

PART 5

COMPARATIVE
COUNTRY STUDIES

16. Industrialization and Trade in Manufactures: The East
Asian Experience

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**INDUSTRIALIZATION AND TRADE IN MANUFACTURES:
THE EAST ASIAN EXPERIENCE**

A CONSIDERABLE BODY OF LITERATURE attests to the fact that economic development is accompanied by regularities in the changing composition of manufactured output and of manufactured imports.¹ Past studies, however, have generally analyzed separately the patterns of change in the composition of manufactured output and of manufactured imports. In this study, I hope to add to our knowledge of these changing patterns by attempting to relate them explicitly. Furthermore, other studies have failed to uncover a well-established pattern of change in manufactured exports during the process of development. One of my purposes is to search for such a pattern in the experience of certain East Asian countries.

The Heckscher-Ohlin theorem states that, under certain assumptions, the factor endowment of a country compared to that of the rest of the world determines the country's trade pattern. A dynamic version of this theory states that, with systematic changes in a country's factor supplies relative to those of the rest of the world, the trade pattern changes systematically. If, in addition, we allow for systematic changes in demand, we may be able to obtain a theoretical explanation for changes in the composition of output and trade as a country undergoes economic development. In developing countries, the level of skill, the size of markets, the available capital supply, and organizational ability limit the industrial processes that can be

¹W. G. Hoffman, *The Growth of Industrial Economies* (Manchester: Manchester University Press, 1958); A. Maizels, *Industrial Growth and World Trade* (London: Cambridge University Press, 1963); Colin Clark, *The Conditions of Economic Progress* (London: Macmillan and Co., Ltd., 1957); H. B. Chenery, "Patterns of Industrial Growth," *American Economic Review*, (September 1960), 624-53; R. E. Baldwin, "The Commodity Composition of Trade: Selected Industrial Countries, 1900-54," *Review of Economics and Statistics*, XL, Part 2, Supplement (February 1958), 50-71; H. Tyszynski, "World Trade and Manufactured Commodities, 1899-1950," *Manchester School of Economic and Social Studies*, XIX (September 1951), 272-304; A. K. Cairncross, "World Trade in Manufactures since 1900," *Economia Internazionale*, VIII (November 1955), 715-41; Ingvar Svennilson, *Growth and Stagnation in the European Economy* (Geneva: United Nations, 1954); A. O. Hirschman, *National Power and the Structure of Foreign Trade* (University of California Press, 1945); and F. Hilgerdt, *Industrialization and Foreign Trade* (Geneva: League of Nations, 1945).

undertaken. The demand for manufactured products cannot be wholly satisfied by domestic production. With systematic changes in demand patterns and productive capacity, then, the composition of manufactured output and imports will change systematically.

Moreover, industrialization changes productive capacity, the range of potential exports, and the actual export pattern. If there is a uniform pattern of change in absolute factor supplies and productive capacity, and if the factor endowment of the rest of the world remains more nearly constant, developing countries with similar resource endowments will tend to display similar export patterns as industrialization proceeds. But international demand conditions and the factor endowments of the rest of the world differ for each developing country, according to the time at which that country undergoes industrialization; countries which are passing through the early phase of industrialization now are apt to display a pattern of change in exports different from that of countries which passed through this stage in 1900.²

In the experience of most developed countries, economic development brings a relatively rapid rise in the demand for capital goods, chemicals, and durable consumer goods, and a relatively slow expansion in the demand for food, beverages, tobacco, textiles, and clothing.³ Many empirical studies also show that an increase in per capita income is accompanied by a rise in the share of manufactured output in total national output, and that there exist significantly different growth patterns for the various branches of industry. Hoffman's study of developed countries has led him to conclude that industrialization has been characterized by a steady increase in the share of capital-goods industries in total manufactured output. A more detailed cross-country regression study has been made by Chenery.⁴ The existence of uniform growth patterns is confirmed by high correlation coefficients for almost all industries.⁵ According to Chenery, moreover, a fairly typical

²A similar set of arguments applies to imports. For imports, however, more emphasis might be given to changing tastes and technological progress. It is also argued that the absolute amount of imports is likely to depend on the size of the country. "Small countries are likely to be more dependent on imports than large ones, both because their range of natural resources available for industrial development is likely to be more restricted, and because they may have too small a home market for the efficient operation of optimum sized plants. In general, it seems that the import-content is inversely associated with population size in countries in a similar stage of economic development." A. Maizels, *Industrial Growth*, p. 13.

³Maizels, *Industrial Growth*, p. 42.

⁴Hoffman, *Growth of Industrial Economies*, pp. 2-38; Chenery, *Patterns*, pp. 624-53.

pattern of change in imports of manufactured products also exists, although the effects of a country's size are more pronounced than in the case of production. Maizels' later results, based on time-series analysis, differ from Chenery's in some respects, especially concerning the sign of the regression coefficient for textiles, but they also "support the view that economic growth is associated with a drastic shift in the pattern of imports (as well as of demand and output)."⁶

Less work has been done on the export pattern. Maizels is content to assert that, as a country's per capita manufactured output increases, its exports are increasingly dominated by manufactured products.⁷

Table 1
Estimates of Per Capita National Product, and Gross and Net Value (Value Added) of Manufactured and Agricultural Products: Korea, Taiwan, and Japan (1951 dollar prices)

Annual Average	Per Capita Net Value of Manufactured Product (A)	Per Capita Net Value of Agricultural Product (B)	(A) (B)	Per Capita National Product
Korea				
1911-1915	1.1	23.4	.05	39.1
1916-1920	1.9	25.4	.07	42.5
1921-1925	2.9	29.2	.10	50.8
1926-1930	4.5	36.8	.12	66.0
1931-1935	6.4	41.7	.15	79.0
1936-1940	11.9	43.1	.28	91.4
1951-1955 ^a	10.0 ^b	44.0 ^b	.23 ^b	124.0 ^c
1956-1960	16.0 ^a	46.0 ^d	.35 ^d	133.4
1961-1965	21.0 ^e	42.0 ^e	.50 ^e	146.6
Taiwan				
1902-1905	2.0	26.9.	.07	43.4
1906-1910	3.6	26.0	.14	44.4
1911-1915	5.8	30.5	.20	55.2

⁵Chenery calculated "growth elasticities" and "size elasticities" from a linear logarithmic regression equation in which the per capita value added (or import value) of each manufactured product depends on per capita income and population.

⁶Maizels, *Industrial Growth*, p. 182.

⁷*Ibid*, pp. 60-63.

Table 1 (Continued.)

Annual Average	Per Capita Net Value of Manufactured Product (A)	Per Capita Net Value of Agricultural Product (B)	(A) / (B)	Per Capita National Product
1921-1925	9.8	33.5	.29	68.9
1926-1930	13.1	46.7	.29	95.1
1931-1935	16.3	50.4	.32	105.2
1936-1940	15.9	49.6	.32	105.3
1951-1955	21.0 ^f	36.0 ^f	.58 ^f	94.8 ^g
1956-1960	26.3 ^g	37.2 ^g	.71 ^g	104.8
1961-1965	34.0 ^e	35.0 ^g	.97 ^g	130.1 ^h
Japan				
1881-1885	1.9	20.4	.09	42.6
1886-1890	3.5	24.8	.14	56.5
1891-1895	4.8	30.7	.20	66.9
1896-1900	7.0	33.0	.21	80.6
1901-1905	7.3	34.3	.21	86.8
1906-1910	9.1	35.0	.26	95.5
1911-1915	13.3	39.6	.34	112.4
1916-1920	19.1	37.4	.51	122.0
1921-1925	22.1	38.5	.57	147.7
1926-1930	30.3	38.5	.79	182.7
1931-1935	41.8	36.0	1.16	218.1
1936-1940	63.8	40.3	1.58	248.8
1951-1955	47.0 ^a	32.0 ^b	1.47 ^b	246.1
1956-1960	66.0 ^a	34.0 ^d	1.94 ^d	347.0
1961-1965	117.0 ^a	38.0 ⁱ	3.08 ⁱ	513.3 ^h

Sources: For the sources of data and the method used to compute these figures, see my unpublished doctoral dissertation, "A Study of the Changes in the Structure of Manufacturing Industry and in the Trade Pattern of Manufactured Products in Korea, Taiwan and Japan," (Columbia University, 1966), Chapter 3.

^aSouth Korea only for the post-World War II period. ^b1953 figures. ^cAverage of 1953-1955. ^d1958 figures. ^e1963 figures. ^f1954 figure. ^g1957 figures. ^hAverage of 1961-1964. ⁱ1962 figures.

THE STANDARD OF COMPARISON AND COMPARABLE PERIODS

My analysis of changes in manufactured output and trade patterns deals with Korea, Taiwan, and Japan; the Korean analysis covers the period 1911-

1965; Taiwan, 1902-1965; and Japan, 1881-1965. I shall compare the changing patterns in each country with one another and with the "typical" patterns of change suggested by Chenery and Maizels, to determine whether any of them has significant peculiarities that can be called exceptions.

Because comparisons among countries are most meaningful when they pertain to similar stages of development, I shall attempt a rough approximation of developmental stages in this section. Since it has been established that economic development is closely correlated with the increasing share of manufacturing industry and with rising per capita income, I shall use the percentage share of manufacturing in total national product and the per capita income levels as indexes of economic development.

Early Phase of Industrialization. Korea was a colony of Japan from 1910 to 1945, and Taiwan was Japan's colony from 1896 to 1945. They seem to have been in an early phase of industrialization before World War II; their manufactured product was less than 10 per cent of GNP, and per capita income was less than \$100. In the same sense, Japan seems to have been in an early phase of industrialization before 1910.

Approximate levels and trends in per capita product are shown in Table 1. Because the estimates of per capita income are crude, the simple ratio of net manufactured output to net agricultural output (A/B) is also used as an index of economic development.

The per capita income of Korea increased from about \$40 to \$90 (at 1951 dollar prices) during 1911-1940, and that of Taiwan from about \$45 to \$105 during 1902-1940. These figures correspond to those for Japan during 1881-1910, when its per capita income increased from about \$40 to \$95. In Korea, the ratio of net manufactured output to net agricultural output increased from about .05 to .28 during 1911-1940; in Taiwan, from about .07 to .32 during 1902-1940; and in Japan, from about .09 to .26 during 1881-1910. Comparing these three countries and using both indicators, it seems reasonable to draw a parallel and assert that they were at roughly the same state of economic development during the respective periods.

During these years, Korea, Taiwan, and Japan achieved remarkable growth in total national output, especially in manufactured output. In Korea, per capita income increased about 2.3 times during the 30-year span 1911-1940; per capita agricultural output, 1.8 times; per capita manufactured output, 11 times; and population by about 50 per cent. The gross value of manufactured product increased by about \$850 million, and that of agriculture by almost as much.

In Taiwan, per capita income increased about 2.7 times during the 40-year span 1902-1940; per capita agricultural output, 1.9 times; per capita manu-

factured output, 8 times; and population by about 80 per cent. The gross value of manufactured output increased by about \$300 million, and that of agriculture by about \$250 million.

In Japan, per capita income increased about 2.3 times during the 30-year span 1881-1910; per capita agricultural output, 1.8 times; per capita manufactured output, about 5 times; and population by about 30 per cent. The gross value of manufactured output increased by about \$1,250 million, and that of agriculture by about \$1,150 million.

In all three countries, growth rates of per capita income were higher than 3 per cent per annum. If the data used in this computation are correct, these rates rank among the highest overall rates of growth observed in early stages of economic development. The growth rates might be overstated early in each period because of incomplete census data, but these possible deficiencies in the data do not rule out a comparison of Korea's 1911-1940 period, Taiwan's 1902-1940 period, and Japan's 1881-1910 period for the purpose of analyzing the changing composition of manufactured output and trade.

A Transitional Stage. Converted at the official exchange rate, the per capita income of Korea rose from approximately \$113 in 1953 to \$158 in 1965, while the per capita income of Taiwan rose from \$94 in 1953 to \$157 in 1964. These per capita income ranges correspond to the first half of Japan's 1900-1940 period.

There was substantial industrialization in Korea before World War II, but, because of the partition and the heavy damage inflicted by the Korean War, manufacturing comprised only about 8 per cent of South Korea's GNP in 1953. This figure had risen to 18 per cent in 1965. In Taiwan, manufacturing was about 14.3 per cent of GNP in 1953 and had risen to 25.5 per cent by 1964.

During 1900-1940, Japan's per capita income rose from about \$90 to \$260 (from about \$90 to \$150 during 1900-1920, and from \$150 to \$260 during 1920-1940), and the share of manufacturing in GNP expanded from 8 to 32 per cent (from 8 to 16 per cent during 1900-1920, and from 16 to 32 per cent during 1920-1940). Thus, the development of Korea and Taiwan during 1953-1964 seems to correspond to Japan's development from 1900 to 1940; that of Korea to the first half of the Japanese period (1900-1920), and that of Taiwan, which was slightly more advanced, to the middle portion (roughly 1910-1930).

According to Rostow, Japan went through "takeoff" and arrived at "maturity" during 1900-1940. Surely, neither Korea nor Taiwan has arrived at Japan's 1940 stage of development. However, it does not seem absurd to assume that Korea and Taiwan will arrive at maturity within a decade or two,

and I shall call the period 1953 to the present a transitional stage for these two countries.

CHANGES IN THE COMPOSITION OF MANUFACTURED OUTPUT AND IMPORTS

The Early Phase. We shall regard—somewhat arbitrarily—1911, 1902, and 1881 as the starting points of industrialization in Korea, Taiwan, and Japan, respectively. These points have some similarities: per capita income was about \$40, and per capita manufactured product was about \$2. Since then, there has been a marked growth in national income and a relatively rapid growth in manufacturing. In consequence, we may expect similar patterns of development.

This section compares the patterns of change in manufactured output and imports in Korea, Taiwan, and Japan during their early phases of industrialization. It covers roughly the period 1911-1937 for Korea and the period 1902-1936 for Taiwan (when these countries were colonies of Japan), and the period 1881-1910 for Japan.

The Japanese pattern is used as a standard of comparison. This choice is easily justified. Chenery compared Japan's production and imports in 1914 and 1935 with his "typical" patterns of production and imports. He found that Japan's structure was not very dissimilar from that of present-day developing countries at corresponding income levels, and that the deviations of Japanese patterns from "typical" patterns were no greater than those of a country chosen at random. There was only one apparent exception—an abnormally large amount of textile production in Japan due to the large volume of Japanese textile exports.⁸

Table 2 attempts to provide a crude approximation of the demand patterns in Korea, Taiwan, and Japan during this phase. Demand is defined as the sum of domestic production and imports minus exports. Owing to inconsistencies in classification among trade and production data and changes in the method of classifying industrial production, these figures are inaccurate, but will have to do. Examination of the figures in Table 2 reveals greater growth in the demand for machinery and chemicals relative to the demand for textiles and food products. But it is less easy to identify consistent and uniform changes in the three countries' patterns of demand for each manufactured product. In Taiwan, for example, the demand for textiles was relatively small, and the

⁸H. B. Chenery, S. Shishido, and T. Watanabe, "The Pattern of Japanese Growth, 1914-1954," *Econometrica*, XXX (January 1962), 98-129.

demand for chemicals and building materials was relatively large. In fact, the demand patterns of Korea and Japan are more similar to each other than to those of Taiwan. Also, there was a relatively small demand for machinery in Japan before 1900.

But there are similarities in the demand patterns, especially between Korea and Japan, and one would therefore expect similar patterns of change in the composition of manufactured output, as well as in manufactured imports. One would forecast a rapid rise in textile production and an increase in the share of other industries during later periods. But, despite similarities in the growth of per capita incomes, demand patterns, and the growth rates of manufactured output, there were substantial dissimilarities in the composition of manufactured output and in manufactured imports.

In Korea, the share of textiles in total manufactured output was less than 17 per cent throughout the early phase of industrialization. In Taiwan, the share never exceeded 2.2 per cent. In Japan, on the other hand, the textile industry expanded from about 15 per cent to more than 40 per cent of total manufactured output during the early phase of industrialization. The import patterns of Korea and Taiwan reflect the slow expansion of the textile industry. In Korea, textiles accounted for about 40 to 50 per cent of total manufactured imports during the first half of the period; their share was reduced to less than 30 per cent thereafter, the result of a relative reduction in domestic demand and a slightly increased production of textiles in the later period. In Taiwan, textile imports fluctuated around 20 per cent of total manufactured imports throughout the period. In Japan, on the other hand, the share of textile imports was reduced from more than 60 per cent to less than 20 per cent during the period. This rapid rate of reduction reflected the sharp rise in domestic textile production. It may, perhaps, be inferred that the textile industries of Korea and Taiwan were victims of the colonial economy, whose textile demand was met by Japanese supply.⁹

In Korea, the share of the food industry fell from 60 per cent in 1930 to about 40 per cent in 1937. In Japan, it fell from about 60 per cent in 1881 to 40 per cent in 1890, and to less than 30 per cent at the end of the period. Thus, Korea and Japan show similar trends. In Taiwan, however, the share of

⁹Korea and Taiwan were designed to supply primary products to Japan and to be supplied by Japan with industrial products. The trade of Korea and Taiwan depended heavily on Japan: In 1933, Taiwan imported 80 per cent of its total imports from Japan, and 93 per cent of its total exports went to Japan. In the same year, 85 per cent of Korea's total imports were from Japan, and 86 per cent of its total exports went to Japan. See *Foreign Trade of Japan: A Statistical Survey* (Tokyo: Oriental Economist Inc., 1935).

the food industry was extremely large, about 70 to 80 per cent, until the end of the period. More than half of Taiwan's total manufactured output was from sugar refining, which had been developed vigorously by the Japanese.

Another dissimilarity appears in the chemical industry. In Japan and Taiwan, shares remained stable in the 5 to 10 per cent range; in Korea, the share of chemicals expanded to about 30 per cent. The rapid expansion in Korea seems to have been due to the introduction of improved technology in producing chemical fertilizers and Japanese efforts to make Korea, Japan's main rice supplier, self-sufficient in producing fertilizers.¹⁰

In Taiwan, the stagnant and insignificant share of chemicals is reflected in high imports. And, even in Korea, where the production of chemical fertilizers grew rapidly after 1930, the share of chemicals in total manufactured imports remained at about 15 to 20 per cent. In Japan, too, the share of chemical imports increased steadily, from about 10 to 30 per cent. These phenomena suggest the difficulty of expanding the chemical industry in the early period of industrialization, despite the relatively high and rapidly increasing demand for fertilizers and other chemicals.

More international similarities are shown by the machinery industry. In the three countries, the share of the machinery industry in total manufactured output remained negligible throughout the period. The share of machinery in imports expanded steadily in all three countries, reaching about 15 per cent of total manufactured imports at the end of the period. Excluding the 1901-1910 period in Japan, when, owing partly to armaments production, the share of the machinery industry was expanding a little, output and import patterns were quite similar in Korea, Taiwan, and Japan. The machinery industry did not develop rapidly, and the domestic demand for machinery was met mostly by imports.

During this early phase, Japanese industrialization was due mainly to rapid import substitution and to large exports of textiles. In Korea and Taiwan, the textile industry was partly or completely deprived of its role as a leading industry. But, even without its leadership, these two countries managed to achieve a rapid rise in agricultural and industrial production. In Korea, the chemical industry played a significant role at the end of the period, and, in Taiwan, sugar refining was dominant through the early phase of

¹⁰Korean fertilizer production in 1930 was valued at only 2 million yen, less than 10 per cent of total chemicals output. By 1935, fertilizer output had reached 37 million yen, or roughly one-third of total chemicals production. Chosen Government General, *Annual Statistical Report of Chosen Government General* (Chosen Sotokufu Tokei Nenpo).

industrialization. In brief, it seems that established relationships between growth and structural change are not displayed by colonial economies, which are deprived of independence in tariff, foreign exchange, and development policies.

If the atypical patterns of change shown by Korea and Taiwan could be attributed principally to their colonial status, there would be no apparent reason for these countries to depart from typical patterns after World War II. We have therefore to look at the period after 1953 to compare Korea and Taiwan with Japan in its own transitional stage from 1900 to 1940.

The Transitional Stage. There were roughly similar increases in the share of manufactured output in GNP in Korea, Taiwan, and Japan during the periods covered here: in Korea, from 8 to 18 per cent during 1953-1965; in Taiwan, from 14 to 25 per cent during 1953-1964; and in Japan, from 8 to 16 per cent during the first half of the period, 1900-1920, and from 16 to 32 per cent during the second half, 1920-1940. Underlying these increases in the share of manufactured output, there were similar, substantial changes in the composition of demand and output.

I have conducted a logarithmic regression analysis using per capita demand, value added, and imports of each product group as the dependent variables and per capita income as the independent variable, and have called the resulting coefficients "industrialization" elasticities. (The results for Taiwan are presented in Table 3, as an illustration.) In all cases, the elasticities of demand for machinery, electrical machinery, metal products, nonmetallic mineral products, paper products, and chemicals are greater than for total demand, while the elasticities for textiles and food products are smaller than for total demand. This pattern of changes in the composition of demand accords well with the "typical" pattern derived from the experience of developed countries.

All sectors, except printing, metal products (Korea), and nonmetallic mineral products (Japan during 1920-1940), which had elasticities of demand greater than that for total demand, had elasticities of output greater than for total output. These results suggest the continuous adjustment of the industrial structure to changing demand patterns.

I have also attempted to measure the effect of import substitution and of the expansion in demand on imports of manufactured products, and to compare the results for each country. Table 4 is constructed according to the method used by Maizels.¹¹ The change in imports from the base year to the current year can be written as $dM = m_1S_1 - m_0S_0$, where m represents the

¹¹A. Maizels, *Industrial Growth*, pp. 150-51.

import content of supplies, S . The change can be divided into two elements: $dM = S_1(m_1 - m_0) + m_0(S_1 - S_0)$, where the first term measures gross import substitution, and the second term measures the influence of home demand. The growth of home production does not, on this definition, count as import substituting unless it results in a falling share of imports in home consumption.

Table 3
Logarithmic Regressions of Demand, Output and Imports on Income:
Taiwan (1953-1964)

	Demand	Output	Imports
Machinery	2.372 ^a	3.701 ^a	2.060 ^a
Electrical machinery	3.038 ^a	4.027 ^a	2.456 ^a
Transport equipment	2.594 ^a	3.630 ^a	2.121 ^a
Base metals	1.089 ^a	1.326 ^a	1.680 ^a
Metal products	2.179 ^a	3.210 ^a	0.482
Nonmetallic mineral products	2.039 ^a	2.759 ^a	-2.189 ^a
Wood products	0.687 ^a	2.144 ^a	-3.768 ^a
Paper	1.601 ^a	1.788 ^a	2.191 ^a
Petroleum products	1.212 ^a	1.350 ^a	0.587
Rubber products	0.888 ^a	1.770 ^a	-3.093 ^a
Chemicals	1.975 ^a	2.286 ^a	1.628 ^a
Textiles	0.300	1.008 ^a	-0.831
Furniture	—	—	3.822 ^a
Printing	—	—	0.970
Leather products	-0.492	0.839	-3.873 ^a
Wearing apparel	—	—	-1.684
Food and kindred	1.037 ^a	1.059 ^a	0.350
All sectors	1.315 ^a	1.643 ^a	1.458 ^a

Source: Hong, "A Study of Changes," pp. 61, 73.

^aStatistically significant at the .05 level.

Import substitution of such manufactured products as nonmetallic mineral products, petroleum and coal products, rubber products, and textiles and consumer goods was very rapid in all these countries; the import content of total supply, as well as the share of each product in total manufactured imports, declined. There was also significant import substitution in electrical machinery, transport equipment, and paper products. But, because of the great increase in demand, these products were still imported in large quantity, and the direction of change in their share of manufactured imports was not always negative. Despite significant import substitution in metals and

chemicals, the expansion in demand usually outweighed import substitution, and the share of these products in total manufactured imports increased. Finally, a rapid increase in demand and a low rate of import substitution caused a steady increase in machinery imports.

On the whole, unlike the early phase of industrialization, the changing patterns of demand and the composition of manufactured output and imports in Korea, Taiwan, and Japan show remarkable similarity in the transitional stage.

Apart from the direction of change, the absolute amounts of production and imports are likely to be affected by the size of a country, its sector-specific natural-resources endowment, and its export opportunities. Thus, despite very similar demand patterns, there are some marked differences in production and import patterns among these countries (see Table 5).

In Korea and Taiwan, the share of the consumer-goods industries declined from about a half to a third of total manufactured output. It declined from a third to a sixth during 1900-1920 in Japan, where, by 1940, its share was only one-tenth of total manufactured output. In Korea and Taiwan, the share of textiles was about a fifth of total manufactured output, and showed some tendency to decline; in Japan, it was nearly 40 per cent until the early 1930s. The Japanese consumer-goods industry had a relatively small share, and the textile industry had an abnormally large share (about twice as large as that indicated by Chenery's typical pattern). It is argued, however, that small-scale production was more important in Japan than is now typical of developing countries, and the small share of consumer products might be the results of underestimating food and kindred products by excluding nonfactory, small-scale food and kindred production. This interpretation is mere conjecture, as reliable data on hand production in Japan or other developing countries are not available.

In Korea, more than a third, and, in Taiwan and Japan, generally more than half of total manufactured imports were metals, machinery, and transport equipment. But Japan imported much less machinery and transport equipment and imported more metals than did Korea and Taiwan.

Even with these dissimilarities, however, demand patterns and the composition of manufactured output and imports cannot be said to differ drastically from country to country. Even the high degree of Japanese industrialization at a low per capita income level is not a strange phenomenon. To be sure, it violates many generalizations based on the experience of old advanced countries. However, during the periods for which this comparison was made, the amount of manufactured products increased 1.9 times per decade in Japan, and 2.2 times in Korea (1955-1964) and

Taiwan (1953-1963). These rates of increase suggest that the present developing countries, such as Korea and Taiwan, can do better than, or as well as, Japan did during the 1900-1940 period.

Table 4
Effects of Import Substitution and of Expansion in Demand on Imports of Manufactured Products: Korea (1955-1964), Taiwan (1953-1963), and Japan (1909-1919, 1919-1929, 1929-1936) (millions of dollars^a)

	Changes in Imports Due to		
	Imports Substitution	Expansion in Demand	Total
Machinery			
Korea	+6	+14	+20
Taiwan	-3	+37	+34
Japan I	-48	+72	+24
Japan II	+6	+46	+52
Japan III	-168	+159	-9
Electrical machinery			
Korea	-39	+37	-2
Taiwan	-10	+18	+8
Japan I	-27	+24	-3
Japan II	+4	+6	+10
Japan III	-25	+14	-11
Transport equipment			
Korea	-19	+13	-6
Taiwan	-4	+8	+4
Japan I	-42	+47	+5
Japan II	+17	-2	+15
Japan III	-17	+26	+9
Base Metals			
Korea	-9	+23	+14
Taiwan	+3	+14	+17
Japan I	—	—	—
Japan II ^b	-258	+226	-32
Japan III	-277	+349	+72
Metal products			
Korea	+1	+1	+2
Taiwan	-6	+7	+1
Japan III	-43	+28	-15
Nonmetallic mineral products			
Korea	-4	+2	-2
Taiwan	-5	+4	-1
Japan I	-11	+8	-3

Table 4 (Continued.)

	Changes in Imports Due to		
	Imports Substitution	Expansion in Demand	Total
Machinery			
Japan II	+4	+3	+7
Japan III	-10	+6	-4
Wood Products			
Korea	0	0	0
Taiwan	0	0	0
Japan I	0	+5	+5
Japan II	+60	+11	+71
Japan III	-44	+22	-22
Paper products			
Korea	-19	+21	+2
Taiwan	0	+3	+3
Japan I	-16	+19	+3
Japan II	-32	+37	+5
Japan III	+37	+24	+61
Petroleum and coal products			
Korea	-42	+40	-2
Taiwan	-3	-3	0
Rubber products			
Korea	-2	+2	0
Taiwan	-2	+1	-1
Japan III	-11	+6	-5
Chemicals			
Korea	-45	+76	+31
Taiwan	-12	+32	+10
Japan I ^c	-110	+134	+24
Japan II ^c	+31	+123	+154
Japan III ^c	-130	+331	+201
Textiles			
Korea	-39	+24	-15
Taiwan	-6	+5	-1
Japan I	-207	+175	-32
Japan II	+26	+5	+31
Japan III	-50	+24	-26
Printing and publishing			
Korea	—	—	—
Taiwan	—	—	—
Japan I	0	0	0
Japan II	0	+2	+2
Japan III	-1	+1	0

Table 4 (Continued.)

	Changes in Imports Due to		
	Imports Substitution	Expansion in Demand	Total
Furniture and fixtures			
Korea	0	0	0
Leature products			
Korea	0	0	0
Taiwan	-1	0	-1
Japan I	-2	+1	-1
Japan II	+1	+2	+3
Japan III	+1	-2	-1
Wearing apparel			
Korea	-7	+2	-5
Food and kindred products			
Korea	+7	+13	+20
Taiwan	-17	+9	-8
Japan I	-16	+31	+15
Japan II	-50	+49	-1
Japan III	-21	+10	-11
Total manufactured products			
Korea	-149	+207	+58
Taiwan	-38	+118	+80
Japan I	-492	+688	+196
Japan II	-29	+358	+329
Japan III	-467	+708	+241

Source: Hong, "A Study of Changes," pp. 66-71.

^aKorea at 1960 prices; Taiwan at current dollar prices; Japan at 1951 dollar prices.

^bIncludes metal products.

^cIncludes petroleum and rubber products.

INDUSTRIALIZATION AND EXPORTS OF MANUFACTURED PRODUCTS

Because of the limited prospects for the substantial expansion of traditional exports of primary commodities, it is recognized that the rapid enlargement of exports of manufactures may be of strategic importance for developing countries. During recent years, exports of manufactures from such countries, though still small, have exhibited a substantially higher rate of growth than that recorded by exports of primary commodities. In 1961, manufactured exports totaled about \$2.6 billion, compared \$1.8 billion in 1955. This increase reflected an annual growth rate of 6.5 per cent, compared with 2.2 per cent for primary commodities over the same period.¹² Exports of manufactures, however, have been dominated by a few developing countries. In 1961, for example, East Asia alone accounted for almost three-quarters of the manufactured exports from all developing countries. It is the purpose of the rest of this essay to explore, by means of a comparative study of some East Asian countries, some general characteristics of changes in the export pattern of manufactures of developing countries.

Although there was a steady increase in the share of manufactured production in total exports during the course of Japanese industrialization, exports were mainly raw silk, foodstuffs, and other primary products until 1890. However, the share of manufactured products in total exports started to expand rapidly during 1889-1900, changing from a quarter of total exports in 1889 to a half in 1900 (see Table 6). During the 40-year span 1900-1939, moreover, the share of manufactured products in GNP consistently increased, and their share in total exports also rose. Japan seems to have gone through something like a takeoff stage in exports of manufactures during 1891-1900, and fully escaped from its primary export structure after 1900.

In Korea, too, there had been a slow but steady increase in manufactured exports before World War II. However, Korean exports were dominated by rice and other primary products such as mineral ores. After World War II, there was a steady increase in the share of manufactured products in total exports, yet exports were still dominated by primary products (and total exports were exceedingly low during 1952-1960). Only since 1961 have total exports and the share of manufactures in total exports expanded rapidly. By 1963, the share of manufactured products became nearly half of total Korean exports, and, in 1965, manufactured products accounted for about 60 per cent

¹²United Nations, *Trade and Development: Trade in Manufactures* (New York, 1965), pp. 3-9.

Table 6
Changes in the Share of Manufactured Products in Total Gross National Product and in Total Exports: Korea, Taiwan, Japan, India, and Hong Kong (per cent)

Year	Japan		Year	Korea		Taiwan		India		Hong Kong
	MP ^a	MP ^b		MP	MP	MP	MP	MP	MP	DO ^c
	GNP	EX		GNP	EX	GNP	EX	GNP	EX	EX
1868	—	5	1910	—	—	—	7	—	17	—
1870	—	8	1915	—	—	—	14	—	28	—
1875	2.7 ^d	7	1920	—	6	—	8	—	34	—
1880	3.0	17	1925	—	4	—	7	—	22	—
1885	4.2	20	1930	—	9	—	7	6.0 ^e	22	—
1889	6.7	24	1935	9.6 ^f	13	14.8 ^f	7	8.0 ^g	23	—
1891	6.0	31	1953	8.0	2	14.3	11	11.1 ^h	43	23
1892	6.2	31	1954	8.8	3	16.4	21	12.5	38	28
1893	6.8	35	1955	10.2	9	16.8	17	12.3	37	29
1894	5.9	35	1956	11.4	8	17.1	11	11.6	37	24
1895	7.1	36	1957	11.7	14	18.2	15	12.2	43	22
1896	8.0	40	1958	11.9	14	17.5	21	11.3	42	39
1897	7.7	37	1959	12.3	12	18.9	31	11.8	43	63
1898	6.0	44	1960	12.7	15	17.5	40	12.0	46	68
1899	8.4	43	1961	12.4	16	18.0	51	12.7	48	71
1900	8.1	48	1962	13.4	20	18.9	59	13.1	47	72
1910	10.9	50	1963	14.5	45	21.8	46	—	47	73
1920	15.6	68	1964	16.1	51	25.5	45	—	48	77
1930	18.1	59	1965	17.9	60	—	—	—	—	—
1940	31.6	77	1966	—	—	—	—	—	—	—

Sources: Hong, "A Study of Changes," pp. 30-31, 92-95; India, Office of the Superintendent of Government Printing, *Annual Statement of the Sea-borne Trade and Navigation of British India and Review of Trade of India*; India, Department of Commercial Intelligence and Statistics, *Accounts Relating to the Sea-borne Trade and Navigation of British India*, and *Monthly Statistics of the Foreign Trade of India*; United Nations, *Yearbook of National Accounts Statistics*; and A. Maizels, *Industrial Growth and World Trade* (London: Cambridge University Press, 1963), pp. 486, 533.

^aPercentage share of manufactured products in total gross national product.

^bPercentage share of manufactured products in total exports. (*Note:* In the case of Taiwan, refined sugar is excluded from manufactured products. If refined sugar is included, the figures become 66 per cent for 1910, 62 per cent for 1915, 74 per cent for 1920, 50 per cent for 1925, 66 per cent for 1930, and 50 per cent for 1935).

^cPercentage share of products of domestic origin, mostly manufactured products, in Hong Kong's total exports.

^fRefer to Tables 1 and 2 as well as to the footnotes to those tables for the sources of data and method used to compute these figures.

^g1937 figure.

^hFigures for India's manufactured products in the United Nations' *Yearbook of National Accounts Statistics* include products of gas, electricity, and construction industries. If we could assume that India and Pakistan have similar industrial structures, the share of manufactured product would be about 70 per cent of those figures. Figures in Table 7 are computed on this tenuous assumption.

of total exports. In this sense, Korea seems to have escaped from its primary export structure after 1963, although its per capita manufactured exports are still very small.

Taiwan's exports were composed mainly of sugar and rice during the sixty-year period 1896-1956. The share of manufactured products (excluding sugar) fluctuated around 10 per cent of total exports, and the manufactures involved were mainly food products such as canned pineapple or alcohol (a by-product of sugar refining). Since 1957, however, there has been a rapid development of manufacturing industry, and the share of manufactured products (excluding sugar) in total exports has expanded rapidly—from 15 per cent in 1957 to 40 per cent in 1960 and to 45 per cent in 1964. Since 1960, manufactured products have accounted for about half of Taiwan's total exports.

There was a consistent increase in the share of manufactured products, mainly textiles, in India's total exports before World War II. The share of manufactures in total exports fluctuated around 40 to 50 per cent during 1947-1954. However, there has been a steady and definite expansion in the share of manufactured exports since 1955; that share increased consistently from 37 per cent in 1955 to 48 per cent in 1964. Although the rate of expansion in the share of manufactured products and in India's total exports was not particularly impressive in this period, India seems to have escaped from its primary export structure after the war, as nearly half of its total exports are manufactured products.

Hong Kong ceased to be a mere transit port and became a major exporter of manufactures after 1959, when the share of domestic-origin exports, mainly manufactured goods, was 63 per cent of total exports.

In general, there has been a steady expansion in the share of manufactures in total exports with the increase in the share of manufactures in total GNP (i.e., with the progress of industrialization).

Another notable phenomenon is the rapid change in the export structure during a short period at a certain point of industrialization. For instance, in

Japan, the share of manufactures in total exports expanded from 24 to 48 per cent during 1889-1900; in Korea, from 15 to 60 per cent during 1960-1965; in Taiwan, from 15 to 45 per cent during 1957-1964; in India, from 23 to 42 per cent during 1935-1947, and in Hong Kong, from 23 to 77 per cent during 1953-1964. All these structural changes occurred within a decade or so and, more importantly, when the share of manufactured output in GNP was between 6 and 20 per cent and per capita income was about \$100.

OTHER FACTORS INFLUENCING THE EXPORT PERFORMANCE OF MANUFACTURED PRODUCTS

Maizel's analysis of manufactured exports suggests that the share of manufactured products in total exports tends to increase as industrialization progresses.¹³ In Korea, Taiwan, Japan, India, and Hong Kong, this trend was also easily identified. A significant correlation between the percentage share of manufactured products in a country's total exports and the level of industrialization (measured by the share of manufactured output in GNP) was also identified for the eleven Asian countries listed in Table 7.

In 1963, however, the level of industrialization in Korea, Pakistan, India, Burma, and Thailand was quite similar, but the importance of manufactured exports was very different. Hence, some other factors may influence a country's manufactured exports. Chenery's study of the effects of resource availability on growth patterns suggests a significant correlation between resource endowments and trade patterns; well-endowed countries tend to export more primary products than resource-poor countries.¹⁴

Unfortunately, we do not have a satisfactory way to measure natural-resource endowments. One common approach is to classify countries as overpopulated or underpopulated on the crude assumption that an overpopulated country is apt to be poorly endowed with natural resources such as arable land, and one may be able to obtain a rough measure of resource supplies by examining population density. But since there may be no close correlation between population density and other natural-resource endowments, such as minerals, another method should be used. To this end, I measure primary exports as a percentage of gross national product (not the

¹³A. Maizels, *Industrial Growth*, pp. 60-63.

¹⁴H. B. Chenery, "The Effects of Resources on Economic Growth," in Kenneth Berrill (ed.), *Economic Development with Special Reference to East Asia* (London: Macmillan Co. Ltd., 1965), pp. 19-52.

percentage share of primary exports in total exports), on the assumption that these exports reflect the exportable natural-resource endowments of the country. In this section, then, I use population density and primary exports divided by GNP as indexes of resource endowments. I study 11 Asian countries in which the share of manufactured output in GNP was more than 8 per cent in 1963, and present a series of rank correlation tests. I seek to determine whether there is any significant correlation between resource endowments and export performance in manufactures.

Table 7
Relationship between the Resource Endowment and the Proportion of
Manufactured Products in Total Exports, 1963

Country	Share of Manufactured Products in Total Exports (%)	Share of Manufactured Products in GNP (%)	Population Density per Sq. Km.	Share of Primary Exports in GNP ^a (%)
Hong Kong	94	33 ^b	3,481	3.86
Taiwan	74	22	325	5.08
Japan ^c	68	16	170	2.90
India	47	13	151	2.47
Korea	44	15	273	1.73
Philippines	28	19	101	9.06
Pakistan ^d	26	10	104	4.03
Indonesia	19	8	67	10.91
Thailand	7	12	56	14.88
Malaya ^d	7	8	58	31.88
Burma	3	16	35	17.31

Kendall's rank correlation coefficients:
Share of manufacture products in
total exports .53^e .86^e .56^e

Sources: United Nations, *Statistical Yearbook, 1964 Bulletin for Asia and the Far East, Yearbook of International Trade Statistics, and Yearbook of National Accounts Statistics.*

^aSmallest figure was given the highest rank in computing the correlation coefficient.

^b1955 figure. *Source:* E. Szczepanik, *The Economic Growth of Hong Kong* (London: Oxford University Press, 1958), p. 178.

^c1920 figures. ^d1962 figures.

^eStatistically significant at the .05 level.

The results are set out in Table 7. There are significant correlations between population density and primary exports, on the one hand, and the share of manufactures in total exports, on the other. Resource-poor countries (those with high population density and low primary exports) tend to export more manufactured products than resource-rich countries. Thus, it seems that the effects of industrialization on exports of manufactured products depend partly on the natural-resource endowment of a country.

Apart from high population density, there are some peculiarities in the cases of Korea, Taiwan, and Hong Kong which seem also to have influenced their performance in manufactured products. In both Korea and Taiwan, a large proportion of imports has been financed by U. S. aid.

In Taiwan, the increase in imports outstripped the rise in exports until 1961, and the gaps (generally 40-50 per cent of total imports) were financed by U. S. aid. For several years, warnings were repeatedly addressed to Taiwan that U. S. aid would cease in the near future. For this and other reasons, the Taiwan government has vigorously promoted export expansion to achieve a better balance of trade in the absence of U. S. aid. Low-interest loans have been extended to manufacturing export industries, which were encouraged to adopt new methods of production and to expand productive capacity. Market surveys have been conducted by the government; quality control has been applied to several products; industries which export 50 per cent or more of output are exempt from (or entitled to reductions in) business taxes.¹⁵ All these encouragements to export have produced favorable results. The unfavorable trend in the trade balance took a turn for the better in 1962, when the increase of exports surpassed that of imports. In 1963, exports rose 50 per cent while imports went up 3 per cent, and, in the same year, for the first time since 1949, Taiwan's trade balance registered an export surplus (about \$20 million). Soon thereafter, it was announced that U. S. aid would be terminated by 1965.

In Korea, the proportion of imports financed by U. S. aid has been even larger. Until 1961, more than 70 per cent of total imports were financed by U. S. aid. Warnings that U. S. aid might cease within a few years have also been addressed to the Korean government since the beginning of the 1960s. To complicate matters, the Korean government initiated an ambitious Five-Year Plan in 1962, which required a large amount of foreign exchange. When the Five-Year Plan encountered difficulty because of a shortage of foreign

¹⁵Republic of China, Foreign Exchange and Trade Commission, Executive Yuan, *Foreign Trade Quarterly* (Taipei); and United Nations, *World Economic Survey: 1965* (New York 1965), p. 114.

exchange, the government quickly acknowledged the necessity of a drastic expansion in exports and initiated a vigorous export-promotion policy. Tax incentives and low-interest-rate bank loans were provided to export industries, and an export subsidy system was instituted during the latter half of 1961. In an attempt to encourage exports and restrict imports, the government established an export "link" policy, which seems to have been quite effective. Under this "link" policy, only those who exported more than a certain amount during a given period were authorized to import commodities classified as permission-required items. From an average of about \$25 million during 1950-1960, exports increased to \$41 million in 1961, to \$87 million in 1963, to \$119 million in 1964, and to \$172 million in 1965. The target for 1966 was \$250 million, and the target for 1971, the final year of the Second Five-Year Plan (1967-1971), is \$550 million. The government vows that, within ten years from 1966, Korea will be exporting more than \$1 billion worth of commodities, mainly manufactured products. It is not certain whether the government's somewhat ambitious goal will be realized, but one thing is clear: the government is expending great efforts to expand exports.

The export-promotion policies of Korea and Taiwan were not limited to manufactured products, but, because of the lack of exportable primary products, the principal beneficiaries of these policies have been the manufacturing export industries, and the policies have resulted in a further rapid increase of manufactured exports.

The situation in Hong Kong is even more peculiar. Its population (nearly 3.5 million in 1965) is crowded into a very small area, about a thousand square kilometers of rocky and mountainous land. Its population was about one-half million until the end of World War II, but doubled in 1946. During 1947-1956, moreover, net immigration was about three-quarters of a million, and, with the natural increase of half a million, the population reached 2.5 million by 1956.¹⁶ Pressed by the need to find employment for its burgeoning population, Hong Kong began to transform its economy from its historic entrepôt base to an industrial network capable of manufacturing a variety of products for export. It has emerged as a major exporter of manufactures.

¹⁶Data from E. Szczepanik, *The Economic Growth of Hong Kong* (London: Oxford University Press, 1958), p. 154.

CHANGES IN THE COMPOSITION OF MANUFACTURED OUTPUT AND OF MANUFACTURED EXPORTS

The purpose of this section is to examine in more detail the relationship between industrialization and changes in the export pattern (i.e., to examine the relationship between changes in the composition of manufactured output and of manufactured exports).

Korea, Taiwan, India, and Hong Kong started only recently to export significant amounts of manufactures. Hence, it is impossible to study the relationship between changes in the composition of manufactured output and of manufactured exports on a long-run, time-series basis. The investigation of this long-run relationship is confined to Japan.

Before 1899, the proportion of machinery output in total Japanese manufactured output was negligible, as reflected in the insignificant share of machinery in total manufactured exports. During 1900-1929, the share of machinery output expanded considerably, but there was no matching increase in exports of machinery and transport equipment. During 1930-1940, however, there was another round of expansion in the share of machinery output, and the share of machinery in manufactured exports also grew rapidly. Since World War II, expansion in the output and export shares has been almost identical.

There was a rapid growth in the share of textile output before 1899, and a rapid rate of expansion in textiles' share of total manufactured exports. In 1899, about half of total manufactured exports were textiles.

During 1900-1929, the share of textile output fluctuated within 40 to 50 per cent; and its share in exports was near 50 per cent. After 1930, and until the 1960s, textiles' share in manufactured output and manufactured exports declined rapidly and continuously. By 1962, the share in output was about 10 per cent; and the share in exports about 20 per cent.

Only after 1930 did Japan's industrial structure begin to show large changes toward the pattern of the presently developed countries. The share of machinery in manufactured output expanded sharply from one-tenth to about one-quarter; chemicals increased from one-seventh to one-fifth. There was a sharp reduction in the share of textiles and consumer goods. These changes in the industrial structure were reflected in the export pattern: There was a sharp increase in the export shares of machinery, metals, and chemicals, and a sharp fall in the share of textiles.

During the 30-year period 1900-1929, textiles and consumer goods constituted about 60 to 70 per cent of total manufactured exports. In this period, the share of manufactured output in GNP increased from about 8 to

Table 8
Changes in the Composition of Manufactured Output and Exports: Japan, India, Korea, Taiwan, and Hong Kong (per cent of Total)

	Output				Exports			
	1900	1909	1919	1929	1900	1909	1919	1929
Japan								
Machinery	1.2	5.3	11.4	9.2	0.4	1.3	2.9	3.2
Metals	5.4	2.2	5.4	9.3	14.4	12.3	7.3	3.4
Building materials	4.6	5.6	5.2	5.5	5.3	7.6	6.3	7.4
Chemicals	6.7	10.3	11.9	14.8	11.7	11.7	11.0	8.9
Textiles	44.6	49.7	51.0	40.8	57.7	49.4	55.0	58.3
Consumer goods	35.2	22.8	14.7	19.0	5.4	22.8	14.0	17.7
Japan	1939	1953	1962	1939	1953	1964		
Machinery	21.7	15.3	32.0	14.7	17.2	31.1		
Metals	21.9	17.7	14.4	8.5	16.9	19.1		
Building materials	5.3	7.5	8.0	8.3	6.5	4.5		
Chemicals	19.7	17.4	16.2	12.4	6.9	10.0		
Textiles	14.0	18.2	8.5	36.4	34.2	16.5		
Consumer goods	11.9	21.5	16.6	16.8	10.9	8.9		
India	Output				Exports			
	1951	1957	1964	1938	1947	1951	1957	1964
Machinery	4.4	7.9	11.1	—	—	—	0.7	2.0
Metals	12.8	11.1	17.5	6.1	—	0.1	0.7	3.8
Building materials	2.7	3.4	3.9	—	—	—	0.9	0.6
Chemicals	9.4	13.7	17.0	1.0	2.0	1.1	4.9	4.8
Textiles	50.8	45.4	35.7	81.1	90.1	92.1	75.8	70.6
Consumer goods	19.8	18.5	14.8	11.9	7.9	6.7	14.9	15.8
Taiwan	Output				Korea		Hong Kong	
	Output		Exports		Output	Exports	Exports	
	1959	1965	1959	1965	1965	1965	1959	1964
Machinery	4.1	9.3	1.6	5.2	8.5	3.7	3.5	5.3
Metals	7.2	5.8	11.3	9.0	7.5	17.9	6.4	4.4
Building materials	9.1	13.4	11.8	22.1	9.1	20.4	1.0	0.6
Chemicals	17.8	22.4	18.7	12.1	16.6	2.0	2.4	1.5
Textiles	20.3	17.5	29.4	21.9	18.9	25.6	20.0	16.6
Consumer goods	40.3	32.8	26.8	24.3	32.6	25.7	51.4	48.3

Sources: Hong, "A Study of Changes," pp. 92, 94, 106; and India, Department of Statistics, Cabinet Secretariat, *Monthly Statistics of the Production of Selected Industries of India*.

18 per cent and per capita income rose from about \$90 to \$180. After 1930, the share of textiles and consumer goods declined continuously. During 1930-1964, the share of manufactured output in GNP expanded from about 18 per cent to about 32 per cent, and per capita income increased from about \$200 to \$600. Japan's movement toward increased exports of machinery and metals began after 1930, following a further increase in output of the machinery and metals industries. This movement has intensified since World War II, especially since 1955, when machinery and metals represented nearly one-third of total Japanese manufactured exports.

The export patterns of Korea, Taiwan, India, and Hong Kong in the 1960s are not very different from those of Japan during 1900-1929. As Table 8 shows, textiles and consumer goods constitute the dominant share of total manufactured exports. One notable difference is that, in Korea and Taiwan, the share of products other than textiles and consumer goods is about 49 to 54 per cent, and these countries are exporting significant amounts of electrical machinery, metal products, and wood product (mainly plywood). The manufactured exports of India (in 1964), like those of Japan (in 1900-1929), are almost exclusively textiles and consumer goods.

If the presently developing countries followed the same pattern as Japan, they would require some three decades from their emergence as exporters of manufactures to be transformed from textile and consumer goods exporters into exporters of other manufactures. The short experience of other developing countries prevents a definite conclusion, but the experience of developing countries like Korea, Taiwan, India, and Hong Kong suggests that they may not take so long. Since the emergence of India as an exporter of manufactures, the share of textiles in its manufactured exports has declined steadily, from 92 per cent in 1951 to 76 per cent in 1957 and to 71 per cent in 1964; in Taiwan, it fell from 29 per cent in 1959 to 22 per cent in 1964; and in Hong Kong, it fell from 20 per cent in 1959 to 17 per cent in 1964. In Korea, about half of the total manufactured exports are products other than textiles and consumer goods. The share of consumer goods other than textiles has also been declining slightly in these countries. This more rapid transformation may reflect the problems faced by presently developing countries when exporting textiles and other consumer goods—the severe protective policies imposed by developed countries, ever-increasing competition among developing countries, and the absence of easy colonial markets such as those that were available to Japan before World War II.