

# ECONOMIC GROWTH OF POSTWAR JAPAN

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## INTRODUCTION

At the end of World War II, most Japanese believed that the postwar rehabilitation would be filled with hardships and that it would take many years to attain the prewar level of standard of living. Japan was heavily destroyed by the war and was cut off from the traditional neighbour Asian market. With a national territory reduced to the size of the State of California, of which not more than 16% is arable, it was considered as an almost impossible task to support her 100,000,000 inhabitants. The postwar revival and expansion was, however, so fast that it astonished the Japanese themselves. In 1953, the per capita real national income had reached the average prewar level of 1934-1936, and the rapid economic growth still continued. In 1949 the per capita income was \$100, in 1959 it was about \$300, and in 1961 it reached the \$400 mark,<sup>1</sup> or about half of that of West European nations but five times that of Southeast Asian countries. (See Table 1)

**Table 1. PER CAPITA NATIONAL INCOME OF SELECTED COUNTRIES, 1959**

	(US dollars)
United States	2,232
United Kingdom	1,020
France	875
West Germany	869
Italy	457
Japan	299
Brazil	299
India	66

Source: *United Nations Yearbook of National Accounts Statistics, 1960.*

<sup>1</sup> Calculated at the rate of ¥360 to \$1.00. From 1949 to 1961, the official rate of exchange remained unchanged, but domestic prices increased. When calculated in terms of constant price the growth of per capita income stood at 2.8 times.

## I. INTERNATIONAL COMPARISON OF RATES OF GROWTH

During the fifties, Japan's GNP rose 2.5 times based on constant price and 3.7 times based on current price. The annual rate of growth figured at constant price was 9.6%. The rate of growth in the first half of this period was 9.1% and in the latter half 10%. The rates of growth in Western nations during the same period are shown in Table 2.

**Table 2. RATE OF GROWTH OF GROSS NATIONAL PRODUCT AT CONSTANT PRICE**

Countries	(percentage)	
	1950-55	1955-60
Austria	7.0	5.2
Belgium	3.3	2.4
France	4.5	4.2
Germany	9.0	6.0
Italy	6.0	5.9
Netherlands	5.7	4.2
Denmark	2.1	4.6
Norway	3.6	3.3
Sweden	3.1	3.3
Switzerland	5.7	4.4
United Kingdom	2.6	2.4
Canada	4.6	3.2
United States	4.3	2.3
(Japan)	(9.1)	(10.0)

Source: Bank for International Settlements, *Annual Report 1962*. Basel, Switzerland, June, 1962, p. 12. (Figures for Japan were separately computed by the author.)

The rates of growth in the countries severely damaged by World War II, namely Germany, Austria, and Italy are fairly high. The rate of growth in Germany between 1950 and 1955 was 9%, (about the same percentage as in Japan); but during the period of 1955 to 1960, it dropped to 6%, considerably lower than that of the first half. This was due to the reduction of postwar recovery factors, and to the fact that the labour force reached the full-employment level. On the contrary, the rate of growth in Japan shows an increase in the latter half of the decade, and proves that the present high rate can be credited to other factors than postwar rehabilitation.

Table 3 shows the rates of growth of the Japanese economy in com-

**Table 3. RATES OF GROWTH OF NATIONAL INCOME IN EASTERN EUROPE**

	1954-56	1957-59	1959-65 plan
USSR	11.8%	7.7%	7.2%
Czechoslovakia	6.8	6.8	6.9
East Germany	5.6	8.0	6.8
Poland	9.1	6.1	6.4
Bulgaria	4.0	14.1	—
Hungary	5.5 a	7.2 b	6.0
Rumania	4.2	11.3	—
Yugoslavia	5.5	12.7	11.0 c
(Japan) d	(7.2)	(9.6)	(7.2)e

Source: Bank for International Settlements: *Annual Report 1960*, p. 39.

Notes: a 1955-57.

b 1958-59.

c 1961-65.

d growth of GNP in constant price computed by the author.

e 1961-70.

parison with that of the East European nations. It shows that the rate of growth in the Communist nations averaged 7%, and is exceeded by Japan.

Since the Japanese economy is not a centrally planned economic system but a market economy system which centres its activities on private enterprise, this Table provides very interesting material for the argument of whether the political system of a nation determines the economic growth, or whether it is due to differences in the stage of economic development.

**Table 4. ANNUAL RATE OF GROWTH OF NATIONAL INCOME IN THE PEOPLE'S REPUBLIC OF CHINA**

1950	18.6%	1955	6.5%
1951	17.0	1956	14.0
1952	22.3	1957	4.0
1953	14.0	1958	34.0
1954	5.7	1959	21.6 *

Source: National Statistics Bureau, *Great China*, Peking, People's Publisher, September 1959.

Note: \* figure announced later by the Government.

As shown in Table 4, the average rate of growth in mainland China during the first five-year programme (1953-1956) was about at the same level as Japan, but in 1958 and 1959 it soared to 34% and 21% respectively. The rate of growth of 1958 greatly exceeded that of Japan. The

agricultural crisis after 1959 dealt a damaging blow to Chinese economy including industrial production. Although the figure for 1960 has not been published by Peking, it can be assumed that the average rate of growth in China during the fifties may have been about the same level as that of Japan. The per capita national income of Japan is estimated to be more than three times that of China.

In the light of these statistics, it can be safely said that the rate of economic growth in Japan has shown the highest rate in the world including both Communist and non-Communist countries.

**Table 5. ANNUAL RATE OF GROWTH OF JAPAN'S GNP AT CURRENT AND CONSTANT PRICES, 1951-1962**

Fiscal years beginning in April	(percentage)	
	Current price	Constant price
1951	37.9	13.5
1952	12.4	10.5
1953	15.8	6.7
1954	5.4	3.3
1955	10.3	10.3
1956	12.8	9.0
1957	9.2	7.9
1958	2.4	3.2
1959	21.0	17.9
1960	16.6	13.2
1961	20.7	14.0
1962 *	6.0	4.5

Source: Economic Planning Agency.

Note: \* forecast.

Table 5 shows the rate of growth of GNP in Japan in terms of current and constant prices. From this table the annual rate of growth during 1950's shows a fluctuation from the high rate of about 20% per annum to the low rate of about 3%. It seems that the rate of growth corresponds with the approximate four year business cycle. It is noteworthy that even at the bottom of the business cycle it shows a 3% to 4% growth. This indicates that the postwar Japanese economy has a strong growth potential.

Even in prewar days, when the average rate of growth from 1926 to 1939 was 4.6%, it was high compared with other countries. The postwar rate of growth in the 1950's substantially surpassed the prewar one.

Where this high rate of growth comes from, and what the prospects are will be discussed in the later half of this article. Before that, the main characteristics of the growth in the various sectors of the economy, that is, industry, agriculture, employment, consumption, trade, etc., will be analyzed, as well as the problem of savings and investments which forms the nucleus of the growth.

## II. CHARACTERISTICS OF THE JAPANESE ECONOMIC GROWTH BY SECTORS

### 1. Industry

The leading force behind the postwar Japanese economic development is the expansion of industrial production. In prewar years, the economy was predominated by agriculture and light industries until, during the 1930's, a full-scale development of the heavy industry including machinery, metals, and chemicals, was started. The government's policy of developing heavy industry based on the needs of war-time economic mobilization was the driving force of such a development of heavy industry. At the end of the war, heavy industry production for military purposes was stopped. Nonetheless, postwar heavy industry production made a remarkable come-back supported by the strong demand for rehabilitation of war damages, the expansion of production facilities and exports of heavy-industry products. By 1952, the industrial production index had recovered almost to the prewar level (1936). In 1957, it doubled, and in 1961 it four-folded the prewar level. Table 6 shows the production index by sectors. The development of the machine industry was especially notice-

**Table 6. INDUSTRIAL PRODUCTION INDEX BY MAJOR BRANCHES,  
VARIOUS YEARS**

(1955=100)

	Industrial Production	Mining	Manufacturing							
			Total	Textiles	Chemicals	Petroleum & Coal Products	Ceramics	Iron & Steel	Non- Ferrous Metal	Machinery
1936	71.6	91.6	68.9	120.8	54.6	33.2	68.1	50.0	60.9	39.9
1950	47.4	81.2	44.7	42.5	42.0	27.9	51.1	52.2	59.3	41.6
1955	100	100	100	100	100	100	100	100	100	100
1960	227.9	127.8	236.3	162.3	199.2	271.2	201.0	220.8	221.8	442.4
1961	278.3	137.0	290.1	174.3	223.1	323.6	226.1	276.7	261.1	605.9

Source: Ministry of International Trade and Industry.

able: from 1955 to 1961, it expanded six times. The production of steel also shows a rapid expansion. The production of crude steel was 4,400,000 tons in 1955, and in 1961 it reached 28,200,000 tons. Japan now ranks fourth in steel production, next to the United States, USSR, and West Germany.

The underlying factors for the rapid growth of machine industries are (a) expanded production of capital goods in order to meet the strong postwar demand for equipment investment, (b) demand for durable consumer goods created by the rise in the standard of living, (c) expansion of the vehicle industries centred around the development of automobile industry. For instance, the production of machine tools jumped from 18,100 sets in 1955, to 115,000 sets in 1961; the television sets production jumped from 13,400 sets in 1953, to 4,610,000 in 1961; the passenger car production from 20,400 cars in 1955, to 250,000 in 1961. On the other hand, the textile industry has been rather stagnant. (See Table 6) Taking the year 1955 production as 100, the 1961 production index stood at 174. The production of conventional cotton yarn and staple fibre was stagnant, but the increased production of synthetic fibre has supported the growth. The production of synthetic fibre increased from 13,200 tons in 1955 to 120,000 in 1961. In the chemical industry, the conventional field of ammonium sulphate and soda ash production showed slow progress, but the newly developing petrochemical field progressed very rapidly.

As a result of the expansion of the heavy industry in recent years, the relative shares of machinery and metals have increased considerably. In 1961, these two groups accounted for 54% of the total industrial production (32% in 1955). When compared with 47% for the United Kingdom, 42% for West Germany, 39% for the United States, and 37% for Italy<sup>1</sup>, Japan's high percentage shows that the industrial structure has noticeably shifted toward heavy industry. The prewar type of Japanese economic structure, centred around light industries and agriculture, has undergone a great change in postwar years.

The increased consumption of energy, especially the recent increased consumption of petroleum is very conspicuous. In prewar years, Japanese energy depended upon, and was supported chiefly by indigenous coal and hydro-electric power. Reflecting the postwar economic growth and the world trend in increased consumption of liquid fuel, the coal industry is now facing serious difficulties. On the other hand, the import of oil has increased from 12.1 million k.l. in 1955, to 36.9 million k.l. in 1960, and

<sup>1</sup> Economic Planning Agency, *Economic Survey of 1962*, July 1962, p. 213.

to 48.2 million k.l. in 1961. In 1960, the foreign-currency payment for imported oil reached 586 million dollars, or 13% of the total payment for imports. The amount of generated electric power increased from  $65.2 \times 10^9$  KWH in 1955, to  $115.5 \times 10^9$  KWH in 1960. Of this the percentage generated by steam power increased from 25 to 50, using mostly oil as fuel. The domestic coal production in recent years has been around the level of 50 million tons. Table 7 shows the changes in the pattern of energy supply indicating increased weight on consumption of oil.

**Table 7. PATTERN OF ENERGY SUPPLY IN JAPAN, 1955-1960**

	(percentage)				
	Total supply	Electricity (Water power)	Coal	Petroleum	others
1955	100	30.8	43.4	18.1	7.7
1956	100	29.4	43.9	19.7	7.0
1957	100	28.3	43.5	22.0	6.2
1958	100	30.8	40.3	22.9	6.0
1959	100	27.7	37.9	29.5	4.9
1960	100	23.1	37.1	35.3	4.5

Source: Economic Planning Agency.

## 2. Agriculture

Postwar Japanese agriculture is experiencing far-reaching changes. The conventional agricultural production, rice, increased remarkably. The increase in agricultural production is due chiefly to the increased yield per unit area realized in spite of the decrease in agricultural labour force as discussed below. Table 8 shows the area cultivated, the actual harvest and the yield per unit area. The steady increase in productivity per unit area during recent years can be credited to the progress of agricultural techniques.

**Table 8. STATISTICS OF RICE CULTIVATION, VARIOUS YEARS**

	Area planted (1000 ha)	Actual Harvest (1000 t)	Harvest per hectare (tons)
1933-42	3,026	9,270	3,04
1950-54	3,074	8,982	2,90
1955-59	3,073	11,551	3,74
1960	3,150	12,539	3,98

Source: Ministry of Agriculture and Forestry, *Statistical Yearbook*.

Formerly, the technique of rice cultivation was geared to the surplus population in the rural area: it was heavily dependent on manual labour. Recently, the expansion of non-agricultural sectors has caused a noticeable decrease in agricultural labour supply year after year. Therefore, labour-saving techniques were rapidly developed in the agricultural production: wide use of small power cultivators, increased use of chemicals for dweeding, and even the practice in some parts of Japan of spraying insecticides by helicopter.

Rice commands about one half of the total agricultural production in Japan, and carries a big weight. But the rise in standard of living has stimulated the consumption of non-staple food such as dairy products, fruits, vegetables, and other high-value agricultural products. This has a fundamental effect on agricultural production. Table 9 shows that the postwar milk production has increased 8 times, that of fruits 4 times, of eggs 2.7 times; on the other hand, production of the conventional cocoon has decreased to 40% of the prewar level. With the growth of Japanese economy, changes in the demand structure of farm products, together with the decrease in farming population, will likely make farming a more profitable activity than before.

**Table 9. ACTUAL AGRICULTURAL PRODUCTION, VARIOUS YEARS**

	Fruit (1000 t)	Cocoon (1000 t)	Pork (1000 t)	Milk (1000 t)	Egg (1,000,000 units)
1933-35	1,125	249	24	248	3,518
1955	1,652	114	82	1,000	6,743
1960	4,005	111	148	1,887	9,560

Source: Ministry of Agriculture, *Statistical Yearbook*.

### 3. *Employment and Standard of Living*

The high rate of postwar economic growth has greatly changed the employment situation. In the past, Japan was known to be an overpopulated country: surplus labour was absorbed by the low productive agricultural and medium- and small-scale enterprises, thus fostering latent unemployment. Coexistence of modern large enterprises and of agricultural and small enterprises with pre-modern elements has resulted in the so-called dual structure of the Japanese economy. The postwar economic growth, especially, the rapid development of secondary industry has increased modern employment opportunities, and in certain fields, has for the first time created a labour shortage. Previously, farm workers and

employees of medium and small enterprises received wages or income considerably lower than that of large-enterprise employees. Low wages and low productivity went side by side, and lack of capital was the main reason for low productivity. Based on 1957 manufacturing industry statistics, the ratio of average wage, productivity, and capital assets per worker for establishments with 1,000 employees and more and those with 20 to 29 employees was 100 to 48, 100 to 34, and 100 to 13 respectively<sup>1</sup>. With the growth of the economy and increased opportunity for employment, workers are now looking for better wages and working conditions. Fresh graduates from school are attracted by large enterprises, and in this case, the gap in employment conditions between big and medium-small enterprises is rapidly narrowing. This, at a certain stage in future, will have its effect on the wages of middle-aged employees. Through these stages, the shortage of labour is acting as the motive force gradually dissolving the dual structure of Japanese employment. On the other hand, medium and small enterprises that were able to compete with big enterprises and expand their export market through use of comparatively cheap labour, are faced with a grave problem. They cannot make both ends meet without specializing their products, mechanizing production, and improving techniques in an effort to cope with the changing labour condition. This is a necessary adjustment in order to keep up with the modernization of the employment structure. The growth and the changes, however, have been so abrupt that in parts there are difficulties on the part of small enterprises and agriculturists in adjusting themselves to changing circumstances.

These changes in the employment situation will also, as described later, have an effect on future export trade. That is, in the export of such types of industrial products that require large labour input and comparatively simple technological know-how, Japan will face increasing competition from the newly industrializing countries with abundant labour force.

One of the characteristics of the Japanese employment structure as compared with the advanced industrial nations is the high ratio—half of the total labour force—of self-employed and unpaid family workers. This is due to the fact that agriculture and small-scale commerce and industry are still commanding an important position in the employment structure, although it has changed rapidly in recent years. Table 10 brings out

<sup>1</sup> S. Ōkita, "Choice of Techniques—Experience of Japan and its Implication for Under-Developed Economies" in *Industrialization and Productivity*. New York, United Nations, April 1961, pp. 20-27.

the decrease of the agricultural and forestry labour force and the increase in non-agricultural industries. The recent movement of the wage level is shown in Table 11. These statistics are based on the monthly average earnings by regular workers of establishments employing 30 or more persons. The average wage in manufacturing industries has, from 1955 to 1961, increased 45% in monetary value and 32% in terms of real wage.

**Table 10. EMPLOYED PERSONS BY CLASS OF WORKERS, 1952-1961**

(Million persons)

Monthly average	Agriculture and forestry				Non-agricultural industries			
	Total	Self-employed	Unpaid family workers	Paid employees	Total	Self-employed	Unpaid family workers	Paid employees
1952	17.37	5.64	10.26	.47	20.92	4.84	2.69	13.75
1953	16.90	5.58	10.74	.58	22.20	4.80	3.09	14.33
1954	16.50	5.49	10.45	.56	23.12	4.98	3.32	14.81
1955	16.86	5.59	10.74	.54	24.02	5.14	3.33	15.53
1956	16.45	5.62	10.21	.62	25.27	5.20	3.26	16.79
1957	16.07	5.59	9.79	.69	26.77	5.35	3.32	18.08
1958	15.47	5.49	9.62	.46	27.65	5.19	3.16	19.28
1959	15.37	5.52	9.30	.54	28.33	5.19	3.03	20.07
1960	14.92	5.47	8.87	.59	29.79	5.37	3.06	21.32
1961	14.10	5.14	8.44	.52	30.96	5.26	2.98	22.69

Source: Statistics Bureau, Prime Minister's Office.

**Table 11. AVERAGE MONTHLY CASH EARNINGS OF REGULAR WORKERS IN MANUFACTURING INDUSTRY, 1952-1961**

(In thousands of yen)

	Monthly Cash Earnings			Real wage index (1955=100)
	All Workers	Male	Female	
1952	13.5	16.8	6.8	91.5
1953	15.3	19.1	7.6	96.2
1954	16.3	20.3	8.1	95.3
1955	16.7	20.9	8.2	100.0
1956	18.3	23.2	8.8	108.9
1957	19.3	24.4	9.2	109.3
1958	19.2	24.3	9.1	112.3
1959	20.8	26.2	9.9	119.5
1960	22.6	28.5	11.0	124.5
1961	24.8	31.2	12.5	132.2

Source: Ministry of Labour.

**Table 12.** LIVING EXPENDITURE LEVEL

(1934-36=100)

	All Japan	Urban	Rural
1952	94.8	80.2	116.6
1953	105.7	94.0	123.2
1954	111.1	100.0	127.5
1955	115.1	106.5	128.1
1956	118.4	109.5	131.7
1957	124.4	118.4	133.3
1958	129.6	124.9	136.7
1959	133.4	127.8	141.8
1960	142.3	135.9	151.9
1961	155.8	143.8	173.9

Source: Economic Planning Agency.

Following the economic growth, the average national standard of living has also risen. Table 12 shows the overall standard of living in rural and urban areas based upon the survey of family expenditures. The overall 1961 level has exceeded the prewar level by 55%. As compared with the prewar years, the standard of living in rural areas has increased than that of urban districts. This, generally speaking, is attributable to the low prewar rural standard as compared with the urban one. When comparing the rate of increase in recent years, the increase in the urban area is slightly higher than that in the rural area. As mentioned previously, the underlying factors for the increased demand for durable consumer goods and also the increase in the consumption of high-grade agricultural products manifest the general rise in the Japanese standard of living.

#### 4. Foreign Trade<sup>1</sup>

In order for the Japanese economy to grow, it is necessary to increase foreign trade. 20% of the grain, 80% of the iron ores, 97% of the oil and all of the cotton and wool have to be imported from abroad. Therefore, in Japan, the rise in the standard of living and the expansion of economic activities will inevitably increase imports which must, in turn, be met by increased exports.

<sup>1</sup> On the postwar foreign trade development the author has published the following report: "Postwar Structure of Japan's Foreign Trade" in *Economia Internazionale*, February 1960, pp. 83-102.

**Table 13.** FOREIGN TRADE STATISTICS, 1951 - JUNE 1962

(In millions of dollars)

	Total Exports	Total Imports
1951	1,355	1,995
1952	1,273	2,028
1953	1,275	2,410
1954	1,629	2,399
1955	2,011	2,471
1956	2,501	3,230
1957	2,858	4,284
1958	2,877	3,033
1959	3,456	3,599
1960	4,055	4,491
1961	4,238	5,811
1962 (Jan.-June)	2,225	2,959

Source: Ministry of Finance.

As shown in Table 13, during the 10-year period from 1952 to 1961, exports increased 3.1 times and imports 2.9 times. During the 5 years after the end of the war, Japan received 2 billion dollars in aid from the United States. Later, special procurements by the U.S. Forces in Korea and those stationed in Japan provided temporarily important foreign exchange. After 1955, the normal export trade increased and has now made it possible for Japan to obtain the bulk of the necessary foreign exchange through her commercial export trade.

For some time after World War II, the outlook of the Japanese export trade was very dim. Japan lost her overseas colonies and the nearby Asian markets; the normal development of trade with China especially ran into difficulties because of political conditions<sup>1</sup>. It was widely believed that the resultant loss of traditional sources of raw material would compel Japan to import from remote sources, and the cost of the products manufactured in Japan would accordingly be raised.

Nevertheless, as shown in Table 13, a rapid expansion of trade was made possible, and in 1960 it accounted for 4% of the world trade. The main reason for this is that Japanese industries proved flexible in keeping up with changes in the world market and have succeeded in developing more diversified export trade. After World War II, world trade as a

<sup>1</sup> For details on the Sino-Japanese trade see: Saburō Ōkita, "Sino-Japanese Trade and Japan's Economic Growth" in *Proceedings of the Symposium on Economic and Social Problems of the Far East*, Hongkong, Hongkong University Press, 1961.

whole continued to expand. Trade restrictions being eased, mammoth tankers and bulk ore carriers reducing long-distance ocean freight cost,—these factors have exerted favourable influences upon Japan's export and import trade. Also progress in Japan's industrialization and development of domestic processing industries lowered the percentage of required ratio of imports to the GNP from 20.4 in 1934-1936 average to 10.6 in 1958-1960 average. It was an advantageous change for Japan to become able to support a higher level of domestic economic activity with a relatively smaller amount of foreign trade.

The distribution of Japanese exports in 1960 was: 37% to Asia (of which 25% to Southeast Asia), 12% to Europe, 33% to North America (of which 27% to the United States), 4% to South America, 9% to Africa, and 5% to Oceania. Whereas in prewar years (1934-1936), the Asian market accounted for 63% of the exports, in the postwar years, the export market diversified considerably embracing various areas of the world. Whereas cotton and silk textile goods accounted for about 60% of the total amount of exports in prewar years, the share of heavy industrial products such as steel, ships, machinery, and chemical fertilizer increased substantially after the war. The diversification of export items, together with the increase of heavy-industry products, is interrelated with the diversification of the Japanese industrial structure and the predominance of heavy industry. The expansion of export trade, however, has so far

**Table 14. GROSS DOMESTIC INVESTMENT AS PERCENTAGE  
OF GNE, 1951-1960**

	(percentage)				
	Total	Fixed Investment		Inventory Investment	Personal Residence
		Private	Government		
1951	30.6	11.2	6.5	11.6	1.3
1952	27.4	11.6	7.2	7.1	1.6
1953	27.9	11.3	8.9	5.9	1.8
1954	23.4	10.2	8.1	3.3	1.8
1955	25.3	9.4	7.1	7.1	1.7
1956	31.8	14.8	7.1	7.8	2.1
1957	31.8	16.8	8.1	4.7	2.2
1958	27.2	15.9	8.8	0.3	2.3
1959	35.0	17.3	8.6	7.0	2.2
1960	38.2	20.9	8.9	6.0	2.3

Source: Economic Planning Agency.

heavily depended on increased exports to high-income markets of products that required relatively large labour input. In machinery items, the emphasis is on light-industry products such as cameras, transistor radios, and sewing machines. As previously mentioned, with the change in Japanese employment and wage conditions, it is likely that the exports of labour-intensive products will have to be gradually turned over to the newly industrializing countries. Japan must therefore make every effort to expand her trade by increasing exports of high-quality goods produced by highly advanced techniques, superior design and precision tooling in order to match the domestic trend toward higher wages and full employment.

### 5. *Savings and Investment*<sup>1</sup>

One of the noteworthy characteristics of the postwar Japanese economy is the high rate of investment supported by the high rate of savings. Both manifest an upward trend year after year. The high rate of investment is the basic supporting factor for the economic growth. Table 14 shows the gross domestic investment as percentage of the gross national expenditure (=GNP). The gross investment average ratio during the prewar years of 1934-1936 was 19%; the averages of postwar years were 25.4% in 1946-1950, 26.9% in 1951-1955, and 32.8% in 1956-1960. In most Western nations the gross investment ratio is around 20% of the

**Table 15. GROSS CAPITAL FORMATION AND GROSS SAVINGS, 1951-1960**

(In billions of yen)

	GNE= GNP	Gross Capital Formation			Gross Savings				
		Total	Private	Government	Total	Depreciation Allowances	Corporate Retained Profits	Personal Savings	Government Current Surplus
1951	5,444	1,664	1,252	412	1,664	280	215	718	452
1952	6,118	1,678	1,204	474	1,678	359	196	689	339
1953	7,085	1,978	1,335	643	1,978	473	297	523	394
1954	7,466	1,750	1,157	593	1,750	559	233	559	304
1955	8,236	2,087	1,372	715	2,087	651	274	834	319
1956	9,293	2,955	2,264	692	2,955	794	532	979	515
1957	10,150	3,210	2,402	809	3,210	932	434	1,092	684
1958	10,395	2,832	1,904	928	2,832	1,035	331	1,172	617
1959	12,573	4,405	3,289	1,115	4,405	1,261	755	1,555	828
1960	14,665	5,607	4,267	1,340	5,607	1,529	1,059	1,878	1,230

Source: Economic Planning Agency.

<sup>1</sup> See the following article by the author: "Saving and Economic Growth in Japan" in *Economic Development and Cultural Change*, October 1957, pp. 32-41.

GNP. Therefore, in recent years, the investment ratio in Japan is high both from the historical as well as international-comparison standpoint. The investment ratio of 35.0% in 1959 and 38.2% in 1960 is unusually high. It is not very likely that such a ratio will continue in the future. This future trend deserves to be carefully watched. As shown in Table 15, gross investment is matched by gross savings and, according to the 1960 statistics, depreciation allowance and corporate retained profits accounted for 46%, personal savings for 33%, and government current surplus for 22% of the total savings. The ratio between personal savings and personal disposable income, that is, the average propensity to save was 13.9% in 1951-1955, and 16.7% in 1956-1960, showing an upward trend. The remarkable high ratio of 18.3% in 1959, and 19.4% in 1960 were recorded. The reason for the high rate of savings will be discussed in the next chapter, but the main factors which supported the postwar high rate of growth can be credited to a high ratio of investment backed by a high rate of savings. Most investments have been supplied from domestic savings, while import of foreign capital, as can be seen in Table 16, is relatively small. Only from 1959 on, has inflow of short- and long-term foreign capital increased significantly as a result of the liberalization of foreign exchange transactions and the general recognition abroad of the growth potential of the Japanese economy. This inflow eased somewhat the balance of payments difficulty, which had been a brake on economic growth.

**Table 16. FOREIGN EXCHANGE RECEIPTS AND PAYMENTS, GOLD AND FOREIGN EXCHANGE RESERVES, 1957-1961**

(In millions of dollars)

	Current Transactions			Capital Transactions			Gold & Foreign Exchange Reserves (a)
	Receipts	Payments	Balance	Long-term Capital		Short-Term Capital Balance	
				Receipts	Payments		
1957	3,611	3,701	△ 90	43	53	△ 84	629
1958	3,457	2,957	500	149	59	△ 125	974
1959	4,076	3,883	193	132	159	182	1,361
1960	4,643	4,713	△ 69	156	155	676	1,997
1961	4,927	5,930	△1,003	384	211	456	1,561

Source: Bank of Japan, (a) Ministry of Finance.

Note: As of end of fiscal year (31st March).

### III. FACTORS LEADING TO THE HIGH RATE OF GROWTH

The height of the postwar rate of growth of the Japanese economy is remarkable not only when compared with other countries, but also when compared with prewar Japan. According to Professor Kazushi Ōkawa's estimate<sup>1</sup> covering about sixty years, the rate of growth of the prewar national income was from 3.0% to 5.5% annually, or on the average about 4% per year. According to the calculation of the Economic Research Institute of the Economic Planning Agency, the annual rate of growth was 4.6% for 1926-1939. However, the average of 9.6% for 1951-1960 is about two times higher than the prewar rate. Nine factors are primarily held responsible for this high recent rate of growth.

a. Postwar recovery.

It is believed that the postwar growth rate has been influenced by the recovery from the immediate postwar sharp decline in economic output. On the assumption that the 4.6% annual prewar average (1926-1939) would have continued, the GNP in 1960 would have been 32% higher than what it actually was. From the long term growth trend, the Japanese economy can be said to be still affected by postwar recovery elements.

The major factors involved were: 1. strong desire for rehabilitation; 2. abundance of under-utilized high quality technicians and labour; 3. backlog of purchasing power accumulated during the war; 4. low capital output ratio. When there are fixed assets which are unused or under-used, additional investment necessary for increased production is relatively small, and accordingly rapid recovery of production was possible with comparatively little equipment investment. These various conditions were present simultaneously, and the fact that there were hardly any curbing bottleneck factors, is believed to be one of the reasons for the remarkably high rate of growth in the rehabilitation period.

The next question is, however, how much these postwar recovery factors are still evident at present. It is true that, around 1953, economic activities started to surpass the prewar peak. But it will be some time yet before the Japanese economy catches up with the long-term trend. Logically speaking, there is no assurance that it will ever return to the prewar trend, but, with the growth of the potentialities of a nation, such as the level of education, the ability of the people to understand modern

K. Ōkawa, *Nihon Keizai no Seichō-ritsu* (Rate of Growth of Japan's Economy), Iwanami Publishing House, Tokyo, 1956, pp. 21-22.

techniques, the stock of skilled labourers, the ability of modern business management, etc., the economy will progress year by year. The war interrupted the normal growth of the economy, and actual output was far below the trend. Thus the postwar recovery element can contribute to a higher rate of growth although this factor will gradually diminish as years pass by.

b. Smaller business fluctuations.

A second factor of the high postwar growth of the Japanese economy is that the magnitude of business fluctuations has been reduced. This phenomenon is true not only in Japan but also in most of the highly developed countries. As already mentioned, the postwar rates of growth of the Western nations are about 2 to 5%, and have risen considerably compared to the prewar years. Policies for circumventing depressions as well as preventive measures for business fluctuations have made much progress. As a result, wide fluctuations of the business cycle have ceased to occur in most countries, and the under-utilization of equipment, raw materials, and labour due to depressions has been avoided. This is also true in Japan and the loss in economic growth due to idle labour and capital equipment in times of depression has decreased.

c. Technological innovations.

The swift tempo of technological innovations is a third factor of the high growth rate. A common phenomenon throughout the nations of the world before the war was that the economy gradually lost its momentum to grow as opportunities for investment decreased, and the belief that the economy has entered the stage of stagnation spread. In the postwar economy, technological innovations have opened up a new frontier for investment. It must be noted here that these innovations have not only changed production techniques, but are considered to be an innovation in a broader sense. New production methods have been devised one after another, and improved production efficiency. On the other hand, the new products are consumed by a public whose income has increased. This stimulates investment, causes revolutionary changes in the pattern of consumption, and accordingly stimulates economic growth. In the postwar years, Japan has gone through the process of rapidly absorbing advanced foreign techniques in order to catch up with the development in highly advanced countries. These two forces, world-wide technological innovations and Japan's catching-up effect, acted as important stimuli for growth. If technological innovations which supported the postwar growth were only the result of catching-up effect, it is likely that the rate of technological progress would gradually come down with the progress of rehabilitation.

However, when we consider that this innovation has so far been concentrated mainly in the large enterprises, it can be assumed that there is still ample room for progress in medium and small enterprises. At any rate, technological innovations will greatly influence the future course of Japan's economic growth.

d. Reduction in military expenditures.

A fourth factor of the high postwar rate of growth is the decrease in unproductive military expenditures. They have fundamentally the characteristics of extravagance, and usually act as a deterrent to increased production. Japan's military expenditures decreased substantially due to the postwar dissolution of the armed forces, and the loss of her colonies. During 1934-36, for instance, just before the outbreak of Sino-Japanese War, the average military expenditures were 7% of the national income (6% of GNP). At present, expenditures for self-defence dropped to about 1.4% of the national income (1.1% of GNP). The amount saved was mostly spent in investment stimulating economic growth.

e. Increase in the rate of investment.

The ratio of gross investment to gross national product is much higher in postwar than in prewar years and acts as a factor of growth. The prewar rate of gross investment was about 20% of GNP but increased substantially to a level of over 30% after the war. One of the reasons is, as previously mentioned, the reduced burden from military expenditures. But basically, it is because the savings by the people, private enterprise, and the government have greatly increased. The high rate of capital accumulation made possible a high rate of investment necessary for maintaining a high rate of growth. The problem here is how the postwar Japanese rate of investment grew. The postwar rates of gross investment in most Western nations were about 20%. In the USSR the rate of gross investment is believed to be around 27%. Therefore, the recent rate of investment in Japan, when compared with other countries, is conspicuously high. Consequently, it is believed that there is a unique factor at work, namely the gap between high productivity and relatively low consumption level. The speed of the postwar rise in productivity has brought about a gap between production and consumption. This made possible a high rate of savings and, in turn, supplied necessary capital for investment.

f. Abundant supply of labour.

The abundant labour force can be considered as a sixth factor of the high rate of growth. One of the features of Japan's economic structure known to the outside world was her surplus population; it was considered

as one of the draw-backs for her economic development. However, the abundant labour force is believed to have had a favourable impact at least from the viewpoint of postwar economic growth. In highly developed nations, already at a stage of full employment, labour shortage is considered as one of the most important limiting factors for economic growth. In Japan, not only did the supply of new labour force increase rapidly, but there existed a reserve labour force in the form of latent unemployment and under-employment. For example, the average productivity of agricultural labour is about 30% of that in non-agricultural industries. Therefore, theoretically, the shift of a labourer from the agricultural to the non-agricultural sector will triple his output. In highly developed nations there is little margin left in the agricultural labour supply, but in countries such as Japan, the USSR, and East European nations where the ratio of farm population is relatively high, it is possible to raise the rate of economic growth by merely shifting the labour force from low productivity sectors to high productivity ones.

g. Increase in supply of capital goods from domestic sources.

A seventh factor for the high rate of growth is the modernization of the industrial structure, especially, the expansion of capital goods production. Prewar Japan was predominantly a light-industry nation, and in order to expand the production capacity, most of the necessary equipment and machinery had to be imported. But with the postwar expansion of heavy industries, most capital goods could be produced domestically. This has made it possible to increase the investment level without incurring balance of payments difficulties. It also made it possible for increased domestic investment to stimulate related industries, and thereby raise the level of overall production.

h. Institutional factors.

Institutional and political conditions are also a factor of the high rate of growth: increased government participation in economic activity preventing fluctuation; contribution of postwar land reform, of encouragement of labour unions as well as other democratization policies to the expansion of domestic market through increased consumer purchasing power; foreign exchange controls that prevented a collapse of the international balance of payments, and protected the growth of domestic industries; last but not least, the fact that growth policy was consciously adopted as the fundamental economic policy.

i. Favourable international environment.

In the postwar world economy, nations endeavour to lower trade barriers, and to expand trade through international cooperation. This has

produced a favourable environment for the expansion of Japan's foreign trade. For a country like Japan which depends upon the export of non-essential industrial products, the trend towards freer trade can be taken basically as a favourable condition.

#### IV. FUTURE PROSPECT

The future growth of the Japanese economy depends on how each of the various growth factors explained above will evolve, and, from the overall standpoint, on how long these growth factors can continue their impact into the future. In drafting the *Doubling National Income Plan*,<sup>1</sup> the future growth factors and the factors limiting the growth were studied; furthermore, the long-term outlook, up to 1980<sup>2</sup>, was studied before the Plan was prepared. In the light of these studies, we have come to the conclusion that, at least until about 1970, the Japanese economy will probably be able to grow at a high rate. The main reason for this assumption is that the present under-utilized labour force, which has a comparatively high education and technical ability, will gradually be absorbed, until full employment similar to highly developed countries is realized. Until then, the Japanese economy will continue to show a re-

**Table 17. RATE OF GROWTH, RATE OF INCREASE OF EMPLOYED, AND RATE OF GROWTH OF LABOUR PRODUCTIVITY, ACCORDING TO DOUBLING NATIONAL INCOME PLAN**

	Rate of Growth	Rate of Increase of Employed	Rate of Growth of Labour Productivity
Primary Industry	2.8	-2.8	5.6
Secondary Industry	9.0	3.5	5.5
Tertiary Industry	8.2	2.7	5.5
Transportation, Communication and Public Services	8.8	3.2	5.6
Total Industries	7.8	1.2	6.6

Source: Economic Planning Agency, *Doubling National Income Plan 1961-1970*, p. 25.

Note: Annual Average from 1956-58 to 1970.

<sup>1</sup> *New Long-Range Economic Plan of Japan (1961-1970)—Doubling National Income Plan*, Economic Planning Agency, published by the Japan Times, Ltd.

<sup>2</sup> *Japan's Economic Prospects for 1980*, prepared by the Economic Planning Agency and published by the Printing Bureau, Ministry of Finance.

latively high rate of growth compared to other industrial nations which are already in the state of full employment, and it is likely that the gap with these countries will gradually be narrowed.

In a country under full employment, and where the labour force is in a state of optimum distribution, there is no substantial difference in the productivity of the different economic sectors. Therefore, the main factors which support the economic growth are increase of labour force, technological progress, and increase of labour productivity resulting from increased capital intensity. However, for a country like Japan with a large gap in productivity among different sectors, as mentioned previously the mere shifting of the labour force from low-productivity to high-productivity industries can be a big factor contributing to economic growth. Actually, the rates of productivity growth by sectors in the industries listed in the *Doubling National Income Plan* indicate the fact that the overall combined rate of productivity growth is considerably higher than the growth rate of productivity in each field. (See Table 17) This indicates that the number of workers of the low productive primary industries is decreasing and shifting to the higher productive secondary and tertiary fields.

We may, however, not forget as afore-mentioned that the surplus labour force which has been one of the main supporting factors of the high rate of growth, will gradually diminish in the future, as Japan approaches a level where the labour force is fully utilized. The so-called dualism in the employment structure is, at present, an important factor of growth, but the growth itself gradually absorbs unemployment and under-employment, and thereby dissolves the dualism in the employment structure; this, in turn, will weaken the growth potential in the future.

The high rate of growth of the domestic economy must be backed by a rapid expansion of the foreign trade. During the 1950's, the average annual rate of growth of Japan's export trade was about three times that of world trade as a whole. This rapid expansion was partly due to the postwar recovery of Japan's share in the world market lost because of the war. It can safely be assumed that the annual 10 per cent rate of growth of foreign trade, which is about twice the estimated rate of growth of the world trade as a whole, during the 1960's, envisioned by the *Doubling National Income Plan* is more or less a realistic estimate. As mentioned earlier, in a country like Japan, where labour is still under-utilized, the wage-productivity relationship is more favourable as compared to other full-employed industrial countries. This advantage will strengthen the competitive position of her exports. On the other hand, there are

possibilities that, in the course of time, countries with more abundant and cheaper labour than Japan will gradually industrialize and appear as competitors in the export markets of labour-intensive products where Japan has enjoyed so far an almost monopolistic advantage. In view of the generally pessimistic outlook for exports of primary products from newly industrializing countries, it is an absolute necessity for these countries to try to expand the export of their industrial products, without which their industrialization would be hampered by a continuous shortage of foreign exchange. In the light of the above development, Japan will have to make every effort to shift the emphasis of export commodities from labour-intensive to more capital-intensive or highly technological products. This will also become inevitable as Japan's labour market moves toward full-employment.

*Japan's Economic Prospect for 1980* which was prepared in 1959 by the Economic Planning Agency predicted for the 1960's an average rate of growth of 7 per cent annually, and for the 1970's 5 per cent. The *Doubling National Income Plan* estimated that the Gross National Product can be doubled within about 10 years; this implies for the 1960's an average annual growth of 7 to 8 per cent. It is most likely that Japan, for some years to come, will maintain a relatively high rate of growth, and gradually change her economic and social structure characterized by the coexistence of modern and pre-modern elements, into a more homogeneous and highly developed one. The growth rate of the economy is likely to come down as the above evolution proceeds, but by the time Japan will reach a per capita income of one thousand dollars or so, the necessity for maintaining an unusually high rate of economic growth will also gradually diminish.