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ECONOMIC GROWTH AND THE BALANCE OF TRADE

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I *Introduction*

The first of the most outstanding features in the postwar Japanese economy is, perhaps, its high growth. In the postwar world economy, economic development in defeated nations such as Japan, Germany, and Italy has been quicker than that in victorious countries such as the U. S. A., Britain, and France. For some time after the war, West Germany's economic reconstruction and development was the focus of the world's attention and was called a "miracle reconstruction". But, since then, German economic growth has become stable, while Japan's has been accelerated more. Therefore, Japan's high economic growth attracts the world's attention now.

For example, *The Economist* of London published "special issues on Japan" one after another[1] and watched her high economic growth with surprise. Following "Consider Japan" in 1962 and "Year of the Open Door—The Economist Reconsiders Japan—" in 1964, "The Risen Sun" in 1967 compared Japan's highly growing economy in recent years to the "risen sun". In America, too, *Time* issued "a special on Japan" recently and said the 21st century would be the Japanese one.[2] Following this, *Newsweek*'s special on Japan likened the Japanese economy to the "rising sun" and warned that she had become a strong competitor for America.[3]

In reality, the Japanese economy had pulled breathlessly out of the

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1) *The Economist*, September 1 and 8, 1962, November 28, 1964, May 27 and June 3, 1967, etc.

2) Herman Kahn says, "It would not be surprising if the 21st century turned out to be the Japanese century," in 'Toward the Japanese Century' in *Time*, March 2, 1970, p. 22.

3) 'Japan Salesman to the World' in *Newsweek*, March 9, 1970, p. 24 ff. There is an expression, 'Tell America to wake up and watch the Rising Sun.' In comparing the Japanese economy to the sun, the British magazine says the 'Risen Sun,' while the American the 'Rising Sun.' This difference is interesting, for it is supposed to reflect the difference in both countries' economic status to the Japanese economy.

rubble of 1945 to make one of the most exciting and extraordinary sudden forward leaps in the entire economic history of the world. It has raised its international position steadily with its high growth power. In GNP, Japan ranked 7th in the capitalist world in 1950, 6th in 1955, and 5th in 1960. After that, she surpassed Britain in 1966, France in 1967, and West Germany in 1968, to become second only to the U. S. in the free world, with a GNP of $167 billion (the U. S. total: $932 billion). In this connection, Japan's economic growth rate in real terms averaged 10.0% over the past two decades (from 1951 to 1969, the whole postwar period except several years which were supported by the special factors of reconstruction just after the war). Chronologically, the average in the 1950's (1951-60) was 8.5%, the estimated actual results in the 1960's (1961-70) are 11.4%, and the prospected value in the next 5 years (1971-75) 12.4%.[1] So it is natural that we should say the high growth power becomes fixed in the Japanese economy as the basis and tends to accelerate more and more.

But the process of growth in the past was never even and there were several breaks. When business becomes brisk and domestic economic activity expands, imports of raw materials and fuel increase, while exports of manufacturing goods decrease because of the increase in domestic demand, so the balance of payments grows worse. The Japanese economy depends much on foreign trade, but its gold and foreign exchange reserves are poor. So it becomes a major problem for it to cope with an external deficit, and economic growth is restricted by the "ceiling of the balance of payments". Then the growth rate lessens and the high growth is broken temporarily. But the accumulation of productive capacity in the process of the high growth contributes to export expansion and import decline in the process of the low growth, and a favorable turn in the balance of payments by that enables the business to become brisk again. Thus, the high growth starts again and the accumulation of productive capacity makes rapid progress. In this way, the Japanese economy has accumulated productive capacity every time it passes through the process of business cycles, and the ceiling of the balance of payments has been raised gradually. Such was the process of economic

1) By this accelerated high growth, Japanese national income per capita, still 19th in the free world in 1968, is estimated to outstrip probably Britain and West Germany to be 6th in 1975, to reach present America's level in 1980, and to be surely 2nd next to America in 1985 (By the middle term estimation and the long term prospect of the Japan Economic Research Center. See the *Nippon Keizai*, September 2 and December 8, 1968).

growth in postwar Japan. [1]

This requires that the analysis of the dynamic growth process in the Japanese economy must be done in connection with the balance of payments. In this article, the main attention is focused on this point and it is attempted to observe postwar Japan's economic growth in connection with the balance of payments and, above all, with the balance of trade. [2] Firstly, the process of postwar Japan's economic growth is discussed in relation to the balance of payments changes; secondly, the relationship between economic growth and the balance of trade is examined, and the change in contents of this relationship in recent times is noted; and thirdly and lastly, problem points in the future are referred to.

II *Economic Growth and the Balance of Payments in Postwar Japan*

Table 1 shows the high economic growth and its acceleration of the postwar Japanese economy and Fig. 1 is its graph. Before the investigation into the details of the economic growth, it is desirable to give some preliminary explanations of the table.

Firstly, there are two kinds of years, fiscal and calendar, in Japanese statistics. A Japanese fiscal year begins in April and ends in the next March. In 1951, the method of national income statistics by the Economic Planning Agency was revised, and after that national income statistics have been issued both in fiscal and calender years. Before that, in postwar times, there was only one kind of statistics, in the fiscal year. But for foreign readers, the calendar year is more understandable than the fiscal which differs among nations, so the calendar year is used here.

Secondly, the period discussed here is after the 1950's. This is partly because there are no statistics available based on the calendar year before 1950 and partly because it is thought right to begin in this period when the Japanese economy was restored to a normal stage after a transition stage of confusion and reconstruction just after the war.

Thirdly, the growth rate in question is not nominal but real. In post-

1) This forms a striking contrast to the British one. See Section V of this article for their comparison.

2) Johnson's 'basic analytica equation' theorized the relationship between economic growth and the balance of trade. See H. G. Johnson, *International Trade and Economic Growth*, London, 1958, Chap. IV.

Table 1 GNP in current and constant (1960) dollars, and percentage ratio to previous year, 1951-1970

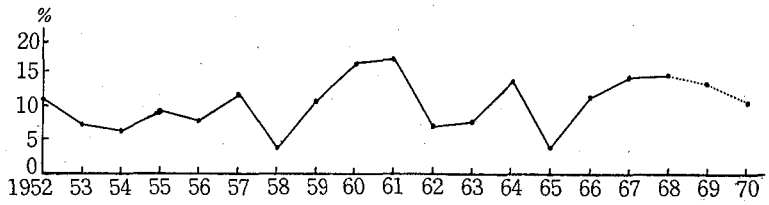
(Billions of dollars)

Item / Calendar year	At current prices		At constant prices in calendar year of 1960	
	Value	Percentage ratio to previous year	Value	Percentage ratio to previous year
1951	14.58	—	19.31	—
1952	16.81	115.3%	21.38	110.7%
1953	19.35	115.1	22.92	107.2
1954	21.65	111.9	24.40	106.5
1955	23.68	109.4	26.69	109.4
1956	26.41	111.5	28.91	108.3
1957	30.75	116.4	32.24	111.5
1958	31.50	102.4	33.41	103.7
1959	35.54	112.8	36.84	110.3
1960	42.52	119.6	42.51	115.4
1961	51.66	121.5	49.12	115.5
1962	57.95	112.2	52.73	107.3
1963	65.63	113.3	56.78	107.7
1964	77.17	117.6	64.93	114.4
1965	84.73	109.8	67.33	103.7
1966	97.59	115.2	74.59	110.8
1967	115.45	118.3	84.81	113.7
1968	137.04	118.7	97.02	114.4
1969(1)	173.75	118.5	109.83	113.2
1970(2)	201.22	115.8	122.02	111.1

Note: (1) Estimate in fiscal year.
(2) Prospect in fiscal year.
Both were decided by the Cabinet Council on February 14, 1970.

Source: Economic Planning Agency, *Annual Report on National Income Statistics.* The *Nippon Keizai*, February 14, 1970.

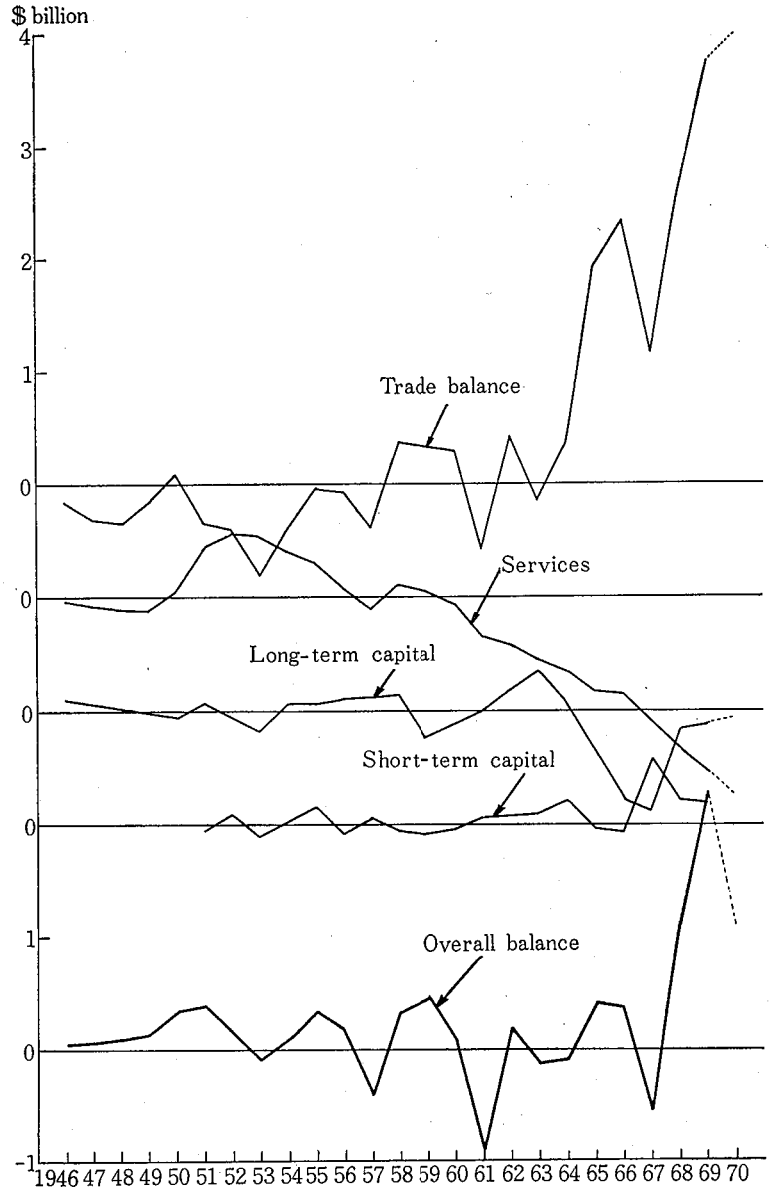
Fig. 1 Changes in real growth rate of GNP



Note: See notes of Table 1 for 1969 and 1970.

war Japan, a rise in prices has been substantial, so the real one must be taken to examine the ratio to the previous year. The real values in Table

Fig. 2 Changes in postwar balance of payments (IMF base)



Note : Only 1946 is from September 1945 to December 1946.
Only 1970 is prospect in fiscal year by government. Others are actual results in calendar year.

Source : Ministry of Finance, *Monthly Bulletin of Statistics.*

1 are at constant prices in the 1960 calendar year.

Table 2 Changes in imports, exports, and the trade balance
(IMF base, millions of dollars, △ deficits)

Item / Calendar year	Exports	Imports	Trade balance
1951	1,354	1,645	△ 292
1952	1,289	1,701	△ 413
1953	1,258	2,050	△ 792
1954	1,611	2,041	△ 429
1955	2,006	2,061	△ 54
1956	2,482	2,613	△ 131
1957	2,854	3,256	△ 402
1958	2,870	2,500	370
1959	3,408	3,047	361
1960	3,978	3,711	268
1961	4,149	4,707	△ 559
1962	4,861	4,459	402
1963	5,391	5,557	△ 166
1964	6,702	6,328	375
1965	8,333	6,432	1,901
1966	9,638	7,366	2,272
1967	10,228	9,070	1,158
1968	12,751	10,222	2,529
1969	15,720	11,970	3,750
1970(1)	18,800	14,800	4,000

Note : (1) Prospect in fiscal year by government, February 14, 1970.
Source : Ministry of Finance.
The Bank of Japan.

Fig. 2 shows changes in the balance of payments in postwar Japan according to items. It has the calendar year, IMF base, and a billion dollars as a unit. Table 2 shows changes in imports and exports.

As found in these tables and figures, the postwar Japanese economy has finished five trade cycles and is now in the upswing phase of the sixth. In this period, the balance of payments has passed five cycles, too, and is now on the rising curve of the sixth. Changes in both cycles have a close relationship. To observe the process of postwar Japan's economic development in relation to changes in the balance of payments, it is convenient to divide the period by these cycles. There are various methods in detecting trade

cycles[1] and Table 3 is a time division by the Economic Planning Agency. The following analysis is based on this.

Table 3 Basic dates of business cycles in postwar Japan
(N B Method)

Item / Cycle	Bottom (B)	Peak (P)	Bottom (B)	Expansion (B-P)	Contraction (P-B)	Cycle (B-B)
First cycle		6/1951	10/1951		4 months	
Second cycle	10/1951	1/1954	11/1954	27 months	10	37 months
Third cycle	11/1954	6/1957	6/1958	31	12	43
Fourth cycle	6/1958	12/1961	10/1962	42	10	52
Fifth cycle	10/1962	10/1964	10/1965	24	12	36
Sixth cycle	10/1965					
Average period				31	11	42

Source: Economic Planning Agency, *Monthly Bulletin of Observation of Business Cycle*, No. 23.

The First Cycle

The first cycle, not shown in Fig. 1, has the inflation with a comparatively high growth rate in 1947-48 just after the war and the deflation in 1949 as the result of an anti-inflation policy called the "Dodge Line."[2] At that time, economic activity and foreign trade were under the American occupation's control and special circumstances of extreme confusion and reconstruction after the war.

After this transition period, the Japanese economy was thought to have been restored to normal in the early 1950's. The cycles after this are shown in Fig. 1.

The Second Cycle

The second cycle has a special procurements boom in 1950-52 because of the Korean War and the recession caused by its reaction from the latter half of 1953 to 1954. Owing to the Korean War, which began in June, 1950,

1) The representatives are Persons Method, National Bureau Method, and Changing Rate Method. The Economic Planning Agency's is the NB Method. There are some differences in turning points of business cycles among these methods because of the difference of their indexes taken and calculating methods.

2) This is an economic stabilization policy for reconstruction of the Japanese economy adopted by Mr. Dodge who came to Japan in February, 1948, as a GHQ economic adviser. Its central policy was superbalanced budget. By this, the powerful postwar inflation was stopped, but the Japanese economy was shocked very much and the growth rate fell to about 2% from a 10% level before that time.

the Japanese economy recovered from the blow of the recession caused by the "Dodge Line", getting back immediately to a remarkable increase in production. The war changed the previous situation completely. Much of the munition for the war was procured in Japan and this formed an American demand for Japanese commodities (the so-called "special procurements"). Moreover, the advanced nations, anxious about the spread of the war, expanded their armaments, so their imports increased rapidly and the world business activity became brisk. An increase in Japan's exports caused by this special procurements and the world boom encouraged the expansion of production, and the foreign currency inflow through the exports enabled mass imports of the raw materials and fuel required for the production expansion. Thus, the rate of growth rose again in the early 1950's and the high growth rate of over 10% continued in 1950, 1951, and 1952.

But Japan's imports increased rapidly due to this remarkable growth, while the cease-fire in July, 1953, and the following quieting down of the expansion fever of armaments resulted in the decline in overseas demands for Japanese goods. Thus, Japan's exports decreased rapidly. The result was a large deficit in the balance of payments in 1953, the first drastic one in the postwar period. The Japanese government met this difficulty with a tight money policy starting in October, 1953 and the curtailed budget of 1954 called "a trillion budget", and tided over the crisis by drawing out foreign currency from IMF, a member of which she had become in 1953.

These measures took effect comparatively soon with the help of the improvement in world business which began in the autumn of 1954. Japan's economic growth rate fell in 1953 and 1954, and imports were stagnant in 1954 and 1955, but exports increased steadily. Making this improvement in the balance of payments a footing, the Japanese economy entered upon a new stage of the high growth in the Showa 30's. [1]

The Third Cycle

The third cycle has the boom in 1955-56 named "Zinmu Boom" and the recession caused by its reaction from the latter half of 1957 to the first half of 1958. The decade starting in 1955 is called the Showa 30's in Japan. From this time on, the Japanese economy is said to have entered into a high growth period, and this economic development differs very much from the old one.

1) Showa 30 is 1955.

In 1955-56, America was in a 'boom never experienced before'. Under this favorable influence, the world industrial production expanded smoothly and kept high prosperity. So, in the external phase, Japan's exports expanded well, while her imports increased at a steady pace. Japan's foreign exchange holdings increased to 1.5 billion dollars. In the internal phase, her economic activity became brisk and exceeded the prewar level in her overall production and consumption with the help of this favorable condition in the balance of payments. Moreover, it should be noted as a characteristic of this period that equipment investment increased rapidly. It increased only by 5.2% per year on the average in the decade just after the war (1946-55), but by 16.4% in the next decade (1956-65) and in the private sector alone, by 18.5% in the same period. This investment boom expanded productive capacity on the one hand, and brought about the demand increase on the other hand.[1] Thus, there developed the so-called "Jinmu Boom".[2]

But this boom lasted only thirty-one months. The rapid increase in equipment investment and the expansion of production increased rapidly imports of capital goods and raw materials. For this reason, the balance of payments turned to red in 1957. Foreign currency reserves decreased drastically to a 0.5 billion dollar level at the end of that year. Thus, as a countermeasure against the crisis in the balance of payments, the government took the third tight money policy in the postwar period in March, 1957. Then, this difficulty was overcome with business control and import cuts. But the improvement in the balance of trade in this tightening period was attained by import decline, 108% and export increase, -8% (export decline, 8%). The latter worked as an obstacle to the improvement. The growth rate fell drastically in 1958 due to the severe deflation policy. World business was depressed, too, in the same year, so Japan's recession grew worse.

The Fourth Cycle

The fourth cycle has the boom named "Iwato Boom" which covered the period from the latter half of 1958 to 1961 and the recession caused by its reaction in 1962. In 1958, Japan's exports increased little due to the world recession but her imports decreased drastically for the tight money, and the

1) This is what Domar calls the "dual character of investment," that is, the effect of creating productive capacity and the effect of creating effective demand.

2) This means the largest boom since the Zinmu era, which is the founding age of Japan.

balance of trade showed the first substantial surplus in the postwar time (Before 1957, it had shown a considerable deficit every year except 1950 when it barely kept the balance). Moreover, owing to the favorable turn in world business in 1959, Japan's exports increased remarkably and her economy reached immediately the high growth of a 10% level again. Thus, there developed a boom on a large scale and in the long period of 42 months from the latter half of 1958 to 1961. This boom was named "Iwato Boom" for it exceeded the "Zimmu Boom."[1] It is a characteristic of this boom that prices were comperatively stable in spite of the high growth. It was also called a "volume boom."

In the phase of the balance of payments, imports increased as a result of the high growth. But import increase proceeded with caution because of the experience of failure from an optimistic view in the last boom period and an overseas voice which asked for liberalization of trade. A surplus was maintained in the overall balance as well as in the trade balance, and this contributed to the accumulation of gold and foreign currency. This raised the ceiling of the balance of payments and enabled the renewal and extension of the boom. Meanwhile, the so-called "preventive tight money policy" was taken in 1959. This is said to be different from the traditional business adjustment policy to cope with a deficit in the balance of payments. But it is a preventive measure against the balance of payments crisis in itself, so is of the same quality as other tight money policies in essence.

But in 1961, at the close of "Iwato Boom", imports increased rapidly as a result of the long boom, while exports showed only a little increase because of the world recession and vigorous domestic demand. The trade balance showed a large deficit and the overall balance recorded the largest deficit in the postwar time. So the goverment took the tight money policy, as usual, in July, 1961. The rate of increase in industrial production against the corresponding month of the previous year was 21% in the month immediately before this tightening but was only 2% in the month immediately after removing it. At the same time, the import decrease accounted for 71% of the improvement in the balance of trade in this tightening period and the export increase for 29%. As a result, the growth rate fell in 1962, while the balance of payments showed a substantial improvement.

The Fifth Cycle

1) The Iwato era is the mythological age before the Zinmu.

The fifth cycle has a boom in 1963-64 for over 24 months and the recession in 1965. As this boom was called a "prosperity without an impression of a boom", it was not so sensational as the previous two and there was no common name for it.

Because of a comparatively small falling in the growth rate in 1962 and the expansion of economy in 1963, imports increased again and the trade balance showed a deficit in 1963. To cope with this difficulty, the tight money policy was taken in March, 1964. Industrial production in the month just before this tightening showed a 19% increase against the corresponding month of the previous year, but that in the month just after this tightening period showed only a 9% increase against the corresponding month of the previous year. The contribution of the import decline and export expansion to the improvement in the trade balance in this tightening period was 76% and 24%, respectively.

The year 1964 was a peculiar year. The trade balance improved although the growth rate rose. It is said that that year had 'a boom in its macro phase but a recession in its micro'. The overall index of business cycle[1] showed already a decline after the peak in December, 1963, but the economic expansion as a whole was active and the growth rate was high. At the same time, however, the trade balance took a favorable turn following an improvement in world business, and, especially, the better condition of Japan's exports to America.

The effect of this tight money policy in 1964 appeared in the next year. The growth rate fell sharply and the trade balance showed a substantial surplus. But the recession, the most serious in the postwar period, never recovered even after the tightening was removed. Thus, the government gave up the balanced budget policy that they had adopted since the "Dodge Line" and decided to take a business promotion policy by issuing a national debt.

The Sixth Cycle

The sixth cycle has had a boom since 1966 and it is now in its rising phase. This boom began in October, 1965, and now (March, 1970) is in its 53rd month. It is the longest in the entire Japanese economic his-

1) This is made of such individual indexes as industrial production index, producers' shipments index, producers' inventory index, average amounts of issued bank note per month, loans and discounts of all banks, and wholesale price index.

tory. It is named "Izanagi Boom"[1] because it exceeds the last "Iwato Boom".

In this rising phase, the balance of payments took a bad turn in 1967 due to the high growth in 1966-67 and the slowing of the world economic growth, especially the stagnation of Japan's exports to America. Japan's gold and foreign exchange reserves dropped below 2 billion dollars at the end of 1967 (But the trade balance did not go into the red and showed a substantial black as before, though the amount was reduced). So the tight money policy was taken as usual in September, 1967. But industrial production in the month just before this tightening increased by 21% against the corresponding month of the previous year, and in the month just after this tightening period by 17% against the corresponding month of the previous year. The falling was slight compared with the one in the tightening before last (19% down in 1961) and that in last time (10% down in 1964). It took three months in 1957 from the beginning of tightening to the turning point of business, five months in 1961, and seven months in 1964, but it didn't reach a turning point even after eleven months in 1967. Moreover, the improvement in the trade balance in this tightening period was attained 29% by import decline and 71% by export increase. The contribution of export increase to the improvement exceeded that of import decline for the first time. This forms an interesting contrast to the change in the tightening of 1957, 1961, and 1963, in which the latter exceeded the former.

Characteristic of this tightening are the weakened effects of the tight money policy and the change in the process of improving the trade balance. The former is based on the folloing: (1) enterprises have come to depend less on banks; in other words, their self-financing capacity has expanded, (2) the weight of demand items on which the tight money policy has an immediate effect (equipment investment and inventory investment) has been lowered, while the ones on which the policy has a less effect (private consumption, private dwellings investment, and exports) has been raised. The latter is the change in the type of the improvement in the trade balance from the former type by import decline to the new one by export increase. In this way, a new course of development was opened — the trade balance has been improved under the tight money policy, while the high growth has lasted without a break.

1) The Izanagi era is before the Iwato.

After the removal of the tight money policy, a new type of development was formed, which had never been experienced in Japan—"the high growth under the surplus in the balance of payments". In fact, the high growth of 14.4% and the balance of trade (the balance of payments) surplus of 1.1 billion dollars coexisted in 1968. Such a tendency was found in 1969, too, and there is a good outlook that this will be kept in the future.

III *Relationship Between the Growth Rate and the Trade Balance*

The fluctuations in business cycles or in economic growth in postwar Japan have a close relationship with the ones in the balance of payments. So, this will be further examined in this section. Firstly, by drawing a common pattern from the six cycles in the last section, it will be made clear what economic policy had been taken in common. Secondly, the relationship between the growth rate and the balance of payments under that policy will be examined. Thirdly and lastly, the change in that relationship in recent times will be discussed.

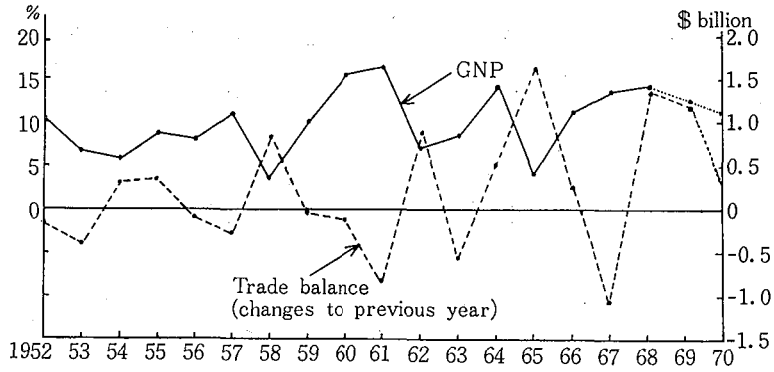
1 Economic Policy Which Gives Priority to International Equilibrium (over Domestic One)

The Japanese economy has finished five business cycles since the war, and a common pattern can be seen in them. To sum up the description in the last section, they are all, without exception, the repetition of such a process as follows: business upswing—deficit in the balance of payments—taking of the tight money policy—business downswing—improvement in the balance of payments—removal of the tight money policy—business upswing again. Namely, the upper and lower limits in the fluctuations in Japan's economic growth were bounded by the balance of payments, and turning points in this frame are all based on a favorable or unfavorable turn in the balance of payments. A deficit in the balance of payments was a characteristic which showed "over heating" in business and a surplus showed room for an economic expansion. The "ceiling of the balance of payments" was always the main reason for tightening business and the largest factor in restricting the economic growth.

These circumstances will be clarified in Fig. 3, which graphs changes in the real growth rate and the trade balance together. This can be interpreted as showing the relationship between the growth rate and the balance

of payments. The reasons are the following: (1) changes in the trade balance best reflect changes in the overall balance, and (2) on the contrary, other items of balance (services, long-term capital, and short-term capital) don't reflect the overall balance, because their trends are conspicuous and their cyclical fluctuations don't come to the surface (See Fig. 2).

Fig. 3 Changes in real growth rate of GNP, and increases and decreases to previous year in trade balance



There are falls in the growth rate in 1954, 1958, 1962 and 1965 in Fig. 3. These respectively occurred, following the years 1953, 1957, 1961, and 1963, when the trade balance showed a large deficit. When the balance of payments (the trade balance) took a serious turn as a result of the high growth, the tight money policy was taken to cope with it. This policy proved effective after the "time lag of a year" and led to a fall in the growth rate. As mentioned already, in the case of the trade balance deficit in 1963, the tight money policy was taken in 1964, so its effect appeared in 1965. As for the trade balance deficit in 1967, the improvement was realized without a fall in the growth rate in spite of the tight money policy. This is different from previous occasions. This will be referred to later.

To summarize the above-mentioned from the point of economic policy, operations of business adjustment policy in Japan have mainly aimed at coping with the balance of payments deficits. Japan depends much on foreign trade due to her poor domestic resources and is easily attacked by difficulties over the balance of payments. For her, changes in the balance of payments have been the most important measure in managing the economy and the main factor in governing economic growth. The balance of payments was red light for economic growth at one time, and green at another time.

Following the "stop" or "go" from the balance of payments, economic activities have moved on. This means international equilibrium has priority over domestic; that is, the policy which gives prioirty to the former over the latter has been taken so far.

2 Trade-off Between the Growth Rate and the Trade Balance

As a result of economic policy which gives priority to international equilibrium, there naturally exists a regular relationship between the rate of economic growth and the balance of trade. Namely, when business shows an upward tendency and the growth rate rises, the trade balance takes a bad turn, and when business shows a downward tendency and the growth rate lowers, the trade balance takes a good turn (See Fig. 3. After 1965, however, this formality can not be applied and it will be discussed in the next section).

This in detail is as follows. In a boom, the domestic economic activity rises and imports of capital goods for equipment investment and of raw materials for expanded production increase, while exports increase little because export goods are used at home for the active domestic demand. So, the trade balance takes a bad turn. In a recession, the opposite phenomenon arises. Imports decrease because of the depressed domestic economic activity, while exports increase due to the phenomenon called "export drive", which is to seek a market for goods in foreign countries because of the declined domestic demand. As a result, the trade balance improves. Consequently, there exists a trade-off relation[1] between the economic growth rate and the trade balance.

To further examine this, it will be better to divide changes in the trade balance in Fig. 3 into its components, changes in imports and exports. Table 4 and Fig. 4 show together the rate of increase and decrease to the previous year in real GNP, private capital formation,[2] and imports. As is clear on the graph, these three fluctuations are almost the same in direction and they become larger in order of GNP, imports, and private capital

1) Among relations of this kind, the most famous one would be a trade-off between the rate of unemployment and prices and wages, that is, the so-called "Phillips curve." It means: there can be found empirically a counter-correlation between the rate of unemployment and the rate of increase in monetary wages, and the rate of increase in prices has a close correlation to the rate of increase in monetary wages, so there is a trade-off relation (alternative between objectives) between maintenance of a low rate of unemployment and the stabilization in prices.

2) Private capital formation = private equipment investment + private inventory investment = gross private capital formation - dwellings investment.

Table 4 Percentage ratio to previous year of Japan's private capital formation, imports, exports, and world industrial production

Item / Calendar year	Private capital formation (1)	Imports	Exports	World industrial production
1952	100.1	102.8	95.2	102.5
1953	100.8	120.5	97.6	108.9
1954	110.4	99.6	128.1	100.0
1955	105.2	101.0	124.5	110.4
1956	155.4	126.8	123.7	105.3
1957	162.2	124.6	115.0	103.0
1958	65.0	76.8	100.6	97.0
1959	129.9	121.9	118.8	110.0
1960	148.2	121.8	117.0	107.3
1961	149.8	126.8	104.1	103.4
1962	87.9	94.7	117.2	107.3
1963	107.3	124.6	110.9	105.3
1964	123.2	113.9	124.3	108.0
1965	85.3	101.7	124.3	106.7
1966	117.7	114.5	115.7	106.9
1967	145.9	123.1	106.1	102.4
1968	122.4	112.7	124.7	106.9
1969	125.3(2)	117.1	123.3	—
1970	115.0(3)	117.5(3)	114.6(3)	—

Note : (1) Private capital formation = private equipment investment + private inventory investment.
(2) Estimate in fiscal year.
(3) Prospect in fiscal year.

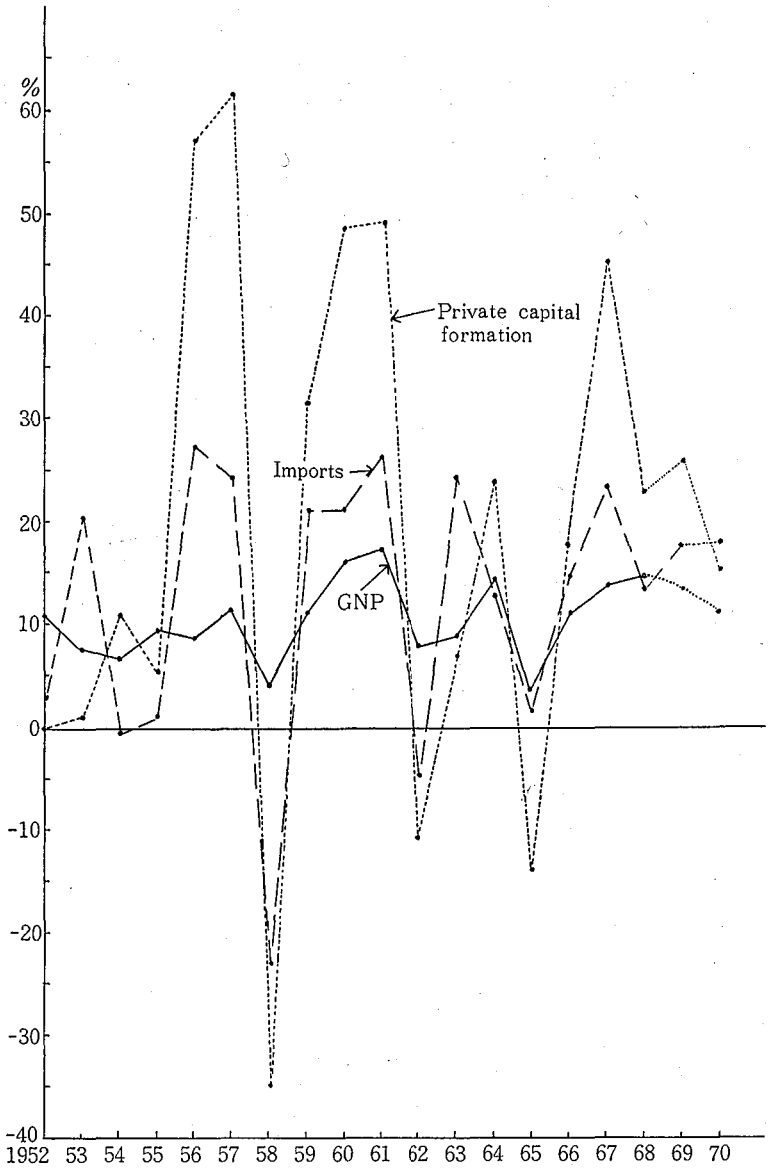
Source : Economic Planing Agency.
Ministry of Finance.
U. N., *Monthly Bulletin of Statistics.*

formation. [1]

From the same direction of the changes, it is clear that the increase and decrease in imports depend on the rise and fall in GNP, especially on those in private capital formation. From the difference in the amplitude, the following is to be understood: when GNP increases, imports increase more than it, and private capital formation increases still more. On the

1) The fluctuations of gross domestic fixed capital formation are the closest to those of imports, those of gross private fixed capital formation are a little larger than those of imports, and those of private capital formation are the largest, though these three fluctuations are almost the same in direction. For her raw materials, Japan depends much on imports, so her rate of inventory investment to national income is higher than that of foreign countries. This is one of the factors which make her business fluctuations larger.

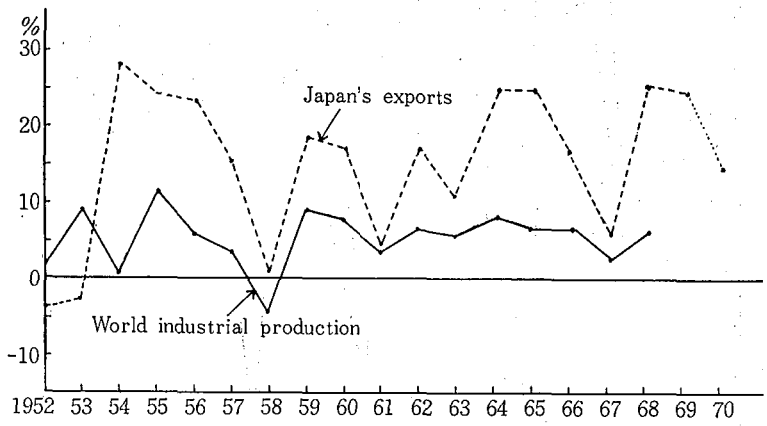
Fig. 4 Changes to previous year in real GNP, private capital formation, and imports



contrary, when GNP decreases, imports decrease more than it, and private capital formation decreases even more. The reason for this is as follows: private capital formation is the total of private equipment investment and inventory investment, but these (especially the latter) are the major factor of business fluctuations, while imports involve such business stabilization factor as consumer goods, and, moreover, GNP involves the income of agriculture and service industry which do not have much relation with business fluctuations and foreign trade. In short, the increase and decrease in private capital formation, as a leading factor, bring about changes in imports and GNP.

Fig. 5 compares the change rate to the previous year of Japan's exports

Fig. 5 Changes to previous year in Japan's exports and world industrial production



with that of world industrial production. From the same direction of the changes, it is clear that Japan's exports depend on foreign demand for Japanese goods, that is, on world business fluctuations (Strictly speaking, analysis according to export markets, above all, in relation to American business, must be done, but it will not be gone into now). The amplitude of Japan's exports is larger than that of world industrial production but the whole fluctuations of the former are above those of the latter. This means the share of Japan's exports in world trade becomes larger.

As above-mentioned, Japan's imports depend on her economic growth and her exports on foreign income growth. At this juncture, supposing income-elasticity of import demand is almost *constant*, the higher the economic

growth rate is, the more the imports increase, so the deficit in the trade balance becomes larger unless exports increase still more. So there exists a trade-off relation between the economic growth rate and the trade balance. As shown in Fig. 3, it is true that this relation can be found in past data, and such a thinking method has been generally accepted by the policy authorities and many others. But there are two points to be considered. The one is the relationship between past data and economic policy, and the other is the assumption that income-elasticity of import demand is *constant*.

First, past data are the product of a special economic policy, so the same result and relationship are not necessarily found under a different policy. Past data shown in Fig. 3 are the result of a policy which gives priority to international equilibrium as already mentioned in the last section. When the growth rate rises and the trade balance shows a bad turn, the government tries hard to keep down economic growth consciously by the tight money policy to improve the trade balance. When the trade balance takes a good turn, the tight money policy is removed and economic growth rises again. As a result of this policy, it is natural that there should exist a trade-off relation between the growth rate and the trade balance. But it is difficult to say this relationship necessarily exists in theory between the two. It would be more realistic to regard it as a product of a special policy. The high growth under a surplus in the trade balance in recent times shows this trade-off relation is not necessary.

Second, if income-elasticity of import demand is actually *constant*, the rate of increase of imports will be larger and the trade balance will grow worse as the Japanese economic growth rate rises. But this is a matter in a *short term*, and another action will come about in a *long term*. An increase in equipment investment which raises the growth rate will bring about an increase in capital goods import in a *short term*, but it will encourage technical progress and raise productivity in a *long term*. This process will increase the self-supply capacity of items which Japan has previously been forced to import for technical reasons, will increase the domestic supply capacity of import substitute goods and exports, and will strengthen her international competitive power,[1] and so will work favorably on the trade balance. Thus, the trade balance will be improved (increase in the black or

1) This may be said to be the dual character of equipment investment in the phase of trade — effect of substituting imports and effect of promoting exports.

decrease in the red). The Japanese economy in the Showa 40's (after 1965) is in just such a state.[1] This will be analyzed next.

3 Coexistence of High Growth and Trade Balance Surplus

For a long time in postwar Japan, business was judged to have been overheated or overrisen by a balance of payments deficit, and a favorable or an unfavorable turn in business was related to a surplus or a deficit in the balance of payments. The trade-off relation between the growth rate and the balance of payments by this policy which gave priority to international equilibrium was changed entirely as soon as it was the Showa 40's (ten years starting in 1965). In the Showa 30's (a decade starting in 1955), when a boom lasted two years or more, the balance of payments always showed a deficit and growth was broken. But, in the Showa 40's, the black basis in the balance of payments has been fixed in the Japanese economy and there has coexisted the high growth and the balance of payments (balance of trade) surplus.

To examine this important and revolutionary change, it is good to begin with surveying the changes in the balance of payments in the past according to its items (See Fig. 2). They reflect the changes in the economic structure and have a characteristic of each age.

Until 1950 in the postwar period, the transferred dollar income by the American economic aid supported the balance of payments surplus. Until 1955 the special procurements income in the Korean War did. Until 1960 the trade balance showed a little surplus and the current balance kept the balance for the most part. After that, the Japanese economy entered into a high growth period, and until 1964 a new pattern appeared in which capital inflow covered expanding deficits in services. But before and after 1964, circumstances changed entirely. Due to a remarkable increase in exports, the trade balance has kept a substantial surplus (before 1964 the yearly surplus was 4 hundred million dollars at most, but from 1965 to 1969 its average reached 2 billion dollars), and it has kept the current balance in surplus, covering the expanding deficits in services and transfers.

The most outstanding characteristic after 1965 is the change in the trade balance basis. (1) The item leading the balance of payments to the black

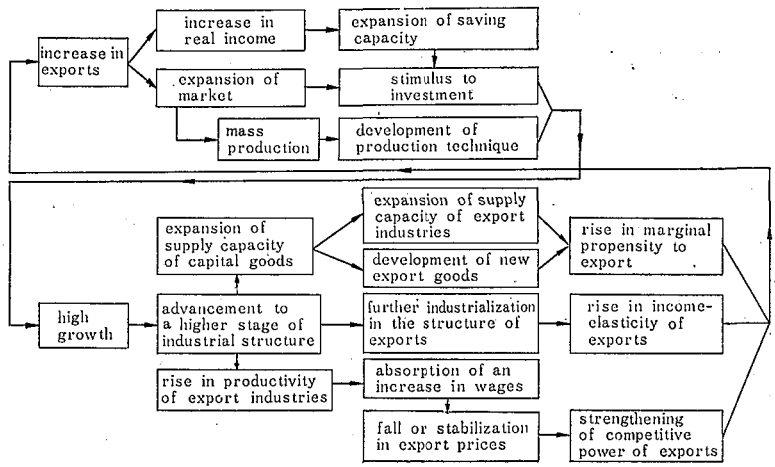
1) The situation in Britain immediately after World War II was just the opposite. For this, see the last section of this article.

changed from the capital balance to the trade balance, (2) the process improving the trade balance changed from the old pattern of import decrease to a new one of export increase. The significance of these two changes in the balance of payments to economic growth is important. (1) The factor in trade to interrupt growth has ceased to exist, and, moreover, (2) trade has become a positive factor in supporting the high growth. Thus, the relationship between the trade balance and the growth rate changed from the old pattern of "trade-off" to a new one of "coexistence".

The new pattern, "economy maintains a boom, a high growth, and, at the same time, exports increase more than imports", seems to be being fixed in the Japanese economy. This is, in a word, the accumulation of equipment investment in the high growth period of the Showa 30's has borne fruit to raise productivity in the Showa 40's. The following are noticed: domestic self-supply of imported items, strengthened international competitive power of exports, and a change from the old pattern of development, "export increase → economic growth" to a new one, "economic growth → export increase". The third of them is to be discussed in detail next.

The relationship between economic growth and exports in Japan will be explained in Fig. 6. In the beginning, when exports increase, real income

Fig. 6 Relationship between economic growth and exports



increases and the capacity to save expands, so it becomes one of the factors in increasing equipment investment. Moreover, an increase in exports implies expansion of the market, and this stimulates an investment will on

the one hand. It requires mass production and promotes development of a more effective technique of production on the other hand. Thus, it works as a factor to accelerate the high growth (effect of exports on supporting demand, that is, "export increase → high growth").

In the past, import requirements increased rapidly as the growth rate rose, and this led to a bad turn in the balance of payments and an interruption of the high growth. But the high growth supported by active equipment investment promoted further industrialization and made an advancement to a higher stage of industrial structure. The results are as follows: (1) A domestic self-supply capacity of industrial goods which had been imported so far was expanded rapidly, and imports declined greatly.[1] At the same time, domestic demand increased so much that it contributed to the expansion of domestic business scale. Further industrialization has raised the supply capacity of existing export industries through an increase in capital and equipment, and led to development of new exports and new export industries. (2) Industrialization in the export structure has been promoted. Because income-elasticity of demand for industrial goods is larger than that for food and raw materials, income-elasticity of foreign demands for Japan's exports has been raised. In reality, this change in the export structure is matched to the world trade tendency, in which the weight of capital intensified goods becomes larger. (3) Productivity of export industries was raised. This absorbed a wage increase, kept costs down, and contributed to a reduction or stabilization in export prices.

To sum up the above-mentioned, further industrialization of the Japanese economy brought about (1) the marginal propensity to imports $<$ the marginal propensity to exports, (2) a change in the export structure along the direction of development in world trade, and (3) strengthening of international competitive power. Further industrialization is, however, to be realized by economic grwoth, so economic growth has been linked with an export increase through further industrialization (effect of economic growth on promoting export, that is, "high growth → export increase"). Moreover, the Japanese heavy industry is younger than that of Europe and America, so it has more room for development than the latter. Likewise, stability and durability of the "good cycle" of the high growth and export increase are also considered

1) The assumption, "income-elasticity of import demand is *constant*," in the last section is reversed by this fact.

much larger.

IV *Problem Points in the Future*

The development of the postwar Japanese economy, in terms of periods, is as follows: negative development supported by special factors of reconstruction demand in the Showa 20's, active development with the high growth supported by vigorous equipment investment in the Showa 30's, and ideal development through a good cycle with the high growth released from restriction of the balance of payments difficulties in the Showa 40's. The upswing of this business cycle (the sixth cycle), having lasted 53 months as of March, 1970, is the longest record of a boom not only in the postwar period but in the prewar. The factor supporting this boom is a favorable balance of payments led by export increase. A surplus in the balance of payments is no longer a passing phenomenon but seems to have been fixed in our economy as a basis. Such a view is becoming more and more popular in Japan. Coexistence of the high growth with the balance of payments surplus is being accepted as an example symbolizing a physical improvement in the Japanese economy, not simply as a passing phenomenon of good luck.

It may be said that development of this new type is the most desirable condition of economy for Japan, but it can not be said that there are no problems. Some new problems arise and ask for new policies. But a needful revolution in a policy view has made little progress.

It is certain that the "ceiling of the balance of payments" has been raised and that the balance of payments seems to be no longer a restrictive factor to economic growth. But it is expected that a labor shortage and a rise in prices will become new restrictive factors in the future. First, on the labor shortage. "Rate of economic growth = rate of increase in labor force + rate of growth in labor productivity."[1] So the restrictive influence of an expected labor shortage in the future is serious and the role of growth in productivity as a factor supporting economic growth is very important. In the case of Japan, however, her labor productivity has been considerably lower than that of Europe and America as shown in the gap between her

1) This is what Harrod calls the "natural rate of growth," $Gn=\frac{\triangle L}{L}+\frac{\triangle y}{y}$ (L is labor force under a given average wage and y is labor productivity under full employment of that labor force).

GNP and her national income per capita, so it may be said that room for raising productivity is much larger. This is supported by the fact, as mentioned in the last section, that the Japanese heavy industry is still young and there is plenty of room for development by building up the equipment and raising the technical level. Such measures as the following must be promoted actively: efficient allocation of labor force (promotion of a labor movement from low productive sectors of the primary and the third industry to a high productive sector of the secondary industry and, in the secondary industry, from the light industry to the heavy industry) and promotion of rationalizing or labor saving investment.

Second, a rise in prices, connected with an increase in wages resulting from that labor shortage, will be taken here in relation to the growth rate and the balance of trade which are the theme of this article. It can't be discussed briefly here whether there is an immediate connection between the growth rate and a rise in prices. Some countries like Japan have a high growth rate and rapidly rising prices, while some like West Germany make a considerably high growth rate and stable prices compatible, and some may suffer from rapidly rising prices despite a low growth rate. Consequently it can't be said that there is an immediate trade-off relation between the growth rate and a rise in prices. But when the balance of trade intervenes between them, there comes into existence a clear trade-off relation, namely, high growth→increase in exports→substantial surplus in the balance of trade→ excess of foreign currency→excess of domestic liquidity→rise in prices. To make prices stable, therefore, the growth rate must be kept down, and so a rise in prices becomes a restrictive factor to economic growth.

In a high growth economy with a surplus in the balance of payments, its domestic policy for price stabilization has a relation with its external policy because of the responsibility of surplus nation. First, there are such measures as following: gradual removal of various residual quantitative restrictions for imports, a substantial expansion of present quotas for imports, promotion of lowering tariffs, alleviation of non-tariff barriers, [1] active development and import of raw materials, etc. These will lead to an expanded equilibrium of the balance of trade through an increase in imports and, at

1) For example, lowering of import deposit rate, elasticizing of the method of standard import settlement, removal of domestic tax for import control (as the commodity tax for automobiles according to exhaust volume), etc.

the same time, to a fall in prices through lowered import prices. It requires a change in Japan's policy view from the old export-for-export principle to the new one making much of imports, that is, from the old principle which gives priority to international equilibrium to the new one which attaches importance to domestic equilibrium.

Another direction of policy is the raising of the exchange rate.[1] It will, in the external phase, lead the balance of trade surplus to equilibrium through an increase in imports and a decline in exports, and, in the internal phase, contribute to a stabilization in prices by lowering import prices. A raising of the exchange rate is just a rare cure-all countermeasure that attains three policy objectives —the high growth, the balance of trade equilibrium, and stabilization in prices— at one time. This is one of the reasons why the upvaluation of the Japanese yen has suddenly been noticed at home and abroard in recent times. It must be noticed that a raising of the exchange rate is one of the basic price policies in the economy in which an excess accumulation of foreign currency brings about inflation. Therefore, the effect of the raising of the exchange rate on a fall in domestic prices must not be passed if it arises from responsibility of the surplus nation.[2]

But upvaluation of the Japanese yen would have too many problems and give too much shock in the following points: "Can price rising be controlled only by solving an excess accumulation of foreign currency?", "Is the present reserve of foreign currency (3 billion and 868 million dollars at the end of this March) enough for an expanded economic basis?",[3] "How good is the

1) There are Mr. Harrod's and Mr. Meade's studies about policy standards for a rational international economic order when world countries (two countries model in their example) are both in domestic and international disequilibrium. Both studies have four cases, and in the case of a domestic inflation and a capital balance surplus (Harrod's) or an economic boom and an external surplus (Meade's), the policy to be taken is a raising of factor rewards and the exchange rate. R. F. Harrod, *International Economics*, 1949, Chap. 7. J. E. Meade, *The Balance of Payments*, 1951, Part 4 (or p. 117).

2) West Germany, suffering from an excess accumulation of foreign currency and inflation, raised the mark by 9.29% on October 27, 1969, but raised the bank rate from 6% to 7.5%, the highest level in the postwar period, on March 9, 1970. This shows that the raising of the exchange rate is never a cure-all. In this case, the raising of the mark seems not to have had an expected effect and ended in failure.

3) Recently the Government said 5 billion dollars would be right. The reason is that it is sound to hold payments equal to one-third of the imports in a year (14.8 billion dollars in the 1970 calendar year by estimation of the Government). But this has no theoretical ground. In this connection, the percentage ratio of the foreign currency reserves to yearly imports at the end of January was Italy 35%, France and Belgium 30%, West Germany 28%, but Japan only 24.2%.

ability of Japan's export industries without the government's special treatments?" It would be considered better to solve this by import promotions with only a price of gradual and partial adjustment rather than by upvaluation with a one-stroke and overall blow.

There are many merits in import promotions. First, to lighten and abolish import controls is along the international tendency of trade liberalization and is also desirable from the viewpoint of international co-operation. Second, the important task hereafter is to increase the social overhead capital which has been left disproportionately poor as compared with the national economic power because of the traditional policy of giving priority to international equilibrium. An increase in social investment for this would decrease exports, increase imports, and lead to external equilibrium. At the same time, it would strengthen Japan's economic constitution and make people's lives richer. Third, though the real cause of price rising is not clear, much would be solved by an increase in imports of consumer goods which have been controlled by residual quantitative restriction for imports. Moreover, Japan's price policy has so far been to control aggregate demand, but it would be suitable only when there is no room for expansion of supply capacity. Today the price rise of those goods of which the supply capacity is insufficient is substantial, [1] so the price policy must be to increase the supply potential by an increase in equipment investment. Up to the present, the standard for judging whether the equipment investment was overheating or not was the balance of payments deficits, but, at this stage of coexistence of the high growth with the balance of payments surplus, it must be the relationship between supply and demand of the goods concerned. To control the aggregate demand to check price rising would have an opposite effect (a rise in prices caused by stagnant supply and unimproved productivity) in the long term. This, in the Japanese economic development, will be clarified by the remarkable increase in equipment investment mentioned in the last section. This will be, in the next section, further illustrated in a British economic stagnation caused by controlling its aggregate demand. An expansion of supply capacity as a policy against a price rise and an increase in equipment investment due to that will increase

1) Prices of all goods and services are not rising equally. Prices of consumer goods and services whose supply capacity has increased little show a substantial rise, but wholesale prices whose major components are prices of producer and capital goods (their supply capacity increased much) show only a little rise, and durable consumer goods like television sets and cars show little increase in prices also.

imports and decrease exports.

Thus, mitigation or abolition of import restrictions by the trade policy based on a new idea, would be by far better for the stabilization of the Japanese economy and the leveling-up of her people's life, and be a more effective and realistic policy for raising her ecoinomic efficiency. To cope with a rise in consumer's prices and an increase in foreign currency, now is the time to establish a trade policy with a new idea free from the traditional one. [1]

The above-mentioned is related only with the point at issue in this article. There are many other problems to examine; for example, problems of improvement in the quality of growth (handicapped social welfare, deficiency of social overhead capital, policies for environmental disruption, etc.) and problems of the balance of payments except the trade balance (expanding deficits in services, relatively low level of gold and foreign exchange reserves compared with the economic scale, etc.). Here they are only mentioned, not discussed in detail.

V *Conclusion*

As above mentioned, economic growth, on the one hand, increases imports of raw materials, fuel, capital goods, and consumer goods, decreases exports by using export goods in the domestic market, and makes the balance of payments deficits. At the same time, it increases exports by raising productivity of the domestic industries or strengthening their international competitive power, decreases imports by expanding their domestic supply capacity, and improves the balance of payments. Moreover, economic growth makes an advancement to a higher stage of industrialization in its process,

1) The above is mentioned from the standpoint of an alternative of an abolition of import restrictions or a raising of the exchange rate. But there can be a combination of the two, of course. Strictly speaking, it would call for calculating the contribution of import restrictions and comperative moderation in the exchange rate to the balance of payments surplus and for considering the weight of the two policies according to the result of the calculation. As a method to mitigate the shock from the raising of the exchange rate to import industies and to avoid an evil from speculation, there is a raising of the exchange rate not by the whole ratio needed at once, but bit by bit, which Mr. Miyata calls "crawling peg" (cf. his thesis in this review). He says upvaluation of the yen must be done bit by bit regularly through a year within the ratio of the cost per annum of financing the yen which foreigners have to pay. As a matter of fact, it will be the most effective and feasible policy to make mitigation or abolition of import restrictions the first and complement it by raising the exchange rate bit by bit.

changes the import and export structure through that process, and has an effect on the volume of imports and exports. So, to make above points clearer, it will be wise to compare Japan and Britain. Britain has many similar points to Japan's economic and trade structure, but forms a striking contrast in relation to economic growth and the trade balance.

Economic policy which gives priority to international equilibrium in Showa 30's Japan is the same in essence as the "stop-go" policy through postwar Britain. In both countries, economic activity has followed "stop" or "go" from the balance of payments. But an important different point is as follows: being interrupted by the balance of payments deficits, the Japanese economy has made a considerably high growth through the whole period, but the British economy could not get out of the low growth. The following facts form a sharp contrast: the high growth of the Japanese economy has been supported by the high rate of investment and raised the "ceiling of the balance of payments" through the advancement to a higher stage of industrialization and a growth in productivity, while Britain's economic growth has been supported rather by consumption and never raised the "ceiling of the balance of payments." As already mentioned, in the case of Japan, an increase in equipment investment in the high growth process led, *in a short term*, to a remarkable increase in imports and worked upon the trade balance unfavorably, but, *in a long term*, raised the domestic supply potential of import substitutes and exports and strengthened the international competitive power to work favorably upon the trade balance through the expansion of productive capacity and technical advancement. But, in the case of Britain, due to the low rate of investment, an increase in exports cut down the supply of capital goods available for domestic use and, as a result of the principle which gave priority to export and foreign investment, modernization of domestic machinery and equipment was delayed, and, thus, the basis of the long-term development was spoiled.

As the main causes of the low economic growth in Britain, once this writer pointed out the following: the low rate of increase in the labor force, finishing of the labor movement from agriculture to industry, the low rate of equipment investment, the wrong investment policy directed at consumption and armaments, too heavy a burden of armaments for prestige, national character, etc.[1] When Mr. Alan Day, professor of London Uni-

1) By the same writer, "Problems of the Low Rate of Growth in the British Economy", in *Journal of Economics* of Kwansei Gakuin University, October, 1962.

ersity, lectured on the theme "The Future of the British Economy" in Fukuoka, Japan, on October 6, 1969, he also indicated the same points as the author's.[1] The opposite of these restrictive factors to Britain's economic growth pointed out by the two are the very factors accounting for the high growth of the Japanese economy.

1) In the "Nippon Keizai", October 7, 1969.
Namely, he pointed out the following as restrictive factors to Britain's economic growth: (1) research and investment for the sake of national prestige rather than for practical uses, say, those for atomic power and aircraft, (2) little increase in the labor force and labor input in industry, and (3) the low rate of fixed capital formation. Moreover, he added the next two points—— the attitude of capital and labor symbolized in frequent strikes, and a national character which gave priority to a comfotable life now rather than higher income later.
Concerning the point at issue of this article, he also emphasized that there was no necessary relationship between the rate of growth and the balance of payments.