

DEVELOPMENT STRATEGIES OF JAPAN AND THE REPUBLIC OF KOREA: A COMPARATIVE STUDY

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INTRODUCTION

JAPAN and Korea, two neighboring countries in East Asia, have achieved high rates of economic growth in the postwar period. While differing in many respects, we would like to put forward the hypothesis that these two countries are similar in terms of the factors relevant to economic development, and that their governments have followed a similar development strategy. We therefore regard the development of the two countries as two variants of the same model, with differences accounted for by initial conditions, political structure, and external factors.

There have been attempts to compare the experience of contemporary Asian countries in the postwar period with Meiji Japan.¹ While meaningful as a test for theories of economic development, such a comparison does not indicate a learning process, since it can hardly be maintained that present-day developing countries imitate the Japanese experience of one hundred years ago. In this paper we deal with a much shorter time lag, where we believe that learning has been taking place. The geographical proximity of Korea to Japan, the historical ties between the two countries and the spectacular success of the Japanese growth process must have had a strong effect on the Korean political and economic leadership in formulating Korea's growth strategies. This was true especially after 1965, when relations between the two countries were normalized.

We start the paper by presenting a short description of the salient features of what we consider to be the Japanese model of development. Section II is an application of the model to the Korean economy, followed in Section III by a comparison between Japan during the decade 1955-64 and Korea during 1965-74. Concluding remarks are presented in Section IV of the paper.

I. THE JAPANESE MODEL OF DEVELOPMENT

Japan's rapid economic growth and successful performance in the face of external shocks has been attributed to many varied factors, but few attempts have been

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¹ See, for example [15].

made to link all of them together within a coherent strategy of development. We believe that rather than a juxtaposition of different factors, all appearing at random at a specified time period, the essence of the Japanese experience can be regarded as a case of a future-oriented development strategy.² Let us first explain what we mean by "future-oriented."

We start from the assumption that the target of economic activity is to maximize the stream of consumption from the present up to some future date, the "economic horizon," but that this "objective function" depends on the value placed on consumption at different points of time. Some societies place a high value on present consumption and are willing to sacrifice future benefits, others place a high value on future consumption, willing to make great sacrifices in the present. This amounts to saying that societies differ according to the discount rate they place on future consumption: the more "future-oriented" a society, the lower the rate of discount of the future.

A future-oriented strategy stands in contrast to the principle of static comparative advantage, which calls for the maximization of total output, measured by international prices, at each point of time. Under a future-oriented strategy, short-term costs caused by, e.g., inefficient allocation of resources are tolerated if needed for capturing long-term benefits. For example, a country with abundant labor and short supply of capital will engage in capital-intensive industries if by doing so it will better prepare itself for future changes in factor endowment or demand conditions. In this case a loss due to short-term inefficiency is more than compensated by future gains.

The economic variable that directly represents the preference of future consumption relative to present consumption is the rate of saving. As has often been pointed out, the high propensity to save is one of the important characteristics of the Japanese people. In particular, voluntary household savings have been high when compared to those of other countries in an international cross section. This was the case even during periods of substantial inflation, and indicates the importance attached by Japanese families to prepare themselves for the future, even though it entails a reduction in present satisfaction.

The Japanese employment system provides another example of the future-oriented approach. The lifetime commitment of workers to their company is a long-term relationship which places job security above short-term pecuniary gains. This system extends beyond employment with a single company, when workers who retire find employment with related companies. In the public sector we find the phenomenon of *amakudari* (literally translated as "descent from heaven"), namely government officials who retire from their ministry and move on to private companies or public corporations related to the ministry [5]. The seniority system, according to which length of service is an important determinant of wages, acts as another institution which enhances long-term relations between employer and worker.

² For a fuller description of the model, see [3] [4].

Turning to industrial organization we find several elements which lead to future-oriented policies: the subcontracting system, whereby small firms supply parts and services to larger companies on a quasi-permanent basis; the organization of Japanese companies in groups, usually centered around banks, with a certain degree of coordination among the companies; and the biased structure (by Western standards) of financial capital. Contrary to Western practices, loan capital in Japan is a major share of the firm's capital, while the share of stock ownership is relatively unimportant. This reduces the pressure put on managers for short-term profits and enables them to take a longer view of the firm's activities.

A striking example of a future-oriented attitude is provided by the Japanese educational system. A hierarchy of high schools and universities serves as a screening device for employment in major companies and government ministries. To reach high positions in business and government, people have to go through a tough system of entrance examinations, each of which paves the way to the next stage. The importance of attending high-level schools for future employment has caused the creation of a whole "educational industry," consisting of private tutors and prep-schools. Both children and parents undergo considerable material and psychological hardship for the purpose of attaining future benefits.

As all the above examples show, individual preferences are represented by a utility function with a low rate of discount of future benefits. This, however, is reinforced by social action, directed at long-run objectives, done through government intervention in the private sector with the purpose of shifting private action in the direction prescribed by the government. There are three ways in which the government performs this task: planning, change in relative prices, and "administrative guidance."

The Economic Planning Agency issues plans which, though of an indicative nature, signal the priorities of the government to private agents. These plans also serve to increase cooperation between the government and the business sector during the preparation period. A more important form of government action is through manipulation of relative prices, such as the exchange rate, interest rate, prices of inputs and outputs. Using a system of taxes and subsidies, as well as direct controls, the Japanese government has directed production toward high-growth industries such as shipbuilding, iron and steel, machinery, chemicals, and knowledge-intensive industries.³ Protection of domestic industry from foreign competition through the use of tariff and non-tariff barriers, was of considerable importance in shifting the industrial structure away from static comparative advantage and toward future-oriented industries. The third instrument, "administrative guidance," is used by government officials, mainly from the Ministry of International Trade and Industry, to influence business decision through personal and informal contact with businessmen.

There are several conditions which support the undertaking of a future-oriented strategy and its successful implementation. A large domestic market can serve

³ See [14, p. 20].

as a testing ground for the introduction of new industries and enable them to reach the size necessary to benefit from scale economies. An international environment where import restrictions are tolerated without retaliation makes it possible for infant industries to bloom within a protected market before being exposed to international competition. An external source of new technology which can be attained at low cost enables the country to skip technological stages which other countries had to follow and thus reach the frontiers of production know-how much faster. A highly competent civil service, carefully chosen and trained, has the wide perspective needed for making judgments on future chances and risks and the social status to implement decisions. And, finally, a stable political system with firm expectations for continuation of the status quo serves to reduce uncertainties about the future. All these supporting factors were present in the Japanese case: Japan's domestic market was sufficiently large to absorb a significant volume of supply from newly established industries, and restrictions on foreign competition made it possible to develop those industries sufficiently before putting them to the test of international competition. The screening procedure for high-level public servants ensured their compatibility for the job and their social status within the business community. Industrial organization in the form of economic groups and the "company-based" labor unions introduced flexibility into the system, which enabled Japan to take advantage of changing conditions in international markets with minimal resistance from management and labor. Being a latecomer to the process of development, a source of advanced technology was available to Japan at low cost, and the prolonged rule of the Liberal Democratic Party provided the basis for stability and continuation.

In summary, the actual realization of the future-oriented strategy in the Japanese case consisted of the following elements: a quick transition from labor-intensive to capital-intensive products and technologies in defiance of the principle of static comparative advantage; a skillful use of tariff and non-tariff barriers, as well as direct and indirect subsidies, in order to protect domestic industries and promote exports; utilization of borrowed technology, after its adaptation to domestic conditions, for the development of new products and processes and generation of a national consensus to support future-oriented strategies despite their short-term costs.

II. APPLICATION OF THE JAPANESE MODEL TO KOREA

Kim and Roemer, who compare the Japanese and Korean experience, state that "Post-war Japan, which also recovered from war devastation to become one of the economic 'miracles' of the 1960s, has been a model for Korean development" [9, p. 145]. Before going into a detailed analysis, we have to clear up what we mean by Japan being a model for Korea. As mentioned before, both countries manifested high rates of growth, but this alone cannot justify the contention that we are dealing here with the same pattern of development. For one thing, high growth rates have been observed in many countries and under various economic regimes. For another, one country may imitate another but be unsuccessful in

following this example. Thus performance alone is not sufficient to determine whether one country has been a model to another, and we have to look into the inner mechanism of the economy. The decisive criterion is whether major similarities exist in the structure and functioning of the two economies.

Needless to say, countries who follow the same development strategy are often very different from each other in many respects. This is the case with countries who come under the heading of "free-enterprise economies" as well as with the so-called planned economies. The question is whether similarities, the underlying economic mechanism warrant the judgment that the countries belong to the same economic regime.

A. Differences between Japan and Korea

Before looking at the similarities between Japan and Korea, let us mention some of the major differences. First, there is a considerable difference in the size of the two countries, both with respect to area (114,000 square miles for Japan, 38,000 square miles for Korea) and population (there were 94 million people in Japan in 1960 compared to 31 million in Korea in 1970). Population growth in Korea was much higher than in Japan: whereas Japan's population grew at about 1 per cent per annum during the period 1955–64, the rate for Korea was 2.2 per cent during 1965–74. However, the population growth rate in Korea has been declining at a rapid rate and the gap between the two countries diminished considerably.

The second major difference lies in the initial conditions which preceded the high-growth period. In the prewar period Japan went through the process of economic development as an independent country and stayed within the same national boundaries after the war. Korea, on the other hand, was under Japanese colonial rule before and during World War II and underwent partition into North and South Korea and a war between the two Koreas thereafter. While both countries were devastated by war, Japan could rehabilitate itself by utilizing the technological know-how and managerial skills developed in the prewar period. In Korea, while some progress was made under Japanese colonialism, the economy was geared to the Japanese market, and the modern sector was dominated by Japanese. For example, although heavy and chemical industries grew rapidly since 1937, they were largely under Japanese management, and when managers and technicians left after independence, there were very few to replace them. While Japan had a considerable base of heavy and chemical industry before the war, in Korea those industries were largely in the North, as was 92 per cent of the electric power generation. When the country partitioned, South Korea was left with agricultural and light industry.⁴

A third major difference relates to the international environment in which both countries found themselves during the rapid-growth period. When Korea took off, Japan was already well underway to become an international economic superpower, and had an important effect on the Korean economy. Korean manufac-

⁴ See [9, Chap. 2].

turing industry had to compete with respective industries in Japan, such as shipbuilding and textiles; on the other hand, Japan became a major supplier of capital and technology to the Korean economy [12, p. 35].

The last difference between the two countries to which we would like to draw attention is the role of military expenditures. While Korea devoted a large share of her resources to national defense, Japan felt quite secure under the U.S.-Japan Security Treaty. This led to a different pattern of building national consensus: in Japan the target was to catch up with the Western countries, in Korea to withstand the threat from the North.

B. *Basic Similarities between Japan and Korea*

Let us turn now to some of the basic similarities between the two countries. Both Japan and Korea have a homogeneous population, a long cultural tradition and strong national feelings. The governments in both countries regarded economic growth as a primary objective on their priority list and were able to mobilize popular support to attain this goal.

Both Japan and Korea lack natural resources, a fact that makes both countries highly dependent on imports of raw materials and fuel. While both countries are vulnerable in this respect, the smaller domestic market of Korea makes it necessary to rely more on the external market. This is reflected in the ratio of foreign trade (exports, plus imports) to GNP, which amounted 21.5 per cent for Japan in 1960 and 38.4 per cent for Korea in 1970. While the ratio for Japan remained almost constant, it increased rapidly in the case of Korea, indicating the growing weight of the international sector in the Korean economy.

Another common feature of the two countries was that both were latecomers to the process of economic development. So, of course, were many others, but these two countries were able to capture the opportunities carried by this situation. These were mainly of two types: a much better understanding of the path economic development was following and, therefore, greater ability to prepare for the future; and the utilization of products and techniques developed elsewhere and adapted, at low cost, to domestic conditions. In order to do so successfully, complementary factors were needed, which, as we shall see below, existed in both countries.

One such factor was the educational system which, while performing the function of transfer of knowledge, also served as a screening device for private and public positions. Both countries had a similar educational system in which schools and universities were ranked according to their educational quality, and students competed fiercely for admission. The more prestigious universities supply the manpower for large corporations as well as for high ranking government positions.⁵

As a result of a merit-based selection procedure, government bureaucracy in both countries was composed of high-quality officials who gained respect from

⁵ "The finely-graded ability ranking of universities and senior high schools and (until the recent lottery reforms) middle schools, rivals that of Japan; so too does the expenditures on private coaching and the intensity of the entrance-exam neurosis" [6, p. 295].

the business community with whom they have had close connections. This enabled them to exert considerable influence in determining the direction of economic growth. Here we should mention that the power of bureaucracy vis-à-vis business was greater in Korea, since the power-base of the government was in the army, while in Japan political parties were dependent on business firms for contributions, and government officials found employment in private companies after retirement. However, it can be said that in both countries corruption was relatively low and the bureaucracy showed high devotion to attain the national goals.

In both countries we find that government intervention in the economy was greater than in most Western countries and was done on both the macro and micro levels. The Economic Planning Agency (EPA) in Japan and the Economic Planning Board (EPB) in Korea issued economic plans which were somewhere between indicative and command planning (closer to the former). The function of the plans was to put forward the priorities of the government and show private business the direction in which the government wants the economy to move. Because of the greater share of the public sector in Korea, the plans had a greater direct effect on the economy than in Japan. A comparison of the target growth rate of the plans with actual growth during the high-growth period shows that in both countries reality outstripped planning. Thus, for example, the Income-Doubling Plan for the period 1960–70 for Japan prescribed a 7.2 rate per annum while actual growth amounted to 10.7 per cent. Likewise, the planned target for the period 1972–74 in the Third Five-Year Plan for Korea of 8.7 per cent was below the actual performance of 10.6 per cent. Another important aspect of planning was in the cooperation between various groups, such as management, labor and government in the formulation of the plans.⁶

Changing relative prices to influence choice of products or processes was utilized by both governments.⁷ It was done in a more open manner in Korea, where a large devaluation in 1964 signified the transition from a policy of import substitution to one of export promotion. Likewise, a large increase in interest rates was taken as a means to increase private saving. Both countries used direct and indirect subsidies to promote industries favored by the government, particularly for export, and took protective measures to reduce foreign competition with newly founded industries. The technique of “administrative guidance,” namely an informal way of persuasion by government ministries was also undertaken by both governments as a means to influence the economy.⁸

⁶ There have also been more direct ties between planning in Korea and in Japan. For example, Kuznets points out that “the Fourth Plan is reminiscent of a report issued by Japan’s Ministry of Trade and Industry in 1971, which called for the same shifts in manufacturing structure” [11, pp. 77–78].

⁷ This is called “manipulated field control” by Dahl and Lindblom and defined as “intentional alteration of another’s opportunity set so as to stimulate a desired response,” quoted by [8, p. 82].

⁸ One explanation why “administrative guidance” was effective is described by Kuznets: “the government’s ‘export-first’ policy requires good export performance to maintain favorable relations with the government, and such relations can be essential for business success” [11, p. 72].

There is also a market similarity in the structure of large business in the two countries, known as "groupism." In Japan, the postwar *zaibatsu* (or *keiretsu*, as they are called), differ from their prewar predecessors in that they are not many more family businesses, but loosely organized groups centered around commercial banks. In Korea the *chaebol* (whose name, in Chinese characters, is the same as *zaibatsu* in Japanese), retain some characteristics of the prewar Japanese system, and are much more tightly controlled by the government. Thus, for example, special-purpose and commercial banks in Korea were public enterprises and their top managers were appointed by the government. We also find that the debt-equity ratio of Korean companies has risen considerably over the period, making their capital structure similar to that of Japanese companies [8, p. 72].

The future-oriented development strategy of the Korean government was clearly evidenced in its Five-Year Economic Development Plan (1977–81). Excepting that rapid expansion of labor-intensive exports would not continue, the government set out to change the structure of the economy toward capital- and skill-intensive industries. To bring about this structural change various policy measures were adopted: government support of investment in research and development activities by private enterprise, establishment of industrial estates, financial support for exports and arrangements of large packages of foreign and domestic financing for selected projects.

Similar to the Japanese case, an important role in the structural change of the economy was played by the importation of foreign technology. During the fifteen years of the 1962–76 period, 752 licenses for imports of technology were approved. The number for the four-year period 1977–80 amounted to 974 cases (Table I). As can be seen from the table, four industries—petroleum refining and chemicals, metal, electric and electronic equipment, and machinery, accounted for 74 per cent and 77 per cent of the licenses approved during the two periods respectively.

It is not clear yet whether this future-oriented strategy will eventually steer the Korean economy along the successful path taken by the Japanese economy.⁹ Whatever the results, the development strategy taken by both countries in anticipation of future changes was much the same.

III. ECONOMIC PERFORMANCE: JAPAN AND KOREA

No two economies are identical in all aspects, but enough similarity may exist between the experiences of the two economies to warrant a common hypothesis. In order to compare the way in which the future-oriented development strategy of government was performed in the cases of Japan and Korea, we undertake a statistical comparison between the two countries. The periods we compare are the decade of 1955–64 for Japan with the decade of 1965–74 for Korea. While there is always an element of arbitrariness in the choice of historical periods, we

⁹ It should be mentioned that Korea failed by the end of 1981 to achieve many of the objectives set out in the Fourth Five-Year Plan. For instance, the industrial production index of the machinery industry increased a little over twofold between 1975 and 1981 in comparison with a target of a fourfold increase.

TABLE I
IMPORTS OF TECHNOLOGY LICENCES: KOREA

Industry	(Number)	
	1962-76	1977-80
Agriculture	6	4
Food and beverage	15	15
Pulp and paper	7	5
Clothing and textile	17	9
Synthetic textile	21	22
Nonmetal minerals	21	29
Petroleum refining and chemicals	149 (20%)	157 (16%)
Drugs	27	10
Metal	74 (10%)	86 (9%)
Electric and electronic equipment	154 (20%)	172 (18%)
Machinery	180 (24%)	332 (34%)
Shipbuilding	11	26
Communication	26	18
Electricity	9	29
Construction	8	17
Miscellaneous	27	43
Total	752 (100%)	974 (100%)

Source: Economic Planning Board, "Imports of Technology Licences," December 31, 1980.

justify our choice by the following two considerations: by 1955 Japan has already completed the process of postwar rehabilitation and embarked on an independent policy of economic growth, while in Korea the regime of Park Chung Hee has been consolidated by 1965 and a vigorous policy of outward-looking growth has been implemented. Both countries showed a high rate of growth during the respective periods: for Japan it amounted to 10.0 per cent per annum while for Korea it reached 10.6 per cent per annum.

One common feature of the two countries was the high rate of investment: the investment-GNP ratio averaged 32.4 per cent for Japan and 24.3 per cent for Korea. The ratio increased markedly in both countries during the decade, in Japan from 25.6 per cent in 1955 to 35.8 per cent in 1964, in Korea from 15.0 per cent in 1965 to 31.0 per cent in 1974. The fact that Korea reached a higher growth rate with a lower rate of investment indicates that the output-capital ratio was higher than in Japan. This can be explained by Korea's lower stage of development and more rapid shift in industrial structure.

While the rate of investment was high in both countries there was a difference in the way investment was financed. In Japan financing was almost exclusively by domestic saving. Although there were six years when the balance of goods and services was negative, the ratio of the deficit to domestic investment never surpassed 8 per cent. On the contrary, in Korea the import-surplus was an important source of finance: the balance of goods and services was negative for every year of the decade and the average ratio of external financing amounted to 36 per cent. Although the share of domestic saving showed a remarkable increase,

Korea still relied heavily on foreign saving to carry the burden of domestic capital formation.

In both Japan and Korea the saving ratio of households out of disposable income has increased during the decade. In Japan it was 5.5 per cent in 1955 and reached 12.4 per cent in 1965; in Korea it started from a negative -1.7 per cent in 1965 and amounted to 9.1 per cent in 1973. In Korea the government used the interest rate on saving deposits as a policy instrument in order to increase household savings: the interest rate was doubled from 15 per cent in 1964 to 30 per cent in 1965, and then gradually reduced, reaching again 15 per cent in 1974. In Japan, on the other hand, the rate was fixed at 6 per cent between 1955 and 1961 and then reduced to 5.5 per cent. Taking account of the higher inflation rate in Korea (an average of 13.2 per cent per annum compared with 3.7 per cent in Japan), the real interest rate in Korea (averaging close to 10 per cent for 1965-73) was still higher than in Japan, and made a positive contribution to the marked increase in the saving rate. Needless to say, the factors which determine the saving rate are complex and include per capita income, the rate of growth of income, income distribution and expectations.¹⁰ The experience of the two countries points to the fact that saving can be high even at relatively low levels of per capita income.

Let us turn to the performance of exports in the two countries. In both cases we find a high rate of growth of exports, which surpasses the rate of growth of GNP. Korea's experience far exceeds that of Japan: the average annual rate of growth of exports in Korea was 28.6 per cent while in Japan it amounted to less than half this rate, 14.1 per cent. The difference was reflected in the ratio of exports to GNP: it remained almost constant in Japan (10.7 per cent in 1955 and 10.8 per cent in 1964) but increased more than five times in Korea (from 5.7 per cent in 1965 to 28.5 per cent in 1974). It is this tremendous growth of exports which characterized the Korean growth process as an export-led growth [11, p. 23].

Since in both countries exports were an important means of financing imports (more so in Japan, since Korea benefited from considerable flows of foreign capital), changes in the terms of trade should be considered. In the Japanese case they showed a marked increase between 1955 and 1961, and although they declined afterwards the 1964 level was still 44 per cent above the 1955 level. In Korea there was a small increase from 1965 to 1968, but this gain was erased when the terms of trade declined later on, particularly between 1973 and 1974. Thus it can be said that Japan was partially compensated for the relatively smaller increase in exports by a favorable change in the terms of trade.

While both countries put much emphasis on export promotion, the policy instruments used for this purpose were somewhat different. Subsidies for export industries in the form of cheap credit and tax concessions, which changed the effective exchange rate, were common in both countries, but Korea also made use of overt changes in the official exchange rate. In Japan the rate was fixed

¹⁰ For an analysis of the Japanese case, see [2].

TABLE II
FACTORS OF GROWTH: JAPAN AND KOREA

	Domestic Demand	Export	Import Substitution		Technological Change
			Final	Intermediate	
Japan:					
1955-60	55.2	6.7	1.7	4.0	32.4
1960-65	40.1	23.5	5.4	7.4	23.6
Korea:					
1966-70	56.8	13.7	8.7	8.5	12.2
1970-75	27.8	53.5	1.4	7.4	10.0

Source: [1, p. 40].

at the level of U.S.\$1 = 360 yen, but in Korea a large devaluation was carried out in 1964, which reduced the value of the won by almost one-half. A further devaluation between 1964 and 1974 had the effect of reducing the won again by about the same amount. As a result the exchange rate changed from U.S.\$1 = 130 won in 1963 to U.S.\$1 = 484 won in 1974.

The discretionary policy in Korea can be explained by two reasons: first, a general shift to floating exchange rates which took place during the late 1960s, and which eventually also caused a change in Japan's foreign exchange regime in 1971; and second, the higher inflation rate in Korea, which necessitated frequent adjustments of the foreign value of the currency to its domestic value.

Another factor which influenced export competitiveness can be found in wages. Korea started the period with a wage level much lower than that of Japan a decade earlier. Average monthly wages amounted to U.S.\$16.97 for Korea in 1965 compared to U.S.\$46.32 for Japan in 1955. This gave Korea an edge over Japan in labor-intensive industries like textiles and made Korea an attractive place for Japanese direct investments. However, Korea's relative wages increased rapidly over the period: in 1974 average monthly wage in Korea was U.S.\$62.41 and in Japan U.S.\$92.34.

One difference between the two countries lies in the role played by the domestic and foreign markets in the growth process. Japan, with a larger population and higher per capita income, could achieve economies of scale by utilizing domestic demand to a greater extent than Korea. This is reflected by the rapidly growing importance of the export sector in Korea. An econometric study that compares the contribution of various factors to growth in Japan and Korea was conducted by Aoki and Inada [1]. They explain the deviation of both countries from proportional growth by five factors: domestic demand, exports, import substitution of final goods, import substitution of intermediary goods, and technological change. The results are presented in Table II, where each decade is divided into two halves.

It is readily seen that both countries started their industrialization by relying on domestic demand, which accounted for more than one-half of the total, and in both cases domestic market limitations necessitated a growing reliance on

TABLE III
INDUSTRIAL STRUCTURE

(%)

	Share of Labor Force				Share of National Income			
	Japan		Korea		Japan		Korea	
	1955	1964	1965	1974	1955	1964	1965	1974
Primary	42.6	26.7	58.6	48.2	22.9	12.5	38.7	26.9
Secondary	23.0	31.3	13.3	21.7	29.7	39.4	22.9	33.6
Tertiary	34.4	42.9	28.1	30.1	47.4	48.1	38.4	39.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: For Japan, Office of the Prime Minister, Bureau of Statistics, *Japan Statistical Yearbook, 1966* (Tokyo, 1967); for Korea, Economic Planning Board, *Korea Statistical Yearbook, 1967 and 1976* editions.

exports. However, the decline in the contribution of the domestic market was larger in Korea, and so was the increase in the contribution of exports; in the second half of the decade exports accounted for 53.5 per cent of growth in Korea and only 23.5 per cent in Japan. Another important difference between the two countries lies in the role of technological change: although it declined in both countries it had a much larger effect in Japan than in Korea. In both countries import substitution had only a relatively small impact on overall demand.

Both Japan and Korea underwent a marked structural change during the period of high growth, as reflected in Table III, where the distribution of labor force among industries and the share of each industry in national income is given. The almost universal law of the declining share of agriculture and the increase in the share of manufacturing and services is readily manifested in the two countries. However, at the end of the decade Korea still had a much larger share of agricultural labor force than Japan. It should be noted that in both countries the major gainers from the reduction in primary industries were secondary industries, with services showing only a moderate increase.

Looking at the composition of the manufacturing sector, it turns out that textiles, apparel, and footwear went down in Japan, from 22.9 per cent of all employees in manufacturing in 1953 to 16.4 per cent in 1964, while the share of the same industries showed a small increase in Korea, from 31.4 per cent in 1965 to 34.0 per cent in 1975. In both countries transport, measuring and miscellaneous equipment went up: in Japan from 23.6 per cent to 32.2 per cent, in Korea from 14.8 per cent to 22.0 per cent respectively. The difference between the two countries reflects different points on the same path of structural change. Japan has already managed to transform much of its industrial structure from light to heavy industry, while Korea was only at the beginning of the process.

Taking a look at the distribution of firms by size (Table IV) we find that it was fairly stable in Japan, and that the number of very small firms (up to 9 employees even increased. On the other hand, we find in Korea a major structural change, where the share of small firms (with less than 99 employees) went down from 56.9 per cent to 26.4 per cent, with a corresponding increase

TABLE IV
DISTRIBUTION OF EMPLOYEES BY FIRM SIZE: MANUFACTURING INDUSTRIES
(%)

Number of Employees	Japan		Korea	
	1953	1964	1963	1975
4-9*	11.1	17.0	15.3	4.8
10-19	14.1	8.7	13.9	4.8
20-49	18.2	16.0	16.1	8.1
50-99	10.3	11.2	11.6	8.7
100-199	8.9	10.2	9.6	11.4
200-499	11.5	11.8	11.3	18.6
500 and over	25.9	25.1	22.2	43.6
Total	100.0	100.0	100.0	100.0

Sources: For Japan, Ministry of International Trade and Industry, *Kōgyō tōkei-hyō* [Census of manufactures], *Sangyō-hen* [Report by industries], 1953 edition, pp. 2 and 4 and 1964 edition, pp. 4 and 6; for Korea, Economic Planning Board, *Report on Mining and Manufacturing Census, 1963*, Series 1, *Basic Tables* (Seoul, 1964), p. 142 and *Report on Mining and Manufacturing Survey, 1975* (Seoul, 1977), p. 40.

* For Korea, 5-9.

in the share of large firms (with 100 employees or more). This points to a major difference in the way industrialization took place in both countries: Japan kept the practice of subcontracting, where small firms supply large ones with parts and materials. In Korea industrialization was accompanied by vertical integration among firms to capture the advantages of scale economies.

What were the changes that took place in the export sector of the two economies? In Japan there was a large increase in the export of machinery and transportation equipment, whose share went up to 12.3 per cent in 1955 to 29.3 per cent in 1964. At the same time the category "manufactured goods classified by material," dominated by textiles, went down from 57.5 per cent to 41.0 per cent in the two years respectively. The Korean experience was different: reliance on exports of light industry, which replaced exports of food and crude materials. While chemical and heavy industry was established at this stage for domestic purposes, it was still not ripe to appear massively on the export scene.

The more open character of the Korean economy compared to Japan was also reflected in the role played by foreign investment. While the Japanese government regarded foreign investors with suspicion, and liberalization was a slow process, Korea showed a more friendly attitude and welcomed investors as an important source of capital. During the period 1962-76, Korea received an amount of U.S.\$954 million while Japan, during the period 1955-64, received only U.S.\$ 696 million. Considering the difference in size between the two countries, per capita foreign investment in Korea was much larger. It should also be mentioned that the largest flow of foreign direct investment into Korea came from Japan, which accounted for 66.5 per cent of the total.

The last issue to which we address ourselves is the effect of rapid growth on income distribution. As is well known, measures of income inequality are based

on different definitions and comparison between countries is complicated. Nevertheless, it seems that in both countries accelerated growth did not result in increased inequality. Two studies for Japan show that the Gini coefficient of household income in 1963 was 0.41 and 0.39, and went down to 0.38 in 1965. For Korea there are two studies for 1966, where the coefficient is found to be 0.26 and 0.34, and two studies for 1971, with coefficients of 0.36 and 0.27.¹¹ A study on the distribution of income in Korea, which looked at several measures of inequality, also reached the conclusion that "during the period of rapid growth all major indicators within sectors were, if anything, moving in the direction of more equality" [13, p. 137].

IV. SUMMARY AND CONCLUSIONS

When comparing the growth experience of Japan and Korea we find both similarities and differences. Nevertheless, we believe that we can regard both cases as following the same pattern of development. First, we note that both countries had a similar path of development, reflected in the rate of growth of GNP and the change in the industrial structure. Second, we note that they have similar characteristics such as the educational system, the industrial structure and the role played by the government through planning, change of relative prices, and "administrative guidance." The differences in the way the model was implemented in the two countries reflect the gap in size, the different conditions which prevailed when the high-growth period started and the heritage carried over from past periods.

¹¹ These data are from [7, pp. 62-63 and 65-66].

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