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CENTER DISCUSSION PAPER NO. 672

THE RECONSTRUCTION AND STABILIZATION OF THE POSTWAR JAPANESE ECONOMY: POSSIBLE LESSONS FOR EASTERN EUROPE?

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Note: Center Discussion Papers are preliminary materials circulated to stimulate discussions and critical comments. Mr. Kasuya was a Visiting Fellow at the Economic Growth Center from March 1991 through August 1992 and is an Economist at the Institute for Monetary and Economic Studies at the Bank of Japan. This is a revised version of the paper presented at the Hamburg Conference on Post-War Reconstruction, September 5-7, 1991.

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ABSTRACT

This paper traces the process of reconstruction and monetary stabilization in postwar Japan (1945-51) and considers how the Japanese experience could be a beacon for the current money-overhang problems in Eastern Europe and the Soviet Union. The Japanese postwar experience presents many questions, such as: Should monetary stabilization take the form of a gradual approach or the "once and for all" single stroke approach? Is the free market principle preferable to goods mobilization policies into specific sectors through industrial policy and financial control?

The history seems to indicate only a limited success of goods mobilization policy. The austere Dodge stabilization policy was necessary to stabilize the economy but it triggered a severe recession, which was cut short by the coincidental outbreak of the Korean War. The existence of a supernational authority by the U.S. occupation and the establishment of fixed exchange rates (1949) was instrumental for Japan's successful stabilization process.

KEY WORDS: Japanese Postwar Economy, Economic Stabilization, Post-Socialist Economy

I. Introduction

In August, 1945, when Japan surrendered to the Allied Forces, the country was in a state of complete destruction. The situation reminded us of lines from a famous poem by Tu Fu in the Tang dynasty, "The country laid to ruins, mountains and rivers remain---."[1/] Japan was deprived of colonial territories, her productive capacities were dwarfed to about two thirds of the prewar peak, and her GNP was about 60 percent of the average of 1934-36. General Douglas MacArthur, the Supreme Commander of Allied Forces (SCAP), commented that the I.Q. of the Japanese was like that of a twelve year-old. The path to economic recovery was plagued with many difficulties---near starvation, severe inflation and the balance of payments crisis were just a few of the problems challenging the government. It was a path of continuing struggles for policy makers as well as for the Japanese public. We doubt if anybody, Japanese or not, imagined at the time of the defeat that Japan would recover in the next several years and start to grow remarkably during the 1960s.

In this paper we will trace the process of recovery and reconstruction in postwar Japan. Since there have already been many studies[2/] on the real aspect of postwar Japanese development, we will emphasize the process of monetary stabilization that contained the severe inflationary pressure which existed in the early stage of reconstruction. Then we will consider how the Japanese experience could be a beacon for Eastern Europe and the Soviet Union half a century ahead.

As will be pointed out later in this paper, the Japanese postwar experience presents many intriguing questions, among which are the following: Should monetary stabilization take the form of a gradual, stop-gap approach or the "once and for all" single stroke approach? Is the combination of macroeconomic stabilization policy and free market principle preferable to government intervention into specific sectors through industrial policy and financial control? Was the existence of supernational authority as represented by the allied occupation force helpful or even essential for the successful implementation of difficult and drastic measures?

It is difficult to answer these questions because history provides us only a single time series, and because we cannot exercise, except conceptually, counterfactual experiments. Only a particular combination of market mechanism and government intervention was actually tried in this historical development and we do not know what would have happened with a different combination of economic policies. We hope, however, that the following discussion will at least give some clues as to what can be recommended and, in particular, what can be avoided.

Before proceeding to our main discussion, we would like to point out that Japan had not experienced the intense hyperinflation after the First World War as did Germany and the Eastern European countries. Japan did not participate in active war actions in the First World War and was rather an economic free rider that enjoyed the spill over of increased, world wide effective demand. Table 7.1 illustrates the contrast between the boom after World War I and the galloping inflation after World War II. The Japanese people were overwhelmed by their first experience with severe price increases, but they did not have the traumatic memory of hyperinflation -- except that some of them knew about the hyperinflation that the Japanese army caused in Asia by the issue of military bills. Whether the absence of the memory of hyperinflation worked as a positive or negative impact on the attitude of the Japanese after World War II is not clear, but we must keep in mind that the Japanese people had a different perspective on inflation from that of Europeans.

In section I, we review briefly the factors that enabled the Japanese economy to recover from the destruction of the war rather quickly. In section II, our main descriptive section, we cover in more detail the process of monetary stabilization during the half decade, 1945 to 1950. In Section IV, we will follow the effect of monetary stabilization on economic development during the 1950s---a process that prepared Japan for remarkable growth during the 1960s. In Section V, we will address our central question: What kinds of lessons could the Japanese postwar experiences provide for the reconstruction and growth of Eastern Europe?

II. Postwar Reforms and Real Factors Behind the Reconstruction

The main theme of this paper is to illustrate how harmful inflation is for economic recovery and how monetary stability can promote that recovery. Nevertheless, economic recovery by itself is a real phenomenon, so that it cannot be brought about only by monetary stability unless real economic factors are ready. In postwar Japan, the Supreme Commander of Allied Powers (SCAP) or the General Head Quarters (GHQ) -- these terms were used interchangeably -- exercised supernational authority to realize various social, educational and economic reforms. (Even though SCAP was representing thirteen countries, including the United Kingdom and the Soviet Union, the occupation policies actually adopted were mostly planned and implemented by the United States). The first objective was to demilitarize and democratize Japan. General MacArthur (SCAP) was not requested to promote the economic recovery of Japan. The deepening of the Cold War and the emergence of the Bamboo Curtain in Asia had already begun in 1947 and changed the American occupation policy to one of promoting economic reconstruction and building an industrial power in the Pacific.

Actually SCAP utilized the Japanese political system quite cleverly to implement its reform policies. It preserved, though as a symbol without any concrete political power, the Emperor system to which people were still attached, and delegated the implementation of occupation policies to the Japanese government. This indirect governance in Japan can be compared with the direct one in Okinawa where many conflicts took place between residents and the occupying military force (Takemae, 1983). One of the reasons that the Japanese accepted these reforms rather calmly was, as Yutaka Kosai points out, that the Japanese had sympathy and support for the idealism that was "pressed forward by the missionary fervor."[3/]

Three important economic reforms implemented by the occupation were land reform, the dissolution of zaibatsu, and labor reform. Social and educational reforms by themselves were not necessarily economic, but, along with other social measures to firmly establish democracy, it was an important factor in molding the excellence in human capital that was an essential ingredient for the rapid development of the Japanese economy.

Land Reform

A modest reform was proposed initially from the Japanese side, but the actual reform enacted in October 1946 was very radical and reflected SCAP's policy. The maximum amount of land held by noncultivating residents was limited to 1 cho (= 2.45 acres or a little less than 1 hectare) and that of landed tenants was limited to 3 cho. Land in excess of the limit held by any land owners was sold to their tenant farmers at extremely cheap prices. In fact, this procedure was tantamount to confiscation in many cases.[4/] Thus, the ownership of about 81 percent of all the tenant land was transferred to the former tenants.[5/] Fragmented land ownership has not essentially been changed until the present time since then, and regarded as a substantial constraint to the development of a large scale farm. At the time of implementation, however, the positive impact of the reform was enormous. New farmers with land obtained more incentives to work, to improve the land and to modernize agricultural technology. This positive aspect led to a remarkable increase in agricultural productivity. According to Tatsuro Uchino, "among the many nations that implemented land reform programs after World War II, Japan's land reform was an unparalleled success."[6]

Dissolution of Zaibatsu

GHQ regarded zaibatsu, family-based, large industrial and financial combines, as an important source of Japan's military power and an obstacle to the development of a democratic business society. Stock-holding companies representing zaibatsu were liquidated and deprived of their stock-holdings. Two typical trading companies, Mitsui Bussan and Mitsubishi Shoji were dissolved. In 1947 the Antitrust Law was enacted and the Fair Trade Commission was established. The breakup of a large concentration of business power gave industries more flexibility and enable new enterprises to compete freely regardless of whether or not they belonged to a zaibatsu group. At the same time, GHQ expelled---it was called a "purge"---business leaders who were believed to have cooperated with the military government, that is, virtually all the established leaders. Young people were promoted to the top of many companies and "new management" conducted business activities with intensity, youthful vigor and flexibility.

After the San Francisco Peace Treaty was effected in April, 1952, the Antitrust Law was revised to relax the restrictions on monopolies. The Fair Trade Commission's power was countervailed by care-taking activities of ministries such as the Ministry of International Trade and Industry, and the Commission never had the same degree of influence as it did in the United States. In the meantime, zaibatsu firms and others were reorganized as keiretsu. The effect of the postwar dissolution of zaibatsu should not be undervalued, because it helped to create a competitive, kin-free business atmosphere. Moreover, business relations in keiretsu are much less hierarchic, more democratic and more functional than those in zaibatsu used to be.[7/] Incidentally, those young business leaders remained in control until quite recently.[8/]

Labor Reforms

Soon after the occupation, GHQ announced the intention to establish the basic rights of workers. The Trade Union Law (1945) established the right of workers to organize trade unions; the Labor Standards Law (1947) stipulated the minimum requirements for working conditions which had sometimes been inhumanly harsh particularly for women and minors; and the Labor Relations Adjustment Law (1947) established the way in which labor disputes were to be settled by negotiations, agreements and possibly by strikes. Encouraged by legislation, the number of unions increased at a tremendous speed. Compared to about five hundred unions which existed in 1945, the number of unions exceeded twenty-three thousand in 1947 and thirty-three thousand in 1948. In 1947 more than half of the workers were unionized.[9] Disputes and strikes took place quite frequently, and productive processes were disrupted seriously in many firms. Confusion was reinforced by the inexperience of both labor and management.

As mentioned earlier, due to the deepening of the Cold War, the American occupation policy was changing in 1947. A General Strike was planned for February 1st in that year. To the surprise and disappointment of Japanese labor leaders, GHQ ordered the strike to stop. The occupation policy turned out to be less liberal than it appeared just after the war. Civil servants were deprived of the right to strike and the "Red Purge" ousted communist-oriented union leaders.

The reversal of the occupation policy might have appeared to be inconsistent to liberal intellectuals in Japan, but it seemed that the American idea was to foster trade unions as long as their activities did not interfere with the democratic market economy. Also, Americans probably had in mind the development of an American-style craft or industry-wide trade unions. At first union workers were quite militant, and Japanese industrial relations traced a thorny path. However, with skillful tactics, and by giving carrots to some employees and sticks to others, the management in private sectors succeeded in taming trade unions after many serious strikes.[10] Eventually, Japanese unions also turned out to be enterprise-based unions. This process was certainly helped by the reversal of the GHQ's attitude toward Japanese labor movements and by the recession after the Dodge Line (this will be described in the next section). Compared to the private sector where profits affect the future well-being of workers, industrial disputes in the public sector remained serious for more than two decades.[11]

Social and Educational Reforms

The new constitution was drafted by the GHQ and "imposed" upon the Japanese in 1947. Under the new constitution, which was based upon an idealized type of pacifism and democracy, Japan renounced war and vowed to maintain the basic human rights of her people. Educational reforms introduced a core curriculum, and a single educational track: six years of elementary school, three years in junior high, three years in senior high, and four years in college. This system replaced the multi-track system that screened students into elites, technicians, and non-elites at a very young age. After the occupation forces left, there were reactions towards more traditional education, and also the left-wing teachers' union ironically transformed the education, which was based originally on American pragmatism, into a style of extremely un-individualistic uniformity.

On the whole, however, educational reforms succeeded in producing homogeneous workers that possessed high verbal and quantitative skills as well as a positive attitude for cooperation and discipline in the work place. It also instilled a competitive merit-system that turned Japan into a highly mobile society with respect to social status. Moreover, pacifism enabled the Japanese economy to dispense with large military expenditures. The decision of Japan, after the Peace Treaty, to be under the umbrella of U.S. nuclear power was important in keeping Japan's pacifist posture. Of course, the element of luck in the course of events in the Pacific should not be overlooked. Nevertheless, we should remind ourselves that the economic success of Japan in the past four and a half decades was partly a dividend of her pacifism.[12/]

In addition to the reforms that were conducted under the supernational political authority of the occupation, we must pay attention to the legacy of wartime goods-mobilization and price-control policies that affected substantially the economic policies of the immediate postwar period. According to Takafusa Nakamura, the spread of life-time employment and the seniority wage system was facilitated by the wage and price freeze during the war.[13/] The Material Mobilization Plan, dated in 1937, seemed to have triggered the idea of the Priority Production System, which meant in Japanese, literally, the "sloping or inclining production plan." Since coal was essential for the production of producers' goods, coal production should be increased. Import of petroleum, another energy source, was severely limited. But the shortage of rolled steel limited coal production; on the other hand, the shortage of coal hurt steel production. The priority production system channels products and scarce resources reciprocally among the more important sectors first. For example, surplus steel is channeled toward coal production and the resulting production of coal toward steel production. Only when the targets for the most important products were fulfilled, would the surplus be put into the next priority sectors. It is interesting to note that the priority production system was based on an idea similar to Leontief's input-output analysis.[14/] This autonomous Japanese reconstruction plan barely worked. The difficult situation could only be alleviated by using as input to these sectors, the crude oil that the occupation authorities allowed the Japanese to import.[15/]

In order to finance the loops of production, the Reconstruction Finance Bank was established in January, 1947. It channelled to such priority industries as coal, electric power, fertilizer, iron, and machinery, the funds it raised from issuing bonds. Since more than two-thirds of the bonds were accepted by the Bank of Japan, investments in these sectors were in fact financed by printing money. At this stage of recovery, financial decisions through the Bank were capable of affecting real investments at the firm level. Savings were directed to investment projects. In March, 1949, the Reconstruction Finance Bank owned about one third of the total nationwide loans to industries.[16/] John Zysman [17/] claims that the industrial policy of Japan has been implemented through the allocation of financial resources. His view was certainly right at this time when the Reconstruction Finance Bank was at work. At present, the legacy of this system remains, though weakly, as the Fiscal Investment Loan Program (FILP) that channels the funds from postal savings to public and public related sectors. However, private market force has become so dominant that FILP cannot be regarded as the primary instrument to implement industry policies.

The immediate effect of the Priority Production System was inflationary, but production began to increase in early 1948 accompanied by a reduced rate of inflation.[18/] There is some controversy as to whether or not the strong, single-stroke deflationary policy was in fact needed for reconstruction. Some authors point out that the priority production system alone would have increased production and curbed inflation. For example, Uchino says, "While the Dodge Line had certainly brought inflation to an end, it had achieved this at the cost of almost undermining the policy of priority production, which had enabled the country to take the first step toward economic recovery."[19/] In order to explore this controversy further, we have to review more closely the way in which monetary policies were implemented during the reconstruction period.

III. The Process of Monetary Stabilization

At the end of the war, there was a wide gap between the limited availability of goods and the massive level of accumulated nominal wealth. Prices were controlled by the government at lower levels so that purchasing power based on accumulated nominal wealth created intense excess demand in almost all sectors.

The reduction of production capacity due to World War II was devastating. According to a report of the Economic Stabilization Board, the war destroyed about one-quarter of the nation's wealth. On the other hand, the extent of the accumulation of individuals' financial assets, which at the same time were government liabilities, was enormous. In 1945, government debts exceed 200 percent of GNP (Table 2). It was estimated that national bonds, wartime indemnity obligations, other government liabilities, cash, bank notes, and other monetary assets in the hand of the public amounted to about 500 billion yen. Within this amount, approximately 200 billion yen were liquid liabilities such as national debt, public bonds, corporate bonds, and stocks (Kosai, 1986, p.39). These excess monetary assets in the face of confronting limited real wealth and dwarfed productive capacity naturally threatened the Japanese economy with inflation (Table 3). Thus the postwar Japanese economy faced a typical case of monetary overhang and inflation (Table 4). Table 5 vividly illustrates the process in which the Marshallian k, ratio of GNP, of the high-powered money was reduced by stabilization policy. Similarly, those of M1 and M2 decreased. In other words, the velocity of money increased. In order to keep the subsistence level of families, households were compelled to sell their kimono, utensils, furniture, and valuables in exchange for food. Actually Japan's personal saving rates showed minus signs during this period (Table 6,7). Their lives were given the label of "bamboo shoot life" because in oriental cooking the bamboo shoot is stripped of their multilayered skins so many times (Uchino, 1978, p.28). At one time even the use of dollar military scrip was proposed by the GHQ. This was not realized because of the strong resistance from the Japanese government and the Bank of Japan[20].

Inflation began just after the war. Figure 1 illustrates the movement of official prices with other indicators. The government continued, even after the war, ongoing price control, production subsidies and rationing to some key sectors. Because of the severe shortage of food and basic necessities after the war, black- market prices became extremely high as compared with official prices. At the end of 1945, the average black-market price of consumer goods was about 30 times higher than the official price (Table 8). Uchino illustrates interesting numbers from the National Policy Agency Report: (Uchino, 1978, p.26, Figure 1). At the end of October 1945, that is two and a half month after the defeat, sugar and soap were traded in the black market with the price more than 200 <u>times</u>---not <u>percent</u>--- as high as in the official market; rice about 140 times as high; and cotton stockings, eggs and turnips about 80 times as high. In order to lesson the gap, official prices needed to be increased gradually, and the gap did not disappear until the early 1950s.

In order to understand the mechanism of inflation, we have to examine the complex structure of subsidies that in fact funneled the money supply further into the system.

First, price-differential subsidies were set up in such a way that the difference between the producers' cost and the officially fixed (consumers') price would be disbursed from the general account of the government budget. These price-differential subsidies were a part of the priority production system, and the alleged purposes were to stimulate production without inflating prices. The amounts disbursed came to 12.1 billion yen in 1946 (11% of the general account), 45 billion yen in 1947 (21%), and 114.1 billion yen in 1948 (24%) (Kosai, 1986, p.47). These complex subsidies also became factors in the acceleration of inflation. Even if price-differential subsidies might have been useful in bringing down certain individual consumer prices, their macroeconomic consequence was expansion of fiscal expenditures. Because they were mainly financed by the Bank of Japan, they implied the expansion of money supply.

Secondly, subsidies were hidden in the operation of the government to buy export goods from, and to sell import goods to, the public. The yen prices of exports were determined officially, and exports were purchased by the national government budget (Trade Financial Special Account). When these goods were sold abroad at international prices, proceeds were received by the Foreign Currency Accounts that were managed by GHQ. On the other hand, imports were bought by the government at international prices and paid for from the Foreign Currency Accounts. The imports were sold in Japan at the official prices that were determined to be very low, and proceeds were received by the Trade Financial Special Account. Accordingly, the ratio of the yen price and the foreign currency price of each traded commodity could only be calculated ex post. Thus, Japan neither had a single unified exchange rate nor systematic multiple exchange rates.

During this period Japan's trade balance in terms of U.S. dollars showed deficits (Table 9). However, the Trade Financial Special Account showed yen deficits. Through the Trade Financial Special Account the government sold imports for domestic official prices that were much lower than international prices, and purchased exports for official prices that were higher than international prices. These large yen deficits were financed by borrowing from the Bank of Japan. This borrowing was equivalent to increasing the high-powered money. The accumulative deficits of the Trade Fund Special Account amounted to 26 billion yen at the end of March, 1949 and 25 billion of that amount was financed by borrowing from the Bank of Japan (the Bank of Japan, 1985). In normal situations under the fixed exchange rate, yen deficits in such an account would have corresponded to surpluses in the dollar trade account because the account paid more for the exports than it received from selling the imports. During the occupation period, these yen deficits coexisted with the deficits in the dollar trade account. Here again the complex subsidy system created excess money supply that stimulated the inflated purchasing power. On the external side, the Foreign Currency Accounts showed a deficit and were financed by the Government Account for Relief in Occupied Areas (GARIOA). GARIOA in fact functioned as the channel of income transfers from abroad that mitigated the current account deficit of Japan.

In any case, the government was compelled to cope with inflation---both explicit and implicit in the form of black market prices. On February 17, 1946, the Emergency Monetary Measures Ordinance and the Bank of Japan Note Deposit Ordinance were announced by GHQ for the purpose of implementing monetary reforms as well as assessing the value of assets for new property taxes. They froze all the deposits in financial institutions and required people to exchange the old yen currency for the new yen. The purpose of the freeze on bank deposits was naturally to contain inflation by reducing the money supply that had stimulated the excess purchasing power for goods. It was stipulated that all old yen notes would cease to be legal tender on March 2, 1946, and that they should be deposited in the frozen accounts by March 7th. During the intervening period no more than 300 yen for a household head and 100 yen for each additional family member could be withdrawn in new yen notes. Also, withdrawals by families without monthly incomes were limited to the same level. Wage and salary earners could be paid up to 500 yen monthly in new yen, but the remainder was to be paid into the frozen accounts. Under such galloping inflation as existed in 1946, the freeze in deposits was tantamount to confiscation.[21]

Although these measures sounded, and actually were, really drastic, their effects turned out to be only temporary. In fact, the balance of new bank notes increased 68% during 1946 (In the total money supply, see Table 4). There are several possible explanations for this phenomenon (the Bank of Japan, 1985).

First, financing of government deficits by the Bank of Japan credit continued until 1949 when the Dodge Line policy was implemented.

Secondly, there were several loopholes in these measures. For example, while the payment of taxes using the blocked deposit was possible, government expenditures to private sectors were made by issuing new notes or unblocked deposits. Also companies were allowed to withdraw new yen by checks to pay for operating expenditures.

Certainly, some credit should be given to the Emergency Financial Measures for moderating money supply and inflation. As a whole, however, the experiment seems to have demonstrated that attempts to contain inflation, without coherent measures for restraining the government budget and for linking the current account deficit to the reduction of money supply, would not achieve stabilization to the full extent.

In the meantime, there were economists and politicians who believed, often under the influence of J. M. Keynes, that stimulating production was a more urgent issue than curbing inflation. In a budget speech of July 1946, citing explicitly The General Theory, Fiscal Minister Ishibashi made an earnest appeal to the people for support for his conviction (Kosai, 1986), "In order to achieve the goal of resuming production there is no harm if government deficits occur. Since both capital stock and labor force were clearly underemployed, the problem was simply that bottleneck factors such as the lack of raw materials from overseas stood in the way." (Kosai, 1986, p.43). Thus Ishibashi spoke of the need to increase coal production, and of the priority production system that was partly responsible for solving the problem. The means of providing financial support for the system were the transfer of savings through the Reconstruction Finance Bank and the use of price-differential subsidies.

Both of them were mainly financed by the Bank of Japan through the printing of money that was itself a cause of inflation. Actually the period of priority production overlapped the period when inflation that had been checked once by Emergency Financial Measures became resurgent.

For mobilizing unused resources some expansionary macro policy might have been useful. To start and sustain growth, however, people should be motivated to work harder and to save more. The stabilization of prices makes people engage in productive activities rather than in speculative ones that take advantage of inflation, and makes it easier to plan for the future. Thus in order to prepare the path for the remarkable growth in the 1960s, the Japanese economy needed to pass through a painful period of recession where not only excess demand but also inflationary expectations were calmed down.

In May 1948, Ralph Young of the Federal Reserve System visited Japan and made the following recommendations regarding the exchange rate system (the Bank of Japan, 1985, and Fukao et. al., 1991):

1) Establish a unified exchange rate. The lack of a unified exchange rate was a serious cause of inflation in Japan. A unified exchange rate would promote export that is a prerequisite for the economic independence of Japan.

2) Adopt a strong anti-inflationary policy, and subsequently, a cut in fiscal expenditures. These measures combined with an increase in tax revenues through a tax reform would help to maintain a single exchange rate.

3) Discontinue the borrowing by the Trade Financial Special Account from the Bank of Japan. This practice was an inflationary factor.

4) Set the exchange rate of the yen at a level that can maintain the current amount of exports and possibly promote more exports in the future. This would urge industries with high costs to become more efficient and protect them from a possible surge of inflation. He also recommended a single yen-dollar exchange rate of 300 yen per dollar plus or minus 10 yen.

In 1946, the Fiscal Department of the U.S. military government in occupied Germany was headed by Joseph Dodge, a Bank President from Detroit. A report prepared by Gerhard Colm, Joseph Dodge and Raymond Goldsmith drew the blue print for the 1948 currency reform in the Western-occupied areas of Germany that had achieved unanticipated success in paving the way for unprecedented German economic growth. At the end of 1948, the U.S. government, which was trying to hasten the economic recovery of Japan under the tightening East-West military tension in Asia, reappointed Dodge to advise on the Japanese Economy. He compared the performance of the Japanese economy to a person walking on bamboo stilts, one of which is U.S. aid and the other one hidden subsidies like the Reconstruction Finance Bank. He suggested that the stilts had to be removed because they were dangerously too high (Uchino, 1978, p.49).

On December 18, 1948, GHQ issued a nine-point directive on economic stabilization. The first four points contained anti-inflationary provisions which became the nucleus of the Dodge Plan, and were as follows: 1) to balance the general budget; 2) to tighten up on tax collection; 3) to restrict credit; and 4) to stabilize wages. The next five points contained considerations for further control and were follows: 5) to strengthen and expand the price controls; 6) to improve and reinforce the trade and foreign exchange controls; 7) to upgrade the materials rationing system; 8) to increase domestic production of raw materials and manufactured goods; and 9) to improve food cargo collection.

The implementation of the stabilization plan was enforced by Dodge, who was sent by President Truman to Japan with the rank of Minister. Dodge did not follow up control policies, as stated in the latter half of the program's nine points, but advocated the adoption of a single exchange rate, and stressed the sound principle of public finance as well as the merit of price mechanism.

In 1949 Dodge advised the Japanese government to achieve a genuine balance in the general budget --- this advisory was commonly known as the Dodge Line. The 1947 Public Finance Law had prohibited the issue of national bonds, and a formal balance was achieved even then in the general account. However, hidden public bonds issue through special accounts such as the Trade Special Account and the Reconstruction Finance Bank had reached an enormous level. Those issues had been directly linked with the creation of excess money supply. Under the Dodge Line, postal rates as well as fares on the National Railways were greatly increased. The new lending by the Reconstruction Finance Bank to firms was suspended. The proceeds from the sale of American aid commodities were set aside as a Counterpart Fund Special Account. A fixed exchange rate for the yen, 360 yen per U.S. dollar, was established on April 23, 1949, and was to continue until 1971, exactly one hundred years after the creation of the yen.

In order to reduce American assistance, Dodge recommended that the government budget be balanced by tightening tax collections and cutting down expenditures. To motivate the self-reliance of business firms, he recommended that price-differential subsidies be discontinued and that households pay much more tax. He encouraged saving at the same time. As a result of the Dodge Line, the volume of Bank of Japan notes declined, black market prices fell down steeply, the abolition of commodity and price controls progressed, and increases in productivity were remarkable. The household saving rate showed a remarkable upsurge (Table 6,7).

The process to recover full working of price mechanism was a gradual one, even though establishment of a fixed exchange rate and recovery of surplus budget were realized rather quickly. Price controls still continued for some time. In the meantime, black market prices as well as free market prices calmed down by the surplus budget policies, and official prices were increased. Gradually it was possible for the government to lift price control on most of goods. Price rises shown in the statistics of 1949 reflect the increases in official prices and not price increases due to abolition of price control.

In any case, this cold-turkey policy had a substantial cooling impact on economic activities. Mining and manufacturing production faltered after having increased until the middle of 1949. Under the fixed exchange rate, exports expanded greatly during the first half of 1949 and had virtually doubled by the end of that year (Table 9), but the future of exports was threatened by the devaluation of the Pound Sterling in October.

Inventories piled up due to the financial stringency and the sluggishness of demand.

Coincidentally, on June 25, 1950, the North Korean army invaded South Korea, and the United States came to the assistance of South Korea, with its Navy, Air Force and Army. The Korean War produced a sudden change in Japan's economic situation. As orders were concentrated in special procurement and munitions, exports grew rapidly along with the world wide demand accompanying military expansion (Table 10). Markets boomed, inventory backlogs were wiped out, and mining and manufacturing production also started to increase at a fast tempo which eventually reached an increase of about 40% during the following one year. The balance of payments improved, sources of funds became plentiful, and profits rose as well (the Bank of Japan, 1985, and Kosai, 1986).

In any event, a drastic stabilization policy was needed to bring the postwar economy to a stable growth path with price stability, business confidence, and capital accumulation. It seems that the timing of the Dodge Line was most fortunate, because labor pains due to the stabilization policy were cut short by the increased demand stimulated by the war procurement. Had the Dodge Line been implemented one or two years earlier, the Japanese economy might have been on the brink of total collapse. On the other hand, had it been postponed for one or two years, the Korean War might have led to a very inflationary situation in the absence of an extremely cautious macroeconomic policy.[22/]

IV. Transition to the Era of High-Speed Growth: A Brief Sketch of the 1950s

The drastic stabilization policy of the Dodge Line that followed the Korean War procurement boom let the Japanese economy complete its reconstruction stage. It was headed for the preparation stage of the golden era of high-speed growth in the 1960s. The GNP exceeded the prewar level (Table 5). The 1956 Economic White Paper of the Economic Stabilization Board stated, "We are no longer in the postwar reconstruction period." We consider that the most relevant part of the economic history of Japan to Eastern Europe was from the late 1940s through 1951 when the San Francisco Peace Treaty between Japan and Western countries was signed. Thus we will sketch briefly the development of the Japanese economy during the 1950s.

The direct effect of the war procurement demand peaked in 1951, but its indirect effect supported a consumption boom in 1952 and an investment boom in 1953 when the Korean War ended. After these years, macroeconomic management traced a path of "stop and go" policy in order to maintain the fixed exchange parity. Excessive expansion of the domestic economy generated a balance of payments deficit, which necessitated the anti-inflationary monetary policy. Thus the Japanese economy experienced the succession of booms and recessionary balance-of-payments adjustment periods. In 1955 Japan enjoyed a growth rate above 10 percent with price stability and balance-of-payments surplus (Table 9)---this was called "boom in volume" (instead of price). The prosperity was interrupted in 1956 by a balance of payments deficit, but soon after, the next prosperity started. The Economic White Paper named the successive booms by referring to Japan's mythology in reverse order---the Jimmu Boom (1956-7, the best since Emperor Jimmu who was assumed to be the first emperor in Japan), and the Iwato Boom (1959-61, the best since Iwato, the stone cave behind which the Sun Goddess hid herself out of rage).[23]

Through the alteration of prosperities and balance of payments adjustment, the prerequisites for the remarkably high growth era of the 1960s were gradually established (Kosai, 1986).

The Japanese labor force incorporated a high quality of human capital with the potential capacity to be cooperative in a well-disciplined atmosphere. During the 1950s there was a abundant supply of labor from rural areas in the Lewis-Fei-Ranis fashion. Trade unions were organized on the enterprise basis, and industrial relations improved. In 1955 a new system of wage bargaining "Shunto" (Spring Offensives) started. In this new system, management and trade unions bargained once a year, in the spring, throughout the country. In the negotiation of shunto, relevant economic data such as productivity increases, and producer as well as consumer price indices were taken into consideration for calculating the rates of wage increases. One may interpret this as the Japanese form of incomes policy. In this period, most of the private enterprise unions more or less cooperated with management, and serious labor confrontations in large companies in the private sector ended with the Miike coal mine strike in 1960. Trade unions in public or semi-public sectors such as the Japan Teachers' Union, and the National Railway Union remained quite militant for many years.

The savings rate and the investment rate remained low during the 1940s (Table 6). They increased, however, in the 1950s. Both the household savings rate and the rate of private plant and equipment investment exceeded 10 percent, even though their levels would exceed more than 20 percent during the next high-growth decade.

Abundant supply of well-educated labor, and plentiful savings for capital accumulation were basic ingredients for the high rate of growth. Technological improvement in both agriculture and manufacturing industry was also proceeding, resources were transferred from less productive to more productive sectors, and the pace of progress quickened through import of foreign technology (Goto, 1991). Abundant factors of production were combined under new technology. Thus the resulting high productivity in the manufacturing sector enabled Japan to export goods in such a way that the balance of payments created no difficulty in maintaining the fixed exchange rate of 360 yen per dollar, and that no substantial import of capital was needed to finance ever increasing investment demand.

In the domestic political scene, the largest conservative party after the war, the Liberal Democratic Party (LDP) was created in 1955 by a merger of the Japan Liberal Party and the

Japan Democratic Party. LDP kept the majority vote in most of the elections and has continued to be in power. This political stability contributed to the consistency of economic policies and the public's confidence in the market economy.

On the international scene, the Peace Treaty with the allied forces (excluding China and the Soviet Union), was signed in San Francisco in September 1951, and went into effect in April 1952. Japan was admitted to the International Monetary Fund (IMF) in 1952 and to the General Agreement of Tariffs and Trade (GATT) in 1955.

In 1960, the question of whether or not to renew the U.S.-Japan Security Treaty that had been initially signed with the Peace Treaty, sharply divided the Japanese into two groups, those who advocated the continuation of military alliance and those who did not. The city of Tokyo echoed with demonstrations by students and workers. Prime Minister Kishi who was a "hard-liner" against the protest had to cancel the visit of President Eisenhower and, subsequently, he resigned. Labor relations were also heated by the Miike coal mine strike. Prime Minister Ikeda, who succeeded Kishi, took a more flexible political attitude and tried to direct people's attention to economic growth. The famous "Income Doubling Plan" by Ikeda,---that was nothing more than an indicative plan without any enforceability in a market economy like Japan---opened the way to the era of high-speed growth during the 1960s (Kosai, 1986).

V. <u>Concluding Remarks</u>

What can we learn from the postwar Japanese experience in order to help the economic resurgence of Eastern Europe and the Soviet Union? As we mentioned at the outset, it is hard to derive definitive policy prescriptions from a single historical observation. We hope, however, that the following discussions on certain aspects of the recovery process will be at least suggestive. We will consider <u>macroeconomic</u>, <u>microeconomic</u>, <u>international</u>, and <u>political-economy</u> aspects.

The most controversial question of the Japanese reconstruction process seems to be how to evaluate the relative <u>macroeconomic</u> significance of the Ishibashi Keynesian policy and the Dodge Line one-stroke stabilization policy.

In any case, in order to wipe out monetary overhang, excess money supply should be eliminated either by increased production, an increase in price levels, a decrease in money supply, or more indirectly by changes in the velocity of circulation of money. (Dornbusch, 1990) The Ishibashi expansionary policy stressed the increase in production through priority production, but they were linked to a substantial increase in money supply because his version of Keynesianism was to finance the government budget deficits and the lending of the Reconstruction Finance Bank by borrowing from the Bank of Japan, i.e., by increasing the high-powered money. Before his expansionary policy, the Emergency Finance Measures had tried to freeze the money supply, and to slow down the velocity of circulation, but there could only be temporary relief because the money supply was not under control and people did not expect the recovery of price stability in the near future. Moreover, the expansionary Ishibashi policy undermined still further the credibility of future price stability.

The Dodge Line policy was successful because it was combined with the surplus budget policy that was consistent with stable money supply. Also, the commitment to the fixed exchange rate of 360 yen per dollar prevented the monetary authorities from expanding money supply excessively. After the Dodge Line policies, prices became stable and household savings showed a remarkable surge. The recession after this cold-turkey policy was severe, but most fortunately short, because of the procurement demand brought by the Korean War.

Still, some (like Uchino already cited in Section III) may argue that the Dodge Line was too drastic and gave the Japanese an excessive burden of succeeding recession. We could agree with them to the extent that if the Dodge Line had come much earlier, it might have collapsed the whole economy. The postwar economy was too devastated to let the invisible hand of price mechanism work not only with respect to productive capacity but also with respect to social overhead capital. However, at some time a single stroke stabilization had to be implemented to prepare the Japanese economy for taking off toward the high growth path.

It is certainly relevant to the situation which we are considering to appeal to the theoretical apparatus of macroeconomic disequilibrium analysis, even though the apparatus may seem too rigid to analyze market economies of industrialized economies. For the case of monetary overhang, an excess demand in the goods market exists because the price level is too low. At the same time, an excess supply in the labor market exists presumably because the real wage is too high. Thus, monetary overhang can be identified as a typical case of classical unemployment in which "individuals would not find jobs, others could not buy all the goods they want," (Malinvaud, 1977, p.65).

In the case of Keynesian unemployment, the goods market as well as the labor market is under an excess supply, (Barro and Grossman, 1976, and Malinvaud, 1977). Here an increase in public expenditures can be an effective remedy, while in the case of classical unemployment an increase in the price level without increasing the money balance is effective. "To cure Keynesian unemployment, one would lower prices or raise wages. To cure classical unemployment, one should do precisely the reverse," (Malinvaud, 1977, p.71). From this standpoint, Ishibashi might have mistaken the classical unemployment for the Keynesian one when he advocated the expansion of government expenditures financed by the Bank of Japan lending.[24/]

Furthermore, the expansionary policy under Minister Ishibashi does not seem to be a good recommendation for Eastern European countries or the Soviet Union, because people in these countries are not at the some subsistence level as were the Japanese immediately after the war. What is needed in those countries is a combination of macroeconomic policies that would recover incentives of economic agents to respond to price signals. One-stroke stabilization policy with uncontrolled prices seems to be what should be advised for them.

On the microeconomic level, we have to assess the effectiveness of the priority production system. The system is organized to encourage producer goods through quantity signals while keeping prices of producer goods relatively cheaper than consumer goods. (See Table 1,3 for the relative move of WPI and CPI). This system has its intrinsic difficulty because price signals do not encourage production of key products very much. The full reliance on price mechanism after the Dodge Line allowed Japan to prepare for remarkable growth. Table 3 again shows that WPI growth is relatively higher than CPI growth only after 1949. Thus, the combination of price incentives with stable macroeconomic policy is what we would recommend to Eastern Europe and the Soviet Union.

Of course, many occupational reforms such as land reform, labor reform, dissolution of zaibatsu and educational reforms also helped microeconomic incentive structures and a competitive environment. It should be stressed at the same time that the Japanese already possessed capacities to absorb favorable aspects of these reforms. Those capacities had been cultivated through the long history of the importation of foreign culture and technology from China as well as Western countries, and by the advanced level of education. In Eastern Europe and the Soviet

Union, we do not see the lack of well-educated human capital. What is missing ---even though there are exceptions like Hungary---seems to be the capability to respond to price signals just because of the absence of experience, and more basically because of continued government regulation.

In the international aspects, we have seen that the return to a fixed exchange rate and the commitment to the rate for a prolonged period were important for macroeconomic stabilization as well as for the efficient functioning of price mechanisms (Fukao et.al., 1991). Stabilizing macroeconomic policies had to be accomplished in order to keep a fixed exchange rate. The establishment of a single exchange rate recovered the price-specie-flow mechanism as a safety valve against inflation. The yen rate was fixed at a level that the Japanese could successfully maintain in spite of the hardship due to the devaluation of the Pound Sterling. This enabled the government to keep its promise of the fixed exchange rate for a long period without devaluation. Moreover, a unified exchange rate meant the elimination of complex subsidies for export as well as import goods.

One may wonder whether the Japan's emphasis on exports that is now often under criticism had the origin during the reconstruction period. Since both exports and imports were under the control of GHQ, there were hardly any options left to Japan on the trade policy during the immediate reconstruction period. The Japanese generally are nervous about the national lack of energy resources and natural resources. This sentiment was probably reinforced by the experience of stop-go policies during the 1950s, and remained as inertia even after Japan started accumulating trade surplus in the late 1960s.

If we make some comparison here with Eastern Europe, Japan found it could sell most of its exports in the late forties and early fifties; the problem was to produce them. Hungary, Poland and Czechoslovakia have a recession from the collapse of trade with the Soviet Union. Their manufacturers lack the quality to sell in the West. Each has substantial exportable surpluses of agricultural products, steel ingot, and textiles, but encounter everywhere trade barriers for these products.

We also have to pay substantial attention to several functions in the <u>political economy</u> aspect of the reconstruction period. First, the existence of supernational authority was instrumental in implementing several important reforms that were difficult in many countries. Often Germany, Italy and Japan are referred to as countries whose defeat in war might have helped their growth. Usually the faster pace of modernization due to wartime destruction is given as one reason for success. In our opinion, the feasibility of radical reforms that promote incentive mechanisms can be another important reason.

Secondly, there seems to be a good reason to recommend a fixed exchange rate to a country facing inflationary pressure because of the monetary overhang. Milton Friedman emphasizes the merit of flexible exchange rates that allow autonomous monetary policy for the reason that one can trust one's own government in determining its price level. When a government faces so many political difficulties against implementing a genuine stabilization policy, then the same logic will work as a case for linking its currency by a fixed exchange rate, to a currency of a country that enjoys price stability.

Thirdly, the adoption of the Dodge line and graduate transition to market principle from a prior production system that emphasizes more government interventions, coincides with the establishment of the second Yoshida cabinets from the short-lived socialist and coalition cabinets. Prime Minister Yoshida did not favor government interventions that were common in policies of the Ministry of International Trade and Industry (MITI). After the second Yoshida government, the conservative parties---after 1955 the Liberal Democratic Party (LDP)---have stayed in power. Continuation of the same type of government has merit in keeping some time consistency (or the belief of it) in its policies emphasizing price mechanism.

In general, Japan had a fairy efficient government bureaucracy. In Eastern Europe and particularly the Soviet Union, there is certainly a large government bureaucracy, but it is inefficient and corrupt. Also the Japanese government enjoyed obedience and at least some degree of popular support. It does not look like so in the Soviet Union. Japan has had no ethnic strife nor fights between levels of government. In contrast, the new legislatures in Eastern Europe are busy raising pensions and other soviet expenditures. These difference makes the implementation of recovery plan harder in Eastern Europe and the Soviet Union.

Fourthly, the transformation of military labor unions during the initial postwar period to more or less cooperative enterprise-based unions and the adoption of a kind of incomes policy through Shunto were essential factors in stabilizing prices and wages in Japan. Japanese management was, even though the change in GHQ's attitude and recession helped, skillful enough to subdue the power of trade unions.

In Eastern Europe, enterprise managers often are selected on the basis of party loyalty. Employees are not used to working hard. Thus, although Eastern Europe and the Soviet Union have a work force with considerable human capital as measured by years of school, they seems to have started the reform process with a labor force that is probably less trained than that in the postwar Japan.

The final point on the political-economy aspect is the role of pacifism. Yoshida's basic attitude that Japan keep only the minimum level of defense and that she be under the nuclear umbrella of the United States dispensed with much of her military expenditures, and transferred resources for modernization and productivity increases.

To close the paper, it would be fair for us to mention several factors of luck in the process of Japan's recovery. Occupation powers changed their policy from the demilitarization of Japan to reconstruction of her economy soon after the war. Also occupation policies imposed by supernational force helped the incentive mechanism. Reparation payments were reduced to a nominal level. Instead of the procurement demand of the Korean War came the best timing of the recession after the cold-turkey Dodge Line policy. Pacifism worked because the international situation allowed Japan to keep out of direct military conflicts.

At the same time, it was also true that Japan had inherited from the prewar years well educated human capital and economic institutions in which market mechanism could work. It was ingenuity as well as much hard work on the part of the nation that enabled its economy to take advantage of the opportunities that were available to postwar Japan.

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Footnotes

(1) Uchino(1978)p.15. But Uchino continues,"In Japan in 1945, even the mountains and rivers are laid to ruin."

(2) The account of the reconstruction is a kind of sentimental journey for those who lived through the hope and despair during the postwar period. For example, Kosai (1986), and Uchino (1978) all contain a vivid and often personal memory of the period. Nakamura (1981) provides a concise account of the postwar Japanese economy. Bank of Japan (1985) gives valuable and detailed documentation of the stabilization policy during the reconstruction period, Takemae (1983) provides useful analysis on the occupation policy, and Fukao *et.al.* (1991) would serve as a good compliment to this essay because it focuses on the international aspects of the stabilization policy after World War II.

(3) Kosai(1986)p.17.

(4) Kosai(1986)p.20, Cohen(1949)p.444.

(5) Uchino(1978)p.20.

(6) ibid.

(7) Hadley (1970)

(8) Kosai(1986)p.25, Uchino(1978)p.23.

(9) Kosai(1986)pp.27-8

(10) We owe this point to James Gibbons, Yale Student.

(11) Gordon(1986), Cole(1971). Moore(1983).

(12) The Japanese are now in a position to be proud of the achievement of their pacifism, even though there are elements of luck in it. Instead of apologizing at the criticism of free-ridership on the Gulf war, they may positively develop their philosophy of a merchant nation.

(13) Nakamura(1981) Chapter 1.

(14) The text of Leontief(1941) was brought into Japan before the war, and studied by people at the Planning Agency. see Hamada (1986).

(15) Nakamura(1981) pp.32-33, Kosai(1986) pp.41-43.

(16) Kosai(1986) p.45.

(17) Zysman(1983) Chap.5

(18) Nakamura(1981) p.33, Kosai(1986) p.42.

(19) Uchino(1978) p.53.

(20) One of the authors still remembers vividly that my parents regretted that they had not bought a piano for their children before the freeze.

(21) The Bank of Japan found the intention of the GHQ first, and immediately the Finance Minister protested against the use of military bills. This protection of the seigniorage right was quite crucial.

(22) Of course, if the Japanese could have fully anticipated the outbreak of the Korean War, they could have taken even better stabilization policies. The fact is that nobody can be such omniscient.

(23) Nakamura, 1981, pp.50-54. This naming continues finally to the Izanagi Boom during the high growth period (1967-69, the best since Goddess Izanagi who gave birth to the Japan Islands).

(24) See also Portes (1991) for the related issue of real and nominal anchors.

A Chronology of Immediate Postwar Economic Events in Japan.

1945	Aug	End of World War II
1946	Feb	Introduction of "Emergency Economic Crisis Policy" (including freeze of bank deposits)
	Aug	Establishment of the Economic Stabilization Board
	Dec	Introduction of Priority Production System
1947	Jan	Establishment of the reconstruction Finance Bank
1948	July	Publication of Japan's first Economic White Paper " A Report on Actual Conditions in the Economy"
	May	Ralph Young's visit to Japan
1949	Feb	Joseph Dodge's visit to Japan
	May	Declaration of framework for Dodge's economic policy for Japan, the "Dodge Line (Plan)"
	Apr	Establishment of a single 360 yen/dollar exchange rate
	Dec	Enactment of the Foreign exchange and Trade Control Act Liberalization of private sector exports
1950	Jan	Introduction of the Foreign Exchange Budget Liberalization of private sector imports
	June	The outbreak of Korean War
1951	Sep	The San Francisco Peace Treaty
1952	Jan	Liquidation of Reconstruction Finance Bank
	May	Admission of Japan to IMF and World Bank
1953	July	End of the Korean War
1955	Sep	Admission of Japan to the GATT
1956	Dec	Admission of Japan to the U.N.

Table 1. Post War Movements of Japan : 1918-1922 and 1945-1949

	World War I			World War II		
	1918	1920 (1914=1)	1922	1945	1947 (1937=1)	1948
WPI	2.02	2.72	2.05	2.79	55.89*	116.93*
CPI	1.63	2.24	2.05	11.85	99.45*	172.29*

Note : Annual average. The sign * indicates effective rates reflecting black market prices.

Source : <u>Hundred-Year Statistics of the Japanese Economy</u>, the Bank of Japan,1966.
<u>One Hundred Year History of the Bank of Japan</u>, the Bank of Japan, 1985, (in Japanese).

Table 2. Japan's Government Debts

	(100 mill Yen) (1)	(% of GNP) (2)
CY 1940	310	78.7
1941	417	92.9
1942	571	104.7
1943	851	133.4
1944	1520	204.0
1945	1994	n.a.
1946	2653	56.0
FY 1947	3606	27.6
1948	5244	19.7
1949	6373	18.9
1950	5540	14.0
1951	6454	11.9
1952	8267	13.5
1953	8511	12.0
1954	9327	12.5
1955	10572	12.8
1956	10002	10.7
1957	9703	9.6
1958	10755	10.3
1959	12530	10.0
1960	13403	9.1

Source : Hundred-year Statistics of Japanese Economy, the Bank of Japan, 1966.

Table 3. Production, Prices and Interest Rates of Postwar Japan

CY	Industrial Production Index 1935=100 (1)	Industrial Production Growth Rate(%) (2)	Wholesale Price Index 1934-6=1 (3)	Wholesale Price Inflation (%) (4)	Consumer Price Index 1934-6=1 (5)	Consumer Price Inflation (%) (6)	Interest Rates Loans on Bills (%) (7)
1943	157.8	1.3	2.05	7.0	3.21	17.6	4.49
44	160.4	1.7	2.32	13.3	4.01	24.9	4.64
45	69.3	-56.8	3.50	51.1	13.00	224.3	4.53
46	28.1	-59.5	16.27	364.5	50.60	289.2	5.84
47	35.0	24.7	48.15	195.9	109.10	115.6	7.12
48	46.2	32.1	127.90	165.6	189.00	73.2	9.27
49	60.1	30.0	208.80	63.3	236.90	25.3	10.00
50	73.6	22.5	246.80	18.2	219.90	-7.1	9.23
51	101.7	38.1	342.50	38.8	255.50	16.2	9.09
52	108.9	7.1	349.20	2.0	266.10	4.1	9.13
53	133.0	22.1	351.60	0.7	286.29	7.6	8.76
54	144.2	8.4	349.20	-0.7	301.80	5.5	8.76
55	155.1	7.6	343.00	-1.8	297.40	-1.5	8.54
56	189.8	22.3	358.00	4.4	300.20	0.9	8.14
57	224.1	18.1	368.80	3.0	308.90	2.9	8.14
58	220.1	-1.8	344.80	-6.5	312.10	1.0	8.40
59	264.4	20.1	348.30	1.0	316.20	1.3	7.96
60	330.0	24.8	352.10	1.1	328.00	3.7	8.25

Source : Hundred-Year Statistics of the Japanese Economy, The Bank of Japan, 1966.

Table 4. Growth Rate of GNP Deflator and Money in Japan

(Annual growth rate,%)

	Nominal GNP (1)	Real GNP (2)	GNP Deflator (3)	High-powered Money (4)	M1 (5)	M2 (6)
CY 1940	19.0	-5.9	26.0	28.4	n.a.	n.a.
1941	14.0	1.4	12.2	27.1	n.a.	n.a.
1942	21.2	1.4	19.8	20.0	n.a.	n.a.
1943	17.3	0.0	17.7	43.0	57.6	53.3
1944	16.8	-3.7	20.7	73.2	93.5	71.7
1945	n.a.	n.a.	n.a.	145.9	267.7	184.4
FY 1946	(152.2)*	(-43.7)*	(236.6)*	73.9	-36.4	-36.7
1947	176.1	8.6	154.5	128.6	94.4	82.8
1948	103.7	12.7	80.2	56.9	56.4	59.6
1949	26.6	2.1	23.9	-3.9	30.2	44.5
1950	16.9	11.0	5.4	18.7	14.5	22.9
1951	37.9	13.0	22.0	19.5	30.3	39.3
1952	12.4	11.0	1.1	18.1	29.7	39.9
1953	15.8	7.4	8.2	14.0	15.9	24.1
1954	5.4	3.7	1.6	-0.8	8.0	14.2
1955	10.3	11.1	-0.8	5.4	12.6	19.2
1956	12.8	6.4	6.0	19.5	24.4	24.6
1957	9.2	6.8	2.2	11.4	13.9	17.8
1958	2.4	3.9	-1.5	0.5	10.9	17.3
1959	21.0	16.6	3.9	18.7	9.8	16.7
1960	16.7	12.8	3.3	10.5	19.3	20.8

Notes : 1) * indicates Annual growth rate between 1944 and 1946.
2) M1 and M2 are average outstandings.

Source : <u>Hundred-Year Statistics of the Japanese Economy</u>, the Bank of Japan, 1966.
Asakura, Kokichi and Nishiyama, Chiaki, <u>The Monetary Analysis of the Japanese Economy</u>," (in Japanese),1974.

Table 5. GNP,GNP Deflator and Money in Japan

	Nominal GNP (bil Yen) (1)	Real GNP (bil Yen, 1934-36 Base Prices) (2)	GNP Deflator (3)	High-powered Money (bil Yen) (4)	High-powered Money (ratio of GNP,%) (5)	M1 (bil Yen) (6)	M1 (ratio of GNP,%) (7)	M2 (bil Yen) (8)	M2 (ratio of GNP,%) (9)
CY 1940	39.4	20.8	1.9	6.6	16.8	n.a.	n.a.	n.a.	n.a.
1941	44.9	21.2	2.1	8.3	18.5	n.a.	n.a.	n.a.	n.a.
1942	54.4	21.4	2.5	10.0	18.4	32.1	59.0	58.7	107.9
1943	63.8	21.4	3.0	14.3	22.4	50.6	79.3	90.0	141.1
1944	74.5	20.6	3.6	24.7	33.1	97.9	131.4	154.5	207.4
1945	n.a.	n.a.	n.a.	60.8	n.a.	360.0	n.a.	439.4	n.a.
FY 1946	474.0	11.6	40.9	105.8	22.3	228.9	48.3	278.0	58.6
1947	1308.7	12.6	104.1	241.8	18.4	444.9	34.0	508.3	38.8
1948	2666.1	14.2	187.6	379.4	14.2	695.8	26.1	811.4	30.4
1949	3375.2	14.5	232.4	364.6	10.8	906.0	26.8	1172.8	34.7
1950	3946.7	16.1	244.9	432.6	11.0	1037.3	26.3	1441.2	36.5
1951	5444.2	18.2	298.9	517.2	9.5	1351.9	24.8	2007.0	36.9
1952	6118.0	20.2	302.3	610.9	10.0	1753.2	28.7	2808.5	45.9
1953	7084.8	21.7	327.2	696.4	9.8	2032.7	28.7	3485.4	49.2
1954	7465.7	22.5	332.5	691.1	9.3	2194.7	29.4	3981.5	53.3
1955	8235.5	25.0	329.9	728.7	8.8	2470.5	30.0	4744.6	57.6
1956	9292.9	26.6	349.7	871.1	9.4	3073.2	33.1	5912.8	63.6
1957	10149.8	28.4	357.5	970.4	9.6	3500.4	34.5	6966.2	68.6
1958	10394.7	29.5	352.3	975.4	9.4	3882.5	37.4	8173.6	78.6
1959	12577.8	34.4	365.9	1157.5	9.2	4264.9	33.9	9541.0	75.9
1960	14678.9	38.8	378.1	1278.9	8.7	5088.5	34.7	11524.9	78.5

Note : M1 and M2 are average outstandings.
Source : Hundred-Year Statistics of the Japanese Economy, the Bank of Japan, 1966.
Asakura, Kokichi and Chiaki Nishiyama, The Monetary Analysis of the Japanese Economy, (in Japanese),1974.

Table 6. Gross Saving of Japan I

(billion yen)

	Provisions for Capital Consumption (1)	Un-distributed Corporate Surplus (2)	Personal Saving (3)	Govern-ment Current Surplus (4)	(less) Surplus on Current Account (5)	Dis-crepacy (6)	Total (7)
CY 1941	3.2	1.8	10.1	-7.0	-0.9	2.9	11.7
1942	3.7	2.2	11.4	-8.4	-0.9	4.9	14.6
1943	4.3	2.5	14.1	-11.4	-0.6	5.8	15.9
1944	5.3	3.0	20.1	-15.5	0.4	8.1	20.7
1945	NA	NA	NA	NA	NA	NA	NA
FY 1946	24.4	-1.0	8.3	-22.6	-5.5	90.8	105.4
1947	56.6	-4.4	-39.8	148.0	7.0	191.8	345.2
1948	107.7	2.3	-7.9	317.4	21.2	353.9	752.2
1949	157.8	37.6	-43.0	551.5	74.6	201.3	830.6
1950	207.0	192.0	409.8	351.3	171.4	18.6	1007.3
1951	280.0	214.9	717.7	452.2	157.4	156.5	1663.8
1952	359.4	196.4	688.9	338.8	3.3	97.8	1678.0
1953	473.3	297.2	523.0	394.3	-94.7	195.5	1978.0
1954	558.8	232.9	558.9	304.1	56.0	150.8	1749.5
1955	650.5	273.8	833.7	318.9	91.9	101.6	2086.6
1956	794.4	531.6	979.2	515.0	-137.5	-2.5	2955.2
1957	932.4	434.0	1092.4	684.2	-101.4	-34.2	3210.2
1958	1035.2	331.0	1172.0	617.4	113.7	-210.2	2831.7
1959	1261.3	754.9	1561.3	828.3	85.8	84.7	4404.7
1960	1537.7	1058.8	2042.2	1236.4	-1.0	-262.4	5613.7

Source : Hundred-Year Statistics of Japanese Economy, the Bank of Japan, 1966.

Table 7. Gross Saving of Japan II

(ratio of GNP,%)

	Provisions for Capital Consumption (1)	Un-distributed Corporate Surplus (2)	Personal Saving (3)	Govern-ment Current Surplus (4)	(less) Surplus on Current Account (5)	Dis-crepacy (6)	Total (7)
CY 1941	7.1	4.0	22.5	-15.6	-2.0	6.5	26.1
1942	6.8	4.0	21.0	-15.4	-1.7	9.0	26.8
1943	6.7	3.9	22.1	-17.9	-0.9	9.1	24.9
1944	7.1	4.0	27.0	-20.8	0.5	10.9	27.8
1945	NA	NA	NA	NA	NA	NA	NA
FY 1946	5.1	-0.2	1.8	-4.8	-1.2	19.2	22.2
1947	4.3	-0.3	-3.0	11.3	0.5	14.7	26.4
1948	4.0	0.1	-0.3	11.9	0.8	13.3	28.2
1949	4.7	1.1	-1.3	16.3	2.2	6.0	24.6
1950	5.2	4.9	10.4	8.9	4.3	0.5	25.5
1951	5.1	3.9	13.2	8.3	2.9	2.9	30.6
1952	5.9	3.2	11.3	5.5	0.1	1.6	27.4
1953	6.7	4.2	7.4	5.6	-1.3	2.8	27.9
1954	7.5	3.1	7.5	4.1	0.8	2.0	23.4
1955	7.9	3.3	10.1	3.9	1.1	1.2	25.3
1956	8.5	5.7	10.5	5.5	-1.5	-0.0	31.8
1957	9.2	4.3	10.8	6.7	-1.0	-0.3	31.6
1958	10.0	3.2	11.3	5.9	1.1	-2.0	27.2
1959	10.0	6.0	12.4	6.6	0.7	0.7	35.0
1960	10.5	7.2	13.9	8.4	-0.0	-1.8	38.2

Source : Hundred-Year Statistics of Japanese Economy, the Bank of Japan, 1966.

Table 8. Official and Black Market Prices : Japan

	Free Market WPI 1946/Aug =100 (1)	Free-Official Price Ratio (end of period) (2)		Free market CPI Tokyo 1945/Sept =100 (3)	Free Official Price Ratio (end of period) (4)
			Dec/45	128	29.7
46/Sept-Dec	115.9	7.2	46	192	8.3
47	304.3	5.3	47	412	5.1
48	479.2	2.9	48	711	2.9
49	444.1	1.7	49	758	1.8
50	371.3	1.2	50	543	1.3
51/Jan-Apr	549.0	1.1	51	642	1.1

Source : Hundred-Year Statistics of the Japanese Economy, the Bank of Japan, 1966.
Report of Household Survey:1946-1962, the Prime Minister's Office, 1964.

Table 9. Japan's Balance of Payments

($ mil)

	Exports (1)	Imports (2)	Trade Balance (3)	Freight & insurance (4)	Government (Military Procurements) (5)	transfer (6)	Current Balance (7)
1946	65	303	-238	-36	0	195	-78
47	181	449	-267	-88	0	405	46
48	262	547	-284	-120	19	462	75
49	533	728	-194	-164	49	514	207
50	920	886	34	-90	63	429	476
51	1354	1645	-291	-226	624	171	329
52	1289	1701	-413	-162	788	34	225
53	1257	2050	-791	-183	803	21	-205
54	1611	2041	-429	-178	602	29	-51
55	2006	2061	-54	-157	511	21	227
56	2482	2613	-131	-316	505	25	-34
57	2855	3256	-401	-353	472	-30	-620
58	2871	2501	368	-15	411	-195	264
59	3414	3052	362	-35	373	-23	361
60	3979	3711	268	-90	406	-25	143

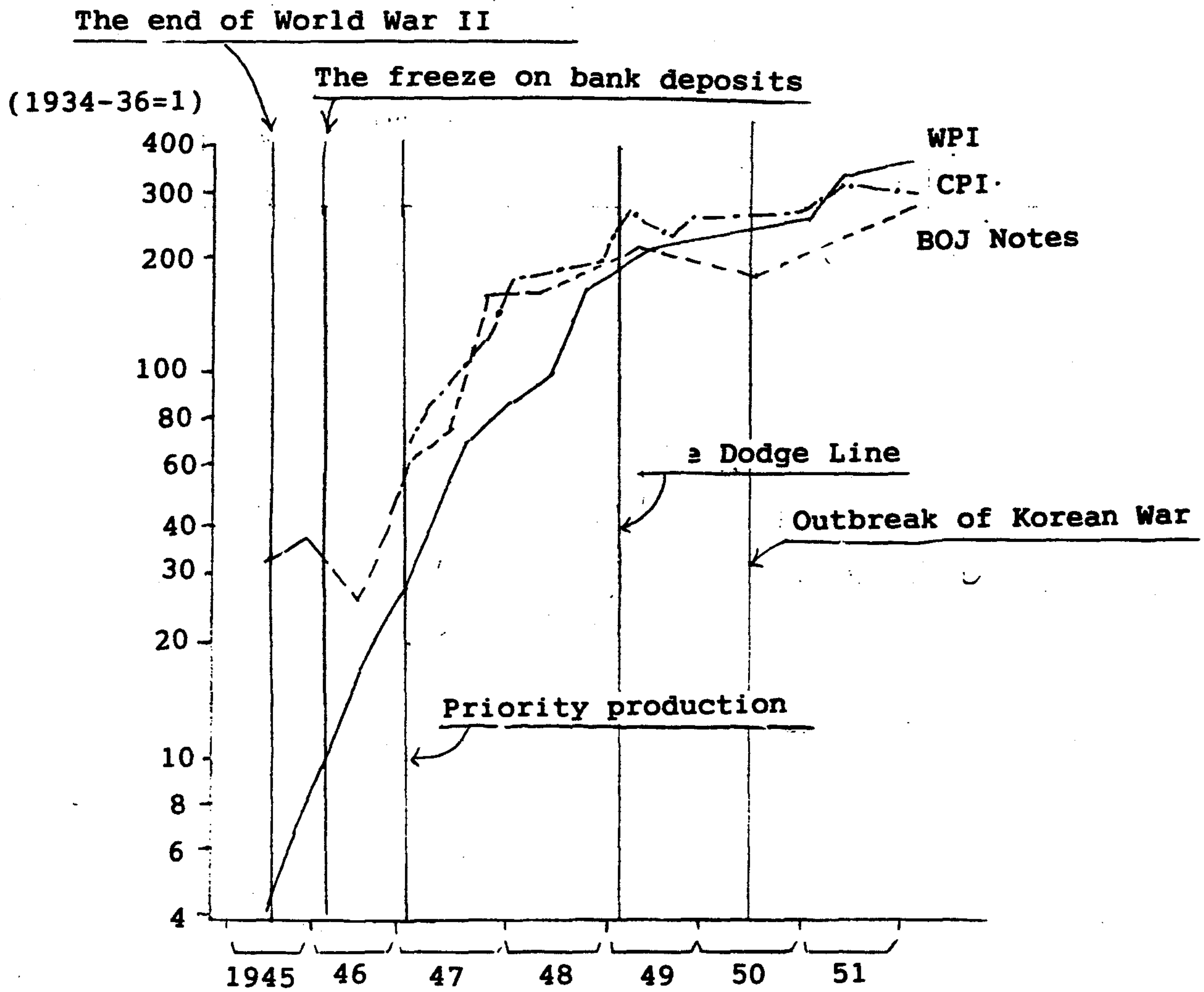
Source : Hundred-Year Statistics of Japanese Economy, the Bank of Japan ,1966.

Table 10. Macro Economic Indicators just before and after Korean War

Fiscal Year	BOP transfer balance (% of GNP) (1)	Special Military Procurement (% of GNP) (2)	Central Government deficit (% of GNP) (3)
1946	3.12	0.00	13.9
47	5.29	0.00	7.3
48	4.99	0.21	6.1
49	5.48	0.52	3.3
50	3.91	0.57	-2.1
51	1.13	4.13	1.7
52	0.20	4.64	3.0
53	0.11	4.08	0.3
54	0.14	2.90	1.1
55	0.10	2.21	1.5

Source : Hundred-year Statistics of Japanese Economy, the Bank of Japan ,1966.
Japan's Experience in the Immediate Postwar Period, Fukao et.al.,1991.

Figure 1. Prices and Money in the Immediate Post War Period



—— WPI , —·—·— CPI , ---- Bank of Japan Notes

Figure 2. Production, Prices and Money in Japan