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Japan's Graduation
from a Middle Income Country**

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Development state evolving: Japan's graduation from a middle income country

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Abstract

This paper reexamines the industrial policy in postwar Japan from perspectives of the literature on a “development state” and a “middle income trap”. Japan transited from a middle income country to a high income country in the period from the 1950s to the 1970s. This process was characterized by a large structural change, such as resource reallocation from the primary industry to the secondary and the tertiary industries as well as resource reallocation within the secondary industry. Transition to a high income country is a challenging task for a middle income country. With respect to Japan, the industrial policy played a positive role in the transition. This was achieved by interactions between MITI and other related actors, who constrained and corrected MITI's attempts of excess intervention.

Key words: Industrial policy, Development state, Middle income trap, economic history,
Japan

JEL classification numbers: L60, N45, N65, O14, O24, O25

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1. Introduction

This chapter reexamines the industrial policy in postwar Japan from perspectives of new strands of literature. The first strand is the studies on a development state. As discussed in the introduction (Takagi and Kanchochat and Sonobe 2017), the concept of development state (Johnson 1982) has been newly attracting interests in the context of the present emerging states, facing globalization and democratization. Recent literature, including Takagi et al.(2017), focuses on the dynamic nature of the development state. Indeed, as we will see in this chapter, the industrial policy regime in postwar Japan, from which Johnson (1982) derived the concept of development state, is not characterized by a static set of policies, but it evolved over time.

In the period from just after the war to the 1970s, we can identify at least three distinctive phases of policy regime, which are characterized by direct government control (the late 1940s), extensive government intervention through foreign exchange allocation (the 1950s), and deregulation (the 1960s and 1970s), respectively. In this sense, the industrial policy in postwar Japan was dynamic and flexible, which arguably enabled the Japanese economy to continue high growth in the changing environment. This view is echoed with Douglas North's idea of "adaptive efficiency," i.e. "a condition in which the society continues to modify or create new institutions as problems evolve (North 2005, p.169). Interestingly, North mentioned the Japanese economy after the 1990s as a typical case where institutions could not adapt successfully (ibid, p.125). This chapter describes how the industrial policy regime changed over time adapting to the changes in the environment from the 1950s to 1960s.

Second, this chapter is motivated by the literature on a "middle income trap". Since Gill and Kharas (2007), extensive academic and practical discourses have developed on the "middle income trap". The basic notion behind this concept is that "middle-income countries have grown less rapidly than either rich or poor countries, and this accounts for the lack of convergence in the twentieth century" (Gill and Kharas 2007, p.5). Empirical evidence on this notion is mixed (Eichengreen et al. 2011; Im and Rosenblatt 2015; Bulman et al. 2017), but many researchers consider that middle income countries need growth patterns and policies different from those for low income countries, for such reasons as drain of underemployed rural labor, rise of wage and decline in availability of technologies to be adopted (Agenor and Canuto 2012; Bulman et al. 2017). As we will see in the next section, Japan transitioned from a middle income country to a high income country in the period from the 1950s to the 1970s. In this period, the comparative advantage of the Japanese economy changed substantially, and the Japanese economy experienced a large structural change. This chapter discusses the role of the industrial policy in the transition.

This chapter is organized as follows. In section 2, I overview Japan's transition to a middle income country to a high income country, focusing on the structural change. Section 3 describes the industrial policy under the regime of foreign exchange allocation. Section 4 focuses on the change in the industrial policy regime in the 1960s. Section 5 concludes.

2. From a middle income country to a high income country: An overview

Japan's transition to a high income country can be seen as a part of a long global history

of the “Great Divergence” and the “Great Convergence” (Figure 1). In 1870, just after Japan established a modern state, its per capita GDP was just 23% of the United Kingdom, according to the historical estimation of GDP by Angus Maddison¹. However, from the late nineteenth century, the per capita GDP of Japan grew steadily. The average annual growth rate of it from 1870 to 1940 was 2.8%, and it became 42% of that of U.K. (Figure1).

Figure 1

Felipe (2012) defines the threshold levels of per capita GDP from low-income to lower middle-income, from lower middle-income to higher middle-income, and higher middle-income to high-income, as \$2,000, \$7,250 and \$11,750, at 1990 PPP dollars, based on Maddison’s estimation. According to the definition, Japan transited to a lower middle-income country from a low-income country in 1929. After that, however, Japan experienced huge economic, political and military turbulence, such as the Great Depression, Sino-Japanese War, World War II. From an economic standpoint, the defeat at the World War II had the most serious negative impact on the Japanese economy. While per capita GDP of Japan was \$ 2,659 in 1944, it declined to be \$ 1,346 in 1945, and remained 1,444 in 1946. In other words, Japan returned to a low-income country just after the war (Figure 2).

Figure 2

Nevertheless, the recovery of the Japanese economy after the war was very swift. As early as in 1951, per capita GDP recovered to be a prewar (1934-36 average) level and became over \$2,000, the threshold from low-income country to lower middle-income country. The average annual growth rate of real GDP was 9.9% in this recovery period. The Japanese government thought that this high growth was because the Japanese economy was in the process of the recovery from the war damage, and that after the recovery was completed, it would be difficult to continue high growth. The oft-cited sentence of the *Annual Economic Report (Keizai Hakusho)* for 1956, “the ‘post-war’ period is over” was not an optimistic declaration of the accomplishment of economic recovery, but the warning about the end of the “growth through recovery”. At the same, the Report stressed that the growth after that would be achieved only through “modernization”. Here “modernization” covered not only technologies, but also economic and social structure (Economic Planning Agency 1956, p.42). Indeed, as we will see below, Japan achieved the high growth, through upgrade of industrial technologies and reallocation of resources across industries.

From the middle of the 1950s to the early 1970s, when the first Oil Shock occurred, the Japanese economy continued high growth around 10% per year, while the annual growth rate of per capita GDP was around 8%. After the Oil Shock, the economic growth slowed down, but the annual growth rate of GDP remained 4-5% until the early

¹ The Maddison-Project, <http://www.ggdc.net/maddison/maddison-project/home.htm>, 2013 version.

1990s, when the asset “bubble” burst. The 1970s was an epoch in the modern history of the Japanese economy. In this period, Japan finally caught up with the U.K. in terms of per capita GDP (1979), and also it transited to a high income country (1977) (Figure 2).

The growth of the Japanese economy in the postwar period was accompanied by substantial structural changes. Figure 3 illustrates the structural change at the aggregate level. While the primary industry, mainly the agriculture, had more than 40% of the industrial workers in 1955, the workers in the primary industry declined sharply after that. Meanwhile, the workers in the secondary and tertiary industries increased. In this sense, the high growth was a process of resource reallocation from the primary industry to the secondary and tertiary industries. Furthermore, within the secondary industry, a structural change occurred as well. Figure 4 shows the number of workers in the secondary industry by subcategory. The workers in the machinery industry increased sharply, while workers in the textile and mining industries declined substantially. The textile and mining industries were the leading industries in prewar Japan. As these changes indicate, the postwar growth was characterized by a shift of the leading industries.

Figure 3, Figure 4

It is notable that these structural changes had a positive impact on productivity, because the direction of resource reallocation was basically from the industries with lower productivity and lower productivity growth to those with higher productivity and higher productivity growth. In order to see the effect of resource reallocation, I decompose the change in labor productivity of the private sector (value added at 1955 price/number of workers) into three components, namely, the effect of productivity change within each industry (within effect), the effect of reallocation of resource from the industries with lower productivity to those with higher productivity (between effect), and reallocation of resource to the industries with higher productivity growth rates (covariance effect). Formally, these effects are written as:

$$\begin{aligned}
 \text{within effect} & \quad \sum_i \theta_{it-1} \Delta LP_{i,t} \\
 \text{between effect} & \quad \sum_i \Delta \theta_{it} (LP_{it-1} - LP_{t-1}) \\
 \text{covariance effect} & \quad \sum_i \Delta \theta_{it} \Delta LP_{i,t}
 \end{aligned}$$

, where θ_{it} denotes the weight of industry i in terms of the number of workers in year t , and LP_{it} denotes the labor productivity of industry i in year t . We call the sum of between effect and covariance effect as reallocation effect.

First, we divide the macro-economy into three sectors, i.e. the primary, secondary and tertiary sectors, and apply this decomposition formula (Table1). From 1955 to 1975 labor productivity in the sense above increased from 0.213 million yen to 0.926 million yen. The increase of 0.713 million yen is decomposed into 0.508 from within effect, 0.205 from reallocation effect. It is true that most of the labor productivity increase came from within effect, but the magnitude of reallocation effect is substantial (Table 1). The same decomposition can be applied to the labor productivity increase in the secondary

industry, by dividing the secondary sector into 22 industries (Figure 5). From 1955 to 1975, labor productivity of the secondary industry increased from 0.438 million yen to 2.710 million yen. The increase of 2.272 million yen is composed of 2.077 within effect and 0.195 reallocation effect. The contribution of within effect is much larger, but reallocation effect is not negligible here as well. Illustrating the results by industry, we find that reallocation effect is large in the machinery industries. While the machinery industries grew rapidly as we have seen in Figure 3, labor productivity of those industries increased fast as well. Large reallocation effects of the machinery industries reflect the combination of their high growth and high productivity growth.

Table 1, Figure 5

As we have just seen, the Japanese economy passed through the middle income phase in the period from the 1950s to the 1970s, and the labor productivity growth in this period was achieved by resource reallocation across industries as well as productivity increase in each industry. In the following sections, we explore how industrial policy related with these changes.

3. Start of the market-based industrial policy

(1) Setting the goal: Transition to a market economy and the “industrial rationalization” policy

The process of economic recovery can be divided into two phases, before and after the so-called “Dodge Plan”. Before the Dodge Plan, the Japanese economy was under the wide-ranging government control that was taken over from the wartime. Policy measures developed for managing the war economy was used to reconstruct the economy. “Priority Production” policy (*Keisha Seisan Hoshiki*) in 1947 and 1948 was a typical case. One of the central measures for the priority production was to concentrate resource to a couple of strategic industries such as coal and steel, and for this purpose, the rationing system and the “Commodity Allocation Plan” were used. And closely tied with the rationing, prices of commodities were controlled by the government as well (Okazaki 2002).

Under the regime of planning and control, industrial production started to recover, but the government had huge deficit, and high inflation continued. In this situation, in early 1949, Joseph Dodge was dispatched by the U.S. government as the advisor of the Supreme Commander of Allied Powers. Dodge stressed balancing the government budget to stop inflation, but at the same time he instructed to abolish government controls and to unify exchange rates. By this set of policies, the Japanese economy transitioned from a controlled economy to a market economy in 1949.

It is notable that this transition was enforced by the occupation authorities. As the Japanese economy was under the strict government controls, private firms and their employees had been accustomed to the economy without market competition for more than ten years. Indeed, even under the occupation, harsh labor disputes took place to resist layoffs by the firms which had hoarded excess employment (Okazaki and Okuno-Fujiwara eds. 1999). If Japan had been an independent nation with democracy, such a drastic change in economic regimes would not be easy.

Just after the Dodge Plan, the Japanese government was seriously concerned about the international trade of Japan. The *Annual Economic Report* for 1953 focused on the fact that the international trade of Japan was still smaller than a half of that in 1937, although the international trade of major European countries recovered to the prewar level. The Report pointed out three concerns about the international trade. First, the trade with the colonies and China, which was around 40% of the prewar trade, disappeared. Second, raw silk, the major export commodity to the U.S. in the prewar period was substituted by synthetic fibers. And finally, export of cotton products to Asian countries is declining because of the industrialization of those countries. Based on this observation, the Report stressed the necessity of economic restructuring (Economic Planning Agency 1953).

This view was taken over by the Five Years Plan for Economic Independence (*Keizai Jiritsu Gokanen Keikaku*), the first official long-term economic plan in postwar Japan, decided by the Cabinet Meeting in 1955. The final goal of the Plan was “economic independence,” which meant balancing the international payments without foreign aids and the Special Procurement Demand from the U.S. Army. Given this goal, the Plan argued, “Because of the development of light industries in developing countries, we need to change the main part of export from light industries products to heavy industries products. For this purpose, we should change the industrial structure, strengthening and expanding the secondary industry, especially heavy industries” (Economic Planning Agency ed. 1955, pp.30-31). In particular, the iron and steel industry and the machinery industry were expected to be major export industries in this plan (ibid, p.40).

The vision that Japan should upgrade the industrial and export structure with heavy industries as a leading sector, was shared in the government when Japan transited to a market economy. This vision was reflected in the organizational reform of the government. In April 1949, the Ministry of International Trade and Industry (MITI) was established, by integrating the Ministry of Commerce and Industry (Shoko Sho) and Agency of International Trade (*Boeki Cho*). The proposal of the law for establishing MITI wrote that the motivation of the law was directing the industrial policy to export promotion².

From just after its establishment, MITI engaged in the policy of “industrial rationalization” as its central policy. To put it briefly, industrial rationalization referred to enhancing efficiency of the industries and reducing the prices. In a document titled “On industrial rationalization” (*Sangyo Gorika ni kansuru Ken*, September 8, 1949), MITI wrote “Industrial rationalization has become an essential requisite to the economy by balancing of the budget, unification of the exchange rate, and implementation of the sound financial policy.”³ It clearly shows that the industrial rationalization was motivated by the Dodge Plan and the transition to a market economy.

² “Tsusho Sangyo Sho Secchi Hoan yoko” (Outline for the Establishment of the Ministry of International Trade and Industry), April 15, 1949 (National Archives of Japan Digital Archive, 平 14 内閣 00066100).

³ “Sangyo gorika ni kansuru ken” (On industrial rationalization,” September 8, 1949 (National Archives of Japan Digital Archive, 平 14 内閣 00083100).

(2)Preparing new policy tools

As the industrial rationalization policy started given the transition to a market economy, economic controls were no longer applicable for the policy, and it was necessary to prepare a new sets of policy tools. Indeed, in the early 1950s, new policy tools were introduced.

One of the major tools was public financial institutions, more specifically, Japan Development Bank (JDB). JDB was founded in 1951 to supply long-term fund for economic reconstruction and industrial development by complementing or promoting finance by private financial institutions. There was a public financial institution, the Reconversion Finance Bank (RFB) before the Dodge Plan, but the loan policy of RFB was given the economic controls, and it sometimes disregarded the soundness of the loan. On the other hand, JDB made it a principle to achieve both sound banking and policy-based finance. In this sense, JDB was designed to be a public financial institution friendly to a market economy. There were two specific backgrounds for the foundation of JDB. First, it was essential to renew industrial equipment to enhance efficiency, as we will see in detail later, and to do that a long-term fund was needed. Second, large amount of fund was absorbed by the postal saving system, because people preferred it to private financial institutions and firms, which were damaged by the war. JDB was designed to be a channel for return the postal savings fund to the private sector. The mechanism to supply the postal savings fund to the private sector was established as the Fiscal Investment and Loan Program (*Zaisei Toyushi*, FILP) in 1953, and JDB loans were incorporated into FILP. Figure 6 compares the new loans of JDB with the new long-term loans of private banks⁴. It clearly shows how substantial role JDB loans played especially in the 1950s. There were three private long-term credit banks and other private banks supplied long-term fund, but JDB loans were larger than the total long-term loans of private banks, in the 1950s.

Figure 6

The second policy tool was the tax relief. In 1951, “special depreciation” was introduced by the revision of the Tax Special Treatment Law (*Sozei Tokubetsu Sochi Ho*). For the equipment recognized to contribute to the reconstruction of the Japanese economy, a firm was approved additional depreciation up to 50% of the ordinary depreciation (Ministry of International Trade and Industry ed. 1972, pp.194-195, pp.210-212). In 1952, special depreciation was expanded by the Corporate Rationalization Promotion Law (*Kigyo Gorika Sokushin Ho*). By this law, for the new equipment necessary to modernization of production in the designated important industries, a firm was approved to write off a half of the book value in the year of installment (ibid, p.212-213). The special depreciation enabled a firm to defer the tax payment, which had the implications of relaxing the liquidity constraint and reducing the discounted present value of tax. As the interest rate in Japan was high (around 10% per year) in this period, the latter effect was fairly large (Ogura and Yoshino 1984).

⁴ All of the JDB loans were long-term loans.

Figure 7

The third policy tool was the foreign exchange allocation system. When the direct control on the international trade was removed in 1949, a new system to regulate international trade was introduced. The legal framework was provided by the The Foreign Exchange and Foreign Trade Administration Law (*Gaikoku Kawase and Gaikoku Boeki Kanri Ho*), enacted in December 1949. According to the law, all the foreign exchange was concentrated with the government, which then allocated foreign exchange based on the “foreign exchange budget”. The part of the budget for commodity imports was drawn up by the MITI. The foreign exchange budget was classified into two categories, the budget for foreign exchange allocation goods (FA goods) and that for the automatic approval goods (AA goods) (Okazaki and Korenaga 1999). In the 1950s, the FA budget accounted for 70–80% of the total foreign exchange budget (Figure 8).

Figure 8

The distinction between the FA and AA budgets was essential because, with respect to the FA goods, the budget was allocated to individual commodities. This implies that the MITI could impose de facto import quotas on FA commodities, using the foreign exchange allocation budget, given their prices. The MITI used this system to protect domestic industries. Meanwhile, in relation to industries that heavily depended upon imported raw materials, by controlling foreign exchange allocations to the raw materials, the MITI could indirectly control production in those industries. Furthermore, it is notable that the MITI allocated the foreign exchange budget for each FA good to individual firms. This implies that the MITI allocated rent to individual firms because the import of FA goods was more or less restricted. Thus, the MITI promoted exports and investment of individual firms by linking the foreign exchange allocation to exports and equipment, respectively (ibid).

(3) Updating equipment of basic intermediate goods industries

The main targets of the industrial rationalization policy in the early stage was basic intermediate goods industries, in particular, iron and steel industry and coal mining industry. These two industries developed in Japan in the prewar period, and were treated as the strategic industries during and after the war. However, when the Japanese economy transited to a market economy, their equipment was obsolete, and the low efficiency and high prices of coal and steel were seriously concerned.

In December 1949, MITI established the Council for Industrial Rationalization (*Sangyo Gorika Shingikai*) to examine the concrete policy measures for industrial rationalization. The first report of the Council was titled “On rationalization of the iron and steel industry and the coal mining industry” (*Tekkogyo oyobi sekitan kogyo no gorika nitsuite*, June 24, 1950), and based on this report the Cabinet Meeting decided “Outline of the policies for rationalizing the iron and steel industry and the coal mining

industry” (*Tekkogyo oyobi sekitan kogyo gorika shisaku yoko*, August 18, 1950)⁵.

The appendix document of the Cabinet Meeting decision explains the background of the policy that focused on these two industries⁶. It argued that the coal price was much higher than the international price, which in turn was an impediment for the competitiveness of other industries. Especially the impact of the high coal price was serious to the iron and steel industry, because the percentage of the coal cost was high in its total cost. The document pointed out that a high price of steel was a problem not only because it would impede steel export, but also because it would be an obstacle to the export of machinery. In this sense, the rationalization of the iron and steel industry and the coal industry was designed to promote export of machinery.

The decision of the Cabinet Meeting committed to take some specific measures for supporting rationalization of the iron and steel industry and the coal industry. The measures included supply of low interest rate fund, priority allocation of foreign exchange to the import of equipment and technologies from foreign countries. Figure 9 indicates the investment in the iron and steel industry and the percentage of JDB loan in the total fund raised for investment by the iron and steel industry. Although the scale was not so large compared with the high growth period, the iron and steel industry resumed investment in the early 1950s, and in this early stage, JDB loan played a substantial role. Also, as shown in Figure 7, in the 1950s, the iron and steel industry extensively utilized the program of special depreciation. It is notable that in the 1950s, the iron and steel industry introduced new equipment that embodied advanced technologies, in particular oxygen top blowing converters for steelmaking and strip mills for rolling (Figure 11), which established the competitiveness of the Japanese iron and steel industry in the international market.

Figure 11

(4) Promoting new industries

As stated above, the government expected the machinery industry to be a major export industry from the early 1950s. The automobile industry, a part of the machinery industry, was included as an object of promotion from the early stage, at least by the authorities of industrial policy in the government. In October 1948, the Ministry of Commerce and Industry (MCI), the predecessor of MITI, announced “Basic plan on the automobile industry” (*Jidosha kogyo kihon taisaku*). This plan was related to the “Plan for Economic Recovery” (*Keizai Fukko Keikaku*), whose first draft was drawn up in May 1948. In the “Basic plan” MCI argued that the demand for new automobiles based on the “Plan for Economic Recovery” should be met by increase in the domestic production, and that they would promote automobile export focusing on the East Asian market. (Sakurai 2005, p.124-125).

MITI’s argument that the automobile industry should be promoted, was not a consensus in the early 1950s. Indeed, the Ministry of Transportation and the

⁵ National Archive of Japan Digital Archive, 類 03511100-014.

⁶ Ministry of International Trade and Industry, “Appendix to “Outline of the policy to rationalize the iron and steel industry and the coal mining industry”.

transportation industry preferred imported cars, while the Bank of Japan was skeptical on the protection of the domestic automobile industry from the stand point of comparative advantage (Japan Automobile Manufacturers Association 1988, p.81). Given these criticism, MITI published a pamphlet titled “For understanding of the domestic cars” (*Kokusai joyosha no rikai no tameni*) in 1952 to appeal to the mass people. In this pamphlet MITI argued, “The automobile industry is the only general assembly industry substituting the aircraft industry, and the development of the automobile industry and its related industries is essential to the development of the Japanese economy,” and until the domestic automobile industry develops well, we should ensure its survival by some measures”. (ibid, pp.83-84).

First MITI protected the automobile industry by regulating foreign direct investment. In June 1952, MITI decided “The basic policy on the capital import concerning the passenger car industry,” to restrict the foreign direct investment. Meanwhile, MITI promoted domestic automobile firms to adopt foreign technologies. According to this policy, several domestic firms adopted technologies, such as Nissan from Austin (UK), Isuzu from Hillman (UK) and Hino from Renault (France) (ibid, pp.106-107; Ministry of International Trade and Industry ed. 1990, pp.552-553). Restriction of FDI increased the incentives of foreign automobile firms to license their technologies to Japanese firms

Based on the technology adoption, the government took a measure to reduce car import strictly. That is, the government curtailed the foreign exchange budget for passenger car import in 1954 (Industry Research Meeting, Long-term Credit Bank of Japan, 1975, p.438). As stated above, this measure implied de facto import restriction by quota, and hence the passenger car import declined sharply in 1954 and stayed at a low level from then (Figure 12). In this sense, the Japanese automobile industry developed under strict government protection from import.

A characteristic of the automobile industry promotion policy in Japan is that the government took measures on automobile parts industries as well as on the assembling industry (ibid, p.558). This characteristic partly reflects the feature of the industrial organization of the Japanese automobile industry. That is, compared with the US counterpart, the extent of vertical integration of parts producing processes has been much smaller in the Japanese automobile industry. In other words, Japanese car assembling firms heavily depended upon outside parts suppliers (Asanuma 1989). Given this feature and that the qualities of the parts were low, MITI took the policy to upgrade the automobile parts industry.

In 1956, the Act on Temporary Measure for the Promotion of Machinery Industry (*Kikai Kogyo Shinko Rinji Sochi Ho*) was legislated. The targets of this law were “basic machinery” including machine tool and mold, “common parts” including gear and bearing, and “specific machinery” including automobile parts and watch parts. With respect to each of those machines and parts, MITI drew up a “basic plan” for cost reduction and investment. And based on the plan, firms were provided policy treatments such as low interest rate loan from JDB, tax relief by special depreciation and exemption of Antitrust Law (Odaka and Matsuhima 2013, pp.4-7). Figure 13 indicates JDB loans by industry. Increase in the loans to the machinery industry in 1956 reflect the enactment of the Act on the Temporary Measures for the Promotion of

Machinery Industry. According to Odaka(2013) this law contributed to improving qualities of automobile parts and labor productivity (p.86).

4. Trade liberalization: Upgrading the trade and industrial structure

(1) Trade liberalization and industrial structure policy

As we have just seen in the previous section, the foreign exchange allocation system was a powerful tool for industrial policy, and for that reason Japan had a pressure from foreign countries and international organizations to abolish this system. For example, the annual meeting of IMF in September 1959, adopted a statement that Japan was imposing restriction on import and utilized it for industrial policy, although the Japanese economy had already recovered (Ministry of International Trade and Industry ed., 1990, pp.179-180; Asai 2015, p.250). Also, at the annual meeting of GATT in October 1959, many countries criticized Japan for continuing import regulation for the reason of balance of payments (Ministry of International Trade and Industry ed.,1990, pp.180-181; Asai 2015, pp.251-252).

Expecting the external pressure for trade liberalization, MITI started to examine the countermeasures to trade liberalization. In January 1959, MITI established the Committee on the Countermeasures to Trade Liberalization (*Boeki Jiyuka Taisaku Inka*), which was composed of relevant section chiefs of MITI (The Ministry of International Trade and Industry ed., vol.6, p.174). MITI thought that it was necessary to secure such measures as tariff protection, subsidies to industries and import quota for infant industries, in designing the program for trade liberalization (ibid, p.174). Meanwhile, MITI set up another organization, Research Committee on Industrial Structure (*Sangyo Kozo Kenkyukai*) in May 1959, which was composed of MITI's staffs and representatives of industrial society. Its mission was to explore the future prospect of the industrial structure and competitiveness of each industry.

MITI's view on the trade liberalization, based on these examinations, was systematically presented the 1960 issue of *White Paper on International Trade (Tsusho Hakusho)* (Ministry of International Trade and Industry ed. 1960). On the one hand, MITI admitted the positive impact of trade liberalization:

By trade liberalization, free and multilateral commodity exchanges become possible across countries, and thereby the price mechanism fully works and economic development is generated by international competition. Those industries accustomed to protection will be stimulated and urged through rationalization. Active interaction with the international economy will increase incentives for export.

On the other hand, however, MITI pointed out concerns about trade liberalization. First, MITI stressed that trade liberalization should not impede the policy for promoting heavy industries in progress. According to MITI, development of heavy industries was essential to the growth of national income, and also heavy industries were expected to contribute to export growth, given that developing countries were industrializing and that the share of heavy industries products was increasing in the world trade. Nevertheless, many of heavy industries in Japan did not have international

competitiveness, because of shortage of capital and backwardness of technologies.

Another concern was on the natural resource-based industries, such as the agriculture, metal mining, coal mining and oil mining. With respect to the coal mining industry, MITI argued that although the coal price was substantially higher than oil price at that time, it would be possible to reduce the price for the domestic coal to compete with oil, and the drastic rationalization plan was on the process. Based on these reasons, MITI insisted that liberalization of trade of coal and oil was difficult for the time being. In this sense, MITI presented a view that trade liberalization was unavoidable and had a positive effect, but that it should be implemented sequentially, depending upon each industry's condition, more specifically present and future international competitiveness (Okazaki 2012).

Under the external pressure, the Cabinet Meeting decided "Outline for the program of liberalizing trade and foreign exchange" (*Boeki kawase jiyuka keikaku taiko*) in June 1960. It announced that "liberalization rate" would be raised to around 80% by June 1963. Liberalization rate here refers to the ratio of the import of AA goods to the total import, which was 41% in June 1961. As shown in Figure 8, this goal was fully achieved. Sharp rise in the liberalization rate in this figure reflects the rapid reclassification of FA goods into AA goods. Given the progress of the trade liberalization, the foreign exchange budget was abolished in April 1964, and the for the remaining FA commodities, the import quota system was introduced (Kiyota and Okazaki 2016).

It is notable that MITI's opinion on the sequential liberalization was adopted and authorized in this decision of the Cabinet Meeting. That is, the document stressed that the government should be careful about transitory negative effects on the economy, given that there were numerous small-sized farms and firms, and that many industries were still in the infant stage. On these grounds, a sequential liberalization plan by commodity was presented. Namely, the document classified the major 104 commodities into the following four categories according to the target year of liberalization: (a) those that should be liberalized promptly, (b) those that should be liberalized in about three years, (c) those for which they should make effort to liberalize soon after three years, and (d) those that would be difficult to liberalize for several more years (Naoi and Okazaki 2014). For example, coal and oil were classified into category (d), ordinary steel was classified into category (a), and small-sized car was classified into category (c).

As we can see in the description of the 1960 issue of *White Paper on International Trade*, this sequential liberalization strategy of MITI was based on its vision of the future industrial structure. MITI's vision echoed with another important decision of the Cabinet Meeting, namely "Income Doubling Plan" decided in December 1960. The Plan stressed the importance of upgrade of industrial structure in order to achieve its goal of income doubling, and stated in particular that "Machinery industry is a strategic industry that leads jumping development of the economy and upgrade of the industrial structure (Economic Planning Agency ed. 1961).

Given these two decisions of the Cabinet Meeting, MITI started the policy for upgrading industrial structure. For this purpose, MITI established the Investigation Committee on Industrial Structure (*Sangyo Kozo Chosakai*) in June 1961. In 1963 it published the report. The report stressed that the process of upgrading industrial structure would be accompanied by continuous restructuring of industries. While some

industries would lead upgrade, other industries should carry out drastic restructuring with scraping inefficient equipment and layoffs of workers. The report argued that this process will be executed by the market mechanism in the long-run, but to fix conflicts in the process, policy interventions are required. That is, the government should support investment for cost reduction, reduction of production capacity and shift of labor force to growing industries. It is notable that MITI recognized the importance of adjustment of declining industries, which started in the 1960s as we will see on the coal mining industry below, and became the major issue of industrial policy in the 1970s and 1980s, after the two Oil Shocks.

(2)Promotion of automobile industry

The trend of trade liberalization had a substantial impact on the automobile industry in the early 1960s. In April 1961, the trade of bus, truck, motor bike not larger than 250 cc, and a part of automobile parts, were liberalized (Ministry of International Trade and Industry ed. 1990, p.296), while a passenger car was still under the foreign exchange allocation system. This trend urged MITI to examine the measures to upgrade the passenger car industry, so that it could survive the international competition and develop after the trade liberalization.

In May 1961, the Industrial Fund Committee of the Industrial Structure Council drew up a plan of consolidating passenger car firms into three groups, namely mass production car group, special car group and small car group. Also, in September 1962, the Special Committee for Policy on Passenger Cars (*Joyosha Seisaku Tokubetsu Shoiinnkai*) was established under the Investigation Committee on Industrial Structure (Yomiuri Shinbun, September 13, 1962). The report of the Committee in December 1962, stressed the following points: Assuming that the trade of passenger cars would be liberalized by March 1965, car production should be consolidated through reduction of models, cooperation between car producers, merger, and restriction of new entries (Ministry of International Trade and Industry ed. 1991 (vol.8), p.337).

As reflected in these plans, MITI intended to consolidate car producers into a small number of firms to improve their international competitiveness. For this purpose, MITI drew up drafts of new laws that enabled it to intervene with the process of consolidation and cooperation between private firms. The most well-known draft is the Draft Bill of the Temporary Law for Promoting Designated Industries (*Tokutei Sangyo Shinko Rinji Sochi Hoan*), which was proposed to the Diet in May 1963. The designated industries included ferroalloy, special steel, automobile, tire and petrochemical. However, this draft bill was rejected by the diet. This was because many powerful actors including Ministry of Finance, the financial business world, and Japan Socialist Party, the largest opposition party, did not support the bill (Ministry of International Trade and Industry 1990, pp.79-81, 296-298).

While MITI's idea of consolidating the passenger car industry by policy intervention was rejected, policies to promote the passenger car industry continued in the 1960s. In 1961, the Act on the Temporary Measures for the Promotion of Machinery Industry, which was legislated in 1956 for 5-year term limit) was renewed. As shown in Figure 13, JDB loans to the machinery industry, which was according to the Act, increased sharply in the 1960s. In addition, after the renewal, Small Business Finance

Corporation (*Chusho Kigyo Kin'yu Koko*) started to provide low interest rate loans to the designated industries, as most of the borrowing firms were small and medium-sized. Also, the passenger car industry continued to be protected by import quota until October 1965 (Ibid, p.304). At the consultation on Japan's trade liberalization by IMF in June and July 1961, MITI argued that the passenger car would be under the foreign exchange allocation system after April 1963, because in order for the Japanese passenger car industry to be competitive, it was necessary to raise each firm's annual production from 4,000 cars to 10,000 cars (Asai 2015, p.295). It is notable that the Japanese passenger car industry was already an export industry, when the trade of passenger cars was liberalized in 1965 (Figure 12). That is, MITI continued protection until the passenger car industry was well established in the international market.

(3) Adjustment of coal mining industry

The coal mining industry was one of the leading industries in Japan from the prewar period, and especially during and just after the war, it was promoted by the government as a strategic industry. Indeed, increasing coal production was the most important target of the so called "priority production" policy in the late 1940s. In 1953, coal was the largest source of energy in Japan and the coal mining industry employed around 322 thousand workers (Figure 14, 15). However, as imported oil became an alternative source of energy and the international price of oil declined, coordination between coal production and oil import was getting a serious policy issue.

Figure 14, Figure 15

In the 1950s, MITI and the government took a position of giving priority to coal production. In March 1954, MITI decided the document titled "Coordination between coal and oil," which was approved by the Cabinet Meeting. In this document, MITI stated that they should decrease coal price, while restricting consumption of heavy oil. MITI's idea was that coal was an important domestic natural resource and by exploiting it they could save foreign exchange. This policy was endorsed by another decision by the Cabinet Meeting in May 1955, "General Policy Measures on Energy." (Ministry of International Trade and Industry ed. 1991, pp.334-335, 341-342, 348-350). Based on this decision, MITI implemented two policies in the late 1950s, that is, regulation of oil consumption and rationalization of coal production. For regulation of oil consumption, the Law for Regulation of Heavy Oil Boiler was legislated in August 1955. According to this law, new installment of a heavy oil boiler was prohibited in principle, and MITI instructed firms with heavy oil boilers to remodel them for other fuels (ibid, pp.363-364).

Meanwhile, the Temporary Law for Rationalization of Coal Mining Industry was legislated in August 1955. This law provided the basic legal framework of rationalization and restructuring of the coal mining industry. According to the Law, first, MITI drew up a long-term rationalization plan and annual rationalization plans, which set the targets of production and labor productivity. Second, Corporation for Restructuring of Coal Mining Industry (*Sekitan Kogyo Seibi Jigyodan*) was established. This was a public corporation whose major role was acquiring inefficient coal mines to

shut down and payment of compensation to workers of closed mines. Also, MITI was given the authorities to approve the open of a new coal mine (ibid, pp.354-356). Under this legal framework, coal production and labor productivity increased gradually, while employment was maintained in the late 1950s (Figure 15).

However, the environment of the coal mining industry changed rapidly from 1958. Figure 16 compares the coal price and the heavy oil price per 1,000 kcal. In 1958, the heavy oil price declined sharply to be substantially lower than the coal price. In addition, by the pressure from IMF, the Japanese government decided to liberalize trade of crude oil in October 1962, in the “Plan for Accelerating Liberalization of Trade and Foreign Exchange” (September 1961) (Asai 2015, p.303). Given the decline in the heavy oil price and increasing availability of it by trade liberalization, energy consuming industries criticized MITI’s policy to restrict heavy oil boilers (Ministry of International Trade and Industry ed. 1991, pp.407-408; Kobori 2010, pp..189-190). In 1960, the Law for Regulation of Heavy Oil Boiler was renewed for three years, but a substantial revision was added. That is, heavy oil boilers smaller than 50m² and heavy oil boilers for power generation were exempt from the regulation. This implies that the regulation was de facto removed (Kobori 2010, pp.190-191).

Figure 16

In this situation, MITI was still stick to maintain coal production. Figure 17 shows the production target in the long-term plan decided in each year. Until 1966, the production target of 55 million tons was not revised (Shimanishi 2011, pp.200-201). Based on this plan, MITI expanded the support to rationalization of efficient coal mines and shut down of inefficient mines. For this purpose, Corporation for Restructuring Coal Mining Industry was reorganized to be Corporation for Rationalization of Coal Mining Industry in 1960, which had roles of supplying low interest loans and paying subsidies to closed mines, in addition to acquiring inefficient mines. For the workers who quitted coal mines, the government supported re-employment by the Temporary Law for Job Losers from Coal Mines (*Tanko Rishokusha Rinji Sochi Ho*) in 1959 (Yada 1995, p.1002; Corporation for Rationalization of Coal Mining Industry ed. 1976, pp.100-103). Loans from JDB to the coal mining industry increased in the 1960 (Figure 13).

Figure 17

Finally in 1967, MITI changed the policy to accept the gradual exit from the coal mining industry. To support the gradual exit, a new law, the Temporary Law for Restructuring Coal Mining Industry was legislated in 1967, which enabled the government to assume the debts of coal mining firms (ibid, p.1003). After that, production of coal declined sharply.

The process of adjustment of the coal industry above has two implications. First, MITI’s policy was not appropriate. Until the late 1960s, MITI was too optimistic about the prospect of the coal mining industry, and based on the optimistic prospect, MITI continued to invest resource to the coal mining industry, which, in turn, delayed Japan’s

exit from it. Second, however, this mistake was corrected finally in the late 1960s. This was because of the pressures from both inside and outside of Japan. That is, the industries consuming coals criticized MITI's policy to protect the coal mining industry excessively, while IMF and foreign countries continued to request the Japanese government to liberalize trade, in particular, the trade of crude oil.

5. Concluding remarks

Japan transitioned from a middle income country to a high income country in the period from the 1950s to the 1970s. This process was characterized by a large structural change, such as resource reallocation from the primary industry to the secondary and the tertiary industries as well as resource reallocation within the secondary industry. One of the difficulties that middle income countries face is that they should compete with low income countries in the markets of labor-intensive industries as well as with high income countries in the markets of capital and technology intensive industries (Bulman et al. 2017).

The Japanese government recognized this difficulty in the early 1950s, just after the Japanese economy transitioned to a market economy. Based on this recognition, the government, more specifically MITI, pursued two goals, upgrading major existing industries and promoting new leading industries at the same time. The former industries included the iron and steel industry and the coal mining industry, and the latter included the automobile industry, more specifically the passenger car industry. For these purposes and given the transition to a market economy, new policy tools were devised, namely public financial institutions, tax reliefs, subsidies and the foreign exchange allocation system. Especially, the foreign exchange allocation system was a powerful policy tool for protecting industries from international competition and for preferential treatment of imports by targeted industries. This regime of industrial policy worked through the 1950s.

However, as the Japanese economy well recovered from the war damage, international organizations and advanced countries came to be critical to the foreign exchange allocation system, and requested trade liberalization. Given the pressure of trade liberalization from the outside, MITI intended to prepare a new policy measure substituting the foreign exchange allocation system in the early 1960. With it MITI aimed at restructuring the industrial organization of strategic industries including the automobile industry. Also, MITI was stick to maintaining coal production even in the middle of the 1960s. These attempts of MITI indicate that it tended to intervene with the private sector excessively, but these attempts of excess intervention were finally withdrawn by the criticism and resistance of the domestic actors.

Transition to a high income country is a challenging task for a middle income country. With respect to Japan, the industrial policy played a positive role in the transition. However, positive effects of industrial policy were achieved not only by the contribution of MITI but also by the contribution of various actors inside and outside Japan, who constrained and corrected MITI's policy.

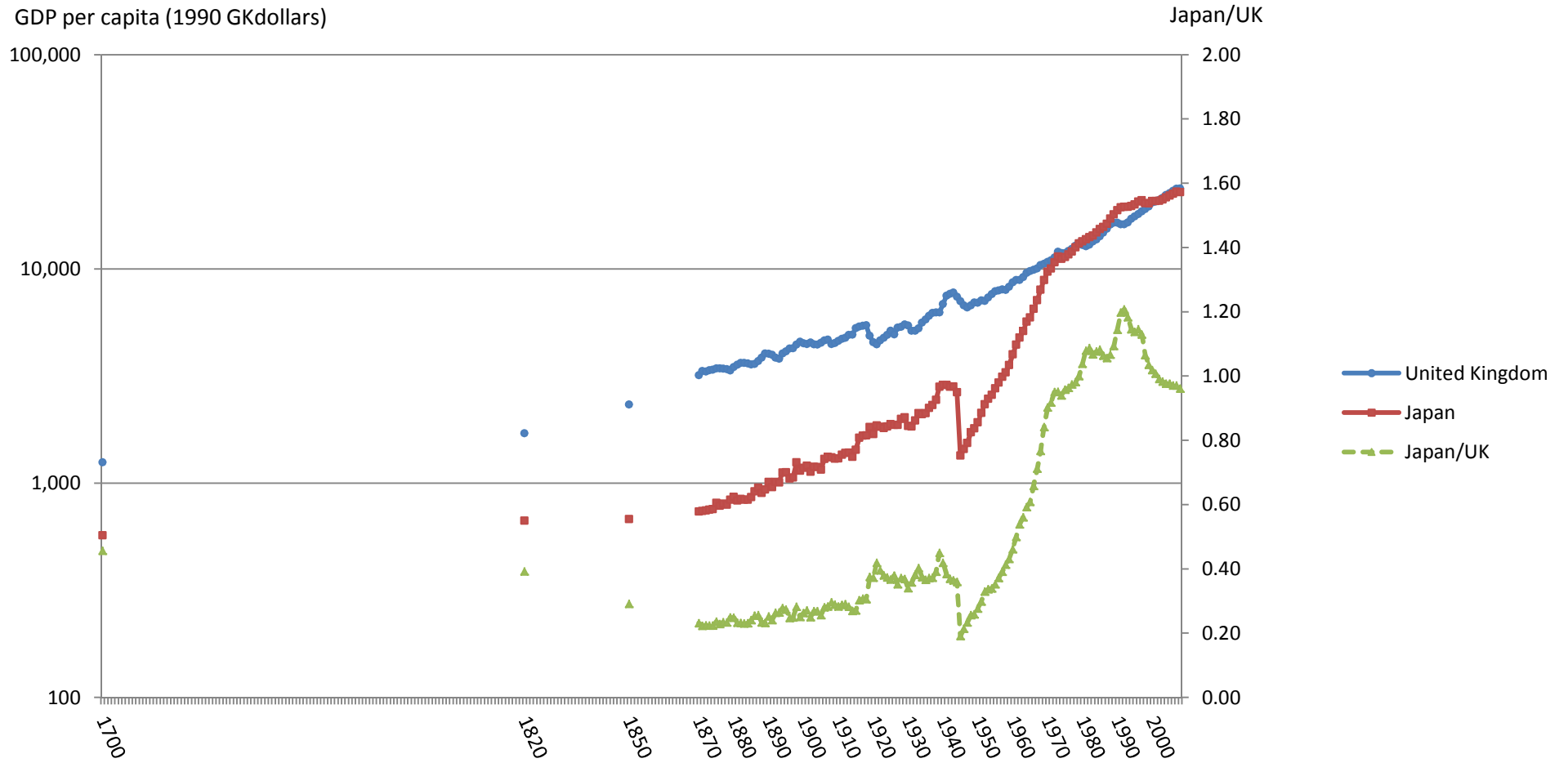
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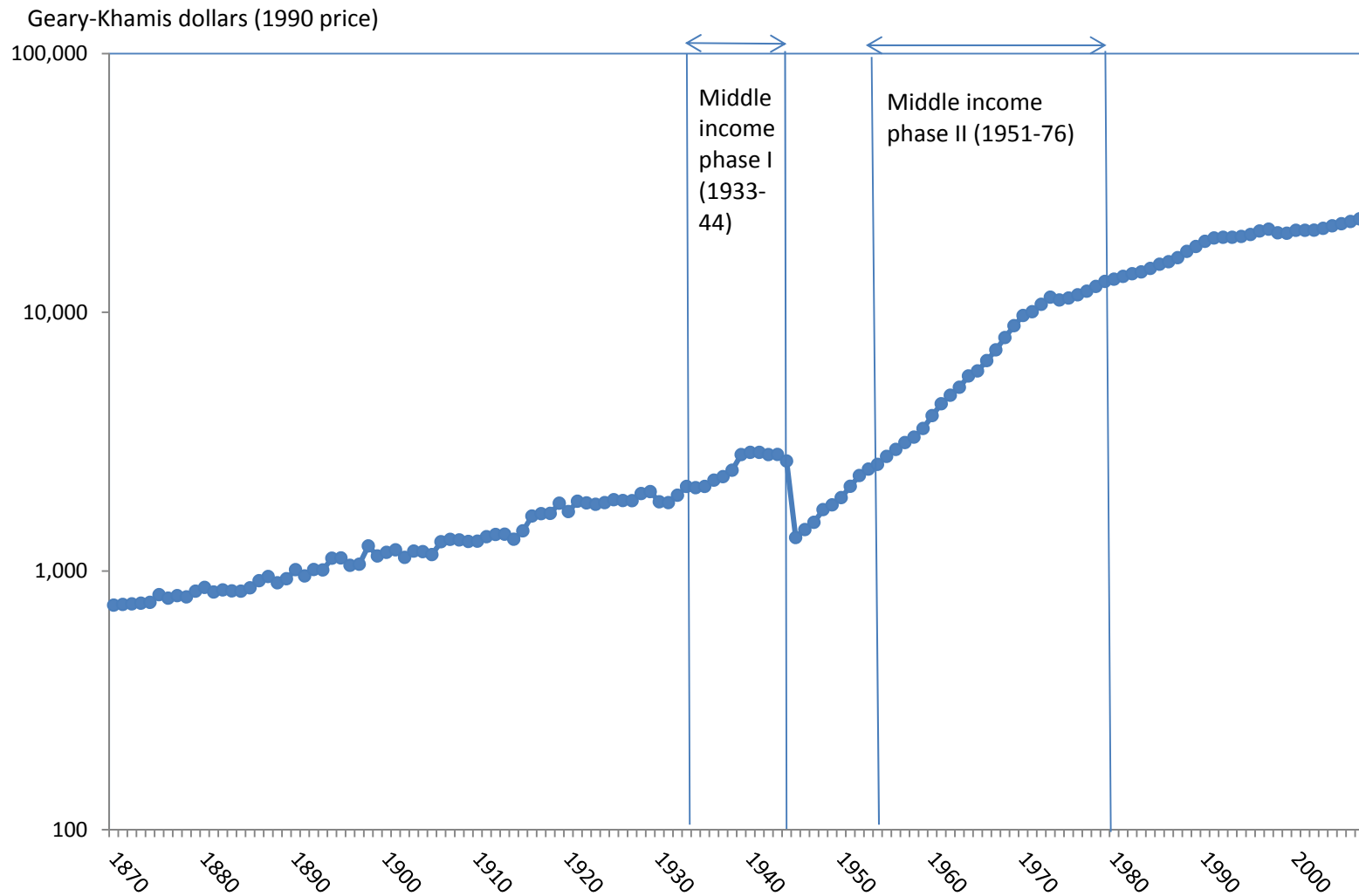
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Figure 1 "Great Divergence" and "Great Convergence"



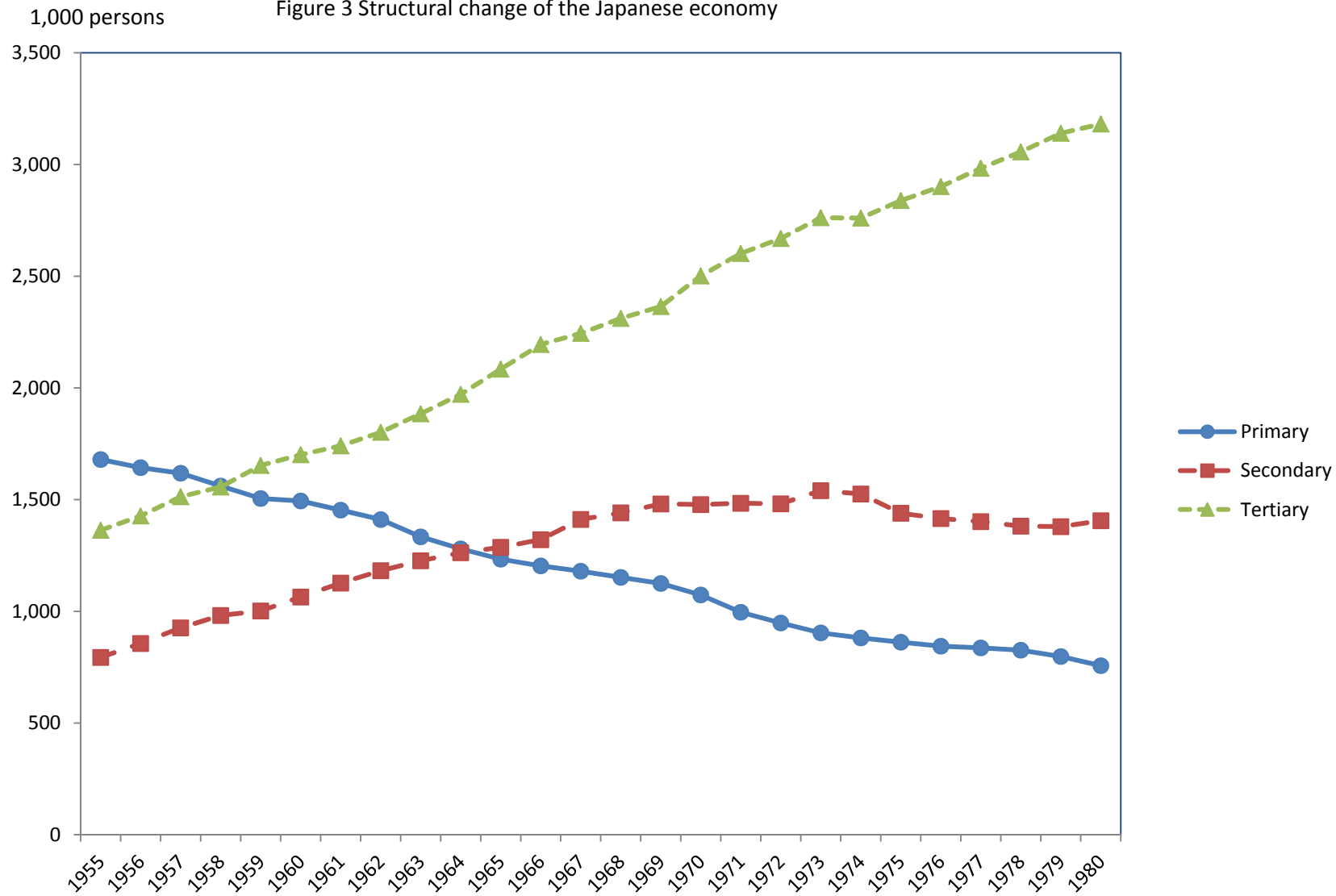
Source: The Maddison-Project, <http://www.ggd.net/maddison/maddison-project/home.htm>, 2013 version.

Figure 2 Middle income phases in the Japanese economic growth



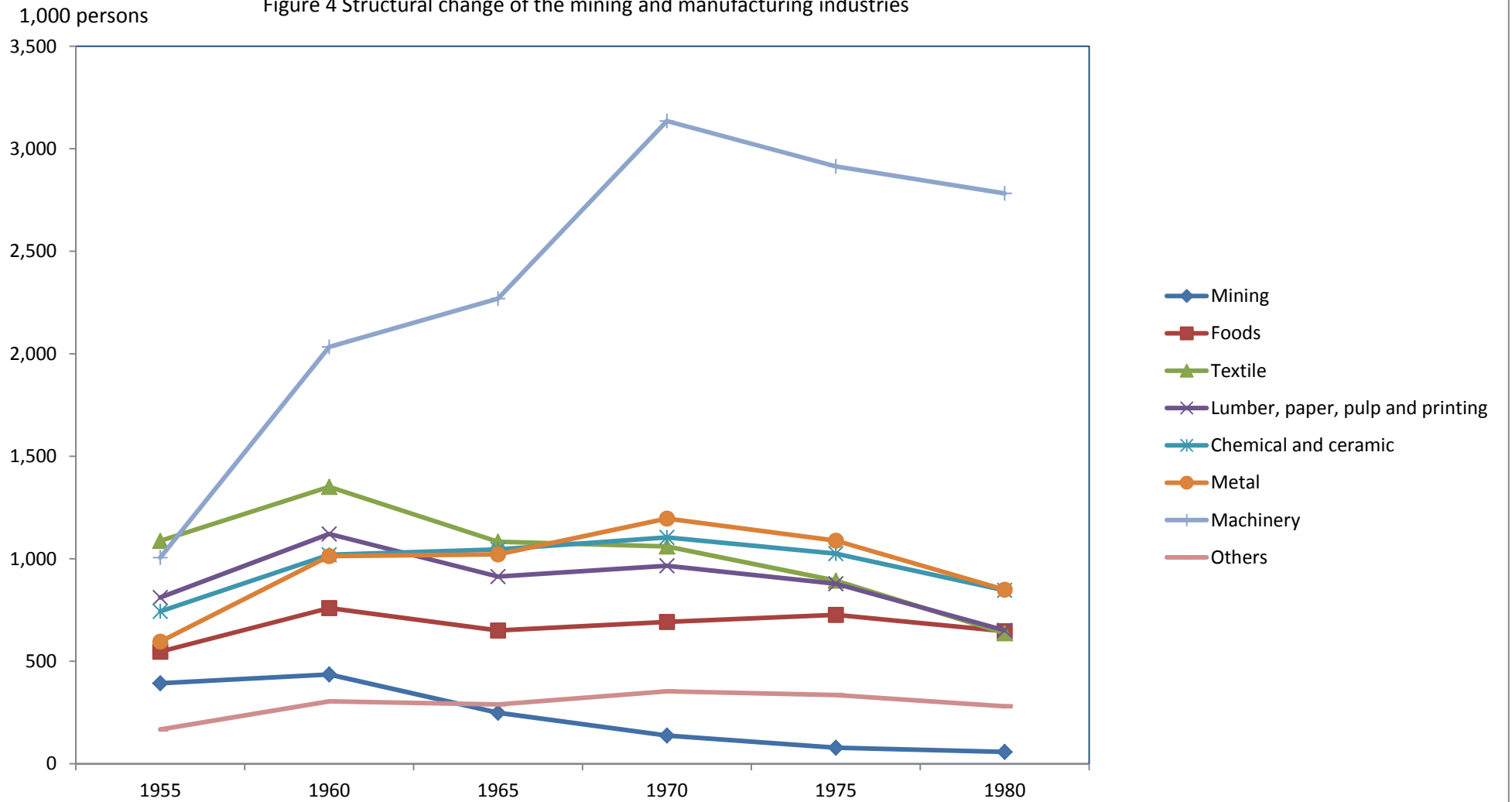
Source: The Maddison-Project, <http://www.ggd.net/maddison/maddison-project/home.htm>, 2013 version; Felipe (2012).

Figure 3 Structural change of the Japanese economy



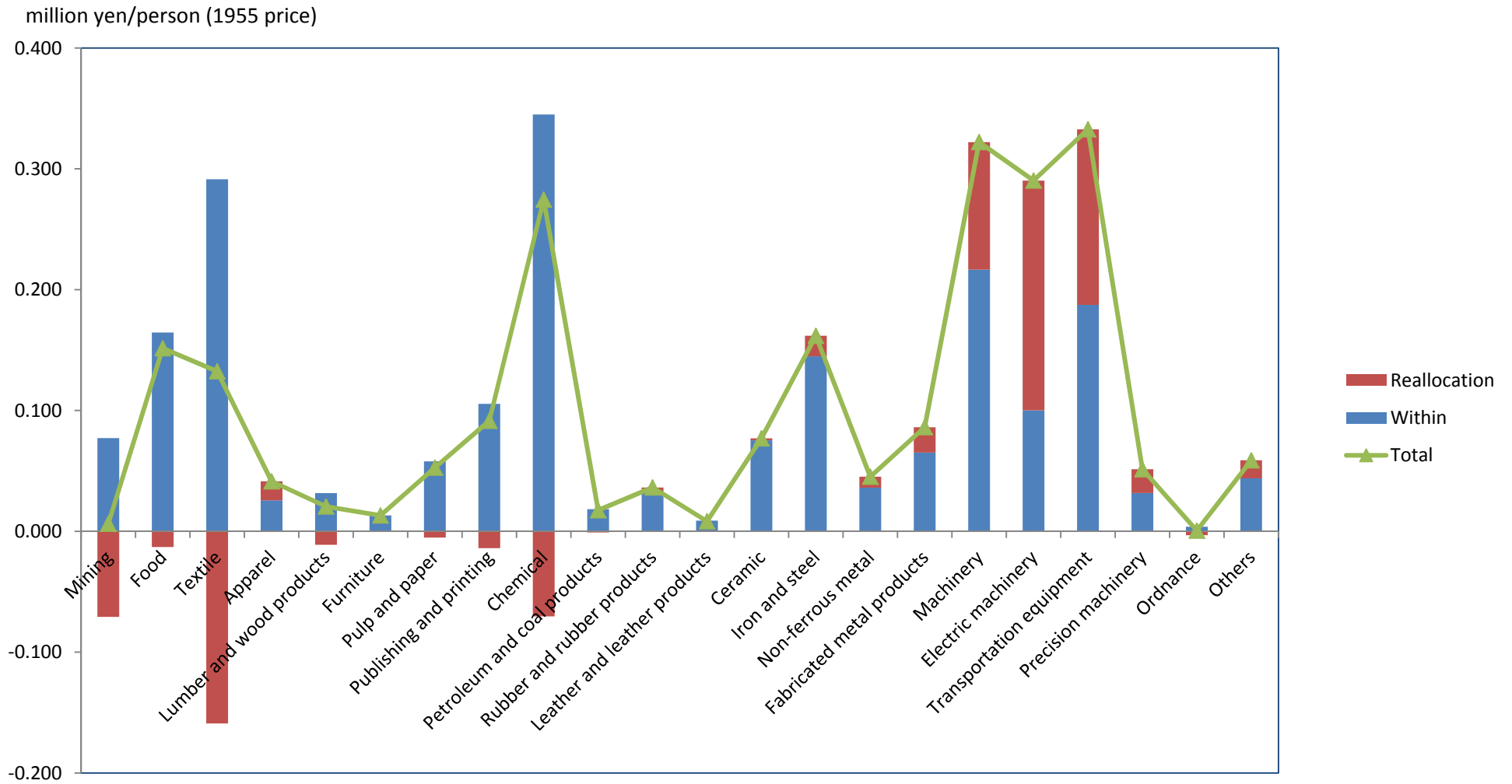
Source: Economic and Social Reserach Institute, Cabinet Office, Government of Japan (2001).

Figure 4 Structural change of the mining and manufacturing industries



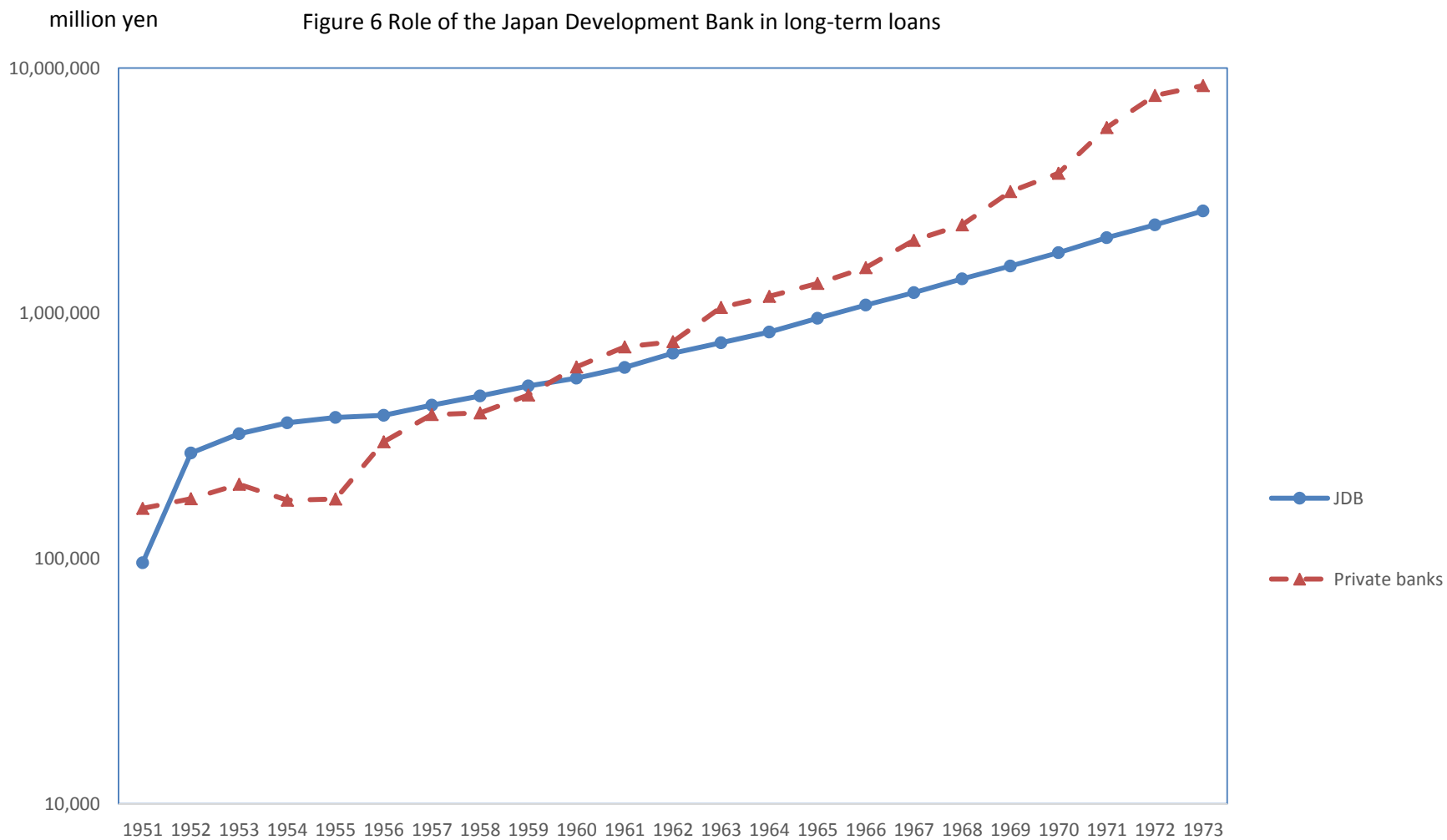
Source: Economic and Social Reserach Institute, Cabinet Office, Government of Japan (2001).

Figure 5 Decomposition of labor productivity change in the mining and manufacturing industries



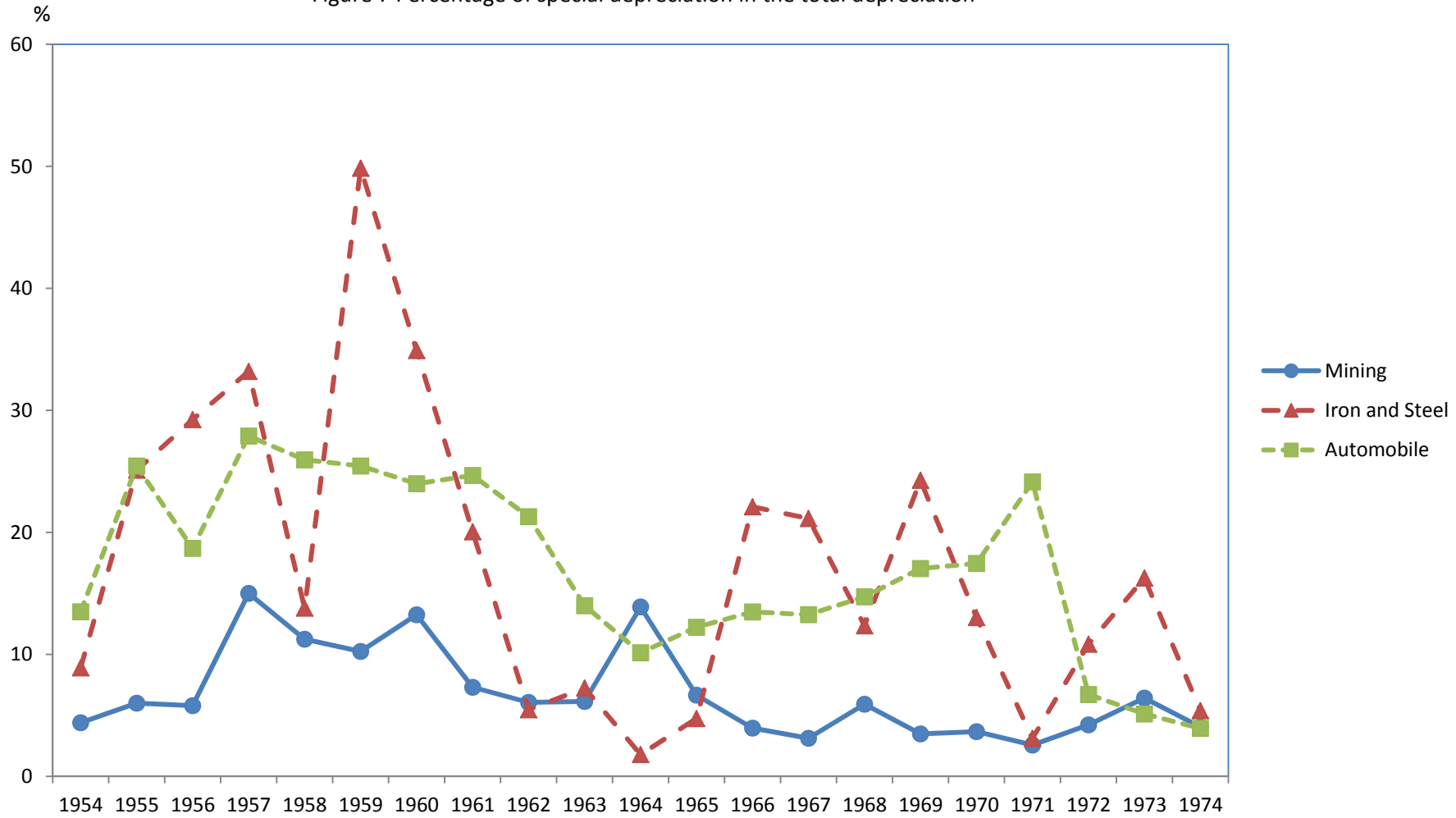
Source: Author's calculation from Economic and Social Research Institute, Cabinet Office, Government of Japan (2001).

Figure 6 Role of the Japan Development Bank in long-term loans



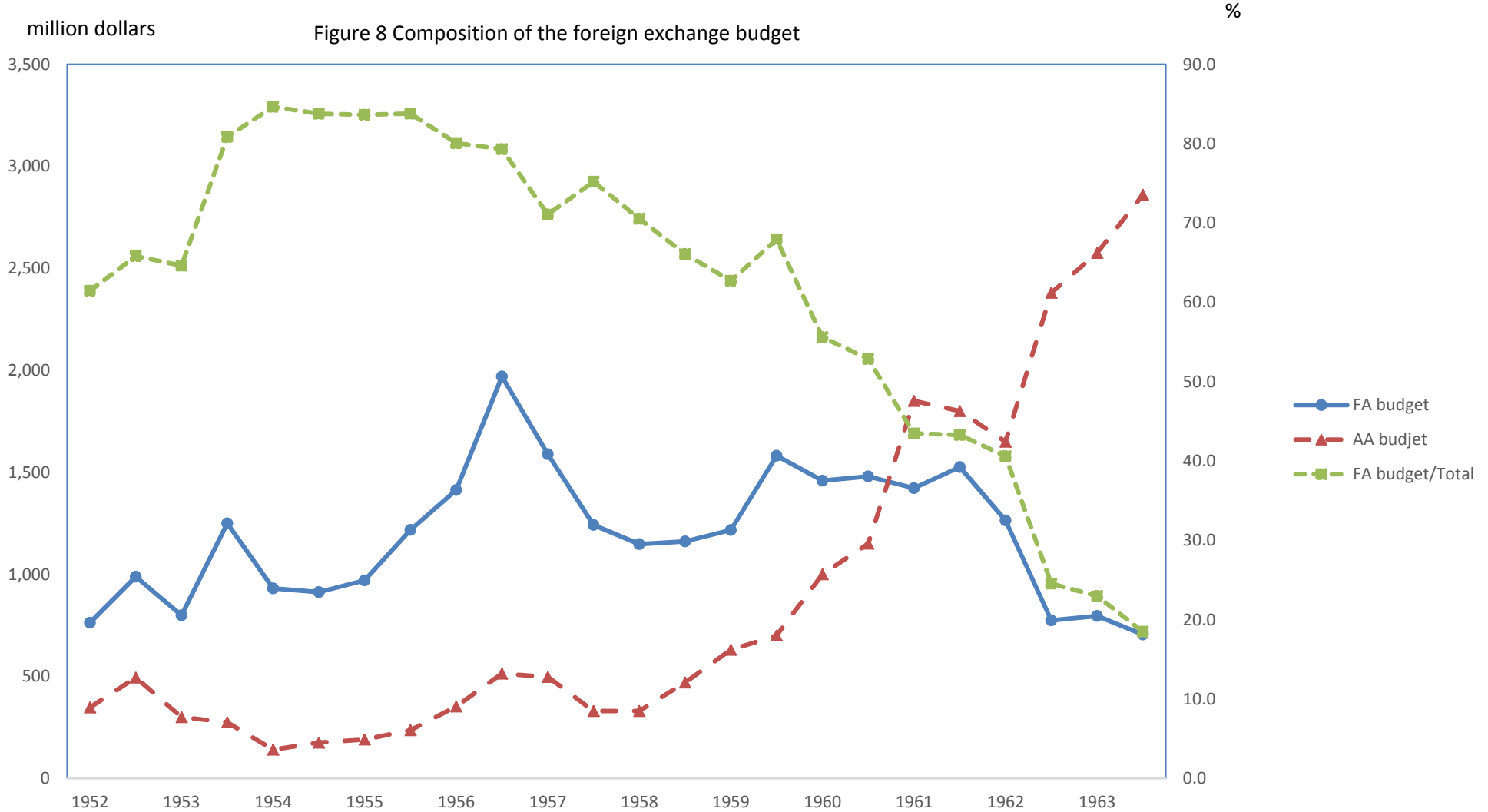
Japan Development Bank (1976) pp.52-55; Bank of Japan, *Keizai Tokei Nenpo (Statistical Yearbook)*, various issues.

Figure 7 Percentage of special depreciation in the total depreciation



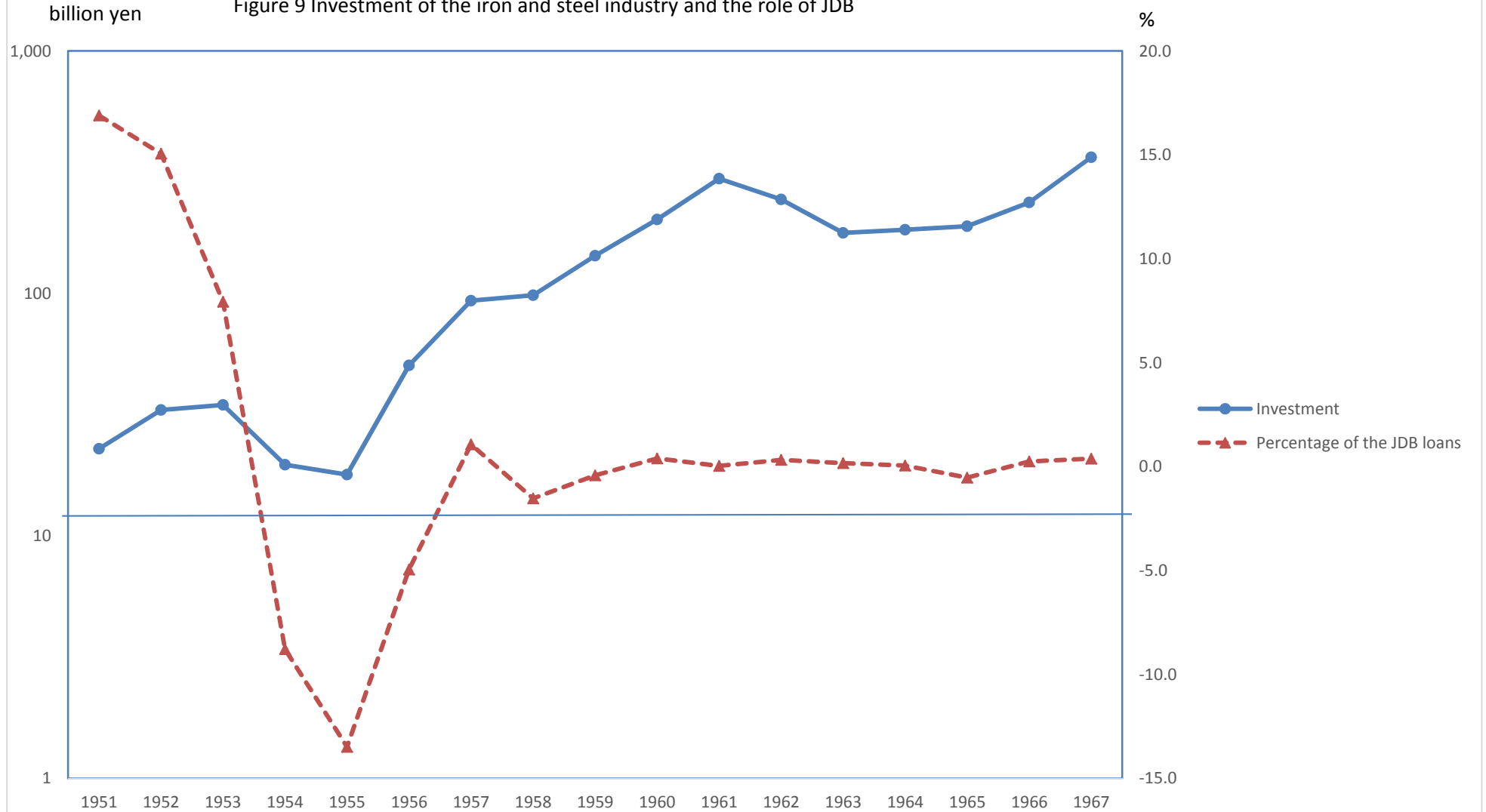
Source: Corporate Bureau of Ministry of International Trade and Industry ed., Waga Kuni Kigyo no Keiei Bunseki (Financial Analysis of Japanese Firms), various issues (1954-1959); Security Bureau of Ministry of Finance ed. (1976).

Figure 8 Composition of the foreign exchange budget



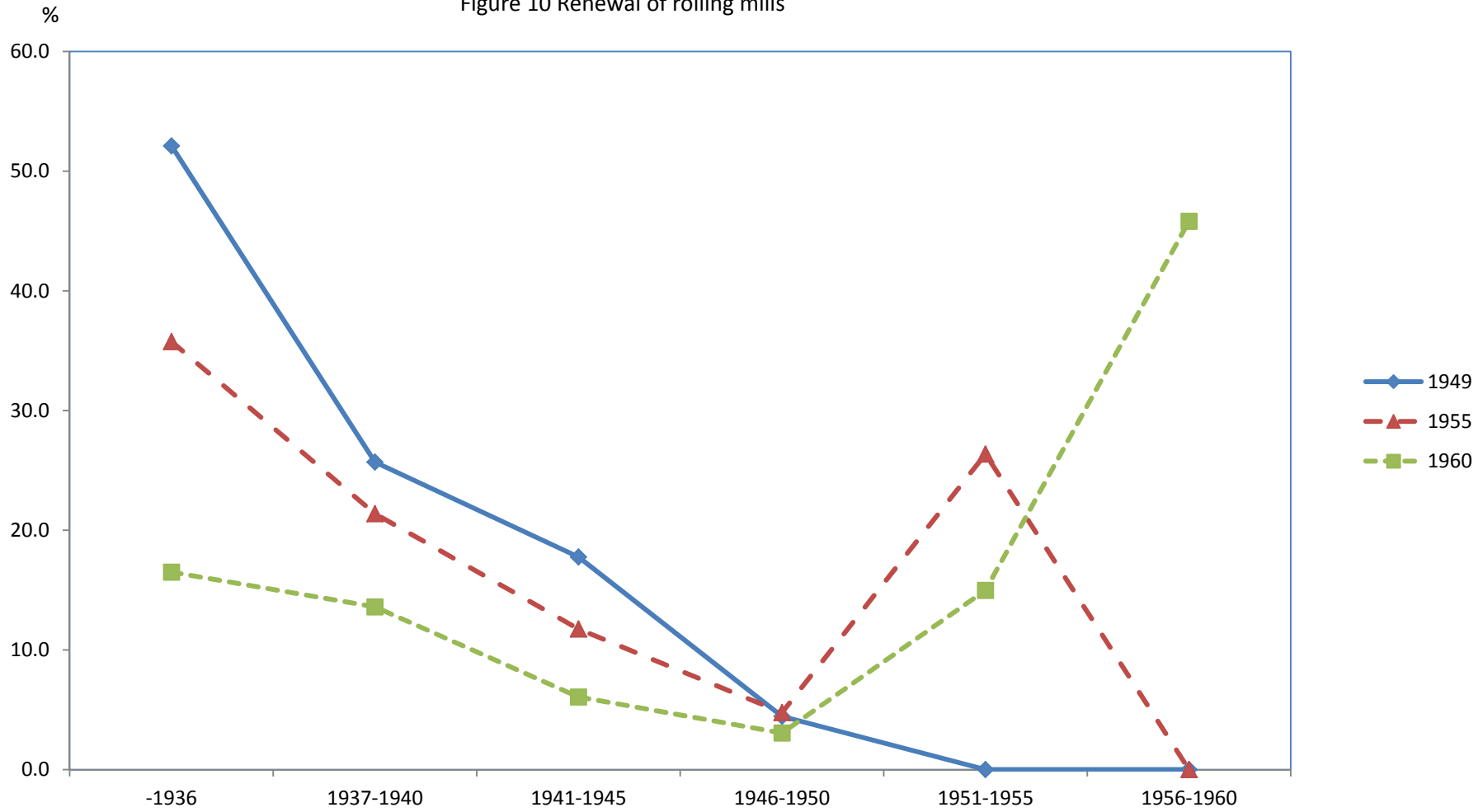
Source : Okazaki and Korenaga (1999).

Figure 9 Investment of the iron and steel industry and the role of JDB



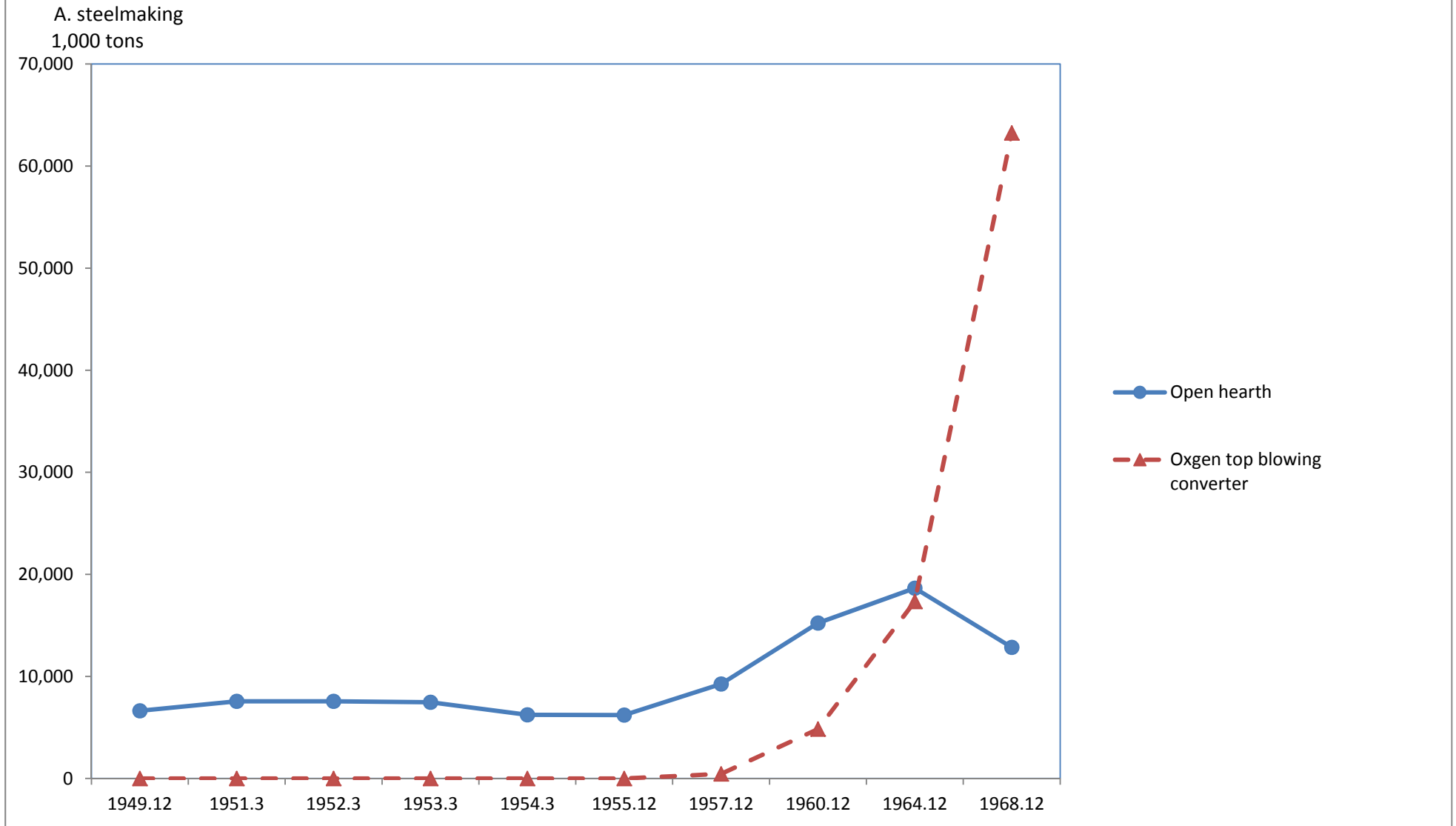
Source: Japan Federation of Iron and Steel (1959), pp.480-481; Japan Federation of Iron and Steel (1969), pp. 698-699.

Figure 10 Renewal of rolling mills

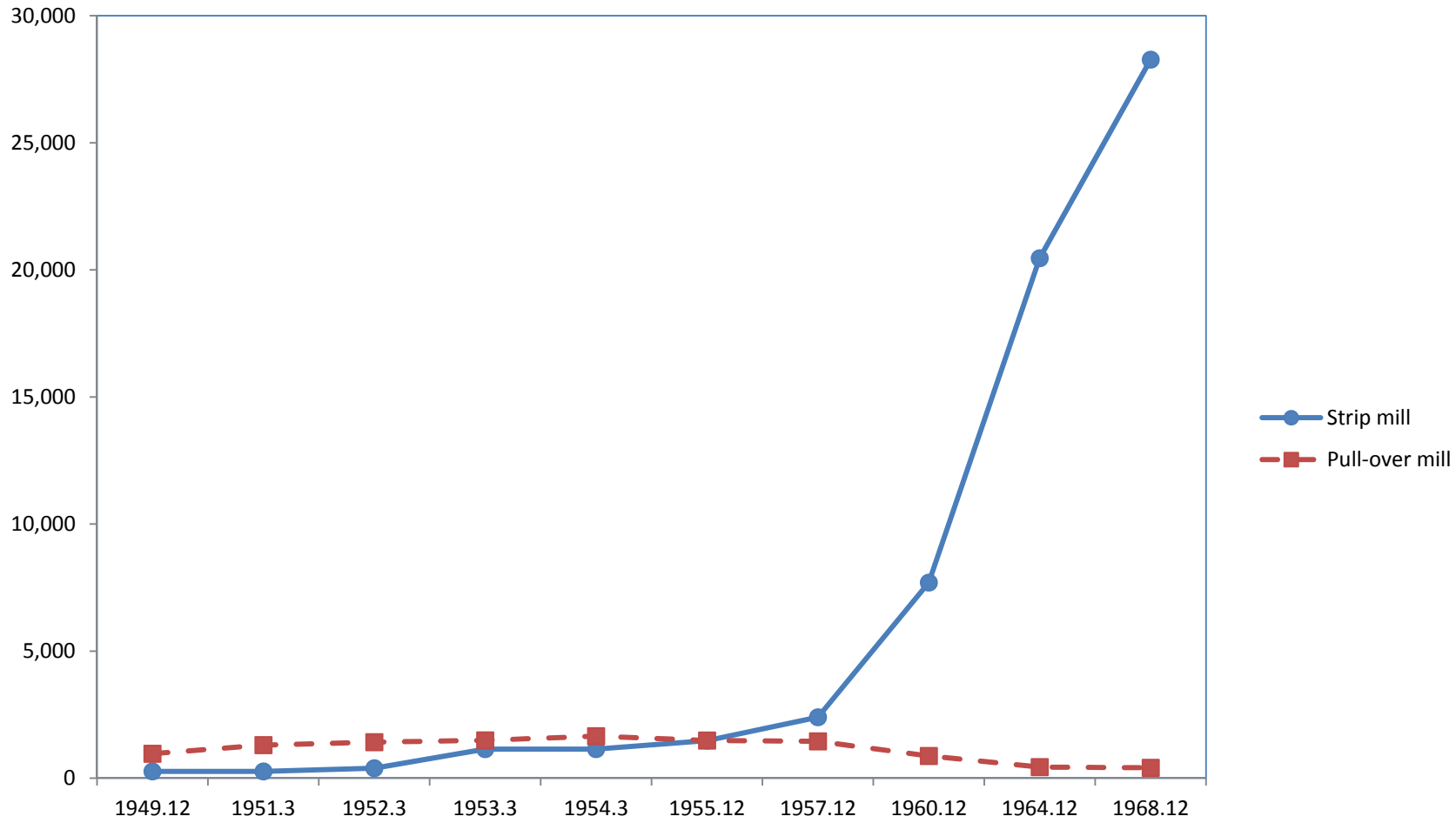


Source: T. Okazaki and T. Korenaga (2015).

Figure 11 Adoption and diffusion of advanced technologies in the iron and steel



B. rolling
1,000 tons



Source: Japan Federation of Iron and Steel, *Seitetsugyo Sanko Shiryo (Handbook on the Iron and Steel Industry)*, various issues.

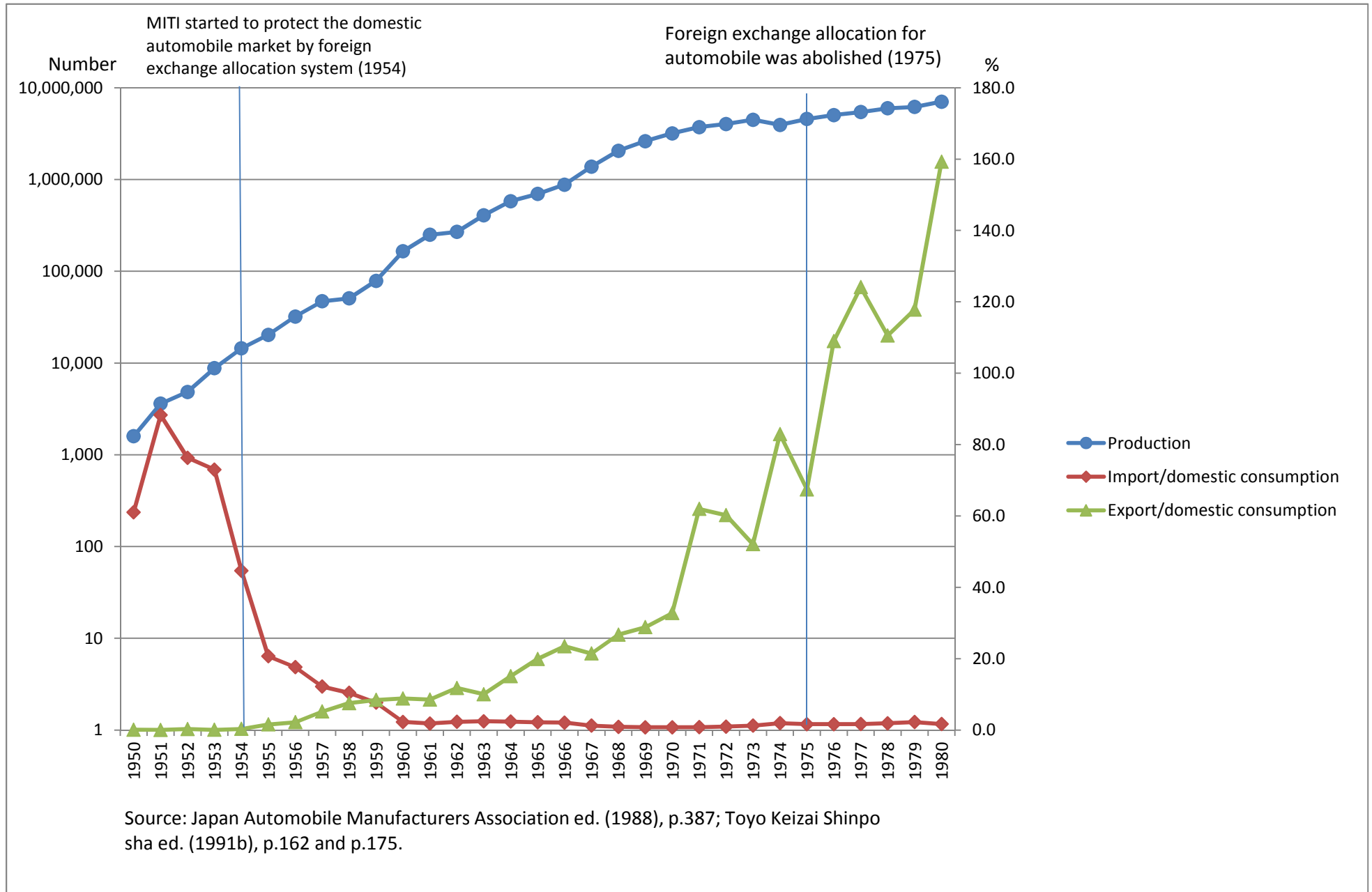
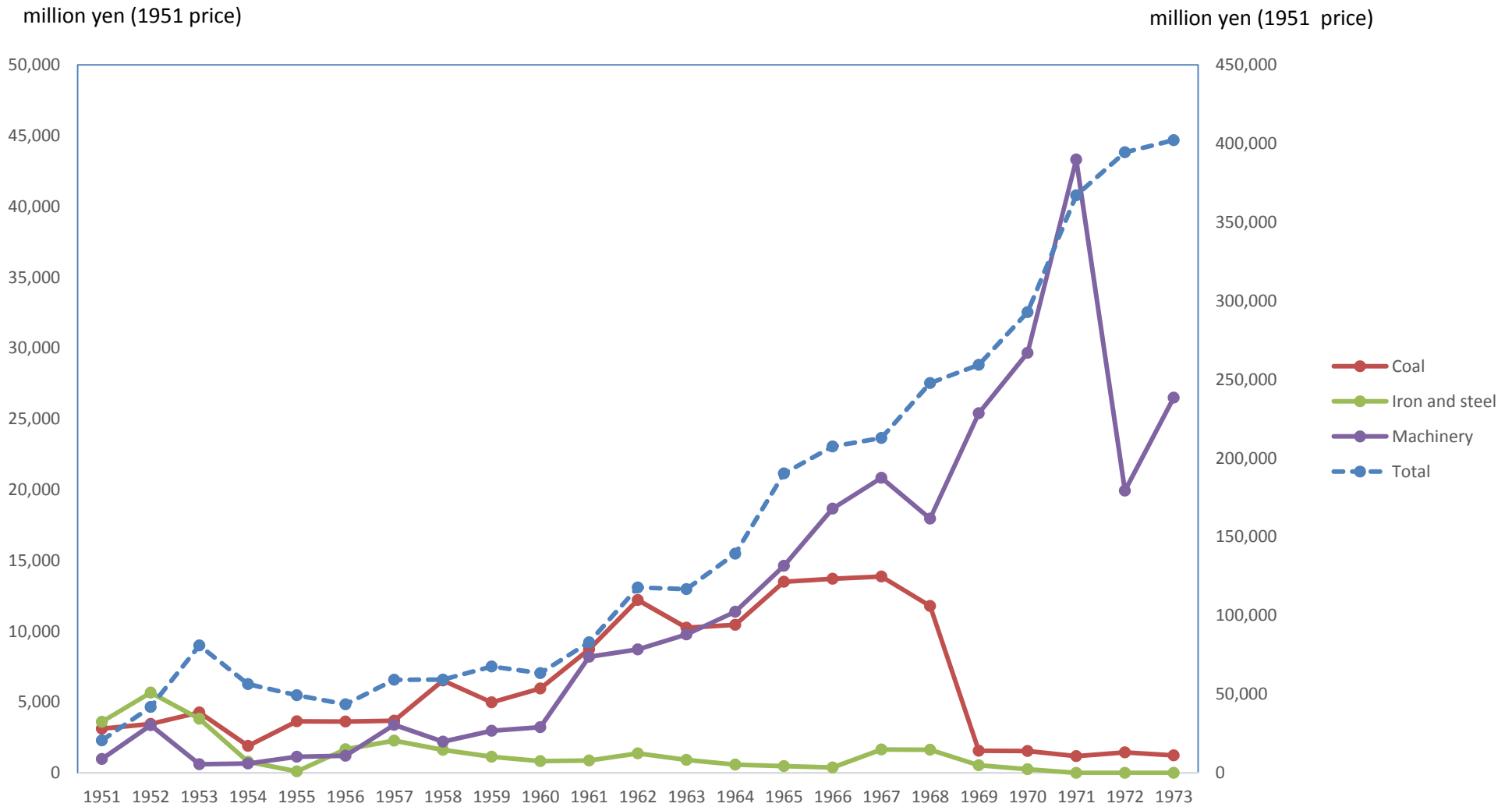
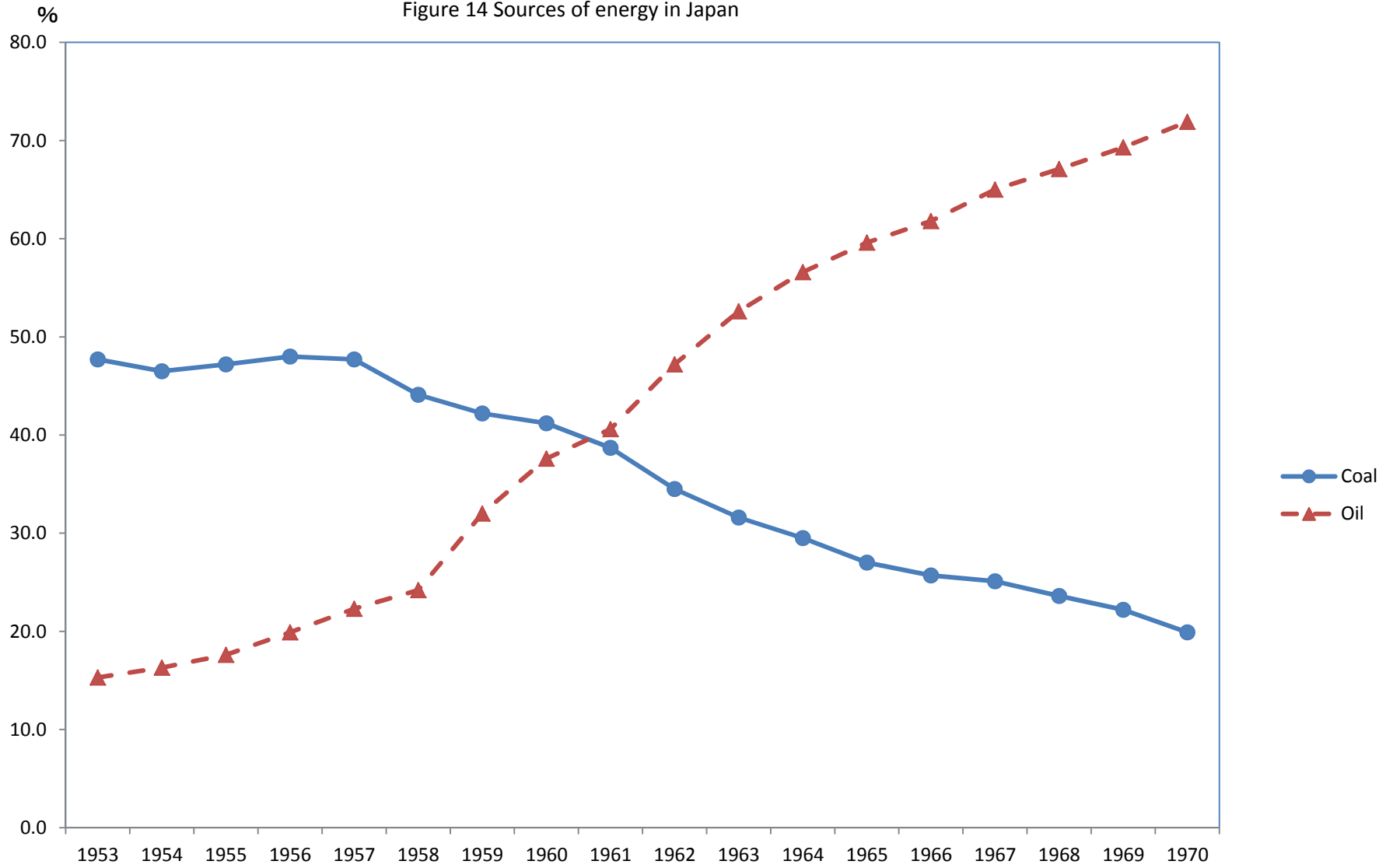


Figure 13 JDB loans by industry



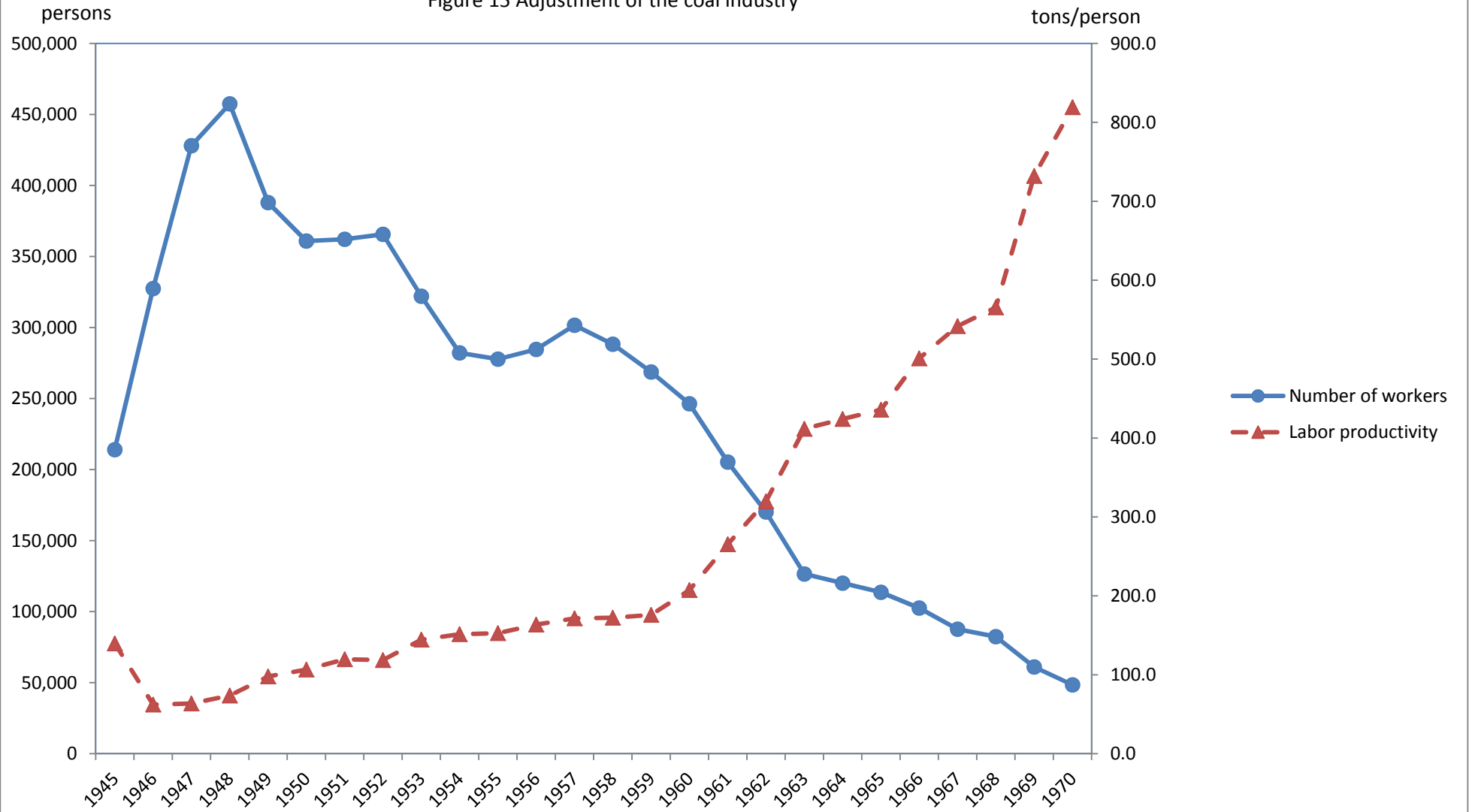
Source: Japan Development Bank (1976), p.p.52-55.

Figure 14 Sources of energy in Japan



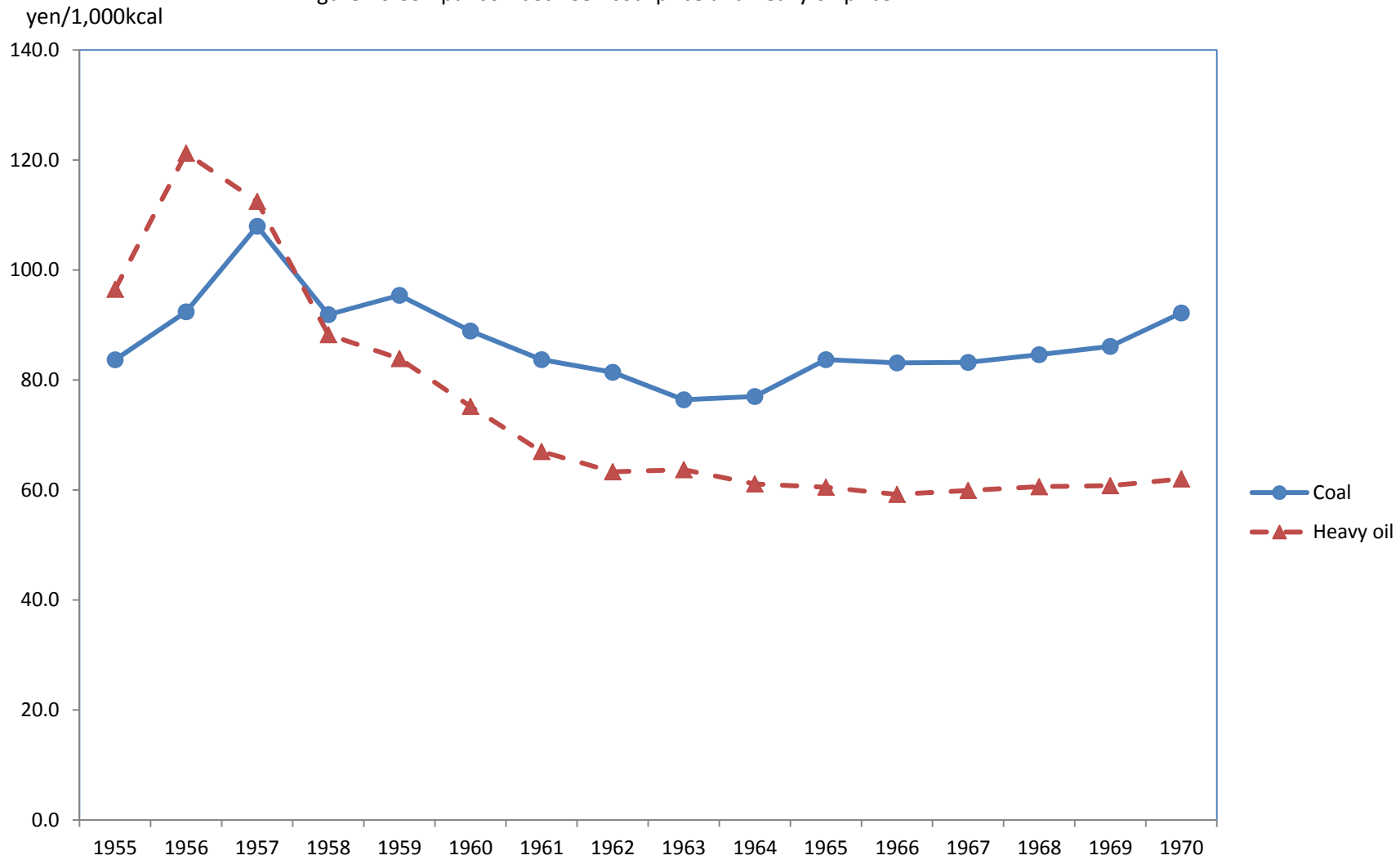
Source: Toyo Keizai Shinposha ed. (1991a), p.458.

Figure 15 Adjustment of the coal industry



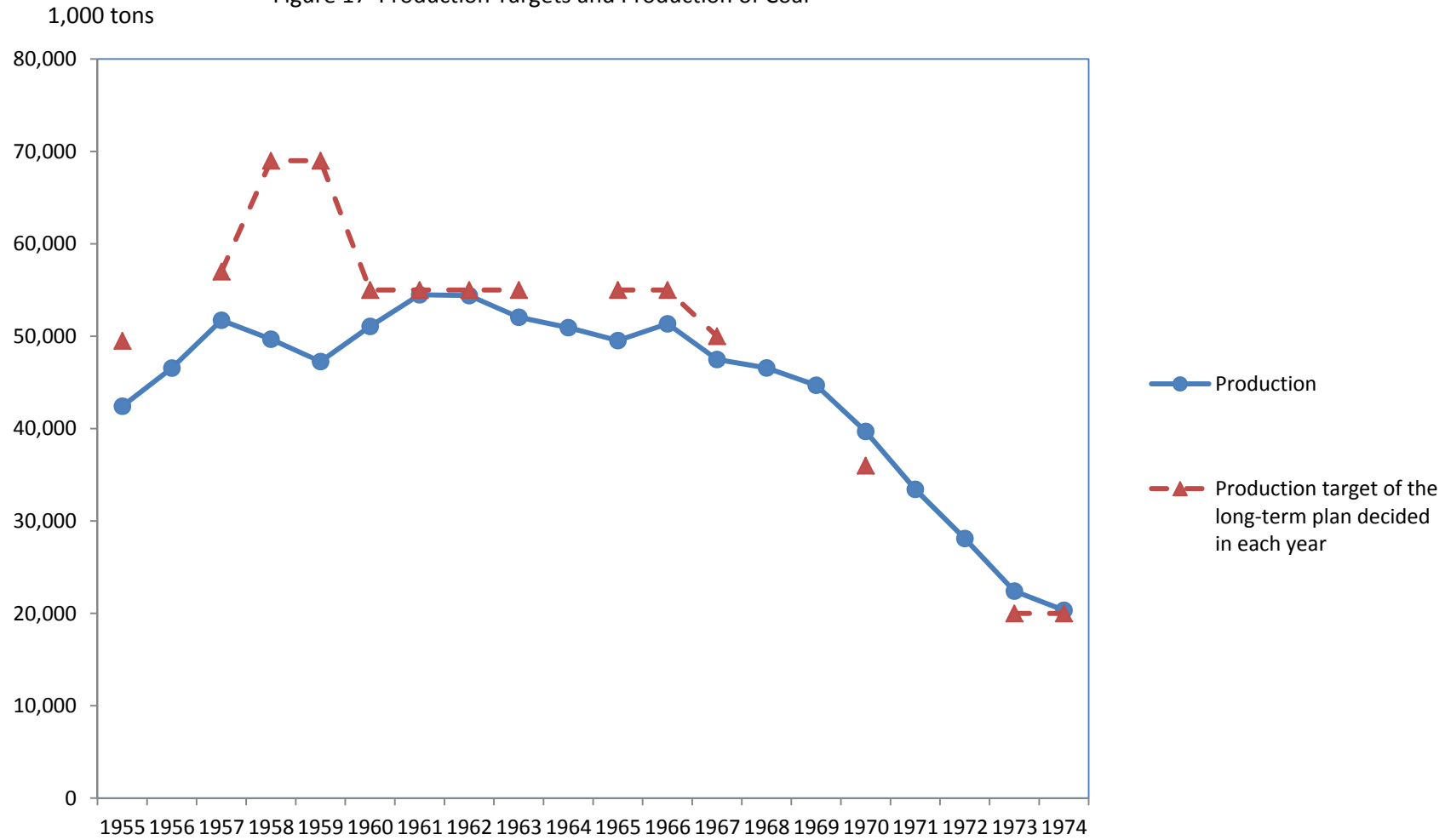
Source: Toyo Keizai Shinpo Sha ed. (1991a), p. 303.

Figure 16 Comparison between coal price and heavy oil price



Source: Ministry of International Trade and Industry ed. (1990), p.498; Utility Industry Bureau of Ministry of International Trade and Industry ed. (1964), pp.346-347.

Figure 17 Production Targets and Production of Coal



Source: Toyo Keizai Shinpo Sha ed. (1991a), p.291; Corporation for Rationalization of Coal Mining Industry (1976), p.376.