

Development of the Postwar Japanese Economy and Private Firms' Response to the Change

—The First Decade as Springboard to the High-Growth Era—

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Introduction

In this paper I would like to trace Japan's economic development in early years after the World War II and present some cases of private firms' response.

The recorded high-growth of Japanese economy was neither a result of the autonomous development process nor the consequence of the Government's carefully designed development program. Aside from various kinds of luck, business leaders' foresighted decisions accompanied with individual firm's assiduous efforts made it possible.

The occupation authority did not intend to strengthen Japanese economy when the Japanese Government was ordered to do the three major reforms (*zaibatsu* dissolution, farm land reform and labor reform) right after the war. Their aim was just to develop democracy in Japan in order not to start a war again. However, those reforms not only brought about developing democracy in Japan but also more stable social and labor relations, and created more competitive conditions for the business environment than before.

Without proper responses of private firms in this difficult time, development path of postwar Japan might have changed. For instance, new business leaders took chances in this change. They made bold investment decisions against strong opposing views. President Nishiyama of Kawasaki Steel was a typical case of these new leaders. We

must note that there existed a considerable number of top managers who were confident about the prospects of Japan and their industries during the turbulent economic conditions. Policies accompanied by private firms' positive reactions paved a way for the high-growth of the economy in the next period.

The first decade of 1945-55 after the war, therefore, can be regarded as a period of forging a springboard for the high-growth era starting in the mid 1950s.

I. An Overview of the First Decade of the Post-War Japanese Economy

1. Economic Reforms as the Occupation Policy

As a consequence of the World War II defeat in August 1945, Japan was occupied by the Allied Forces. In fact the United States alone took leadership of the occupation policy in Japan. The Occupation Authority began with democratization of Japanese social and economic systems to deprive prewar ruling classes of their powers. The three economic reforms among others were especially important. They were *zaibatsu*¹ dissolution, the farm land reform and the labor relations reform.

In the pre-war period *zaibatsu* had been influential in the economy. As of September 1945 when the occupation policy of Japan including dissolution of *zaibatsu* was announced², total paid-in capital of big four *zaibatsu* accounted for 24.5 percent of total capital of all companies in Japan³. Production and shipment shares of them must have been more than the capital share.

1 A Japanese word referring to big family business concerns of prewar Japan

2 "The U.S. Initial Post-Surrender Policy for Japan" was announced on 22 September, 1945 by the U.S. State Department.

3 Arisawa (1995), *Nihon Shoukenshi (Securities History of Japan)* [2] p.224

In August 1946 five *zaibatsu* holding companies⁴ were designated to be dissolved. Other *zaibatsu* families were later added to the list for dissolution. Not only dissolution of holding companies but also designated influential companies such as Mitsui & Co. and Mitsubishi Corp. in trading businesses and Mitsubishi Heavy Industries in the manufacturing industry were to be split into separate companies. Top management of major *zaibatsu* related corporations were purged from their posts.⁵

The farm land reform was pursued from December 1945 to 1949 by GHQ (General Headquarters). The plan was initiated by some bureaucrats of the Ministry of Agriculture and Forestry in the Japanese Government in 1945 but later GHQ pushed a more drastic plan of farm land reforms. As a consequence, large land owners lost their powers and each peasant who had not had his/her own farm land could become a farmer holding a small farming lot. The farm land reform contributed to stabilizing social movements and improving economic welfare of agricultural areas which had been long-awaited goals in prewar days.

Thirdly the labor related reform was made. By this reform organizing labor unions became legal for the first time in Japanese history and the criteria of labor work such as the minimum level of wage was set. The reform made solid foundations for developing the Japanese style management.

2. Damage by the War

The damage to the physical assets by the war was tremendous. It was estimated that the national wealth of Japan at the end of WWII in 1945 had lost about 35 percent compared with that of 1944. The value of the

4 In addition to the “Big Four” of Mitsui, Mitsubishi, Sumitomo and Yasuda, Fuji Industries (Nakajima Airplane) was included.

5 For instance, Konosuke Matsushita, founder of Matsushita Electric Industries, was purged as a *zaibatsu* leader but later his name was taken off the list.

lost national wealth was almost equal to the amount of GNP in the year of 1946. Number of lost and damaged houses accounted for 2.2 million. 14 million houses that existed in prewar days decreased to 11.35 millions, which was about a 20 percent decrease and resulted in a situation of 9 million people without houses to live in. As to human lives, 2.6 million were lost.

Damage to the production facilities caused serious bottleneck problems for the industrial production. As seen in Table 2 industrial production level declined to about 30 % of the 1934-36 level. GNP declined to about 60 percent of prewar level in 1946 and 1947.

Table 1 Estimated Loss of National Wealth (As of the End of War)

National Wealth	Lost Ratio
Total National Wealth	35%*
National Wealth (nonmilitary sectors)	25.4%*
Houses (number of units)	20%
Ships excluding military use (tons)	81%

Note: * Difference from the value of 1944.

Source: Tatsuro Uchino (1978)

Table 2 Production Levels and Inflation after the War (1934~36=100)

	1945	1946	1947
Real GNP	NA	62	65
Real GNP per Capita	NA	55	56
Industrial Production	60	31	37
Coal Production	78	53	71
Steel Production	24	10	15
Agricultural Production	60	79	76
Population	104	109	113
Wholesale Price Index	350	1630	4820
Consumer Price Index	NA	5000	10910

Source; same as Table 1

3. Starvation and “Bamboo Shoot Life”

The word “bamboo shoot life” became popular in Japan among the general public during the period immediately after World War II. As if to peel bamboo shoots, people exchanged their clothes for rice or vegetables to survive in the days of severe shortage of foodstuffs.

Like sprouting buds in spring, black markets appeared in every town. They sold foodstuffs, clothes, blankets, electric heaters, kitchen wares like pans, and so on. Metal stocks for military uses were taken out legally or illegally and used as materials for products like kitchen utensils.

What made it more difficult for the living of people at that time was the fact that millions of people returned home to Japan from overseas⁶. They lost jobs so that in many cases they went to relatives' homes of farmers to work with them. In later days when coal mining became a priority industry many jobless workers including those returnees were absorbed as miners.

Furthermore, Japan experienced an unusually bad crop of rice due to lack of fertilizer and unfavorable weather such as typhoons in 1945. The rice crop yield of 1945 dropped to 60 percent of average production level. It was believed that millions of people were going to die of hunger in 1946. The Japanese Government asked for 4.6 million tons of foodstuffs as emergency aid from the U.S. in 1945, but no food arrived within the year. In 1946 only 0.7 million tons of foodstuffs was imported. Shortage of foodstuffs continued to be in serious condition, although an unprecedented scale of starvation did not occur fortunately.⁷ Following is a passage depicting the life of Japan in those days.

6 It was estimated that returnees accounted for about 6 million right after the war.

7 MacArthur accused Prime Minister Yoshida of unreliable figures of agricultural statistics, which became an occasion for accelerating the improvement of statistics in Japan. (Uchino, p.54)

People living in the big cities were forced to buy on the black market and barter their personal possessions in order to survive. In October 1945 Japanese officials asked for more than 4 million tons of food from the United States. SCAP⁸ challenged Japanese statistics, and Yoshida ruefully admitted to MacArthur that the data given him by his experts were bad, adding that poor statistics were one reason Japan had lost the war. (Finn, Richard B. (1992, Chapter4, p.51))

An episode illustrates the situation. Judge Yamaguchi aged 34 of the Tokyo Court in the field of economic control died of hunger in October 1947 because he strictly controlled himself and his family not to purchase rice from a black market⁹. He took only the officially allocated rice and let his two sons take most of it. Since he had to judge cases of violating economic control laws, he could not violate the law himself even though he knew about his inadequate nutrition condition. The officially allocated rice was too little to live in a normal condition for an average person.

4. Rapid Inflation

Rampant inflation prevailed since the war ended. Inflation together with shortage of foodstuffs made the income of Japanese families unduly re-distributed from those who relied on past saving of money to farmers. The black market price index of February 1946 increased double compared to that of September 1945.

The fundamental cause of inflation right after the war was a big gap between the amount of goods and that of money. During the wartime most of the funds raised by the Government bond issuance and borrowings from the Bank of Japan were used for unproductive military expenditures, which became potential inflationary factors. But until the war's

8 the Supreme Commander for the Allied Powers

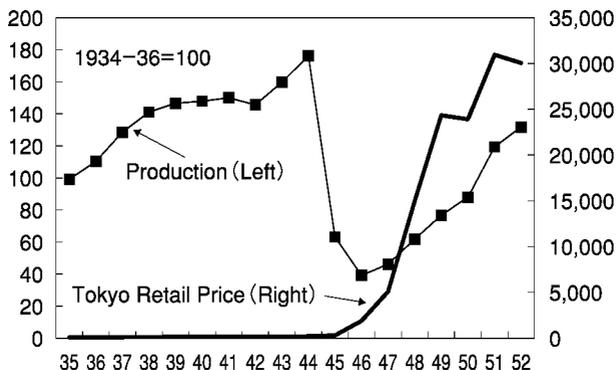
9 Reported in the Asahi Shimbun, November 4, 1947.

end Government price control was so strong that inflation was not realized. When the war ended returned soldiers from overseas were paid as compensation for their past services and bills payable for military products were cashed in a very short period. Money was circulated increasingly but manufacturing equipments were damaged and materials were in short supply. Therefore, while people had purchasing power, supplying capability of consumer goods was too low to meet demand.

For the purpose of altering businesses of firms which had produced military-use products into nonmilitary businesses, banks lent money to firms for their working capital use. Working capital of those firms was increasingly needed as material prices and wages were increasing. In addition people began to draw cash from their deposit accounts in order to avoid the property tax which was believed to be introduced soon by rumor. In this way the vicious circle of inflation and increasing money started in a very strong and accelerated manner.

On February 16, 1946 the Economic Emergency Policy was announced to freeze bank deposits and became effective from March 3 of the year. The yen previously used was called "old yen". Old yen could not be used after March 2 and people were urged to deposit old yen until March 7. The maximum amount of yen that could be drawn was 300 yen for a house holder and 100 yen for each family member in a month. The limit of new yen payment for a monthly salary was 500 yen per person. If the salary exceeded 500 yen, the amount over 500 yen was paid by old yen deposit. The economic emergency measures yielded favorable results for slowing down inflation rates, but only temporarily.

Figure 1 Production and Retail Price (1935-52)



Source: Data from Iida *et al.* (1976 vol.1, p.62, p.65)

5. Priority Production Policy

GHQ was unsatisfied by the economic performance of Japanese Government policies. It suggested the Government create a new organization to promote economic policies. Accordingly the Economic Stabilization Board was established in August, 1946.

Urgently needed was expanding production capabilities. The problem was bottlenecks impeding increase of production. In order to increase production of rice crops and other foodstuffs, it was necessary to increase supply of chemical fertilizer. But production facilities of chemical fertilizer needed to be repaired. Machines and equipments to repair damaged facilities were also scarce. Because of steel shortage, they could not make machines and equipment to repair production facilities. In order to increase steel production, more coal production was necessary. Also the railway transportation to distribute materials and products did not work because of shortage of coal to operate locomotives. In order to produce coal, equipments to dig coal mines were necessary, and those equipments were made of steel which was in short supply. Therefore every route for the increase of production seemed to hit an impasse.

In December 1946, “the Priority Production Policy” was officially approved by the Cabinet. Before that time the policy had been proposed to Prime Minister Yoshida by Professor Hiromi Arisawa of Tokyo University. The Economic Stabilization Board was responsible for implementing and promoting the policy. In this policy all available resources were going to be used to increase production of coal and steel.

In order to make this measure successful the Japanese Government asked for importing heavy oil from the U.S. Government. The imported heavy oil filled the gap of the insufficient amount of coal. Coal and heavy oil were used to produce steel, and newly produced steel was used to make equipments for coal production. The produced coal was in turn used for the production of steel. As fringe benefits for coal mine workers, rice and clothes were officially allocated more than to others and low cost housing was secured. Therefore even university graduates who were esteemed by the general public in those days joined this work to live in a starving life¹⁰. In this way production levels of coal and steel gradually increased.

The Priority Production Policy is regarded as a successful policy. The success could be attributable to the matched policy of financing operation for the designated priority industries.

When the Economic Stabilization Board was established in August, 1946, the economy was getting worse. The worsened situation derived mainly from the fact that GHQ ordered stopping paying military related past debt. As an increasing number of bankruptcy cases of corporations were concerned due to this GHQ order, the Japanese Government tried to prevent such a situation by financial measures. For this purpose “Reconstruction Finance” for corporations by the Industrial Bank of Japan started, and the unit of the bank was reorganized later to be a separate

10 Shimokawa (1990, p.62). University graduates gained this job without telling their educational background. Shimokawa worked as mine worker himself and sometimes learned English words within the mine from one of them.

Government organization, “the Reconstruction Finance Corporation” (RFC) in early 1947.

This measure of financing kept the economy back from further worsening and helped production of such industries as coal mining and steel manufacturing in line with the Priority Production Policy. On the other hand financing through the RFC reheated the inflationary situation which was once calmed down by stopping old yen in circulation. This is because the Government was solely dependent on the Bank of Japan (BOJ) for the financial sources of loans provided by the RFC. The money for RFC loans was procured by issuing bonds which were held by the BOJ. For any firm provided with a long-term loan could count on gains from depreciated value of the borrowed money under a rapid inflationary situation, so that firms in the priority industries competed to get the RFC loans. Other long-term loans from private banks were not available in those days.

In order to provide basic materials at lower cost to avoid price increase of other products, the Government set official producer prices of basic materials. The Government subsidized the difference of official producer price and production cost. For instance, the cost of coal was 613 yen per ton while the producer price was 346 yen per ton in March, 1947¹¹ In this case the deficit of coal production per ton was 267 yen or 43 percent of the production cost and was compensated by subsidies. Subsidies for adjusting the difference of prices were made for such basic products as coal, steel, foodstuffs, and fertilizer, which contributed as other incentives for the production increase. Naturally, subsidies became a big burden for the Japanese Government as the expenditures for the subsidies increased. The expenditure made the deficit of Government budget much bigger. Again, it was financed by the credit of the Bank of Japan.

11 The First Economic White Paper (1947).

Table 3 Cost and Deficits of Coal Mining Industries (Yen/Ton)

	Production Cost of Coal	Official Producer Price	Deficits per Ton
1946 Oct.	389	220	169
Nov.	392	346	46
Dec.	433	346	87
1947 Jan.	476	346	130
Feb.	540	346	194
Mar.	613	346	266

Source: *Daichiji Keizai Hakusho* (The First Economic White Paper, 1947)

6. A Drastic Deflationary Policy—“Dodge Line”

Economic aid to Japan by the U.S. Government continued and it became a significant burden. As the U.S. Government was concerned with the Japanese economy, Joseph Dodge, Chairman of Detroit Bank, was sent to Japan as economic advisor for the Japanese Government in February 1949.

Dodge stated a simple and clear message to Japanese journalists. “Japan’s economy is walking on stilts made of price subsidies and U.S. commodity assistance. These have to be cut, or Japan will fall on its face”¹². His metaphor of “stilts” was easily understood by Japanese and the words, “stilt economy” became popular among Japanese of those days. True to his words he made the Japanese Government cut both. He wrote a recipe for a balanced budget for the fiscal 1949. Although the expenditure for the fiscal year increased by 57 percent because of inflation, the budget was called an “over-balanced budget” as it made a surplus of 156.9 billion yen which was used for the repayment of the debt. As a result, expanded money supply turned to a contraction and prices were leveling off. The Tokyo retail price index which had increased nearly three times in 1948 slowed down to a 63 percent increase in 1949

¹² Asahi Shimbun, March 8, 1949, “Dodge’s Statement on 9 Principles”

and recorded a small decline in 1950 (see Table 4). The austerity program which was well represented by the balanced budget was called “Dodge Line” after the confident U.S. banker’s name.

Table 4 Tokyo Retail Price Index (1934~36=1)

	1945	1946	1947	1948	1949	1950
Index	3.08	18.93	50.99	149.6	243.4	239.1
Increase %	46.8	514.6	169.4	193.4	62.7	-1.8

Source: Iida, *et al.*(1976)

At the same time the fixed exchange rate of yen to the U.S. dollar was set to be 360 yen in April, 1949. The new exchange rate caused unfavorable consequences for both exporting and importing companies by either decreased revenues or increased cost, because various exchange rates ranging from 180 yen to 600 yen to the dollar had been applied for imported and exported products before the unification of the exchange rates. For instance 600 yen was applied as the exchange rate for ceramics, 500 yen for binoculars and 420 yen for silk made products.

The Dodge Line was such a drastic deflationary policy that the number of bankruptcy cases increased remarkably from the mid of 1949. Even Toyota Motor Co. which is now regarded as a leading company in Japan and one of the most competitive car manufacturing companies in the world was on the brink of bankruptcy around the end of 1949 to early 1950. Toyota was saved by Mr. Takanashi, Chief of the Nagoya Branch Office of the Bank of Japan. He asked city banks and regional banks in Nagoya City and its surrounding areas for their help avoiding Toyota’s bankruptcy, because the company’s bankruptcy would cause a widely spreading damage in the regional economy. Thanks to the syndicated emergency loan of these banks, Toyota could survive in this crucial period.

Coal mines were no exception to the deflationary policy effects in this period. Purchase of new equipments for the efficient production of coal

stopped. A large number of Government officials and employees of private companies were fired including 100 thousands of employees working for the Japan National Railway, causing intensifying frictions between the management and radical labor unions of JNR. The economy was really in a serious recession and a deflationary spiral was developing.

7. Breakout of the Korean War

In the midst of the serious recession, an unforeseen incident which altered the path of the post-war economy occurred. On 25 of June, 1950, the Korean War suddenly broke out. The war revived the Japanese economy which had gone into a tailspin after the Dodge Line.

Table 5 Balance of Payments (\$million)

	Exports	Imports	Trade Balance	Aid	Special Procurement
1946	67	303	-236	192	--
1947	184	449	-266	404	--
1948	265	547	-282	461	--
1949	536	728	-198	534	--
1950	924	886	38	361	149
1951	1,358	1,645	-287	157	592
1952	1,295	1,701	-407	5	824
1953	1,261	2,050	-790	--	809
1954	1,614	2,041	-426	--	596
1955	2,001	2,060	-53	--	557

Source: Kosai, Y (1981, p.103)

The economic boom derived firstly from a large quantity of special procurement of the U.S. and secondly from the expansion of exports. It was the largest boom in terms of relative scale of the economy since the end of WWII. During the three years of the war orders of 1 billion dollars worth of special procurement including services such as repairing trucks were received in Japan. Exports increased by 55 percent in terms of the

dollar amount and 35 percent in terms of volume in the second half of 1950 compared with the first half of the year. In addition consumption by American soldiers during the stay in Japan accounted for more than the amount of special procurement.¹³

The Korean War provided opportunities to accumulate capital for corporations. But still higher costs of basic materials such as coal and steels remained as a crucial problem of Japanese industries.

8. An Era of Struggling for Economic Independence

The first decade of the postwar Japanese economy was an era of struggling and fumbling for economic independence. Problems arising for policy makers were such as starvation, unemployment, hyper-inflation, deflation, shortage of materials, shortage of capital, and so on. Apparently turbulent waves of economy seemed to be the characteristic feature of the decade.

Yet if we look back to the period, it can be said that this decade paved a way for the high-growth period starting from 1955. In other words, the decade was a period of building a grand springboard to the next period of high growth economy.

For instance, a series of measures such as economic reforms and the Dodge line which were imposed by the Occupation Authority turned out to be contributing factors to better economic performance as follows:

- (1) Dissolution of *zaibatsu* yielded more competitive situations for independent companies. The purge of top managers from major *zaibatsu* related firms made the younger generation promoted to top management, which could be a factor in the aggressive investment in the latter half of the 1950s.
- (2) Farm land reform contributed to the social stability and economic welfare in agricultural areas.

13 Uchino(1978)

(3) Labor reform brought about better income distributions for the labor force and moreover, so called “corporate labor unions” helped in developing Japanese-style management.

(4) Under the “Dodge Line” the Government was forced to stop subsidies and make a budget without deficit financing, as well as establishing the unified fixed exchange rate of 360 yen to the U.S. dollar. This policy caused a serious deflation, but through the difficulty surviving corporations could enhance competitiveness. If Japan had faced the Korean War without experiencing the Dodge Line, it would have had a serious hyper-inflationary situation. To correct such an economy would have called for much further difficult measures.

In short, the outside impact of major economic reforms and policies in the period from 1945 to 1955 turned out to be strengthening factors for the development of the Japanese economy.

However, policies alone could not lead the economy into a good performance. Private sectors' response with their adaptability to policy directions and new situations was needed. In the following sections some cases will be illustrated to show this fact.

II. Private Sector's Response in the First Decade of Postwar Japan

(Case 1) Binocular Manufacturers

—Network development of small manufacturers as an exporting industry—

Binocular manufacturers were developed under the fostering policy of the Army and the Navy in the pre-WWII days.

Tokyo Kogaku Kikai, (Tokyo Optical Company) which made binoculars at the Japanese Army's request¹⁴ lost demand after the War. Thousands of employees lost jobs but spontaneously they came back to live around the headquarters of the company located in Itabashi Ward in the northern part of Tokyo. Some of them started businesses making binoculars and sold their products to the Post Exchanges (PXs) of the Occupation Forces. U.S. soldiers were glad to bring those binoculars back home as souvenirs.

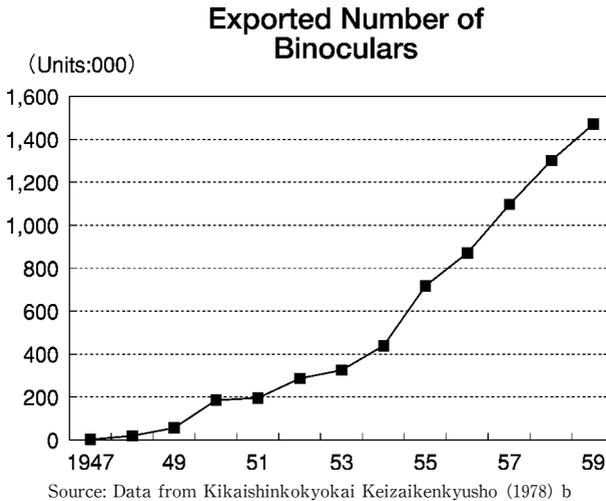
In the geographical area self-employed engineers made networks of technologies and for each network the leadership was taken by an "arranger" who took orders and asked each component maker to process orders within a due date. In the network lens makers, prism makers, body makers, and case makers were arranged and final products were made by assembling components by the arranger. If a product did not focus correctly, the arranger looked at a lightning rod of a tall chimney out of the house with the binocular and corrected its focus by some delicate changes of the body, lenses or prisms.

14 Nippon Kogaku (Nikon Corp.) located in the southern part of Tokyo started binocular manufacturing at the request of the Japanese Navy after the breakout of WWI. Tokyo Optical Company followed the Nippon Kogaku to make lenses and binoculars in the 1930s.

Binoculars became export products. Exporting binoculars was profitable as the exchange rate for binoculars had been 500 yen before the rates were unified to 360 yen to the U.S. dollar in 1949. Moreover export bills were instantly cashed by banks so that those exporters could get cash upon sales, which was important in rapid inflationary days.

It was natural that once a business was known to be profitable, people including those without specialized knowledge of the business rushed into the market. Some of them were immoral by exporting low quality products with defects. There were cases in which stones were placed inside of binocular bodies instead of prisms.

Figure 2



There were some associations of binocular manufacturers in Tokyo and the Government (MITI) let those associations inspect products and made a law to prohibit designated products including binoculars from being exported without passing the inspection. In this way the Government supported exporting businesses to secure the quality of products for small and medium enterprises.

This case of small binocular manufacturers shows that small manufactures could organize informal networks themselves without large firms' directions in the midst of a chaotic situation right after the war. They responded to the situation of demand loss and could find a new market for exporting their products. Further development of the industry became possible by the Government support for inspection of their products.

(Case 2) High-Precision Machine Tool Industry

—Mr. Makino's Patient Efforts—

Companies in the machine tool industry had especially hard times after the war. As a core of machine industries, machine tool manufacturing companies lost almost one hundred percent of their demand for military use. Thousands of unused stock of machine tools hampered recovery of the industry. Many small and medium sized companies gave up continuing operations in the industry.

In this period President Tsunezo Makino of Makino Milling Machine Co., Ltd. purchased many quality machines made in Western countries at very low costs. They were left unused as dead stocks of various manufacturing companies. Other companies were glad to sell unused machines since they could not expect any demands for those machines in the foreseeable future. Also he hired skilled engineers of other machine tool manufacturing companies partly because those companies needed to cut employees and the management of them asked him to hire their skilled engineers in order to keep those engineers in the same industry. Mr. Makino let engineers study purchased quality machines and brought their skills up.

During the period revenues of Makino's company depended on repairing works of machines used in agricultural and fishery operations,

although the work did not require skilled technology it helped the company survive in the tough period. This demand increased because farmers' income improved as a result of the land reform and a shortage of foodstuffs. Another reason why Makino's company could survive was that the company had technological capabilities for smaller scale milling machines which could be used for the camera industry. The camera industry was one of the emerging industries in the early postwar period and its manufacturing process required precision machine tools.

Thanks to those efforts accumulated in a difficult period, Makino's company could meet sudden huge demand for quality machine tools from overseas when the Korean War broke out. Other companies had difficulty meeting such demand because either their capacities or quality levels fell short of the orders' requirement.

Mr. Makino's strong will to adhere to the high precision machine tool business in the midst of the pessimistic environment helped to upgrade Japanese machine tool industry in later years. The quality machine tools of the Japan supported development of the manufacturing industries in general in a high economic growth era.

As foreign exchange reserves continued to be constraints of economic growth until mid 1960s, substituting high precision machine tools from overseas with domestic machines was certainly not an ignorable contribution for the spillover of technology in the manufacturing sector.

(Case 3) Modernization Investment of the Steel Industry

—President Nishiyama's Bold Decision—

It was 1949 when Mr. Yataro Nishiyama, director in charge of the steel production unit of Kawasaki Heavy Industries made his members of staff find a land space suitable to build a modernized iron and steel production factory. In 1950 the plan was announced. The unit was split to become

the Kawasaki Steel Co., Ltd. in the year 1950 and he became the first president of the company. He decided a seashore space of Chiba Prefecture in the east of Tokyo as the best place for the planned factory. As his bold plan was revealed, it was criticized as being crazy and unrealistic by media and bureaucrats, not to mention competitors.

The investment plan needed 16.3 billion yen while the capital of the company was only 0.5 billion yen initially. President of the Bank of Japan Ichimada was said to have said, "Weeds shall grow in the yard of the Chiba Factory". His words typified how strongly he opposed the plan.

He tried to persuade officials of the Ministry of International trade and Industry (MITI) and was successful in getting half of the necessary funds from the Governmental long term loan program under the control of the MITI. The Rest of the funds came from the newly established Development Bank of Japan, Dai-Ichi Bank and stock and bond issues.

The project completed in 1953 as the first phase of rationalization investment and proved to be successful as Kawasaki produced iron and steel products at very competitive prices. The project which was carried out by heavily leveraged financing ignited the animal spirits of corporate leaders in various manufacturing industries. Thereafter they did not hesitate to take risks of large scale investment projects with a small portion of their own funds. Mr. Nishiyama ushered business leaders in an era of investment boom of 1950s. For instance, Toray's purchase of a royalty for nylon production from Dupont at the cost of 1.08 billion yen in 1951 can be counted as another example of the bold decisions of those days. The royalty cost was more than the company's capital of 0.75 billion yen.

Mr. Nishiyama could do it because he gained a free hand with his decision as Kawasaki Steel had become independent and was not within the organization of the former Kawasaki Heavy Industries. Dissolution of *zaibatsu* holding companies and GHQ's order of splitting designated

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large corporations made corporate leaders more aggressive than before.

Conclusions

The first decade after the war was a period of forging a springboard for the later years of high growth economy.

The outside impact of economic reforms such as dissolution of *zaibatsu* corporate groups and farm land reform resulted in better performance of the economy. But policies alone could not yield better results. Efforts of private firms to adapt to changing situations was needed. In this sense, Mr. Makino and Mr. Nishiyama represent two good examples of the entrepreneurship in that decade.

Also thousands of nameless small manufacturers responded with dynamic activities in the chaotic situation. The case of binocular manufacturers shows a process of structuring spontaneous networking of technologies right after the war.

Without those entrepreneurs and dynamic small manufacturers the path of the Japanese economy in later years could have been changed to some extent.

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