

FACTORS IN JAPAN'S ECONOMIC GROWTH

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CONTENTS

- I. Realities of the Rapid Economic Growth
- II. Factors in the High Rate of Growth
 - A. Postwar factors
 - 1. Rehabilitation factors
 - 2. Sharp decrease of military expenditures
 - 3. Roles of labor unions, land reform and inflation
 - 4. Technological innovation
 - 5. Labor force
 - 6. Government's role
 - B. Long-term factors
 - 7. Financial structure and investment behavior
 - 8. Dual structure and export growth potential
 - 9. The role of small-and-medium enterprises
 - 10. Saving ratio
 - 11. Other factors
- III. Future of the High Rate of Economic Growth

I. Realities of the Rapid Economic Growth

Miraculous as the postwar economic rehabilitation of West Germany was, the pace of Japanese economic growth has been no less outstanding.

Industrial production, which fell in 1946 to 27.6 percent of the 1934-36 figure, regained the prewar level in 1951, reaching 153.6 percent in 1955 and 422.5 percent in 1962.

In this paper we are mainly concerned with the study of the factors that contributed to the nation's swift economic rehabilitation and growth in the postwar years. But it may be useful, before proceeding to this question, to obtain a general idea of the economic growth after the war.

Table 1 shows the average annual rate of real gross national product for 1950-60. What we realize from this table is that the rate of increase in real gross national product is one of the highest among the capitalist industrial countries. The rate of increase in industrial production has likewise been one of the highest and comparable to that of the socialist countries. It was 14.4 percent in 1953-61, being higher than 8.3 percent for West Germany, 7.6 percent for France, 9.2 percent for Italy and 3.3 percent for the United Kingdom. Also, it was comparable to 11.2 percent for Yugoslavia, 10.6 percent for the Soviet Union and 11.8 percent for Rumania, thus attaining the growth on a level with the socialist countries.

The motive power for this rapid growth was the private investment in plant and equipment. The ratio of the private fixed investment to the gross national product stood at 7.8 percent in 1946. It continued to rise steadily and reached 22.9 percent in 1961. Noteworthy has been the fixed investment boom since 1956. The private fixed investment amounted to ¥ 777.4 billion in 1955, but it rose up to ¥ 4,050 billion in 1961, an increase of 5 times during the six-year period. The *national income doubling plan* contemplates to double the real gross national product during the ten years ending 1970. However, the private fixed investment as a component of gross national expenditure rose 5 times during the past six years, the rate being unparalleled even in the socialist countries. Moreover, the amount of the ¥ 4,050 billion fixed investment in 1961 will surpass the outlays set for the closing year under the *national income doubling plan*. This explains how sharp the unproportional growth concentrating on fixed investment has been.

Nevertheless, the course of development has never been even. It would therefore appropriate to analyze the postwar period by dividing it into three phases, namely 1946-51, 1951-55 and 1955-61. Table 2 shows the rate of increase in real gross national product computed for every phase and the marginal fixed capital coefficient estimated from the ratio of fixed investment to gross national product and GNP growth rate.

I_f stands for private fixed investment, and hence,

$$a/b = \frac{I_f}{GNP} \div \frac{\Delta GNP}{GNP} = I_f / \Delta GNP$$

What we learn from this table is that, while the rate of increase in the gross national product declined from 11.2 percent in the first phase to 7.5 percent in the second phase, it rose to 10.6 percent in the third phase. One tends to think that as we pass through the rehabilitation period, the rate of growth will naturally slow down. In Japan's case, however, it has

gained momentum since 1956 through the technological innovation boom. The share of the private fixed investment in the gross national product rose gradually from 8.8 percent to 10.8 percent and then to 16.8 percent during the three phases. In response to this, the

TABLE 1. INCREASE IN REAL GROSS NATIONAL PRODUCT 1950-60

	Annual rate of growth
Japan	9.5%
West Germany	7.6
Austria	5.9
Italy	5.9
Netherlands	4.7
France	4.3
Canada	3.8
Norway	3.5
Denmark	3.4
United States	3.3
Sweden	3.2
Belgium	2.9
United Kingdom	2.7

Source: United Nations, *Yearbook of National Accounts Statistics*, 1962.

TABLE 2. MARGINAL FIXED CAPITAL COEFFICIENT AND THE RATE OF GROWTH IN GROSS NATIONAL PRODUCT

	(Private fixed investment / GNP) (a)	GNP Growth rate (b)	Marginal fixed capital coefficient a/b (c)
1946-51	8.8%	11.2%	0.79
1951-55	10.8	7.5	1.44
1955-61	16.8	10.6	1.58

estimated marginal fixed capital coefficient (that is, the amount of real fixed investment necessary to increase a certain amount of real gross national product) rose sharply from 0.79 to 1.44 and to 1.58. The rise in the marginal fixed capital coefficient from the first to the second phase indicates that the increase in production in the first phase was due to a rising utilization rate of production facilities, but that in the second phase it was attributable to the increase in fixed investment. The rise in the marginal fixed capital coefficient from 1.44 to 1.58 in the third phase seems to reflect, for example, that, with the technological innovation, there was an introduction of large efficient equipment, such as strip mills in steel making, an expansion of harbor facilities, etc.

TABLE 3. AVERAGE ANNUAL RATE OF GROWTH FOR INDUSTRIAL PRODUCTION (%)

	1946—51	1951—55	1955—61
Manufacturing and mining	29.1	14.0	15.6
Iron and steel	51.5	9.6	18.1
Machinery	29.4	12.2	26.2
General	33.7	6.7	22.2
Electrical	20.3	17.9	40.8
Ceramics	32.6	10.4	14.8
Chemicals	35.8	16.4	14.1
Textile	32.0	13.7	8.6
Public utility	9.9	7.0	12.9
Mining	16.4	1.7	4.4
Capital goods	30.0	9.8	21.6
Construction materials	24.6	6.3	13.2
Consumer durables	25.8	22.6	37.8
Non-consumer durables	23.9	15.9	7.5
Producer's goods	30.8	10.7	14.1

Meanwhile, the annual rates of growth in the principal fields of the manufacturing industry are given for the respective phases in Table 3. There was a decline in growth in almost every field from the first to the second phase. However, there occurred a change in this tendency in the third phase, and notable development was that the machinery output showed a rapid rise from 12.2 percent in the second phase to 26.2 percent in the third phase. Striking was the electrical machinery output from 17.9 percent to 40.8 percent, which was much higher than a rise of general machinery output from 6.7 percent to 22.2 percent. A similar trend is observed in the fact that, while the capital goods output rose from 9.8 percent to 21.6 percent, consumer durable goods output grew from 22.6 percent to 37.8 percent. This was the result of the widespread use of consumer durables in recent years. According to the *Survey of Consumer Behaviors and Expectations*, 15.9 percent of the 4,132 urban families under survey owned television sets in September, 1958 but by August, 1961 this percentage rose to 71.9 percent. In case of the 2,169 farmers' families, this percentage rose from 2.6 percent in September, 1958 to 28.5 percent in February, 1961. The spread of the consumer durables, such as television set, electrical washing machines and refrigerators, was very sharp during the period, and this was distinctly reflected in the increase in production.

It is true that the growth of general machinery output was below that of the electrical machinery output until 1959, but in 1960, in contrast to the rate of increase for general

machinery, which rose from 24.3 percent in the previous year to 43.9 percent, that of the electrical machinery output fell from 62.3 percent to 37.6 percent. Thus, with the implementation of the *trade liberalization schedule*, the fixed investment boom seems to have outstripped that of the consumer durables boom in 1960.

It may well be said that the disproportionate growth concentrating on plant and equipment has greatly changed the nation's industrial structure in recent years. As indicated in Table 4, the percentage of the value added (1961) in the case of Japanese chemical, metal and machinery industries accounted for 61.2 percent, which was higher than that of West Germany and the United States and surpassed about 40 percent for Denmark and Norway. The United Kingdom was an only country showing a very close ratio of 59.3 percent to Japan, reflecting the magnitude of machinery exports to the Commonwealth countries.

TABLE 4. PERCENTAGE COMPOSITION OF VALUE ADDED IN MANUFACTURING

	Japan (1961)	W. Germany (1954)	United States (1958)	United Kingdom (1958)	Denmark (1959)	Norway (1958)
Chemical	11.8	11.7	10.5	9.4	8.5	10.6
Metals	17.1	18.1	14.9	14.4	7.7	17.0
Machinery	32.3	24.8	29.0	35.5	28.8	21.5
Total	61.2	54.6	54.4	59.3	45.0	49.1

It may justly be said that the rapid shift of the industrial structure of Japan with a low level of per capita income toward the heavy and chemical industries is reflecting the rapid economic growth and the fixed investment boom. The cessation of the fixed investment boom in 1962 is estimated to have decreased the relative weight of the value added for the three industries in manufacturing from 61.2 percent in 1961 to some 59 percent in 1962. The reason is that, according to the *Census of Manufactures*, the relative weight of the value added in establishments employing 30 workers and over in the chemical, metal and machinery industries rose to 63.8 percent in 1962. Considering that it was 66.0 percent in 1961, the percentage for the establishments employing four workers and over must have declined to 59 percent in 1962.

Then, the United Kingdom is possibly the only industrial country that has maintained the high heavy industry ratio of about 60 percent in value-added terms. However, Japan's rapid growth has thus changed the industrial structure oriented to light industries in the prewar period to that oriented to heavy and chemical industries and has recently raised the heavy industry ratio up to some 60%, the first among the capitalist countries. It must be a phenomenon exceptional in the world economic development that Japan with a low per capita income has been shifting to the heavy and chemical industries at much faster rate than in the other industrial countries. Thus, the question of what the shift will bring about to the nation's economy in the future will need our careful study. Anyway, it will be more interesting to inquire into the motive power for the rapid growth. Now we shall trace factors that has contributed to the growth.

II. Factors in the High Rate of Growth

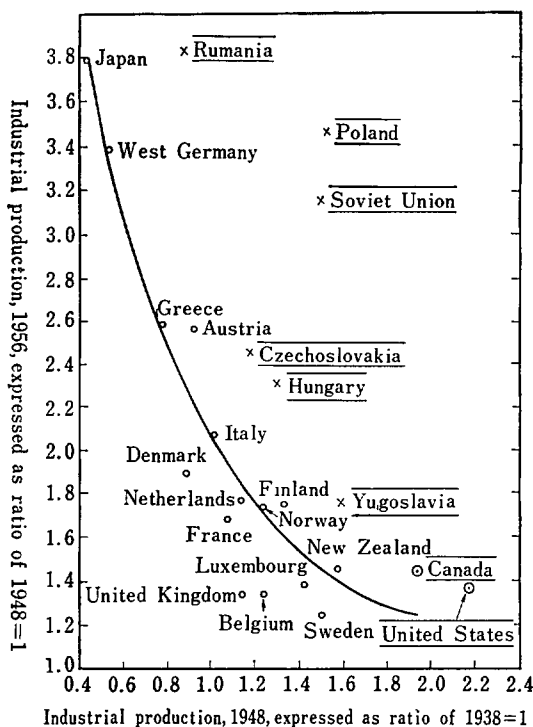
The high rate of Japan's economic growth is not a mere postwar phenomenon, but the one consistent from before the war, possibly from the late 1800's. Thus, in some cases the growth may be ascribable to factors working persistently from before the war, while in other cases it may have been accelerated under the circumstances peculiar to the postwar period. Some postwar factors may be conceived as rehabilitation factors and others must be of a long-term and structural nature.

A. Postwar factors

1. Rehabilitation factors

By and large, every country has experienced a high rate of industrial growth in the

CHART 1. INDUSTRIAL DECLINE AND RECOVERY
INVERSELY CORRELATED



postwar period. Above all, those countries that experienced a heavy drop in industrial output due to war damages, such as Japan, West Germany and Italy, have achieved a rapid recovery. This is illustrated in Chart 1. With the exception of the socialist countries, such as Rumania, Poland and the Soviet Union, and the United States and Canada, which were free from

war damage and served as an ordnance depot for the Allied Forces during the war, converted their industry smoothly to the production of civilian goods after the war, almost all countries followed the law of reciprocity under which industrial decline and recovery were inversely correlated. Thus, while certain countries enjoyed an extraordinarily high rate of growth in the postwar period, the reason must lie partly in the rehabilitation factors. Provided idle equipment existed and the labor force, technological level and entrepreneurial ability remained unchanged, it is natural that these countries should have achieved a rapid recovery, when provided with necessary conditions.

The same relationship can be found in the decline and recovery of real national income and exports, but this point will not be discussed here. At any rate, if we view the matter solely from this standpoint, we shall reach a conclusion that the extraordinarily quick pace of the postwar rehabilitation will be moderated as we pass through the postwar period. However, in understanding the rate of growth of Japanese economy, which still continues to be high in defiance of the popular phrase, "we are no longer in the postwar period", we must necessarily take into account other factors.

2. *Sharp decrease of military expenditures*

Under the postwar peace Constitution, we in Japan are not authorized to have any armed forces. Of course, we have the Self-defence Forces, but the expenditures are far less than the former military expenditures. In 1940, spending on goods and services by the central and local governments combined amounted to ¥ 10,458 million, of which ¥ 6,667 million, a high rate of 63.8 percent, was accounted for by military expenditures. The weight of military expenditures, of course, may have generally been lower as we go farther back to the past, but it cannot be denied that a large proportion of the Government expenditures was accounted for by the military expenditures. After the war, the proportion decreased greatly. The defense expenditures amounting to ¥ 157.7 billion in 1960, represented only 5.9 per cent of ¥ 2,683 billion spent by the Government on goods and services, according to the national income statistics. The difference may be applied to meet either increasing consumption or expanding investment. It may be considered that, in the postwar period, the difference was employed for investment, thus accelerating the economic growth.

3. *Roles of labor unions, land reform and inflation*

In the postwar period, the domestic market may be considered to have expanded greatly as compared with the 1926-35 period before the war. Under the economic democratization policy pursued by the occupation forces, financial groups (*zaibatsu*) were dissolved, agricultural land reform introduced and labor unions organized. Through introduction of the land reform, some 5 million acres of tenant land was released to farmers, and absentee landlords ceased to exist. Some three-fourths of agricultural land owned by landlords were transferred to tenants. The share of farmers' income increased and that of landlords, which had been remarkably large before the war, declined sharply. Moreover, upon request of the occupation forces, war time labor regulations were abolished, while organization of labor unions was encouraged. As a result, the distributive share of labor income in the value added for manufacturing, which had been at a low level of approximately 30 percent before the war, increased to 50 percent by around 1950.

The prewar Japanese economy was characterized by the holding down of the domestic market through low wages, and by the expansion of overseas markets particularly in a decade of the 1930's. However, in the postwar period, by around 1950, it was marked by the expansion

of the domestic market and by the enlarged share of laborers' and farmers' incomes, and this constituted an important prop for the recovery of the economy. Of course, the market expansion taking place during the period of an acute commodity shortage was attended by the development of inflation. Its development caused a state in which the real value of loans from the state funds (*Reconstruction Finance Bank* and *U.S. Aid Counterpart Fund*) and from private financial institutions, which were made for the recovery of war damages and industrial rehabilitation, heavily diminished, so that the borrowers felt it profitable to borrow as much as they could. This resulted in the development of capital formation by means of *forced savings* through inflation. In this sense, the inflation played an important role in accelerating capital accumulation as well as in causing various evils. Such a pattern of inflationary and domestic-market-expanding economic growth could only be successful in a situation where the multiple exchange rate was in effect and the nation's economy was isolated from the world economy by receiving aid materials from abroad. However, under the economic stabilization policy proposed by Mr. J.M. Dodge, then financial advisor to SCAP, the exchange rate was fixed at ¥ 360 against the dollar in 1949, and the deflationary policy was introduced during 1949-50. Soon after that, the Korean war broke out, and so the Japanese economy continued to be inflationary virtually until 1951. The roles that the progress of inflation and the domestic-market-expanding rehabilitation had played must have been effective in so far as they caused no balance of payments difficulty. In this sense the effectiveness had better be understood possibly by confining the period to the immediate postwar years.

4. *Technological innovation*

The technological development in Japan may well be considered to have been at a deadlock during and immediately after the war. This situation may have temporarily caused a substantial lag behind the other advanced countries. However, circumstances became favorable for us to make up for the gap. We had excellent internal conditions to introduce technology—superior educational background, intelligence as well as entrepreneurial ability. Moreover, even small and medium enterprisers were enabled to introduce technology competitively from abroad, thanks to the enactment of the *Anti-Monopoly Law* and the dissolution of financial groups. Democratization which had been initiated by the occupation forces promoted the modernization of the nation's mode of living and backed the technological innovation in production by changing the consumption pattern. Thus, the third phase, 1956-1961 was an age of unprecedented technological innovation. The introduction of large size efficient equipment, for example, in steel making, has facilitated the expansion of the machinery industry. Thus, it may be said that the introduction of new technology has been made at the rate we never experienced, as seen in the developments of synthetic textiles, synthetic resins, petrochemicals and electronics, and the undertakings for combinations has proceeded among related industries. Especially, the share of the heavy and chemical industries, centering on machinery, has risen at a faster pace than in the United States and West Germany, as already stated.

In assessing the period since 1956, it may be useful to refer to the prewar long swings. The first prewar long swing or growth cycle, extending over 20-25 years, continued from the first trough, the so-called "Matsukata deflation", 1881-86 until the second trough in the early decade of 1900's. In this case, about ten years since 1890 was, so to speak, a period of take-off. The receipt of reparations for the Sino-Japanese war, equivalent to one-fourth of

the national income of that time, proved to be a great impetus. It was used to finance the construction of iron mills and the establishment of railways and communications enterprises. It may thus be considered to have contributed to the raising of the balance of payments ceiling, playing an important role in quickening the pace of economic growth. Meanwhile, we experienced the second long swing since around 1914 until the World depression. In some sense, this may be said to be the surge of the wave caused by the tremendous accumulation of foreign exchange earned during the First World War. The two long swings had this in common that some great shocks from outside the national economy created within it the long swing extending over 20 years.

There may be a divergence of opinion as to whether or not the postwar economy is riding on the rising curve of the long swing. However, there would be no gainsaying the facts that the massive introduction in a short period of technology from abroad has contributed to the faster growth since 1956 than in the 1951-56 period, and that Japanese economy is now on the rising curve of the long swing. This is assuredly different from prewar factors which had given rise to long-term waves. Nevertheless, there may be a resemblance between pre- and post-war factors in that external shocks accelerated the growth of the economy.

When this long-term wave will enter on a downward course is another problem, but the role of the technological innovation cannot be ignored in understanding the postwar growth. While the demonstration effect in production and technology greatly quickened the pace of innovation, the same effect in the consumption pattern developed in the same way, and thus the rate of increase in the output of electrical machinery and other consumer durables was outstanding particularly at the early stage of the innovation.

5. *Labor force*

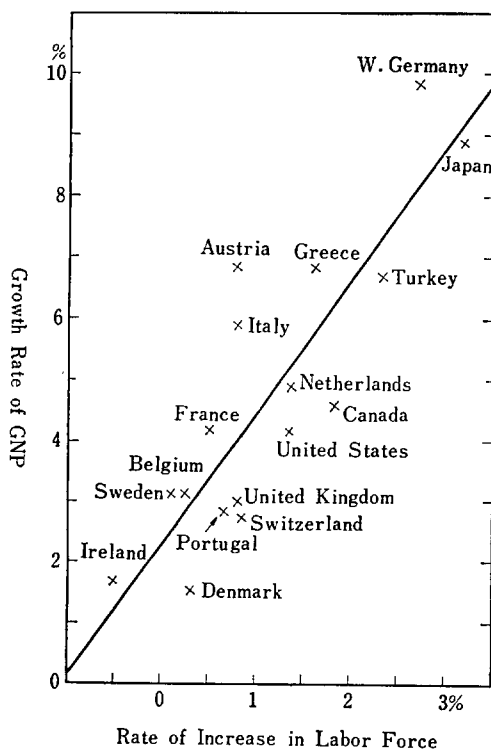
Generally speaking, an economy with an excess labor force has a strong possibility of realizing a higher rate of growth than one lacking such condition, if other circumstances are equal. It is not only because the labor force will constitute no bottleneck there, but because the relatively low wage, combined with the high level of technology introduced from abroad, will result in lower prices and the expansion of exports. By contrast, the growth of an economy with an acute labor shortage is likely to be retarded by cost inflation coupled with the aggravation of the balance of payments.

Chart 2 illustrates the international comparison of annual rates of increase in labor force and gross national product for 1950-55. It suggests how closely the rate of increase in labor force is related with that of gross national product. Of course, as a result of the progress of automation, certain industries may not see bottlenecks in the shortage of labor force. However, since the development of an economy may be accompanied by an expansion of the relatively labor intensive machinery industry, as well as the tertiary industry, the implication of the Chart may be evident. The high rate of Japanese economic growth is closely associated with the high rate of increase in the labor force.

The postwar Japanese economy has grown at a far quicker pace than before the war. However, it should be noted that the labor supply needed to expand the manufacturing and service industries has been provided by the agricultural sector more abundantly than before the war. For many years before the war, the absolute number of the farming population was kept constant. This was because a high rate of birth sustained the roughly constant agricultural population in spite of the incessant influx of labor force into urban areas.

However, the agricultural labor force, which had been almost constant in the level of

CHART 2. GROWTH RATES OF GNP AND LABOR FORCE, 1950-55



Source: M. Umemura, "Trends of Labor Force and Employment," *Keizai Kenkyu*, April 1960

14-15 million before the war, began to shift to an absolute decrease after the war. According to the *Census*, the number of farm labor force fell from 16.1 million in 1950 to 14.89 million in 1955 and to 13.22 million in 1960. Before the war, the second and third sons of a farm household changed their jobs to some other industry, whereas, after the war, even the oldest son, who is assumed to succeed his father's job, wishes to leave his village. This tendency is an important factor supporting the rapid expansion of our economy centering on the manufacturing industry.

6. Government's role

The role of the Government in the postwar economy was multifarious and is still very important. The present study, however, will be confined to the role the Government has played in capital accumulation.

First, we shall explain the expenditure side of the Gov-

ernment's role. When there was an extreme shortage of goods in the period immediately after the war, the expansion of production was absolutely essential. Then the "*tilting or priority production system*" was introduced, with main emphasis on key industries, such as coal mining, iron and steel industries, and raw materials were allocated to these industries by priority. In finance, as the resources of financial institutions were limited, state funds were in great demand. It was the *Reconstruction Finance Bank* and the *U.S. Aid Counterpart Fund* that played an important role during the period of rehabilitation.

The *Reconstruction Finance Bank* started its operation in January, 1947, but suspended functioning in 1949 under the economic stabilization policy proposed by Mr. J.M. Dodge. The importance of financing by the *Reconstruction Finance Bank* may be readily understood by its large share accounting for 72.1 percent and 68.9 percent of the total funds for corporate fixed investment in 1947 and 1948, respectively. It granted loans amounting to ¥132 billion during the two years, and main borrowers were coal mining (36%), electric power (17%) and shipping (9.6%). These industries looked almost entirely to the *Bank* in raising funds

The *U.S. Aid Counterpart Fund* also contributed to the growth. It continued to play its important role until June, 1951. During that period of the U.S. aid estimated at around \$2 billion, it performed the function of 'invisible' export and import subsidies under the *Foreign Trade Special Account* until April, 1949. However, with the establishment of the single exchange rate along with the enforcement of the Dodge policy, the proceeds from the U.S. aid materials were deposited in the *Counterpart Fund Special Account*. Of the total funds accommodated for financing private fixed investment, the counterpart fund accounted for 19.4 percent in 1949 and 17.3 percent in 1950. In this particular respect, the U.S. aid may be said to have more contributed to the rehabilitation than the state funds.

Later, with the abolition of the *Counterpart Fund Account*, the *Special Account* was taken over by the *Industrial Investment Special Account*. The former *Account's* business, together with the remaining business of the *Reconstruction Finance Bank*, was taken over by the *Japan Development Bank*. Of course, the weight of the financing by the state funds through the *Japan Development Bank* and various special accounts declined gradually with the replenishment of private financial sources. The share of the state funds in the total funds advanced for corporate fixed investment accounted for 25.3 percent in 1952, but declined to 18.2 percent in 1956 and 13.5 percent in 1960. Instead, the share of investment in public works in the total amount of the *Fiscal Loans and Investment Program* will become greater in the future.

All in all, the Government, through its expenditures, contributed greatly to the capital accumulation by the key industries at the stage of postwar rehabilitation. However, the role has become less important in recent years, and it is expected that the Government expenditures will be directed to the increased investment in social-overhead capital.

The second role played by the Government in the postwar economic growth is found in the taxation. This is outlined below.

1) *Revaluation of assets*: With the development of inflation after the war, there was a fear that the enterprisers' upkeep of net worth might be adversely affected by a decrease of depreciation costs, for book profits and excessive taxes on enterprises and dividends would be increased if the valuation of fixed assets remained unchanged. Thus, revaluation was enforced three times, in 1950, 1951 and 1953. However, the revaluation being voluntary, major enterprisers revalued their assets up to the limits, while many of the small and medium enterprisers either failed to revalue their assets or left them underrevalued. As a result, the revaluation helped the big enterprises with their capital accumulation, while it may have adversely affected the small enterprises by causing taxes to encroach the capital. In this sense, the enforcement of the voluntary revaluation had the effect of the taxes being levied retrogressively in relation to the scale of enterprise.

2) *Extraordinary depreciation systems*: This system is aimed to step up investment and modernization of industrial equipment by encouraging enterprisers to carry out advanced depreciation of fixed assets. For example, a 50 percent increased depreciation is approved for three years in respect of machinery, equipment and ocean-going ships which will contribute to the sound development of the national economy. A 50 percent extraordinary depreciation is approved in the initial year for the modernization of equipment and mine-prospecting machinery by the designated industries. However, the enterprises that benefited from the application of the depreciation system were largely big enterprises. The enterprises with a capital of ¥100 million and over accounted for 92.8 percent in terms of value for the year ending January, 1955, and here as well the system proved to be

advantageous for the capital accumulation by big enterprises.

3) *System for various reserves*: This system is aimed to stabilize the management bases of enterprises by counting up additions to the following reserves as losses:

Reserve for bad loans, retirement allowance reserve, price fluctuation reserve; and in the designated industries, drought reserve (electric power industry), reserve for extraordinary casualties (non-life insurance), reserve for special repairs (shipping and iron and steel), reserve for losses from breach of contract (exchange) and reserve for export losses (trading).

In this case as well, only big enterprises have benefited from the systems. For instance, big enterprises with a capital of ¥ 100 million and over accounted for 85.2 percent in terms of cumulative additions to reserves for the year ending January, 1955. The total capital used of all corporations increased 3.17 times during 1952-59, of which tax-exempted reserves rose 10.2 times. This fact indicates how greatly the system has been contributing to the capital accumulation of big enterprises. According to the report of the *Tax System Research Council*, of the total profits of 136 (sample) large corporations, the amount deducted from the total profits and exempted from taxation in the form of reserves and extraordinary depreciation accounted for 20.5 percent in 1959. This is noteworthy since the same ratio for small and medium corporations (300 sample companies) was only 8.8 percent. As the industry-wise averages for the large enterprises benefiting from the above special measures, the percentages of tax relief by the reserve and extraordinary depreciation systems in total incomes in 1957-59 were: mining, 21.2 percent; spinning and weaving, 20.1 percent; chemical fibers, 43.8 percent; paper manufacturing, 26.2 percent; fertilizer, 51.1 percent; iron and steel, 47.1 percent; electrical machinery, 20.9 percent; foreign trade, 36.9 percent; and electric power, 39.5 percent. Thus, the tax system have had favorable effects on the big enterprises in capital accumulation.

4) In addition, we cannot overlook the importance of systems encouraging savings and equity investment, such as tax exemption for interest income, reduction of taxes for dividend income, tax exemption for dividends among corporations and that for gains from transfer of capital stocks.

B. Long-term factors

7. *Financial structure and investment behavior*

As already stated, the rapid growth of the Japanese economy attained in the postwar period is attributable to the entrepreneurs' strong interest in investment. It is a well known fact that Japanese entrepreneurs are vigorous in investing. They care less about excess equipment in the future than about the reduction of their market shares. They may be said to have been bent on increasing their investment outlays as much as they could borrow from banks. They look ahead with bullish sentiment in contrast to foreign businessmen who are very prudent in undertaking business.

They are not only bullish. They will not restrain their fixed investment within their gross profits or internal accumulation, unlike in the case of enterprises in other advanced countries. Even if the fixed investment is over and above their gross profits, the enterprises will undertake investment so long as bank financing is available. In this sense, it may be considered that the foundation for pushing vigorous investment lies in the pattern of financing or in the Japanese financial structure.

In other words, Japanese commercial banks advance a large amount of funds for investment in plant and equipment, which seems to be deviating from the regular line followed by European commercial banks of furnishing working funds. Moreover, the lending tends to be more preferential and concentrating on affiliated big companies than on a wide range of enterprises. As a result, major enterprises are able to introduce large-size and efficient equipment. The five times expansion of private fixed investment during the 1955-61 period may have been only possible with this financial structure as the background. It would hardly be expected to finance the greatly expanded fixed investment with their own profits or by raising funds in the capital market, unlike in other industrial countries. Thus, it must have been an important factor in the high rate of growth that the loans for fixed investment were granted preferentially and intensively to big enterprises on the basis of the so-called "indirect financing." This pattern of selective financing was also furthered in the postwar period by the priority lending of the state funds accommodated through the *Reconstruction Finance Bank*, *Counterpart Fund Account* and *Japan Development Bank* to the major companies in the key industries.

Such a pattern of financing was supported ultimately by the loans from the Bank of Japan. This was not a phenomenon observable only in the postwar period. It has continued to exist ever since the end of the nineteenth century. The pattern is not without adverse criticism that the indirect financing method is based on the prematurity of the capital market, or it may help investment to go to excess, or it may defeat the interest mechanism. In some sense, it must be an inevitable structure if we are to catch up with the other advanced countries in a brief period of time. The typically Schumpeter-type development, that is, credit creation→carrying out of *new combinations*, represents the financial aspect of the Japanese economic development since the latter part of the 1800's more definitely than in the case of the other advanced countries.

8. *Dual structure and export growth potential*

When a country that is late in development has both the zeal and strength to attain a growth it will tend to have a dual structure at home. The term "dual structure" means a state in which there co-exist the modern and pre-modern industries in a country. The dual structure in which pre-modern industry is predominant over the small-scale modern industry is no problem here. Japanese economy may be typical of dual structure, since it has more small and medium enterprises than the other industrial countries, while embracing the world's top level modern industries. Such a dual structure may not have been formed in the other industrial countries, since these countries have developed gradually over a long period. But the economy that is late in growing can introduce in a short period of time the technology which has required a long period of time for advanced countries to develop. This may suggest a combination of relatively low income level with a high level of technology, with the results of the benefits of low price, high rate of export growth and high rate of domestic growth. It may be partly due to this situation that West Germany and Italy, both having no dual structure but embracing relatively abundant labor force, have achieved a high rate of export growth. Of course, at least three factors may be mentioned in Japan's case as responsible for the formation of the dual structure, in addition to the historical circumstances under which it made a late start in economic development. This may be viewed from the three aspects, the labor market, product market and capital market.

It was from around 1920 that the wage differential between big and small businesses

began to expand. About from that time, heavy industries began to rise. There was surplus unskilled labor in the areas of light industry and small-and-medium firms. During the period of 1920-31, when prices fell significantly, wages also tended to be lower. However, in heavy and chemical industries and big enterprises, there was a relative shortage of skilled labor. The enterprises, for the purpose of retaining skilled workers in their employment, introduced the systems of "life employment" and "pay-by-seniority". As a result, wages of skilled labor did not fall even during the depression for 1920-31. This caused larger wage differential between big firms and small-and-medium firms, between heavy and light industries, and between skilled and unskilled laborers, which, we may say, have persisted until today.

On the side of the product market, there was a dispersion expanding between oligopoly prices of big enterprises and competitive prices of small-and-medium enterprises during the same period, and the expanded price dispersion played the role of enlarging the wage discrepancies between major and minor enterprises.

Many banks went bankrupt in the financial panics which had occurred in the recessions during 1920-31. The total number of city banks in Japan fell to one-third, from 2,069 in 1919 to 663 in 1932. The result was that the bank loans came to be made more in the interest of major enterprises and less in the interest of small-and-medium enterprises. This was a role that the concentrative financing in the capital market played in the formation of the dual structure.

Thus, in so far as the three markets, labor, product and capital, are concerned, it is apparent that there existed the circumstances which helped to enlarge the dual structure in the 1920-31 period, and the institutional background of the three markets remained unchanged and was carried over to the postwar period.

Of the three aspects of the dual structure, capital concentration, with the backing of the financial structure native to this country, constituted a big push for the rapid economic growth on the one hand, and played an important role in enlarging the dual structure on the other.

The dual structure thus formed seems to have laid the basis for low wage bases in the country, giving rise to the higher saving ratio and lower prices. However, due to the strengthening of labor unions after the war, the basis for low wages was not so solid as it had been before the war. In the past several years, wage differentials were tending to be narrower. It is to be watched with keen interest how the probable decrease in the rate of increase of labor force will correct the dual structure and reduce the export growth potential for the coming ten to fifteen years.

9. *The role of small-and-medium enterprises*

It goes without saying that, with the concentrative financing favorable for the growth of big enterprises, these enterprises have always been leaders in the technological innovation in Japanese economy. This means, however, no diminishing weight to the role the small-and-medium enterprises have been playing. We may cite several instances of wonderful rise of small enterprises to the rank of big enterprises in the postwar period, e.g., the Sony Corporation and Honda Motor Co., Ltd. It is also true that, while the loans have been concentrating on big enterprises, financing has become markedly flexible in contrast to the prewar practice in which emphasis by banks was placed on financial affiliates.

Above all, noteworthy is the fact that small-and-medium enterprises purchased machinery at low prices from big enterprises, which found them unnecessary after introduction of new

efficient equipment, and have continued to maintain the growth rates comparable to those of the big enterprises. According to the *Census of Manufactures* for 1954, the percentage of purchases of used equipment in the total equipment investments accounted for 4.6 percent for factories employing 1,000 workers and over, but it was higher as the scale of business became smaller, accounting for 48.8 percent for factories employing 4-9 workers. Since these are the assessment of the purchases in terms of value, the percentage of the purchases of used equipment will be far larger in terms of the units of machinery. Meanwhile, the percentage of the purchases of used equipment has been declining for every scale of enterprises, showing the spread of technological innovation to the small-and-medium enterprises. However, in Japanese economy, small-and-medium enterprises were bound to develop in parallel with the expansion of big enterprises as their parts manufacturers and sub-contractors and by becoming their affiliates. Big enterprises, for their part, have not rejected but rather taken advantage of this for making use of the lower wages of the small-and-medium enterprises. In fact, with the exception of the smallest scale of enterprises, the big and minor enterprises have continued to make a parallel development over a long period, and hardly any marked difference is to be found in the pace of growth between the two.

Thus, the equipment that became unused by big enterprises has been utilized by the small-and-medium enterprises without going to scrap. This may well be a truly economical pattern of development. The small-and-medium enterprises, in addition to the advantage of the low wage differentials, have thus been able to grow side by side with the major enterprises and, furthermore, to save machinery costs by purchasing unused equipment at substantially low prices.

However, along with the permeation of the technological innovation into every industrial field, and because of the shortage of young labor of late, it is now becoming gradually difficult to follow the above mentioned pattern of development. The small-and-medium enterprises, too, have to introduce an advanced technology. This is especially the case with those affiliated with big enterprises. The accommodation of funds to the small-and-medium enterprises has been promoted since around 1959, and there have been arising a considerable change in the pattern of our economic growth based on the dual structure.

10. *Saving ratio*

The proportion of personal consumption expenditure in the gross national product accounted for 50.1 percent in 1961, which was lower than 63.9 percent for the United States, 64.7 percent for the United Kingdom, 65.6 percent for France, 60.2 percent for Italy and 56.9 percent for West Germany. Moreover, Japanese share of personal saving in the personal income, accounting for 22.5 percent, was higher than 7.1 percent for the United States, 8.4 percent for the United Kingdom and 6.8 percent for France. The personal saving ratio in the national income statistics does not mean the household saving ratio, for it includes those of non-profit organizations and private enterprises. Although this figure may involve some statistical errors, it is a very high saving ratio and would serve as a warranted endorsement of the high rate of growth.

This high rate of personal saving ratio is, to a fairly large extent, the reflection of a high rate of investment. That is, under the high rate of growth, a high rate of investment cannot but take place, and thus the savings by individual enterprises will increase in physical form (expanded factories and improved shops). While the savings in the form of deposits and securities will not be so large, the increase of the savings in physical form will be

substantial. This is the case not only with the individual enterprises. A certain portion of the savings of general households may increase somewhat as a reflection of increased investment.

Bonuses may be increased in the period of business prosperity. When such an extra income increases, the saving ratio will rise, as the hypothesis of Professor M. Friedman indicates. After the war, the share of bonus in earned income has been on the increase. As if in response to this, the propensity to save on the part of urban workers rose from 2 percent in 1951 to 16.2 percent in 1962, and therefore we cannot say that the household saving ratio is independent of the investment ratio.

That the saving ratio of the Japanese workers' households reached 16 percent in recent years in contrast to the average of 5 percent for the other advanced countries may reflect the fact that even if no influence is exercised by the increased investment, the workers' saving ratio is bound to be high for some reason or other.

Furthermore, the high rate of saving in the family budget is not a phenomenon peculiar to the postwar period alone. Although the family budget survey, prepared by the *Statistics Bureau of the Prime Minister's Office* before and during the war, was based on the relatively lower income bracket (approximately ¥100 and below per month), the saving ratio of that time stood somewhere between 10-15 percent. If the higher income bracket were included, the ratio would have been still higher.

Thus the saving ratio may be considered to have been high in itself, rather than as a reflection of a high investment rate. The reasons are yet to be explored. But it may be said at least that the workers' saving ratio tends to be higher in Japan because the workers have to provide against old age and illness since the social security services rendered are not as adequate as in the other advanced countries. In the postwar period, the ratio has tended to be higher because of the housing shortage, and because of the liquid assets and income levels falling below the prewar levels throughout the country. After all, something remains to be explained objectively. It may be the traditional character of the nation. By geographical distribution, high saving ratios are rather observed in prefectures with a lower income level, and this would mean that a high saving ratio remains in the districts into which the demonstration effect of the Western type of consumption has not yet penetrated. In any case, it is natural that the high rate of economic growth should come into existence when the high ratio of savings is combined with the high investment zeal of enterprisers. Thus, there would be no doubt that, since the saving ratio has been high throughout the pre-and postwar period, the high saving ratio has constituted an important backing for the high rate of the Japanese economic growth over the long period.

11. Other factors

In addition to the above, there may be various long-term factors contributing to the high rate of growth, for example, educational standards and entrepreneurship, but our analysis will not be extended to them.

III. *Future of the High Rate of Economic Growth*

The postwar rapid economic growth has thus been caused by the essentially long-term and structural factors, such as financial structure, dual structure, high saving ratio and export growth on the one hand, and on the other, by the postwar factors, such as rehabilitation factors, expansion of the domestic market, sharp decrease in military expenditures and the Government's promotional measures for capital accumulation, in addition to the technological innovation, which is the most important of all. While the innovation will give rise to high surges in the nature of the long-term wave in the postwar economy, question is how long this rapid growth will last.

If the nuclear energy may not be put to industrial use on a large scale in the near future, the following three factors may be considered as retarding the growth sooner or later. The first is that the increase in birth rate, taking place with the baby boom immediately after the war has tended to decline, resulting in a slower rate of increase in labor force in the near future. This will possibly work, in some way or other toward the correction of the dual structure, and the slowing down of the growth rate of exports. The second is that there may be a possibility that the surge aroused by the brisk introduction of foreign technology after the war may, in due course of time, transform itself into a factor contributing to the slowing down of growth when the introduction of foreign technology reaches a saturation point. This cannot be otherwise after we have succeeded in making up for the technological gap between Japan and the other advanced countries, although technology will still continue to be introduced and improved. The third is that the relative weight of value added in the case of three types of manufacturing industries, namely, metal, chemical and machinery industries has reached 60 percent. With the exception of the United Kingdom, no advanced country has ever achieved such a high heavy industry ratio among capitalist countries. Thus, if we were not successful in shifting the weight of export structure to products of heavy and chemical industries, the shift caused merely by the rapid growth at home may involve the risk of causing a reaction.

However, if we are able to strengthen the international competitiveness of the heavy and chemical industries, the shift of the weight to these industries, which is at present extraordinarily high by international comparison, may be maintained or pushed a bit forward. This is a matter of uncertainty, and may also be a difficult task to grapple. What is at least clear, however is that the disproportionate growth may have been inevitable, if the country that has made a late start is to catch up quickly with the other advanced countries. At the same time, it is very likely that the economic growth may be moderated to a level with western countries, once it has reached a certain high level. However, by that time, the existing dual structure will be corrected, and the characteristics of the financial structure as distinct from the other industrial countries may cease to exist.

The economic growth, higher than advanced countries, will continue for some years to come. After a decade, possibly, the pace of growth might slow down, as it approaches the level of advanced countries. If such a high rate of growth were to continue even after the decade, some other factor than those analyzed above would be contributing to it. It might be the emergence of another technical innovation with an entirely new power.