CAUSES AND PATTERNS IN THE POSTWAR GROWTH

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I. JAPAN'S ECONOMY: ITS DESTINATION AND PROBLEMS

DURING THE PROCESS of economic growth covering the century since the Meiji Restoration of 1868, Japan's economy has grown until it recently attained the third highest place in the world with respect to both GNP and industrial production.[1] Although as of 1970, per capita income in Japan remained slightly under that of Western countries, it is likely Japan will attain fifth or sixth per capita income ranking in the world within five or six years, assuming that there is no significant change in the present relatively high growth rate.

The transformation of Japan's economy into that of an advanced country is largely, of course, due to the high economic growth in the postwar period. In this regard, Japan's high postwar economic growth, continuing for a long period of over twenty years, has drawn the attention of people around the world interested in its causes and processes. If such outstandingly high growth continues for more than twenty years, it must be considered as a phenomenon transcending a temporary rehabilitation factor in the postwar period. It should be seen as the result of a sustained function of some systematic factors. Without a doubt economists, economic historians, and critics all over the world will continue to show special concern and curiosity regarding this unique event taking place in postwar Japan.

It will in the future become increasingly difficult for Japan to continue that high tempo of economic growth which she has achieved in the past. The first constraint on future growth will be a shortage of labor. One of the characteristics of Japan's economy—surplus labor—in evidence for about a century, excepting the wartime period, has started shifting towards labor scarcity, with 1960 as the turning point [1]. In this connection, Japan's economy, which used to be price-insensitive in spite of the continuation of high economic growth, has gradually changed into a price-sensitive one. Such an inflationary trend makes it increasingly difficult to implement aggressive, growth-oriented policies.

The second factor which will act as a constraint on Japan's economic growth is the growing emphasis on the economic welfare of the people as opposed to growth-orientation, a tendency which has arisen as a result of aggravating environ-

The following analyses are based upon the writer's personal views and are not necessarily the viewpoints of the Economic Planning Agency to which the writer belongs.

[1] Regarding the industrial production level in international perspective, see [4, Chapter 5].

mental destruction caused by pollution. What is meant here is the growing tendency to stress investment in social overhead capital to improve foundations of life and environment, etc., rather than that private investment which directly contributes to the increase of private production capacity.

The third limiting factor can be found in international economic relations. In the past, Japan's economy assumed only a minor position in the international arena, a position passively subject to the trends of the world economy. In the future, however, Japan will gradually emerge as a power exercising important influence on the world economy. This means that Japan, which in the past realized high growth in her export trade through the process of decreasing the export shares of other countries, will invariably find shrinking opportunities for further expansion of her exports. Even assuming that free trade can be maintained, this will be the situation Japan finds herself in, but, especially if various countries begin to take defensive measures against Japanese imports, we can expect that this third factor will become a reality sooner than otherwise expected.

In spite of the existence of the above-mentioned problems projected for the future of Japan's economy, however, it is considered that the past background of unusually high growth incorporates a number of important points worthy of close scrutiny. I would like to attempt an analysis, from a rather selective angle, of some of the factors of Japan's high economic growth over the postwar years.

II. KEY FACTORS IN THE POSTWAR GROWTH[2]

Japan's high economic growth is not a recent phenomenon. In fact, it dates back to the period of industrialization in the Meiji era. In this sense, it will be important to probe into the "initial conditions" represented by the relatively high educational standards carried over from the Tokugawa era to the Meiji era, the development of indigenous industries, the early consolidation of the transportation network, the traditional financial institutions, etc., and also to analyze the combinations of traditional factors and modern factors (e.g., the existence on the one hand of a strong demonstration effect of introducing science, systems, technology, equipment, etc., from overseas, combined with, on the other hand, a contra-demonstration effect of checking the rise in the living standard to a moderate level, and again, the adoption by big business in the 1920s of the seemingly traditional, in terms of employment and wages, life-time commitment concept and seniority wage system for the purpose of obtaining modern, skilled labor). The ever-present connection between a high level of technology and a low level of wages seems to have been important for the production of low-cost goods and the development of export markets. The relation between the so-called dual industrial structure and Japan's economic growth may also have been important. Other points worthy of note would include the relation between government intervention and competition among enterprises, and the feedback relationship between two patterns of economic growth, i.e., export-led and

[2] As to relatively overall explanations of factors for the high rate of growth, see [4, Chapter 4].

investment-led patterns.

What matters here, however, are the causes of high economic growth in the "postwar" period. After enumerating below various factors which have been noted up to now, I will then proceed with some of my own explanations.

(1) Rehabilitation factors

(2) Low defense expenditures

(3) Abundant labor—dual economy

(4) High level of education, quality of labor, and entrepreneurial ability

(5) Aggressive credit creation (the so-called "over-loan"),[3] high investment ratio, and disproportionate rise of investment

(6) High savings ratio

(7) High speed in the introduction of foreign technology

(8) Maintenance of undervalued exchange rate and the high export growth

(9) Combination of export-led and investment-led growth patterns

(10) High capacity to transform—particularly in relation to the transformation of industrial structure

(11) Combination of Government intervention in fostering "infant industries" and brisk interfirm competition

Rather than taking each of the various factors which have been noted so far, I would like to conduct a review placing emphasis on some points which have received relatively small stress and on other points which warrant a new approach from a different angle.

A. *The Rehabilitation Factors*

In all countries, the tempo of economic rehabilitation turned out to be relatively rapid in proportion to the seriousness of the decline due to the War. Such defeated countries as Japan, West Germany, and Italy experienced a sharp decrease in their mining and manufacturing production immediately after the War. With the year 1938 indexed at 100, Japan, West Germany, and Italy showed low indices of 37 per cent, 50 per cent, and 100 per cent respectively in 1948. In inverse proportion to this relative position, however, the increase ratios over 1948 of mining and manufacturing production in each country, Japan, West Germany, and Italy, stood at high levels of 4.7, 3.8, and 2.3 respectively in 1958. These increase ratios are considerably higher than in the U.S. (1.36) or

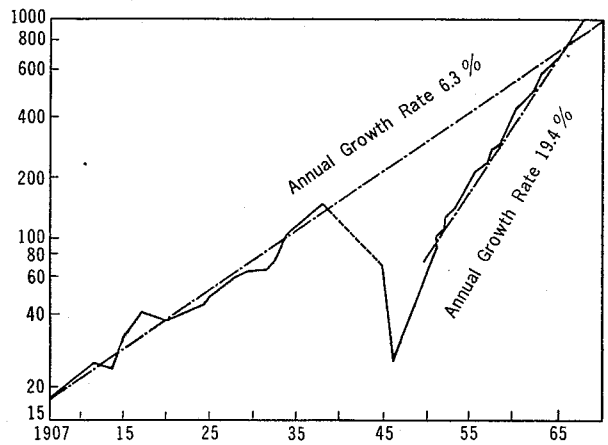
[3] The word "over-loan" is Japanized English. It involves several aspects: (1) the continuous lending by the central bank to city banks, which has maintained a very high share as a source of the central bank's currency creation, (2) the tendency of bank loans to surpass bank deposits, and (3) the excessively high dependency of business enterprises upon bank loans for financing their investments.

England (1.35) during the same period. Neither of these latter countries suffered a serious production decline due to the War.

I once pointed out the existence of a fairly constant reciprocal relation between the rates of production decrease in the immediate postwar period and the rates of rehabilitation after the War (see [3, pp. 7–9]). That is to say, the more severe the immediate postwar decline was, the quicker was the recovery, while the smaller the decline, the slower the tempo of recovery. This indicates that a country suffering a relatively sharp decline in production tended to have not only a supply of excess labor and idle equipment and facilities but also a higher potential for introducing advanced technology.

The importance of this factor lies in the following point. Around 1955, Japan's production surpassed the prewar level, giving rise to observations that the rehabilitation period was over, manifested in the famous catch phrase "no longer the postwar period." Many people were inclined to think that Japan's economic growth rate would decline after the so-called "Jimmu boom" of 1956–57. In complete defiance of this growth refraction theory, however, Japan's economy continued with high growth. As indicated in Figure 1, the prewar trend curve

Fig. 1.



of production volume in manufacturing industry and the postwar trend curve already crossed around 1965–66. Even after surpassing the projected prewar trend, however, Japan's economy has continued its high growth. The "New Economic and Social Development Plan" estimates the average growth of real GNP during 1969–75 at an annual rate of 10.6 per cent, while the medium-term forecast by the Japan Economic Research Center has made a slightly higher estimate of 12.4 per cent. Supposing that such a trend does continue into the future, Japan's economy will have continued with its unprecedentedly high growth rate not only after the ending of the first rehabilitation period (until the absolute prewar level was surpassed) but even after the ending of a second rehabilitation period (until the prewar trend curve was surpassed). Although West Germany and Italy entered into a phase of stagnating economic growth with the disappearance of the postwar rehabilitation factors, the difference in the case

of Japan is that high economic growth has continued even after the ending of the second rehabilitation period in the sense indicated above. It is an important point whether we regard this situation as a temporary phenomenon destined to soon disappear, or a built-in phenomenon ensuring high growth with no relation to disappearing rehabilitation factors. What is interesting in this regard is the recent assertion by Mr. Osamu Shimomura, who had previously and consistently held to a bullish viewpoint, to the effect that Japan's economy will shift from a phase of acceleration to a phase of deceleration with 1970 as the turning point. I shall refrain here from entering into a debate on the subject, but at any rate, what is now clear is that in every sense the postwar rehabilitation factors are in a state of extinction.

B. *Combination of Interfirm Competition and Restricted External Competition*

It is often said that, although the developing countries through industrialization have succeeded in import substitution, in many cases they have not succeeded in export promotion. Japan is one of the rare cases in which a country has realized sustained, high economic growth through achieving both import substitution and export promotion. This fact often gives rise to questions by foreigners as to whether MITI (Ministry of International Trade and Industry) is not extending special measures for export promotion. It is indeed a fact that the Japanese Government has established one objective as the "strengthening of international competitive power" and has carried out so-called "industrial policies." For example, favorable treatment in terms of the taxation system has been given to those infant industries deemed important, and arrangements have been made whereby these infant industries can enjoy the benefit of low-interest loans from Government affiliated financial institutions (e.g., Japan Development Bank). Furthermore, there have been cases where the Government intervened in adjusting fixed investment in the petroleum refining and iron and steel industries. Regarding the machine tools industry, etc., MITI has tried to encourage specialization in machinery production in order to reap cost benefits by moving from a production pattern with diverse machinery types produced in small quantities to a pattern where limited machinery types can be produced in larger volumes.

Not all of the attempts, however, have been successful. Still, the postponement of trade liberalization for important industries, thereby maintaining restriction on imports, must be regarded as having played an important role in the fostering of infant industries.

The main current of thinking in today's international economies is that fostering of infant industries should be approved only on an exceptional basis. In the case of Japan, however, starting with the iron and steel and the automobile industries and spreading over as large a field as possible, "all-round" fostering of infant industry was promoted. As a result, those industries which had produced their products at higher than standard international costs until the earlier part of the 1950s, (with iron and steel and automobiles as typical examples), began in ten years or so to improve their position to that of extremely powerful export industries. Had trade liberalization been realized back in the 1950s, it is highly

doubtful whether these industries would be enjoying the position of strong international competitiveness they now have. Needless to say, in order to be able to afford an all-round fostering of infant industries, it is necessary that the overall economy have an extremely high growth rate. In a country like England with a stagnating economy, all-round fostering would be next to impossible.

It may seem from the foregoing that, in the case of Japan, only import limitation and restriction on external competition have decidedly played important roles in the high growth of industry. We must not, however, lose sight of the role that has been played by active interfirm competition in realizing high economic growth throughout the postwar era. It is often said that "competition is the motive power of economic development." This is true if the word "competition" be interpreted in Schumpeter's meaning as a process of "creative destruction." In postwar Japan, the expression "excessive competition" has been frequently heard. Leaving apart its definition, there have been many cases in our industries where the degree of production concentration showed a decline through interfirm competition. If so, the economy of Japan, which was midway between the advanced and the developing countries, has been receiving simultaneously two sets of seemingly contradictory economic policies (i.e., promotion of free competition and government intervention). Is not this "dual structure in economic policies" an important point in understanding the high economic growth and the catching-up process of the postwar period?

During the 1970s, Japan will no doubt emerge as an economic major power in the world. If Japan were to continue insisting upon industrial policies rooted in the strengthening of international competitive power and one-sided export-orientation even on the attainment of such a high status, this would rather be an act of folly. Looking back on the past, however, we find that Japan succeeded in realizing unprecedentedly high growth performance by utilizing a dual structure (a combination of promoting internal competition and restricting external competition) in economic policies. It may be said that because past industrial policies have accomplished a mission of historical importance as such, it has now become possible to make a complete turnabout towards liberalization and internationalization at this stage where Japan has shifted from being a semi-advanced country to being an advanced one.

C. *Combination of Investment-Orientation and Export-Orientation*

In the prewar years, Japan's economy pursued an "export-oriented" path. During the period from 1874 through 1940, industrial production recorded an average annual increase of 5.6 per cent, while from 1874 through 1938, export volume showed an average annual increase of 7.6 per cent. At the same time, however, Japan's prewar economy seems to have followed an "investment-oriented" route. According to the estimate by Mr. Kazushi Ohkawa, the ratio of domestic gross investment to gross domestic product, with both numerators and denominators expressed in 1960 prices, stood at 7.1 per cent in 1888 (T), 12.6 per cent in 1898 (P), 12.6 per cent in 1905 (T), 16.0 per cent in 1919 (P), 16.5 per cent in 1931 (T), and 27.6 per cent in 1938 (P), (P being the peak of

a long-term cycle, T being the trough). It may be seen from these figures that growth rates in gross investment, allowing for trends, have exceeded those of gross domestic product [2]. From this we may state that Japan's prewar economy was both "export-oriented" and "investment-oriented," and that a "virtuous circle" between the two played a growth promotional role. For instance, progress along the "investment-oriented" path naturally led to progress in "export-orientation" through such route as capacity increases, mass production, and lowered costs, and the resulting "export-oriented" growth in turn led to further "investment-oriented" growth.

Since the end of the War, Japan's export dependency ratio against gross national product has become lower than in the prewar days, to the extent of giving the apparent impression that export-orientation has disappeared. In fact, the export proportions (export and income from abroad) of gross national product have been holding a relatively constant level, at 10.8 per cent in 1953, 12.4 per cent in 1956, 11.7 per cent in 1959, 10.0 per cent in 1962, 11.3 per cent in 1965, and 11.5 per cent in 1969. From these percentages, we do not get the impression that exports have played the leading role in the growth of Japan's economy. During these years, however, there has been a relative decline in the prices of export commodities as compared with those of domestic goods. The proportions of export dependency in real terms have been going up gradually from 7.0 per cent in 1953 to 8.5 per cent in 1956, 9.0 per cent in 1959, 9.2 per cent in 1962, 11.4 per cent in 1965, and 12.8 per cent in 1969. In other words, the real growth of exports has been higher than the real GNP growth. Since terms of trade have remained almost stable, it can be said that the growth of real imports has also been higher than that of real GNP. Further, the proportion of real private business fixed investment against real GNP has also been on a rising trend while undergoing medium-term cycles, thus playing a role in investment-oriented growth. In view of the record of the past outlined above, it may be expected that high economic growth will continue for the time being in this postwar period born from the "virtuous circle" combination of investment-orientation and export-orientation. During the 1953–67 period, real GNP showed average annual growth of 10.9 per cent, which compares with growth rate of 15.9 per cent for exports and 19.2 per cent for real private business fixed investment. This may be interpreted as a harmonious combination of investment-orientation and export-orientation.

The favorable trend of Japan's export after the end of the War has of course been largely due to the push effect caused by active private fixed investment. At the same time, however, an undervalued exchange rate is considered to have been an important factor. The fixed exchange rate of \$1.00 = ¥360 has been an export promotional one making possible the sustained high growth of exports over more than twenty years. The exchange rates have been fixed under the IMF system since the end of the War. Once a country is granted an undervalued exchange rate under the system, the export growth of that country, e.g., Japan, may enjoy a cumulative process of "virtuous circle." On the other hand, if the exchange rate of a country happens to be an overvalued one, the exports

of that country, e.g., England, may face a cumulative process of "vicious circle" and thus undergo a shrinking role in terms of share in the world's exports. It may then be inferred that international differences in export growth rates were, in most cases, if not all, more aggravated under the fixed exchange rate system than they would have been under a flexible exchange rate system.

In a sense, the high growth of Japan's exports may be said to be a phenomenon taking advantage of this characteristic of the IMF system. If we assume that high economic growth led by exports was an indispensable process for catching up with advanced countries, then we can say that Japan's development into an advanced country has been characterized by the utilization of the special nature of the IMF system. However, at the same time it is of course necessary to recognize the economic vitality gained by realizing a feedback process between investment and exports.

It seems, now, that the Japanese economy has entered a process of foreign currency accumulation since around 1968. If in the future this comes to spread demand-pulled inflationary trends over the domestic market, the possibility arises that the "virtuous circle" process, experienced in the past, may be stopped by either the progress of inflation or a re-evaluation of the exchange rate.

D. *High Investment and Savings Ratios*

In an economy where there is a high proportion of investment (savings) in GNP, growth rates generally tend to be high. For example, the proportion of total savings (total investment) in Japan's GNP in fiscal 1969 came to 39.8 per cent, considerably higher than the 1968 levels of 28.5 per cent in West Germany, 26 per cent in France, and 18.7 per cent in England. Not only was the proportion of total savings to GNP high in the case of Japan, the ratio of personal savings in personal disposable income has also been outstandingly high (19.7 per cent, Japan; 16.0 per cent, West Germany; 11.5 per cent, France; and 7.5 per cent, England in 1968).

The problem here is whether the high savings ratio (S/Y) is the result of the high investment ratio (I/Y), or whether savings (S) should be considered to vary separately from investment (I). The question is whether the cause and effect relationship is $I \rightarrow S$ or $S \rightarrow I$. We will rather follow the theories of Schumpeter and Keynes and attach a greater importance to the $I \rightarrow S$ relation. In probing into high levels of savings ratios of farmers or salaried workers, however, it is of course necessary to make individual studies of the savings ratios of these groups.

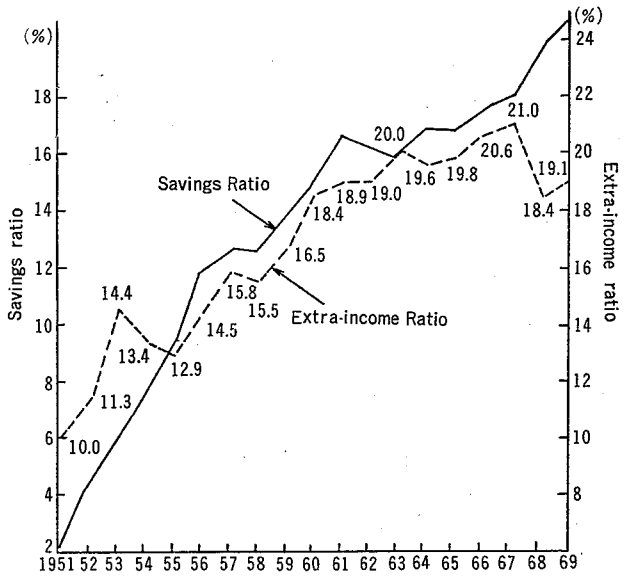
It was Schumpeter that developed a unique economic development theory on the assumption that economic development resulted from combining "credit creation" by banks on the one hand and "new combination" (technological innovation) of entrepreneurs on the other. Although Schumpeter stressed the role of credit creation or over-loan by banks, there have been few countries which pursued such a course of economic development in the postwar world. In this respect, Japan may be considered to have followed a so-called typical Schumpeterian course of development. This is because that course of "increasing

lending by the central bank → over-loaning by city banks → increasing investment by private business" is in itself the past process of the development of Japan's industry. Of course, during the course of a short-term economic recession or a stagnant investment period occurring in a Juglar Cycle of private fixed investment (e.g., 1962–65), the relation of "lending → investment" becomes temporarily ambiguous. However, a tendency which consistently may be observed during the whole period of over twenty years since the end of the War is that investment demand has been limited by bank credit, i.e., lack of funds. So long as entrepreneurs were able to get loans from banks, they went into active investment activities. Private fixed investment year after year has been several times as large as a firm's gross retained earnings (internal accumulation plus depreciation). In comparison with other advanced countries, enterprise dependency on bank lendings has been extremely high, and this further points to the restricting influence on investment exercised by the limited availability of bank loans.

Movement of overall investment precedes, and is followed by movement of savings as its effect. A high savings ratio can, after all, be said to be a reflection of a high investment ratio. Why is it, then, that the savings ratios of salaried men and farmers are also high? Through what process is it that the investment ratio of a nation has an influence on the savings ratios of these households?

What is worthy of note in this respect are the changes in the savings ratio of wage-earners' household economy, and also the changes of extra incomes (primarily bonus revenues) in household revenues. Figure 2 indicates a comparison of the savings ratios of the workers' households during 1951 through 1969 and the extra income proportions during the same period. An inference may be readily drawn from the graph to the effect that the process of a rapidly rising savings

Fig. 2. Savings Ratio in Worker's Households



ratio up to 19.1 per cent in 1969 may have been influenced with the sharp rise in the bonus income ratio. Naturally, even when bonuses show an increase, that part of the bonus already expected by the worker does not become so-called "transitory income" as termed by Friedman. However, there exists a parallel relation between trends of the savings ratio and the extra income proportion. I would interpret this as follows: in the case of a Japanese worker, he receives bonus revenues in addition to his regular income. He usually attaches a higher propensity to save to these bonus revenues. The propensity to save from regular incomes can be calculated by data from months other than June and December. By deducting the amount of savings, obtained by multiplying the average propensity to save in the months other than June and December by the non-bonus income in June and December, from the total amount of savings in June and December, the amount of savings from the bonus income during the two months is obtained. In this case, however, the propensity to save from bonus income becomes without exception higher every year. Although Japanese workers anticipate receiving bonus income, they may be said to regard it as extra income, although not in terms of Friedman's "transitory income," in that they attach a high propensity to save to it.

The increase in the bonus income portion of workers' total income is affected by increases in enterprise revenue, and this in turn is related to the height of investment booms and growth rates. We can then understand that high investment ratios affect the seemingly unrelated savings ratio in the worker's household budgets through the process of investment boom → increase in enterprise revenues → increase in workers' bonus income → a higher savings ratio.

Almost in parallel to the increasing trend of the savings ratio in workers family budgets, the savings ratio (all prefectures) of farmers' families too has followed a growing trend during the 1960s (10.5 per cent in 1960, 15.8 per cent in 1965, 18.4 per cent in 1967, and 16.2 per cent in 1969). We may consider this as closely related to the trend increase of non-agricultural income (e.g., income from sources other than agriculture) in the farmers' budget. The reason is that income from side jobs usually means income from working under such non-agricultural establishments as plants and stores, and includes here the bonus income which has been yearly increasing. Therefore, an increasing proportion of non-agricultural income results in a "bonus effect" infiltrating into the earned income of farmers' family budgets, and thereby acts to elevate the savings ratio. This means that even increases in the ratio of farmers' savings are indirectly influenced by investment booms.

As described above, even the savings ratios of workers and farmers are under the influence of the investment factor. There are several other factors aside from investment, however, causing the average savings ratio in the family budget to increase [4, Chapter 2]. They include: (1) savings to make up for the insufficient social welfare system and to prepare for old age; (2) savings to compensate for small assets, and to make up for devaluation in the balance of real liquid assets resulting from postwar hyper-inflation; savings for the construction of a well-provided house; (3) a high savings ratio brought about by insufficient consumer

loans (loans for installment sales); and (4) national character (manifest in the high savings ratio in lower income prefectures during months other than June and December, that is, those months when the bonus effect does not apply). While as a function of the demonstration effect the propensity to consume becomes higher in the high-income prefectures, this tendency is weaker in the low-income prefectures.

The above is a description of some, although not all, of the factors accounting for the high economic growth after the end of the War. Over this period the Japanese people have changed some of their ways of thinking and abolished some of their traditions and systems inherited from older times, while in other areas the ways of the past have continued on. Heterogeneous cultures have been adopted in a complex way, and it is often said the Japanese feel little contradiction among them. It will become necessary to delve into such aspects as workers' morale, willingness to save, social structure, etc., by studying the Japanese outlook on values, society, and culture in order to re-evaluate, from a long-term perspective, causes behind Japan's high economic growth. Insofar as this paper concerns itself with an analysis of postwar factors, however, we must remain content with the above observations.

III. PATTERNS OF POSTWAR DYNAMIC GROWTH

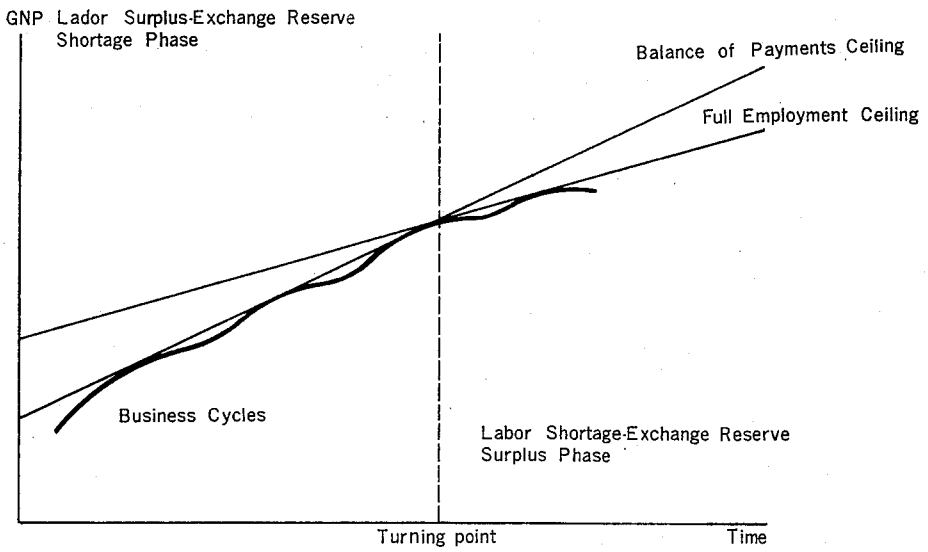
There can be several approaches to the analysis of patterns in Japan's postwar economic growth. In this paper, our approach will be limited to two viewpoints.

A. *Transition to the Labor Shortage–Exchange Reserve Abundancy Phase*

Around 1960, Japan reached a turning-point with the transition to a phase of labor shortage. The year 1968, then, saw a turning-point in a transition to a phase of foreign exchange surplus. These two turning-points were clearly separate in respect to timing. For convenience's sake, however, both are indicated in Figure 3 on the hypothesis that they occurred in the same year.

The crossing point of the balance of payments ceiling (or balance of payments equilibrium growth path) and the full employment ceiling (or full employment growth path) in Figure 3 will be called a turning-point. On the left side of this turning-point, a point where business overheats always takes place at a point of contact with the balance of payments ceiling. Since, however, over this part the full employment ceiling stays at a higher level than the points of overheating, labor remains in a surplus condition at all points of overheating. As the growth here is restricted only by the balance of payments, there was always a relation of "full employment ceiling" > "balance of payments ceiling." This explains the state of "labor surplus–exchange reserve shortage phase" to the left of the turning-point. To the right of the turning-point, however, the relation between the two curves is reversed. In a state where labor is employed to an approximate level of full employment, wage-push pressure is strong and a price-sensitive situation emerges. Furthermore, there is a co-existence of rising product prices and black figures in the balance of payments. If, eventually, foreign exchange reserves

Fig. 3.



follow a path of further accumulation, the resulting pressure of demand inflation will intensify. Japan's economy, then, would shift to a phase susceptible to inflationary pressure from aspects of both supply and demand.

In this sense, a shift from the left to the right of the turning-point represents a fairly basic change for Japan's economy. The following observations will clarify this.

(1) To the left of the turning-point, it was the foreign exchange reserve shortage and the balance of international payments ceiling that restricted economic growth. Accordingly, export promotion was one of the important policies for economic growth. To this end, Japan's industrial policies tried to protect infant industries and foster their growth under the framework of import restriction, with the aim of "strengthening of international competitive power." If, however, a shift be made to the right side of the turning-point, black figures in the balance of payments will show an accumulating increase even under conditions of advancing inflation. In order to curb increasing foreign exchange reserves, it will be necessary to abolish measures for import restriction and export promotion, and to promote the export of capital to foreign countries. In this sense, the protectionist industrial policies geared towards catching up with advanced countries will find themselves in need of being turned about into a route of liberalization and internationalization.

(2) It may be said that the fixed exchange rate of \$1.00 = ¥360 contributed over twenty years towards achieving the highest export growth rate in the world. Since export promotion was the most important objective on the left side of the turning-point, it was desirable from the viewpoint of growth policy that this export promotional exchange rate be fixed. If, however, a shift be made to the right of the turning-point, fixing of the rate will gradually augment foreign

exchange reserves and increase the possibility of scattered demand inflation through the domestic market. Therefore insofar as demand inflation is brought about by increasing exchange reserves, and as long as that increase of exchange reserves be based on the undervalued exchange rate, it must be recognized that there is a growing need for revaluation of the rate. Thus, it must also be recognized that policies and measures regarding the exchange rate should undergo a complete transformation from the left side to the right side of the turning-point.

This graph is of course made with the exchange rate already given. If the exchange rate alters, the position of the turning-point will also alter. The graph, however, may be useful for showing the direction of basic changes in Japan's economy, based upon a given exchange rate. There will be people who have doubts as to whether a favorable balance of payments can be continuously maintained after 1968. According to the previous "Economic and Social Development Plan" (compiled in 1968), however, possible difficulties due to accumulating surplus in the balance of international payments are said to have been anticipated unless the growth rate of world imports as an exogenous variable was to remain at a lower level than actually resulted. In this context, the old Economic Plan may be said to have predicted the present surplus of Japan's balance of international payments.

B. *Investment Spurts and the Juglar Cycle*

The second clue to understanding the growth pattern of Japan's postwar economy may be said to lie in the medium-term cycle of private business fixed investment. This is because outstandingly high growth rates and vitality in Japan's postwar economy basically can be traced back to active investment activities by enterprises. So long as enterprises are convinced that high growth and excess demand will continue, and accordingly carry out aggressive fixed investment, private business fixed investment is bound to increase at a rate exceeding that of GNP. However, after an investment spurt or a disproportionate growth of fixed investment continues for five to six years, the ratio of private business fixed investment to GNP (hereafter called the fixed investment ratio) cannot but become excessive under the real GNP trend rate of growth (approximately 10 per cent). If such an excessive fixed investment ratio is generated this will be followed by the appearance of excess capacity tendencies and then a downward trend in the fixed investment ratio. Since the GNP rate of growth itself is already at a high level, a decline in the fixed investment ratio within the framework of continuing GNP growth around 10 per cent means a substantial slowdown in the growth rate of private business fixed investment.

As indicated in Figure 4, the fixed investment ratio gives the impression of having moved in a path of approximately ten-year cycle, with 1965 as a trough and 1961 and 1970 as peaks. It may be noted, however, that in line with the transition from an annual GNP growth of 8 per cent during the 1951–55 period to 10 per cent after 1956, an upward shift occurred in the fixed investment ratio. Of note in relation to this medium-term cycle in Japan is the cycle of fixed investment ratio in the U.S., indicated in Figure 5. I may remark in passing

Fig. 4. Private Business Fixed Investment as a Ratio to GNP in Japan

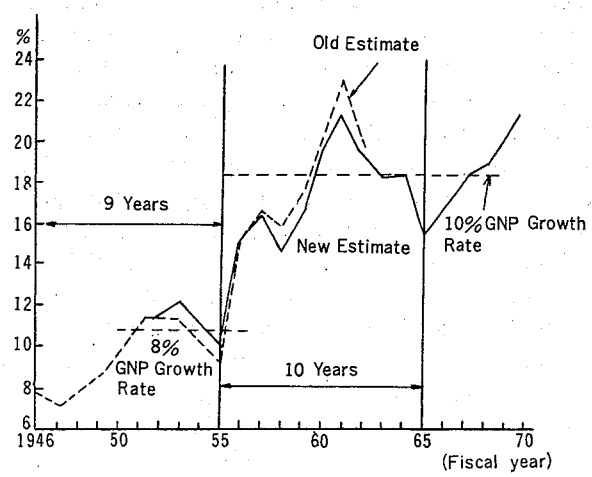
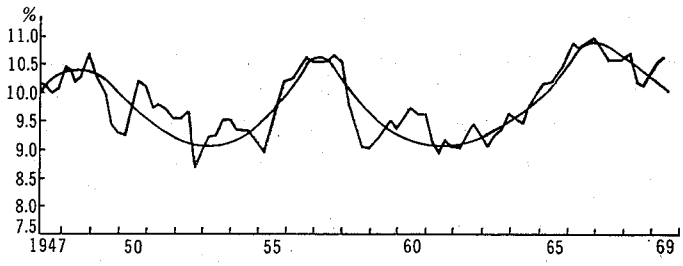


Fig. 5. Private Business Fixed Investment as a Ratio to GNP in the United States



that I have not yet come across any literature where American economists have clearly noted the existence of a Juglar Cycle in the U.S. It would seem, though, that a "Juglar Cycle" in the U.S. may be about four years ahead of that in Japan. In addition, it should be noted here that fluctuation of the fixed investment ratio has been considerably more extreme in Japan than in the U.S. While the variation between a peak and a trough is about six points in Japan, it is only about 1.5 points in the U.S.

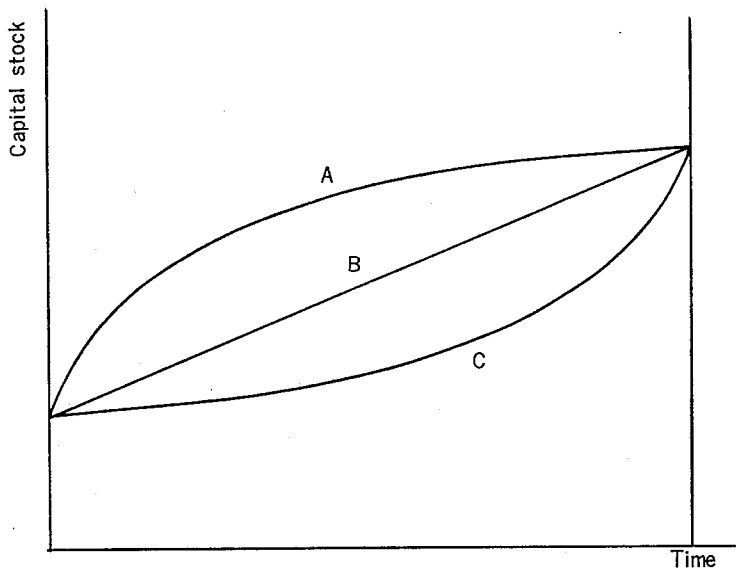
On the basis of the above, I am unavoidably led to the following hypothesis. That is to say, since Japan's economy has been in a dynamic state with a high growth rate, the medium-term cycle of fixed investment has constantly shown large fluctuation. On the other hand, America has had a lower economic growth rate than Japan and a correspondingly smaller fluctuation in its medium-term cycle.

It may be observed from this that high economic growth necessarily has been accompanied with instability in fixed investment behavior. After the end of the War, in many advanced countries it was difficult to identify a Juglar Cycle,

resulting in a general loss of interest in it. In the case of Japan's economy, however, a periodic movement along an extremely clear ten-year cyclical path has been apparent in respect to the fixed investment ratio. Viewed in this light, the phrase "stable" high rate of growth is self-contradictory. Japan's economy, we can say, only has been able to realize high growth because it has gone through "unstable" medium-term oscillation in respect to fixed investment.

As indicated in Figure 6, although the medium-term fluctuation in fixed invest-

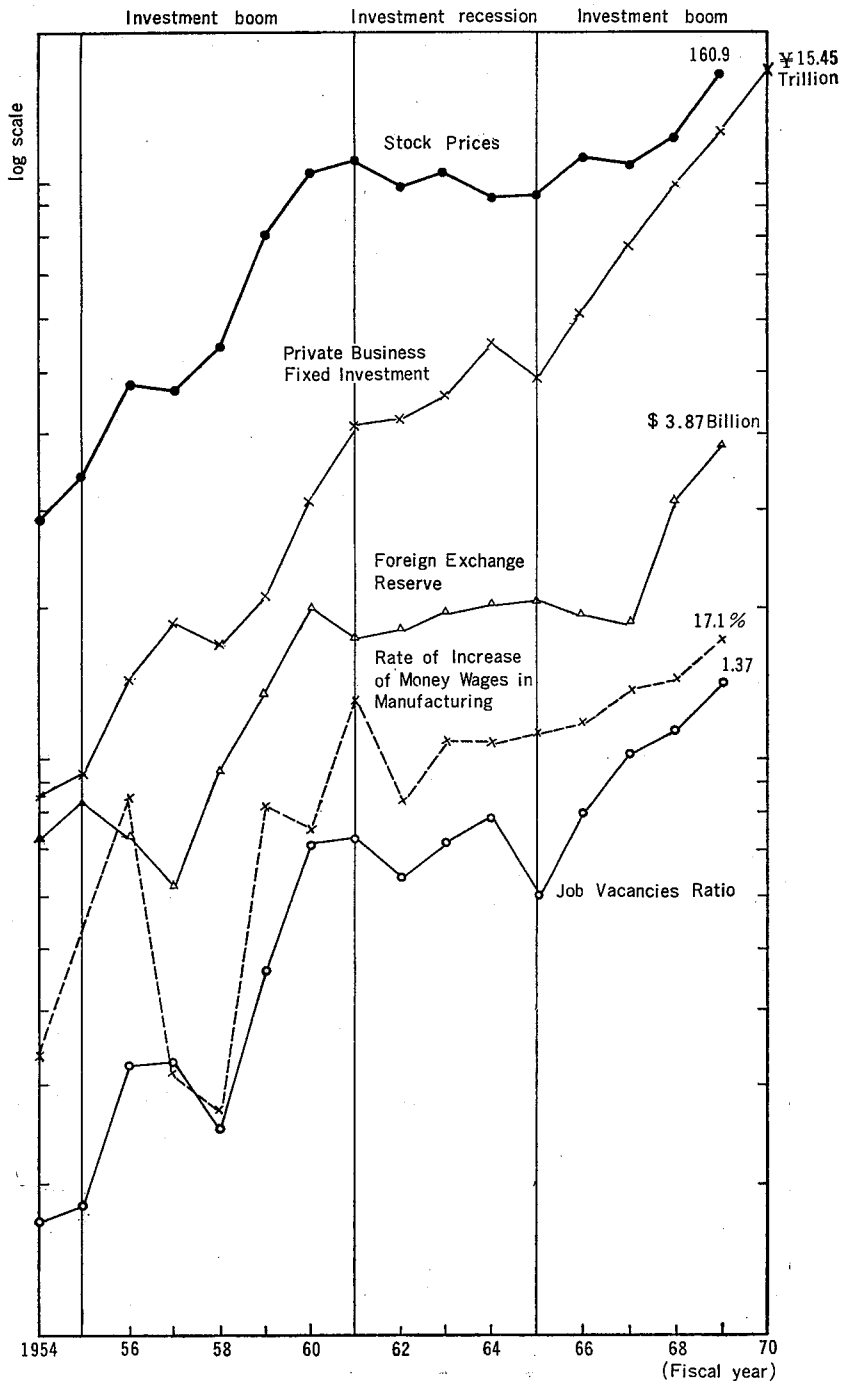
Fig. 6.



ment may be regarded as a demerit for Japan's economy in terms of resulting instability, it also has the following merit. If net fixed investment increases at a constant rate, course (*B*) can be expected with capital stock following a linear increase. If, however, net fixed investment is concentrated during the earlier part of the period, course (*A*) results as an upper curve. Course (*C*), on the other hand, represents the case where fixed investment is concentrated during the latter part of the period.

Comparing *A* and *B* of these three courses, we note that the cumulative total (increase of capital stock) of net fixed investment over the period is exactly equal. We may further note that *A*, a case of unbalanced growth due to investment concentration early in the period, results in a greater cumulative GNP total than the case *B* based upon balanced growth. If capital stock investment is concentrated early in the period, the average level of capacity over the whole period naturally becomes greater. On the assumption that there is demand corresponding to the capacity, $\sum$GNP is found to be higher in the case of *A* than in that of *B*. In this sense, although an unbalanced growth process in fixed investment is accompanied by a demerit of instability, it has also a noteworthy merit of pulling

Fig. 7.


Investment boom
Investment recession
Investment boom
log scale
160.9
¥15.45 Trillion
Stock Prices
Private Business Fixed Investment
$ 3.87 Billion
Foreign Exchange Reserve
17.1%
Rate of Increase of Money Wages in Manufacturing
1.37
Job Vacancies Ratio
1954
56
58
60
62
64
66
68
70
(Fiscal year)

up the level of cumulative GNP over the period. The investment-oriented growth of Japan's economy has proceeded with *A*-type fluctuation, clearly bringing to the surface the ten-year fixed investment cycle.

This Juglar Cycle in fixed investment did not appear only in fluctuation of the fixed investment ratio. As shown in Figure 7, the absolute amount of private business fixed investment showed higher rate of increase ratios during investment boom periods (characterized by shortage of capacity and unbalanced growth of investment) of 1955–61 and 1966–70, and a lower rate of increase over the 1962–65 investment recession period (excess capacity reverse unbalanced growth of investment), resulting in a growth of a step-wise fashion. In very close correspondence to this movement was the stock price index, in a type of association where the foreign exchange reserves peak preceded it by one year, while the trough followed it by two years. Furthermore, demand for labor increases during an investment boom period, while it decreases during an investment stagnation period. A look at the so-called job vacancies ratio (i.e., the ratio of job openings to job applicants) reveals major oscillation around the "Jimmu boom" period of 1956–57. Since around 1960 when the labor shortage became conspicuous, the movement of the ratio has been fairly close to the stage-wise movement of fixed investment. Because the job vacancies ratio, a supply and demand index of the labor market, has been following this course, the rate of change of money wages too has correspondingly moved along the medium-term cyclical path.

Although not included in Figure 7, corporate income, now one of the major explanatory variables in fixed investment functions of our country, also follows a medium-term cycle corresponding to fixed investment. This reflects movements in the enterprise earnings ratio and stock price index.

It may be concluded from the above that the medium-term cycle of fixed investment, while closely related to the capital and labor markets, has been pursuing its own course. The necessity still remains, of course, to make further detailed studies on cause and effect among various indices constituting the medium-term cycle. For example, the relationship between fixed investment enterprise earnings has by no means been one-sided, but shows a form of mutual feed-back. The absolute level of fixed investment has been increasing in proportion to the rate of wages increase. The annual increase rate of wages was around 10 per cent during the 1962–65 investment stagnation period, but went up to about 17 per cent by 1970, a relationship in almost exact proportion to the amount of fixed investment. My personal viewpoint is that private business fixed investment will show a substantial decrease in its growth rate at least over the three years from 1971 to 1973. In any case, however, the investment level itself will continue an upward trend on a long-term basis. Assuming that the rate of increase of wages also continues to go up from 17 per cent to, for example, 20 per cent, and then 22 per cent, we will be faced with a difficult problem. So long as the increase of wages stayed below an annual rate of about 18 per cent, this increase could be offset by increases in physical labor productivity, thereby curbing a rise in wage costs. Once the rate of increase exceeds a level of 20 per cent, however, there arises a serious problem in terms of possibilities to increase physical labor

productivity more than 20 per cent. As this becomes increasingly difficult, the increase of wages beyond increases in physical productivity will augment the wage cost, ending up by being absorbed either by inflation or by a decline in the enterprise earnings rate. If the margin is absorbed by the latter, the supply and demand factor in the labor market, while being influenced by fixed investment, may eventually also react upon fixed investment through effects on the enterprise earnings rate.

The medium-term movement of private business fixed investment is fairly closely related with other factors. I cannot here go into a detailed explanation on the relations using charts, but will only point out that the proportion of an individual's expenditure on durable consumer goods to total expenditure on consumption has also been moving in correspondence with the medium-term cycle of private fixed investment. Unfortunately, I have not yet been able to form a definite judgment as to the nature of the cause and effect relations between private business fixed investment and durable consumer goods.

Of further note, using the "Corporate Enterprise Quarterly Survey," is that by dividing the amount of interfirm credit (e.g., credit account · balance of notes receivable or debit account · balance of notes payable) by sales proceeds, an upward trend is obtained. What is interesting in this regard is that the ratio stays below the trend curve during the upward phase of the Juglar Cycle and that it goes above the trend curve on a medium-term basis during the downward phase (e.g., 1962–65) of the Juglar Cycle [4, p. 129]. This may be regarded as a phenomenon resulting from the effort by enterprises to increase sales proceeds even by the promotion of credit sales and the extension of draft period.

It may be seen from the above that the medium-term cycle of private business fixed investment exerts a distinct influence over a wide range of variables. There seem to have been few cases in postwar economics in advanced countries where medium-term cycles were isolated for analysis. In Japan, too, many economists in following this tendency do not choose to discuss the subject of a medium-term cycle. It may be considered, however, that the cause behind the survival of such a distinct Juglar Cycle in Japan lies in the highly dynamic nature of the economy with its continuing high rate of growth led by investment spurts.

IV. SUMMARY

Economic growth in postwar Japan is characterized by several aspects worthy of attention.

(1) If the current high growth rate continues, Japan's economy within the near future stands a strong possibility of surpassing many Western countries even in per capita income level.

(2) Japan's economy not only achieved temporary high growth due to rehabilitation factors, but has continued this high growth on a sustained basis over a quarter of a century since the end of the War. During the growth process, a dynamic and rythmical medium-term cycle of fixed investment has become

apparent. In this sense, high growth via a process of unbalanced growth in fixed investment is a clear characteristic of the economy.

(3) Japan's high economic growth has been realized through a "Schumpeterian" process taking the form of a combination of "over-loan" and technological innovation. The continuity of fixed investment-oriented growth has been guaranteed by the virtuous circle effects it shared with export-oriented growth. Accordingly, the process of catching up with advanced countries has been made possible through the simultaneous achievement of "import substitution" and "export promotion."

(4) Sustained high growth has been accompanied by upward trends in the investment ratio, which, through the medium of increases in the bonus income ratios in the workers' household income and in the farmers' household side job income, has played a role gradually raising the savings ratios of both income groups. Of course, other factors also are at work bringing about high and upward moving savings ratios. The above, however, suggests one side aspect where high savings ratios in workers' and farmers' household economy are influenced by dynamic investment activities.

(5) It goes without saying that the high economic growth rate has been achieved through active interfirm competition. At the same time, industrial policies by MITI aimed at import restriction and all-round promotion of infant industries have also played a major role. Insofar as they constituted a combination of governmental intervention and interfirm competition, i.e., and restriction on external competition and promotion of internal competition, the policies may be said to have aimed at the establishment of a "dual structure of economic policies." Observers in foreign countries are apt to think that the execution of industrial policies has hindered interfirm competition and thus brought about an inflexible economic structure. This, however, is not a correct observation. It should rather be considered that active investment competition took place in the domestic market within the framework of industrial policies (import restriction), resulting in high economic growth and the successive appearance of export industries holding strong competitive power.

(6) Such high growth, however, is confronted by a turning-point in a dual sense, that is, the shift from a labor surplus economy to a labor deficient economy, and the shift from an insufficient foreign reserves economy to a surplus foreign reserves economy. These shifts not only indicate the need for changing industrial policies towards a route of liberalization and internationalization, but also point to a situation of transition in Japan from a phase where the fixed, undervalued exchange rate was advantageous to growth policies to a new phase where operation of the exchange rate itself must be studied to prevent inflation.

REFERENCES

1. MINAMI, R. "The Turning Point in the Japanese Economy," *Quarterly Journal of Economics* (August 1968).
2. OHKAWA, K. "Seichō kyokumen to sūsei kasoku" [Phases of growth and the trend acceleration], *Keizai kenkyū*, Vol. 18, No. 1 (January 1967).
3. SHINOHARA, M. *Growth and Cycles in the Japanese Economy* (Tokyo: Kinokuniya bookstore, 1962).
4. ————. *Structural Changes in Japan's Economic Development* (Tokyo: Kinokuniya bookstore, 1970).