14.87	0.23 0.18	3,387
Singapore	11.17 14.76	1.59 1.78	2.28 1.51	9.13 12.27	14.33 15.51	5.07 5.12	21.36 20.65	7.43 7.60	25.52 18.72	2.12 2.08	2,827
Malaysia	17.48 20.88	2.01 2.10	0.57 0.57	7.21 8.67	7.10 7.28	9.33 8.55	19.70 19.66	4.75 5.29	30.55 25.29	1.29 1.71	1,115
Sri Lanka	43.26 43.00	0.25 0.19	0.26 0.33	2.27 2.24	7.66 6.64	9.97 9.31	20.25 19.13	1.72 1.78	12.73 15.81	1.63 0.57	348
Taiwan	13.64 19.76	0.01 0.03	0.07 0.36	3.46 6.09	0.60 0.78	1.91 2.95	53.57 48.92	17.73 14.52	8.93 6.42	0.08 0.17	1,844
Burma	5.61 5.10	0 0	2.03 3.10	1.96 1.85	3.25 5.45	7.47 9.57	45.49 37.20	5.19 4.77	29.00 32.92	0 0.04	155
Philippines	12.56 12.35	0.50 0.70	0.54 0.48	5.95 5.61	13.10 10.83	12.09 10.44	16.40 20.11	2.65 2.59	35.81 36.37	0.40 0.52	1,319
Korea S.	16.72 14.06	0 0.02	0.89 0.72	19.37 19.48	7.93 8.41	8.41 8.88	15.20 16.18	2.79 2.52	28.69 31.70	0 0	2,389
Thailand	4.45 11.82	1.95 0	0 0.03	6.59 4.16	10.44 8.33	12.35 12.35	21.41 24.50	4.23 5.20	33.61 35.47	4.22 3.84	1,285
India	21.01 13.51	0 0.27	2.11 4.98	11.74 8.64	10.19 8.69	12.10 11.48	24.15 21.16	1.77 1.61	25.45 26.50	0.67 2.86	2,405
Pakistan	13.16 8.95	0.26 0.33	4.23 0.31	4.98 2.01	6.72 2.62	13.20 12.52	20.08 23.56	3.65 3.96	35.27 39.72	0.02 0.02	926
Indonesia	14.03 4.45	0.68 0.00	0.21 0.03	2.01 1.85	1.93 0.78	12.88 13.20	33.36 48.52	3.96 14.52	31.45 36.37	0.02 3.84	1,104
Range	4.45 43.00	0.00 2.10	0.03 4.23	1.85 35.55	0.78 20.97	2.95 13.20	9.88 48.52	1.61 14.52	6.42 36.37	0.00 3.84	
Median	14.06	0.56	0.57	6.09	6.75	9.31	20.11	3.59	25.50	0.47	1.68
Advanced countries	10.34	1.16	0.62	9.12	9.04	7.16	22.09	8.19	30.60	1.68	

Source: See tables 1 and 2a

Philippines, most Asian countries export also a great portion of their manufactured goods. It can be observed that the scarce resource countries, such as Japan, Hong Kong, Singapore, Korea and Taiwan, import a relatively large portion of primary products and raw materials and perform also a prodigious growth of exports and GDP. In contrast, it is perhaps partially because of the limited capability for exports and partially the inward-looking feature, that the imports of Burma, Sri Lanka, Pakistan and India are rather low in terms of the size of their nations, and so is the growth of their gross domestic product.

Footnotes

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- 1) For the individual countries, see also Onslow (21), Power, Sicut and Hsing (22), Riedel (23), Shinohara (24), Tae (25), You and Lim (26), United States Economic Survey Team (27) and Hsueh (9). There is of course quite a few important development literature which is not cited here.
 - 2) Cf. Kuznets (14), pp.89-107.
 - 3) The nations with a population of less than 20 million, 20-50 million, and over 50 million, are defined as small, medium, and large countries, respectively. A small country whose dependence of trade ($E+M/GDP+M$) is more than 40 % is defined as having an outward-looking feature, 40 %-27 % as mixed feature, and less than 27 % as inward-looking. By the same token, for the medium country the levels are set up as more than 36 %, 36 %-21 %, and less than 21 %; and for the large country, these are more than 32 %, 32-15 %, and less than 15 %. The above classification is of course somewhat arbitrary. An average ratio of I/GDP of 20 % or more during the period under review (see Table 3) is defined as "high investment ratio".
 - 4) Because of the limitations of the available statistical data, other Asian countries in this paper cover only Burma, Sri-Lanka, Indonesia, Japan, South Korea, Malaysia, Philippines, and Thailand.

- 5) Highly-developed, developed, and less-developed are defined as those countries whose per capita gross domestic product in U.S.\$ ranges from less than 800, 800-2500 to over 2500, respectively. This, of course, is also somewhat arbitrary. See also Chenery and Syrquin (4), p.59.
- 6) As pointed out by Kuznets (15), pp.431-437 and (16), pp.99-100 and Chenery and Taylor (3), pp.391-392, a strong diversity of the peculiarities of the individual country such as changes in technology and taste, different endowment of resources and varying social organization and what not, entails the difficulty of the adoption of cross-section analysis as a guide to the long-term trends. This paper takes the position that the Asian countries, compared with the countries all over the world, have less a degree of diversities. Therefore, it is our belief that the combination of the time series with the cross section analysis provides a better understanding of the actual development path in Asia. For the statistical treatment of the time series and cross section data and the interpretation of the findings see also Temin (26) and Gregory and Griffin (7).
- 7) This contradicts Chenery's finding. See Chenery (2), pp. 634-636, Table 3 and Figure 1; also Kuznets (16), pp.104 and 21.
- 8) See also Houthakker (8).
- 9) See also Ishikawa (10), Chapter 3, pp.215-289.
- 10) See also Kirby (12), Chapter 5, pp.98-115.
- 11) See also Little, Scitovsky and Scott (17), pp.93-99.
- 12) See also Little et al.(17), Chapter 6, pp.206-230.
- 13) Cf. Kuznets (15), Chapter 2, pp.34-35.
- 14) Cf. Balassa (1), pp.24-27.
- 15) See also Myint (19) and Johnson (11).
- 16) Cf. Fei and Ranis (6), Chapters 4 and 6.
- 17) U.S.A., Canada, Italy, Israel, Australia, Denmark, and Netherlands are arbitrarily picked up as the representative samples which cover the small, medium and large countries.
- 18) The line of attack is quite related to that of Chenery and Taylor's (3), pp.409-412. See also Kuznets (16), pp. 113-117, pp.206-208. For other ways of investigation for the Asian countries, see Kirby (12), Chapter 6, pp.116-158.

- 19) As pointed out in Nelson (20), productivity per worker in a less developed country tends to be lower, resulting from three factors, i.e. a lower capital-labor ratio, using older technology, and relatively poor operation by management and lack of skilled labor.
- 20) As pointed out in Eckaus (5), the causes of the disequilibrium may stem from market imperfection, limitation of the technical substitution of factors, and inappropriate factor endowment.

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