THE GROWTH OF THE JAPANESE ECONOMY IN THE FIRST HALF OF THE MEIJI PERIOD

——In Terms of Problems of Underdeveloped Nations*——

By KŌICHI EMI

Lecturer of The Institute of Economic Research

1. *Introduction*

The focus of this short study is on the first half of the Meiji period, for which very little statistical and concrete data are available. Here we consider a few characteristics of the Japanese economy in terms of the problems of underdeveloped nations. This paper, because of its scope, does not endeavor to treat the problem exhausively. Also the problems of Japanese economy in the first half of Meiji period, involving transition from a feudal system to a modern capitalistic nation, and the economic problems of the present underdeveloped nations, which have acquired political independence after a colonial period, are different institutionally. Furthermore, the international milieu of Japan in the beginning of Meiji era and that of the present underdeveloped nations differ in respect of the stages of development of capitalism in already developed nations. However, even with such reservations, it is still possible to take up certain common problems, such as the motivating force for economic development or economic growth or how the various prerequisites for economic development or growth were met.

When the process of economic growth in two situations is compared, it is usual to consider the following three points: (1) conditions when the old economic institution began to change, (2) economic and non-economic changes which facilitated capital formation or the persons who introduction of new processes of production, and (3) the persons who lead in making innovations. Analysis of the Japanese economy in the first half of Meiji era invariably point out that, already in the latter half of Tokugawa period, the economic bases for modernization existed. The training which the new elites had received while still members of the old *samurai* class was one of the most important factors of this type.[1]

When discussing the Japanese economy in the first half of the Meiji period in terms of the problem of underdeveloped nations, the above points must be reassessed. Although such socio-economic mechanisms as the methods of production and circulation of rice

* This paper is based on (article No. 2, Vol. 13, "The Economic Review", (*Keizai Kenkyu*) The Inst. of Eco. Research of Hitotsubashi Univ., (Apr., 1962) and article No. 6, Vol. 48, "The Hitotsubashi Review", Hitotsubashi Univ. (Dec., 1962). Many valuable suggestions were given by Prof. Shigeru Ishikawa when this paper was written, especially in connection with the development of Southeast Asian nations.

[1] Besides such well-known books as E.H. Norman's "Japan's Emergence as A Modern State", New York, 1940, W.W. Lockwood's "The Economic Development of Japan", London, 1955, and G.C. Allen's "A Short Economic History of Modern Japan", the following articles have recently appeared. "Notes Relating to the General Theory of Economic Growth May 1958 and "An Analytical Model of the Transition to Economic Growth", July, 1957, both mimeographs by E.E. Hagen.

inherited from Tokugawa period, and such economic factors as social overhead capital were important, more stress has recently been put on the prerequisites for the development of social overhead capital, or stated more widely the non-economic factors.[2] We shall, first of all take up these factors with a view to seeing how social overhead capital was formed.

2. *Investment in Human Beings in the Initial Stage of Development*

When we consider the swift change to a modern industrial society which was accomplished in Japan during the Meiji era, we must stress the fact that there had been from the beginning an accumulation of general knowledge on the popular level which had been inherited from the preceding feudal period. The level of knowledge constituted a latent national ability to adjust to the new capitalism. What actually transformed Japan into a new capitalistic society was the human investment which, for the first 20 years in Meiji period at least, carried out on an intensive scale under the pressure of neccessity. Human investment may be roughly divided into two items: establishment of a national educational system and introduction of foreign science and technology. The latter of these required huge fiscal expenditures. The national educational system started with the proclamation on the overall school system in 1872. The subsequent remarkable percentage of primary school attendance has often been pointed out by scholars here and abroad.[3] Also, in addition to general education, there was education imposed "from above", to educate bureaucratic elites and 'Captain of Industry'.

Table 1 *Rate of School Attendance*

	Total	*Male*	*Female*
1873	28.1%	39.9%	15.1%
1880	41.1	58.7	21.9
1890	48.9	65.1	31.1
1900	81.5	90.6	71.7
1910	98.1	98.8	97.4

Source: p. 1036, Ministry of Education, "History of Japanese School System for 80 Years", 1954.

Another field of human investment was the introduction of science and technology from the advanced countries. One of its fiscal aspects was the payment of salaries to the many foreigners employed by the Japanese government in the first half of the Meiji period and the other, expenditures for sending government officials and students abroad for training. As for the former, in the Ministry of Education, Ministry of Home Affairs, Finance Ministry, War Ministry, Admiralty, etc., but especially in the Ministry of Industry, many foreigners were employed by the Central Government. Not only were their salaries exorbitantly high

[2] For instance, B.F. Hoselitz's "Noneconomic Factors in Economic Development", Ame. Eco. Rev., May, 1957, and Nathan Rosenberg's in his "Capital Formation in Underdeveloped Countries", Ame. Eco. Rev., Sept. 1960, stressing "entrepreneurial talents", *T. W. Schultz's* "Investment in Human Capital", Ame. Eco. Rev., March, 1961, and National Bureau Committee for Economic Research's "Investment in Human Beings", The Jour. of Pol. Eco., Vol. LXX, Sup., Oct., 1962, express this point of view.

[3] W.W. Lockwood, ibid., Chapt. 10, and also his recent mimeograph, "Political Consequences of Economic Development in Japan", 1962, emphasizes this point.

in terms of the general pay level in Japan at that time, but also in terms of the international standard.[4]

Table 2 *Payment of Salaries to Foreigners Employed by the Central Government*

Unit: ¥1,000

Fiscal Year	M. of Industry		M. of Education		Total of Central Govt.	
	Actual Figures	% to the Total Expenditure	Actual Figures	% to the Total Expenditure	Actual Figures	% to Ordinary Expenditure
1868—72	1,188	57.7%	—	—	3,160	3.98%
1873—77	2,931	47.6%	810	9.9%	7,906	2.45%
1878—82	1,936	55.3%	763	14.3%	3,774	1.28%
1883—87	276	22.6%	467	9.9%	2,577	—

Source: Estimated by the author.

This table shows that Japan, in its underdeveloped state, was required to make an inevitable human investment by drawing talent from advanced nations rapidly. The investment was intensive in the initial period, and as its effects became apparent, the ratio of this category of expenditure to total expenditures gradually decreased.

Another human investment, made in order to introduce Western science and technology to Japan was expenditure for sending Japanese government officials and students abroad. Compared with payments made to foreigners employed by the central government, this was comparatively smaller in absolute amount, but nevertheless demonstrated a very positive intention to absorb Western culture.

Table 3 *Human Investment for Absorbing Foreign Culture*

Unit: ¥1,000

Fiscal Year	Expenditure for sending officials and students abroad	Total, including payments to the foreigners hired	Ratio to ordinary expenditures of Central Govt.
1868—72	1,535	4,695	5.92%
1873—77	602	8,608	2.67
1878—82	1,308	5,082	1.73
1883—87	1,231	3,808	1.22

Source: Estimated by the author.

It must be emphasized that all these expenditures for the introduction of science and technology from advanced nations were defrayed by the Japanese government itself without any foreign assistance. This constituted an initial burden for the government, which, in the first half of the Meiji Period, was also obliged to encourage the development of private enterprise.

3. *The Role of Agriculture in the Transition*

Agriculture plays a role in the process of economic growth, since agricultural output first feeds the agricultural population and then the new labor force. Any surplus encourages

[4] This point will be developed further in the author's "Government Fiscal Activities in Japan, 1868—1960", No. 6 Economic Research Series, The Inst. of Eco. Resear., Hitotsubashi Univ., soon to appear.

the growth of the urban labor force, stimulating the industrial sector. In the first half of the Meiji era, increases in agricultural production kept in balance the supply and demand for food in the nation's economy as a whole, including the industrial sector.[5] This must be attributed in part to the social capital (such as irrigation and drange facilities) which had been inherited from the Tokugawa period; to be concluded here is the level of agricultural technology itself, increases in the productivity of the land and those who worked it. Also during the Tokugawa period, feudal lords often fostered and protected local industries, attaching great importance to commerce. Such special local products as tea and silk became major items of exchange for foreign currency, making possible the introduction of technology to industrial sectors by providing exchange for the purchase of capital goods.

Capital formation, as important as technical progress in the process of economic growth, also presupposes a certain level and rate of growth of agricultural productivity. Also dependent on agriculture were the land tax and the accumulation of rural savings. The former was an indispensable source of finance, and the latter, an instrumental mechanism for capital formation in the industrial sector.

One approach to our problem would be to compare the agricultural productivity of Meiji Japan with that of the present underdeveloped nations. However, it is difficult to make a comparison of areas where natural conditions such as weather, as well as the institutional conditions involved in agricultural production, are different. Necessarily neglecting such factors, we have compiled the following tables concerning the production of the representative agricultural product rice. From these tables, it is seen that the rice crop per unit of land in the first half of the Meiji period was greatly in excess of the present level in Southeast Asia, and approximately equal to the present level of China.[6] The importance of the rice crop in the national economy is different for each country. However, even in Burma and Thailand, where dependence on rice is great, the disparity in productivity is quite appearent. We must, however, also consider the amount of land under rice cultivations per capita agricultural population. Because this figure was relatively small in Japan, it is possible that an increase harvest per unit of land was called for. However, in a comparison of the present Southeast Asian countries with Japan in the first half of the Meiji era, we must note first of all the difference in agricultural productivity as represented by rice production and the various socio-economic conditions which bring about such differences.

The second point which must be noted is the difference in ratios of population increase. Economic growth has the effect of reducing the death rate by improving the social environment, while stimulating the birth rate by providing increased employment opportunities. While the decrease in the death rate is brought about mainly by factors external to the economy such as improved medicines and medical skill, the increase of the birth rate is caused by internal factors. Both these phenomena depend on the stage of economic growth. In the advanced stage, the death rate decreases first and a decrease in birth rate follows, bringing about a balance between the rate of population increase and the rate of economic growth in general. The preceding table shows that the rate of population

[5] K. Ohkawa & H. Rosovsky, "The Role of Agriculture in Modern Japanese Economic Development", Inst. of International Studies, Univ. of California, 1960. p. 47.

[6] The calculations of Prof. Shigeru Ishikawa, are in general agreement with the figures given here. (Shigeru Ishikawa, "On the Recent Innovation of Agricultural Technology in China", No. 1, Vol. 3, "Asian Economy", Tokyo, 1961.

Table 4 *Rice Crop and Rate of Population Increase*

	(A) *Rice Crop per Unit Land*		(B) *Rate of Population Increase*	
Pre-War		(ton/hectare)		%
Japan	1879—82	2.25	1883—87	0.8
	83—87	2.42		
	88—92	2.67	1928—32	1.5
	93—97	2.54		
Korea	1909—13	1.84		
Formosa	1909—13	1.74		
Post-War	(1956—58)		(1953—59)	
Japan		4.31		1.1
South Korea		2.72		1.8
Formosa		2.89		3.6
China		2.58		2.8
South Viet Nam		1.46		5.9
Laos		0.88		3.3
Thailand		1.35		1.9
Malaya		2.13		3.0
Philippines		1.17		2.6
Indonesia		1.69		2.1
Burma		1.53		1.0
Pakistan		1.41		1.4
India		1.29		1.3
Ceylon		1.42		2.5

Source: Figures in prewar years, are estimated by the author.
(A) FAO, Production Yearbook, 1959.
(B) U.N., Statistical Yearbook, 1960.

Note: It would seem that to take the national income per capita is more appropriate in comparing national living standards. However, the translation of all economic values into American dollars neglects differences of style of life and is therefore misleading. The process of translating national income in the first half of the Meiji period into present currency values by the use of deflators, and then into the American dollars, is highly questionable. However, when this method is used, the national income (estimated by Ohkawa) was, in terms of 1953 values, \$59.9 (1879—82), \$55.3 (1883—87), \$65.7 (1888—92), greater than the \$50 of present Burma, approximately equal to the \$60 of India, and lower than the \$70 of Pakistan (in terms of average income for the three year period 1952—54, per Capita National Product of Fifty-five Countries, U. N. 1957). However, in terms of the productivity of rice agriculture, these income levels are not reflected, and therefore further examination is necessary.

increase in the first half of the Meiji period was 0.8%—0.9% (1883—92), and, even at its highest levels, in the late 1920's and early 30's was 1.4%—1.5%. Compared with this, the population increase in the present Southeast Asian nations is tremendous. In this study we emphasize the relation between increases in agricultural production and the rate of population increase as a factor in the economic growth of the underdeveloped nations. The large population increases in Southeast Asia, however, have been conditioned by a seeming

increase in the level of income through foreign aid and the elimination of Malthusian factors checking population increase because of improved public health. The latter factor seems to have been decisive.

Agriculture in the first half of the Meiji period, while maintaining internal stability, provided a basis for the growth of the industrial sector by producing surpluses. Considering the overwhelming importance of agriculture in the national economy (the agricultural population was 77—78% of the total), we must recognize that a small marginal increase in the agricultural sector, when transferred to the industrial sector in terms of capital or labor, made further expansion of industry theoretically possible.[7] An overwhelming importance of agriculture is common to all underdeveloped nations. Therefore, it is important to consider how the transfer of labor and capital from the agricultural to the industrial sector was accomplished. Needless to say, public finance and monetary policy were major factors in the transfer of capital.

4. *The Role of Government and Growth "From Below"*

Generally, when the various factors in the growth of the Japanese economy since the Meiji era are considered it is customary to place a high evaluation on the role of government. The fact that the government, and especially the Ministry of Industry, exercised the function of entrepreneur in the early stages of industrialization should be given proper evaluation. Another viewpoint on this question has, however, been advanced. According to this view, the role of government through the whole period of economic growth should be re-examined in the light of the question whether "it is correct to emphasize that role compared with the role of government in other nations."[8] This view holds that the government could effectively give guidance only because there was a strong response on the part of private industry, and that the true support for the development is to be found in the institutions within which originality and entrepreneurship in the private sector could be effective. The author shares this opinion. Particular reference will be made to the role of local finance, a mechanism which reflected the total response within private sector. We shall emphasize that the ability of this sector to bear taxation supported the economic growth from below.

Special emphasis has been placed on the creation of credit during the early Meiji period as having provided the initial impluse toward economic development.[9] It is the author's belief that one of the land tax also played a highly significant role in counterbalancing the inflationary forces resulting from the creation of this credit. This may be seen from the fact that at the initial period of inflation, in the late 1870's, and early 1880's the ratio of the land-tax to total revenue was 73.2% in the period 1875—78 and 63.2% in 1879—82. An important feature of this tax was that it was not based on the harvest, which is variable, but on the assessed value of the land, which is independent of the success or failure of the

[7] This point was suggested by Prof. Mataji Umemura. Because of the system of primogeniture, the mobility of labor from agricultural sectors was the mobility of the younger age brackets represented by second or third sons. It is generally believed that younger persons are more able to adjust to industry, where technical progress is rapid.

[8] Ichirō Nakayama, "Japanese Economy and the Role of Japanese Government", No. 1, Vol. 44, Hitotsubashi Review, Hitotsubashi Univ.

[9] Chōtarō Takahashi, "Capital Accumulation in Early Meiji Era", Asian Affairs Vol. I, No. 2, June 1957.

harvest. On the one hand, the government had acquired a certain revenue source, and, on the other, the taxpayers were stimulated to increase the productivity of the land. The fact that the collection of land taxes is not progressing so smoothly in the present Southeast Asian countries as it did in Meiji Japan is, when we consider the relationship between land tax and expansion of credit, extremely suggestive.

Local government served as the forefront of the national tax collection mechanism. At the same time, it relieved the central government of a considerable portion of what would otherwise be its normal business. This permitted the central government to concentrate its effort on the formation of Japan as a modern nation, which demanded, among other things, improvements in legislation and in armaments, and the introduction of technology for industrialization, transportation, and communication networks. The part that local finance played at this time can be seen in the following table.

Table 5 *Breakdown of Fiscal Expenditure*

1880 and 1890 Fiscal Years

	Total (with others)	General Adminis-tration	(percentage of military expenditure)	Education	Public Health	Constr. of transport. & communi.	*Encourage-ment of in-dustry
1880	in ¥1,000						
Central	62,789	82.9%	(19.1)%	2.7%	2.1%	3.5%	6.9%
Local	27,735	48.7		20.0	4.0	25.8	1.4
Perfecture	12,601	72.6		8.2	4.4	12.7	2.2
Municipalities	15,134	28.9		29.8	3.7	36.8	0.9
1890							
Central	83,391	80.8	(24.6)	3.5	1.1	9.7	3.9
Local	42,231	43.7		18.9	3.0	33 6	0.8
Perfectures	20,919	47.7		5.6	3.3	42.4	1.0
Municipalities	21,312	39.8		32.1	2.7	24.9	0 6

Source: Estimated by the author.

*The expenditures of the central government emphasized transportation and communication, and those of the local government, construction and public works.

The above table shows how important a part the local districts, especially towns and villages, played in public works and general education. Before 1878, when a local taxation system was established, all local expenditures were supplied by assessment made against the town's people, pursuant to the decision of a town meeting. Even afterwards, 30—40% of annual expenses were met by this expedient, which was technically not a tax.[10]

U.K. Hicks,[11] in considering the role of local government in the process of economic development from below as particularly important in the case of underdeveloped nations, cites the examples of India and Ceylon, which are former colonies of the United Kingdom, and African nations presently on their way to independence. Pointing out that the key to economic development in underdeveloped countries is in the efficiency of local governments,

[10] Takeo Fujita, "The Establishment of the Japanese Local Fiscal System", *Iwanami*, Tokyo, 1941. It should be noted that it cost about 37,110,000 yen to gradually rationalize the system of local taxation of which 29,100,000 yen (78.4%) was provided by local funds derived from the community assessment system.

[11] U.K. Hicks, "Development from Below", Oxford 1961., p. 7.

she writes as follows: "Economic activity of local government may well be the best way in which the 'people' can play a part in the organization of their own development". And, she goes on to say, "Little local projects have a much quicker reaction. Better local roads or a better market can stimulate the output of cash crops within a single season." Although it is doubtful whether local finances in Meiji Japan should be directly compared to that of modern underdeveloped countries, Hicks' view that the key to development in underdeveloped nations is the pursuance of an appropriate policy at the community level is highly suggestive.

5. *Saving Activities by Agricultural Finance*

The next point to be referred to in a discussion of "development from below" is the function of the agricultural financing organs, or people's financing organs, within the financial structure of Japan. This agricultural financing mechanism was important, firstly because it constituted a channel for the transfer of savings from the agricultural to the industrial sector, and secondly because is provided a means for financing the development of the agricultural sector itself. The modern underdeveloped countries are without savings in the agricultural sector. This situation is closely related to the existence of surpluses and the conduct of financing in the agricultural sector.[12]

The extent to which agricultural financing operations penetrated the rural economy and their basic nature were reflected by rural savings. In the first half of the Meiji period, financing mechanisms included, besides national banks, private banks, and certain enterprises similar to banks. These latter were distributed all over Japan and included such popular financing institutions as the pawnshops and mutual aid financial guilds which had existed since the Tokugawa period. All such institutions exercised great influence.

These traditional financing organs provided many types of financing for consumption, and also lent money on the security of real estate, but they had another more important function; this was financing based on such local industries as shipment of rice, silk-worm raising, silk-spinning, raw silk, and tea. Such financing covered both industry and commerce. On the local scene, it was not efforts of national banks, but rather the activities of these private banks and associations similar to banks, dominated mainly by merchants and land-owners, which supported "development from below". Gradually the *Zaibatsu* who linked the capital of the banks to the big enterprises emerged from these private associations.

Table 6 shows a comparison of the deposits in the private financing associations with the deposits in national banks, in order to clarify the role of the former. It may be noted that these private financing associations led the national banks in the mobilization of savings,

Table 6 *Average Annual Increase in Bank Deposits*

Unit: ¥1,000

	Total	National Banks	Pvt. financial associations
1880—82	3,167	632	2,535
1883—87	2,170	1,370	800
1888—92	3,775	1,765	2,010

Source: Prepared by the author on the basis of estimates made by Mr. Shozaburo Fujino.

[12] Shigeru Ishikawa, "Savings and Market Surpluses in the Agricultural Sector in the Process of Economic Development", No. 4, Vol. 11, "The Economic Review" (*Keizai Kenkyu*).

except during the *Matsukata* deflation period in the latter half of 1880's. The table shows average annual increases in total bank deposits. In the inflationary period of the first half of 1880's, deposits in private institutions were particularly high.

A rough comparison between private banks and financial associations similar to banks appears in Table 7. These other financial associations were, like the private banks, distributed throughout Japan.[13]

It is known, however, that they usually centered around areas where there were local industries such as the productions of silk cocoons, silk spinning, and the growing of tea, etc.

When this is considered in the light of the great numbers of such associations, we cannot but place a high evaluation on their role in agricultural financing.

Table 7 *Number of Banks and Capital of Financing Organs in First Half the Meiji*

Capital given in units of 1,000 yen

	Private Banks		Other financial associations		National banks	
	No.	Capital	No.	Capital	No.	Capital
1880	39	6,280	120	1,211	151	43,041
1886	220	17,959	748	15,391	138	52,416
1892	270	22,856	680	13,944	135	62,825

Source: *Teikoku* Statistical Yearbook.
1886 is year when the number of other financial associations was greatest. Popular financial organs as pawnshops or mutual aid financing guilds are not included by this term.

Although data on these private banks and other associations whose important function was agricultural financing are available, the pattern of farmer's savings can not be determined statistically. However, in the case of the advanced countries, it has been noted that as the financial assets of farmers came to include a larger proportion of bank deposits, stocks and bonds, growth in the non-agricultural sector became more rapid.[14]

In the case of India, it is noteworthy that farmers savings tend to take form of holdings of gold, jewels and ornaments. This presents a marked contrast to the investment in

Table 8 *Comparison of Types of Financial Assets Represented by Individual Savings*

Unit: India, 1 million rupees; Japan, 1 million yen (current value) (percentage parenthesis)

		Currency	Bank Deposits	Small Savings	Bonds and Stocks	Insurance, Provident Fund	Precious Metal	Total
India	Average 1950—57	234 (10.0)	261 (11.2)	825 (13.9)	514 (22.0)	675 (28.4)	326 (14.0)	2,335 (100.0)
Japan	Average 1888—97	29 (9.8)	126 (42.6)	6 (2.3)	135 (45.6)			296 (100.0)

Source: India—P.S. Locanathan, *Saving in India*, Ame. Stati. Asso. 1959. Japan—Estimated by the author. (2) Small savings in the case of Japan means postal savings only.

[13] Kōkichi Asakura, History of the Mechanism of Finance in the First Half of the Meiji period", *Iwanami*, 1961.

[14] Shigeru Ishikawa, ibid., p. 386.

financial assets which took place in Japan. Also, in the case of India, investment in financial assets take the form of cash often than bank deposits. Since it is difficult to distinguish the savings of farmers from those of non-farmers, we give, in Table 8, a comparison between total individual savings in modern India and Meiji Japan.

Because of the improved methods of estimating savings now available, small savings and similar investments have been fully recorded in the case of India. As this is not possible in the case of Meiji Japan, private savings are not fully reflected. Therefore, direct comparison is impossible. Generally speaking, however, it is evident that savings in the form of bank deposits and stocks and bonds, which are directly connected with actual investment, are greater in the case of Japan. When this is considered together with the degree of development of financial associations, the preference of the saver for financial assets becomes clear. As was pointed out at the outset of this article, these phenomena are closely connected with the development of entrepreneurship. Only when a system of currency and bank credit has been established and when there is the popular confidence in these systems can an entrepreneur have a basis for rational calculation. On the contrary, when economic activities of entrepreneurs center on maximizing individual profits as quickly as possible, there will be a strong tendency towards the speculative purchase of land or holding of jewelry. This phenomenon is similar to the preference for goods rather than money which appears in inflationary periods, and minimizes the chance for savings to be utilized for long-term investment, thus constituting an impediment to economic development. It is exactly this point which has been stressed recently; i.e. the function of entrepreneurship in the economic development of underdeveloped nations.[15] It is this point which must be emphasized in discussing the development of the Japanese economy. The fact that Japanese entrepreneurs had a point of view which was integrated with the national economy enabled capital formation. In this regard, it can be said that the leaders of the Meiji Government, and the entrepreneurial merchants and land-owners who were the central force from below, had much in common.

[15] N. Rosenberg, ibid., pp. 713—714.