CHAPTER 9

DEPRESSION, RECOVERY, AND WAR, 1920–1945

INTRODUCTION

The Japanese economy experienced great changes as a result of World War I. With the disappearance of European and American products from Asian and African trade, these extensive markets suddenly became wide open to Japanese products. Export volume and prices shot up, and Japan's industries reveled in an unprecedented boom. A spate of new firms appeared in rapid succession; stock prices soared; and the whole country rang with the sound of hammers at work on new-factory construction. Products like steel, machinery, and chemicals, for which Japan had been dependent on imports, began to be produced domestically. From its status as a debtor nation to the tune of ¥1.1 billion on the eve of the war in 1913, Japan had, by the end of 1920, transformed itself into a creditor nation with a surplus exceeding ¥2 billion. Despite social unrest such as the 1918 rice riots and the intensification of the labor and peasant movements that accompanied the galloping inflation produced by the war boom, the Japanese economy expanded as a result of the war.

When the war ended, however, so did the boom. Because of the renewed export competition and the resumption of imports that had long been suspended while Europe was at war, the international payments balance reverted to a deficit, and holdings of gold and foreign exchange began to diminish. This chapter will trace the path of the Japanese economy from the 1920s to the end of the Pacific War.[1] This period may be divided into three parts: the deflation and depression from the 1920s to 1931, recovery and chemical and heavy industrialization from 1932 to 1937, and the era of war and collapse through 1945.

Table 9.1 indicates the growth rates of real gross national expendi-

1 An excellent study in English is Hugh Patrick's "The Economic Muddle of the 1920s," in *Dilemmas of Growth in Prewar Japan*, ed. James W. Morley (Princeton, N.J.: Princeton University Press, 1971).

TABLE 9.1
Growth rates of real spending and income, 1900–1944

	GNE	Gross domestic fixed capital formation	Private consumption spending	Exports and income from abroad	Imports and income going abroad	Primary industries	Secondary industries	Tertiary industries	GNE deflator
1900–13	1.9	4.8	1.8	8.4	7.2	1.4	6.2	2.2	3.8
1913–19	6.2	8.4	4.7	6.5	5.1	3.3	6.2	7.4	13.6
1919–31	1.6	−0.7	2.2	5.8	5.8	−0.7	4.7	0.7	−2.8
1931–37	6.2	8.3	3.2	12.3	5.2	3.3	7.7	4.9	1.2
1937–44	−1.3	6.2	−6.9	−11.4	−8.5				18.9

Source: Calculated from Ohkawa Kazushi et al., *Kokumin shotoku: Chōki keizai tōkei*, vol. 1 (Tokyo: Tōyō keizai shinpōsha), 1974, pp. 213, 214, 217.

TABLE 9.2
International comparison of real growth rates

	1870–1913 (%)	1913–1938 (%)
United States	4.6[a]	1.1
Great Britain	2.1	0.7
Germany	2.7	1.8
Italy	1.5	1.7
Denmark	3.2	1.9
Norway	2.2	3.0
Sweden	3.0	2.4
Japan	2.4[b]	3.9

[a] From the average for the years from 1869 to 1878 and then to 1913.
[b] From 1887 to 1913.
Source: United States: U.S. Department of Commerce, *Historical Statistics of the United States* (Washington D.C.: U.S. Government Printing Office, 1975). European countries: B. R. Mitchell, *European Historical Statistics* (New York: Macmillan, 1975). Japan: Ohkawa Kazushi et al., *Kokumin shotoku: Chōki keizai tōkei*, vol. 1 (Tokyo: Tōyō keizai shinpōsha, 1974), pp. 213, 214, 217.

tures (GNE) for these periods and the growth rates of real gross output by type of industry. This table shows that during each period there were large differences in the growth rates of GNE and its components and of gross output by type of industry. The rate of price increase varied as well. The principal features of these three periods can be seen in these variations. Table 9.2 presents an international comparison of real GNE growth rates. Japan's rapid growth from the 1950s onward is well known, but its growth rate following World War I was also outstanding by international standards and may be viewed as the prelude to the rapid growth following World War II. It is also possible to regard such growth as the material basis for the policies of military expansionism that led to the Pacific War.[2] Both these contradictory perspectives contain some truth. Hence emerges an additional theme of this chapter: How was rapid growth achieved in this period, and what did Japan obtain as a result?

2 Yamamura Kōzō, "Kikai kōgyō ni okeru seiō gijutsu no dōnyu," in *Washinton taisei to Nichibei kankei*, ed. Hosoya Chihirō and Saito Makoto (Tokyo: Tōkyō daigaku shuppankai, 1978). Yamamura contends that technological progress in the machine tool industry during the 1920s provided the material foundation for the military adventures of the 1930s.

THE ERA OF RECESSIONS

Although prices in the United States and Britain soared to more than twice their prewar levels after World War I, both countries returned to the gold standard without devaluing their currencies against the price of gold. It was thought that reinstituting the gold standard at prewar parity would constitute a "return to normalcy" (in the words of President Warren G. Harding). However, this amounted to adopting a severely deflationary policy that would cut back postwar prices to prewar levels, about half of the current prices. World prices did in fact fall in the 1920s. John Maynard Keynes, author of *Monetary Reform* and *The Economic Consequences of Mr. Churchill,* publicly criticized these policies, but his warnings went unheeded. As is well known, Keynes was also critical of the harsh reparations demands imposed on Germany, but this, too, was ignored. As it turned out, international finance during the 1920s was sustained by the international capital flow, whereby Germany used the capital it received from America to make reparations to England and France, which used the same money to redeem their war debts in the United States. But after the New York stock market crisis in 1929, American capital was withdrawn from Europe, causing a financial strain in Germany that eventually provoked a crisis that brought on world depression.

These events had immediate repercussions in Japan as well. The goal of Japan's economic policy, like that of Britain and the United States, was to return to the gold standard at the prewar price of gold.[3] The Japanese government did not do so until the advent of the world depression in 1929, but during the 1920s the economy was constantly constrained by the worldwide deflation and by the government's goal of returning to the gold standard. Accordingly, the Japanese economy showed a mild deflationary trend after World War I. Moreover, the balance-of-trade deficit persisted. The gold and foreign exchange (specie) holdings that had accumulated during the war declined steadily. For these reasons, Japan's domestic financial policy also shifted toward austerity. This was a period of unprecedented testing for the Japanese economy, which had developed under the influence of inflationary trends since the Meiji period. It was particularly difficult for the new heavy and chemical industries and for capital-weak new firms that had emerged during and after the war. It was also difficult for

3 Ōkurashō zaiseishi hensanshitsu, *Shōwa zaiseishi–Dai 10-kan: kin'yū (I)* (Tokyo: Tōyō keizai shinpōsha, 1955), pp. 155–80.

agriculture, which was troubled by competition from cheap rice imported from Korea and Taiwan and highly susceptible to trends in the New York silk market.

Chronologies of the Japanese economy of the 1920s often refer to this period as one of recurring panics of greater or lesser magnitude.[4] The post–World War I boom turned into a panic with the stock market crash of 1920. The death knell of wartime prosperity had sounded. Domestic funds dried up as monetary austerity was imposed in order to suppress inflation and the mounting outlays for imports that accompanied the shift toward deficit in 1919 in the international payments account. Despite this, the business community continued to expand and speculate boldly. The result was ruin. In only a few months, stock market prices and commodity market prices for rice, raw silk, and cotton yarn collapsed to less than half their former values. There was a stream of trading company, bank, and factory bankruptcies, and economic conditions became chaotic.

The government and the Bank of Japan did their utmost to provide relief. For example, purchasing companies (*kaitorigaisha*) were organized to handle inventory backlogs of raw silk, and a policy of bold lending to depressed industries was established. Losses suffered by smaller zaibatsu like Furukawa, Suzuki, Kuhara, and Masuda, especially hard hit by failures of speculative enterprises during the financial panic, provided new opportunities for the four leading zaibatsu: Mitsui, Mitsubishi, Sumitomo, and Yasuda. Because they maintained sound management policies and did not depend on speculative profits, even during the war boom, the large zaibatsu suffered few losses in the panic. In addition, the leading spinning companies like Kanebō and Tōyōbō had built up large secret reserves during the war, and so they were able to cover the declining prices of their inventories, which were caused by the panic and losses due to customer bankruptcies, thereby maintaining their position unshaken. The dominant position of the four great prewar zaibatsu and the large spinning companies remained firm.

In April 1922, when it appeared that the financial crisis had at last been resolved, a small panic was touched off when a trader (Ishii Sadashichi) went bankrupt after losing heavily on daring rice speculations. At the end of 1922, eleven small banks in western Japan failed in rapid succession. Then, on September 1, 1923, the Tokyo–Yokohama

4 Nihon ginkō chōsakyoku, "Sekai taisen shuryogo ni okeru honpō zaikai dóyōshi," and "Kantō shinsai yori Shōwa 2-nen kin'yū kyōkōni itaru waga zaikai," in *Nihon kin'yūshi shiryō: Meiji Taishō hen*, vol. 22 (Tokyo: Okurasho insatsu kyoku, 1959–60).

region was dealt a crushing blow by a powerful earthquake and the devastating fires that spread in its wake. This crisis was weathered with the help of a government-implemented month-long moratorium on payments in the Kantō area. The Bank of Japan also averted a panic by rediscounting commercial bills that were to have been paid in the area ("earthquake bills.") The Bank of Japan's rediscounts totaled ¥430 million.[5] The devastation wrought by the great earthquake was enormous. According to estimates made at the time, in seventeen prefectures, but primarily in Tokyo, 554,000 out of 2.288 million households lost their homes; 105,000 people lost their lives; 30,000 were injured; and 250,000 lost their jobs. The gross national wealth in 1909 was estimated at ¥86 billion, and losses due to the earthquake were put at between ¥5.5 billion and ¥10 billion.[6] These blows made impossible a return to the gold standard. Exports declined sharply, albeit temporarily, and supplies for reconstruction increased imports. Consequently, the balance of payments went deeply into the red, and the exchange rate fell sharply. Early in 1924 the government raised some foreign exchange by issuing ¥600 million in foreign bonds in Britain and the United States. However, the extraordinarily high interest rate, reflecting Japan's international credit standing at the time, became the target of criticism at home. The reconstruction of the Tokyo–Yokohama area firms that had sustained losses because of the disaster was of course not simple, and the balance sheets of many deteriorated. In 1925, as the postwar business slump continued, Takada shōkai, a large trading company, failed.

A "financial crisis" occurred in March and April of 1927.[7] A large Kobe trading company, Suzuki shōten, which was hard hit by the panic of 1920, had just barely managed to stay in business by borrowing huge sums from the Bank of Taiwan, a colonial bank of issue. In March 1927 the firm found itself unable to settle its loans of ¥67 million. At the time there was a proposal before the Diet calling for the government to dispose of a total of ¥207 million in outstanding earthquake bills and to indemnify the Bank of Japan for losses amounting to ¥100 million. The Bank of Japan was to extend long-term loans to banks holding earthquake bills, and each bank in turn was to have its holders of earthquake bill liabilities redeem their obligations over a period of ten years. While this proposal was being debated, Suzuki shōten's internal condition was revealed, including its relationship with the Bank of Taiwan, and the unsound manage-

5 Tōyō keizai shinpōsha, ed., *Meiji Taishō kokusei sōran* (Tokyo: Tōyō keizai shinpōsha, 1927), pp. 759–60. 6 Nihon ginkō chōsakyoku, "Sekai taisen," p. 876. 7 Ibid., p. 866.

ment of some other banks as well. This set off a run on several banks, resulting in the suspension of operations for many. The earthquake bill proposal was ultimately voted down. In April 1927 when the Privy Council rejected a proposal for an urgent imperial order for the relief of the Bank of Taiwan, the bank temporarily closed down; Suzuki shōten went bankrupt; and the Wakatsuki cabinet collapsed. The bank run had nationwide repercussions. Banks throughout the country were closed on both April 22 and 23. In the meantime, the government announced a twenty-day nationwide payments moratorium. It then decided on a policy for reorganizing the Bank of Taiwan and providing general relief measures for the banks through the Bank of Japan. Calm was thus at last restored. Eleven percent of all bank deposits nationwide were withdrawn during this bank run, and as many as thirty-two banks suspended operations.[8] Among the latter were such presumed bastions of financial soundness as the Fifteenth Bank, a depository for the Imperial Household Ministry (Kunaishō), and the Bank of Ōmi, which had provided extensive credit to the textile industry.

Owing to continuing deflationary declines in commodity prices and in the value of real estate and other financial assets, many business firms continued to operate in the red and to depend on borrowed funds. But the banks supplying these firms with capital were unable to collect on their loans. The deterioration of economic conditions turned into a quickly spreading financial panic.[9] The smaller panics earlier in the decade had occurred for virtually the same reasons as this one, but the failures of such nationally known Japanese firms as the Bank of Taiwan, Suzuki shōten, and the Fifteenth Bank touched off a nationwide crisis. To cope with the situation, the Bank of Japan distributed large quantities of capital. The crisis was resolved, but the return to the gold standard was thereby once again postponed.

One reason that the business conditions of companies and banks deteriorated during this period was that the executives of many small regional banks often were managing other firms as well. After their banks had invested in these companies, their operations stagnated. Finally, these companies went bankrupt and, with them, their creditor banks as well. Concerned about this, the Ministry of Finance amended the Banking Law in March 1927 to prohibit bank managers from simultaneously managing other businesses and stipulated that

8 Ibid., pp. 927–9.
9 Nakamura Takafusa, *Showa kyōkō to keizai seisaku* (Tokyo: Nihon keizai shinbunsha, 1978), pp. 47–51.

any bank with capital of under ¥1 million (¥2 million or less in the large cities) should increase its capital to ¥1 million or merge with another bank within five years. For this reason, the number of banks, which had stood at 1,575 at the end of 1926, fell to 651 by the end of 1932.[10] The banks' business conditions markedly improved as a result of these measures, but at the same time local industries and small businesses also felt the financial pinch.

Because of the prolonged slump that lasted from the postwar crisis of 1920 until the financial panic of 1927, bankruptcies occurred in rapid succession, particularly in the secondary industries that had expanded during the war. Firms that managed to survive were forced to scale down their operations, and many workers lost their jobs. New hires were held down, too. On the other hand, however, the number of small- and medium-sized factories increased. Many workers who lost their jobs set up small factories in order to earn a livelihood. However, these firms were low-income, small urban commercial and service enterprises that absorbed people who could not choose their working conditions and who sought employment simply in order to survive. For this reason, the populations of the large cities continued to increase.[11] The farm villages were in a continuous recession from 1925 onward owing to the worldwide surplus of agricultural commodities and the fall in prices. Farmers were forced to increase their production of silk cocoons in order to maintain their incomes. But this resulted only in a further drop in international prices, and so the farmers were caught in a vicious circle whereby their redoubled efforts to increase production only pushed prices lower.

Again, the only firms that continued stable operations in the midst of this turmoil were the leading textile companies and companies belonging to the big zaibatsu groups such as Mitsui, Mitsubishi, Sumitomo, and Yasuda, which had abundant funds and sound management policies. Some zaibatsu banks were even hard pressed to find ways to use the large influx of deposits from the smaller and weaker banks after the financial panic.[12] The zaibatsu extended their network of influence in the economy by taking over, through stock transfers, the sounder firms owned by companies such as Suzuki shōten or by founding new firms in fields such as rayon and chemicals. Each of the zaibatsu amassed for itself tremendous power in every field of indus-

10 Ōkurashō zaiseishi hensanshitsu, *Shōwa zaiseishi*, pp. 79–117.

11 Takafusa Nakamura, *Economic Growth in Prewar Japan*, trans. Robert A. Feldman (New Haven, Conn.: Yale University Press, 1983), pp. 218, 220.

12 Ikeda Shigeake, *Zaikai kaikō* (Tokyo: Konnichi no mondaisha, 1949), pp. 116–17.

try, from finance and insurance to mining, foreign trade, warehousing, chemicals, paper, metals, and textiles. As a group they reigned supreme over the Japanese industrial world.[13] The power of the zaibatsu at this time probably attained its highest peak since the end of the Meiji period. However, with this notable exception, the outlook for the Japanese economy did not appear bright. Nevertheless, as Table 9.3 shows, the economy, mainly secondary industry, continued to grow in this troubled period. Why?

The fundamental condition for this growth likely resulted from the fact that the economy adjusted the balance of social demand and supply not by quantitative controls but by price fluctuations.[14] As in the example of the vicious circle of expanding cocoon production volume and the falling price of cocoons, it was impossible to regulate the volume of production in agriculture. The core of the manufacturing industry at this time was the production of consumer goods such as raw silk, cotton cloth, sugar, and flour. Competition among the firms in these fields was fierce. Even though temporary cartels were formed, it was difficult to limit production volume and stabilize prices, as the interests of the individual firms did not coincide. Intense competition among the three large firms in the paper industry shows that even in an oligopolistic industry, it was not possible to support prices by restricting production. There were additional examples, too, such as the impact of international dumping of products like ammonium sulphate and matches, or the heavy blow suffered by domestic coal as a result of imports from Manchuria.

Oligopolistic tendencies became conspicuous in a number of industries such as electric power in which firms continued to merge. Cartels were formed autonomously in every industry as a way of dealing with chronic slumps. Thus, during this period, monopolistic economic power rapidly strengthened and the domination of "monopoly capital" became conspicuous. But although it is clear that large firms occupied a high position in Japan's economic world, it cannot be said that they used their power to maintain price supports or price rigidity in the markets. Monopoly prices emerged after the passage of the Important Industries Control Law in 1931 as a means of dealing with the world depression. The law required outsiders to keep cartel agreements and

13 See Takahashi Kamekichi, *Nihon zaibatsu no kaibō* (Tokyo: Chūō kōronsha, 1930).

14 Satō Kazuo, "Senkanki Nihon no makuro keizai to mikuro keizai" in *Senkanki Nihon keizai no kenkyū*, ed. Nakamura Takafusa (Tokyo: Yamakawa shuppansha, 1980), pp. 3–30. Satō's clarification of the function of price fluctuations is applicable to the Japanese economy of this period.

TABLE 9.3
Employed population by industry (thousands of persons)

	1920(A)	1925(A)	1930(A)	1935(A)	1940(A)	1940(B)	Feb. 1944(B)	Dec. 1945(B)
Primary industries	14.388	14.056	14.648	14.450	14.523	14.192	14.028	18.053
Agriculture and forestry	13.855	13.540	14.084	13.871	13.974	13.363	13.155	17.520
Secondary industries	6.274	6.324	6.151	6.811	8.212	8.419	9.951	5.670
Manufacturing	5.071	5.109	4.848	5.498	6.565	6.845	8.089	4.314
Tertiary industries	5.355	6.432	7.331	8.410	7.728	9.403	7.575	6.346
Commerce	3.398	4.260	4.902	5.482	5.000	4.083	1.555	1.794
Totals	27.260	28.105	29.619	31.211	32.500	32.231	32.695	30.069

Source: Figures in columns marked A are annual averages from Umemura Mataji, "Sangyō-betsu koyo no hendō 1880–1940-nen" in Hitotsubashi University Economic Research Institute, *Keizai kenkyū*, April 1973. Figures in columns marked B are estimates from Cabinet Statistics Office, *Kokusei chōsa*, October 1 (for 1940 data); Cabinet Statistics Office, *Shōwa 19-nen jinkō chosa* (for 1944 data); and *Rinji kokumin tōroku* (for 1945 data). Presented in Arai Kurotake, *Taiheiyō sensōki ni okeru yūgyō jinkō no suitei*, report of the Japan Statistical Association.

reinforced their powers of control. The foregoing shows that economic growth was achieved in conjunction with the expansion of industries, but at the same time, it also indicates why business profits accompanying growth did not necessarily increase as well.

The second main factor in Japan's economic growth was the supply of capital and the protectionist policies toward industry. For example, in 1920 when the silk-reeling industry formed the Imperial Silk Filature Company (Teikoku sanshi kabushiki kaisha) as a cartel to buy up and freeze surplus raw silk in order to support silk prices, the government provided assistance in the form of huge loans.[15] Many large firms borrowed low-interest funds indirectly from the Bank of Japan when facing crises. There were also instances in which the government assisted companies by leasing plants and equipment.[16] In agriculture, a rice law was passed in 1921. The government began buying and selling operations to stabilize rice prices, and it paid out subsidies under a variety of guises.[17] The tariff revision of 1926 substantially raised duties on steel machinery and gave liberal protection to the heavy and chemical industries.[18]

The third main factor was an increase in the government's public investment. Under the slogan of a "positive policy," the Seiyūkai party, in power from 1918 to 1922, vigorously spent public funds on the construction and expansion of railroads, harbors, highways and bridges, riparian improvements, new and expanded educational facilities, and subsidies for the improvement and reclamation of arable land.[19] These policies were an expression of the personal views of Prime Minister Hara Takashi and Finance Minister Takahashi Korekiyo regarding the promotion of regional industries. At the same time they were a means of expanding party power at the regional level. The party's main rival, the Kenseikai (renamed the Minseitō in 1928), stressed fiscal balance and strove to reduce public investment, but when the party came to power in the mid-1920s, public investment spending remained at prior levels owing to the need for post-1923 earthquake reconstruction. Large provincial cities also actively invested in order to modernize. As a result of the impact of public investment, a large drop in the growth rate was avoided.

The fourth factor behind growth was the development of the elec-

15 Nihon ginkō chōsakyoku, "Sekai taisen," pp. 585–8, 598. 16 Ibid., pp. 591–620.

17 Ōuchi Tsutomu, *Nihon nōgyō no zaiseigaku* (Tokyo: Tōkyō daigaku shuppankai, 1950), pp. 116–59.

18 Discussed in detail in Miwa Ryoichi, "1926-nen kanzei kaisei no rekishiteki ichi," in *Nihon shihonshugi: Tenkai to ronri*, ed. Sakasai Takahito et al. (Tokyo: Tōkyō daigaku shuppankai, 1978). 19 Nakamura, *Economic Growth in Prewar Japan*, pp. 157–73.

tric power industry and the effects of its spread.[20] Investment in electric power generation in the mountainous areas and its transmission to regions around Tokyo and Osaka, where demand was great, flourished during this period. Electrochemical industries using this electric power (ammonium sulfate, electric hearth furnace industries, and the like) sprang up, and small factories using electric power expanded. The production of electric machinery, electric cables, light bulbs, and radios naturally increased as well. The development of streetcar networks in the suburbs of the major cities, the opening up of new residential areas, and the attendant stimulus to residential construction also encouraged growth.

In addition, those industries built up during World War I, such as machinery, steel, and chemicals, acquired foreign technology during this decade and eventually moved into full-scale production. Japan, which had once depended on imports for virtually all its machinery, was at last able to achieve self-sufficiency in this area. Second, as the heavy and chemical industries were taking root, heavy industrial belts grew up between Tokyo and Yokohama and between Osaka and Kobe, and a pool of skilled male workers formed in these areas. In order to retain the skills and know-how of these workers within their own organizations and to thwart the budding labor movement, many firms gradually adopted policies such as the lifetime employment system and the seniority pay system, later considered to be the distinguishing features of "Japanese management." The joint labor–management conference system, which was the prototype of the "company labor union," was also a product of this era.

The Japanese economy, which had continued to grow despite these difficulties, was stricken by a severe crisis when the Great Depression suddenly hit in 1929 and the Minseitō cabinet simultaneously lifted the embargo on gold exports at the old parity.[21] Since 1897 the Japanese yen had been valued at 0.75 grams of gold. The rate of exchange against the dollar during this period was ¥100 to $49⅞. In 1916, Japan and the other world powers placed an embargo on gold exports. Although the European powers and the United States lifted their gold embargoes by 1928, Japan alone kept its intact. The nation had an excess of imports over exports (see Figure 9.1); the exchange rate was considerably lower than it had been at the old parity; and gold and foreign exchange reserves steadily decreased. Even in 1929, the yen reached a minimum rate against the dollar in the range of ¥100 to $43.

20 Minami Ryoshin, *Dōryoku kakumei to gijutsu shimpō* (Tokyo; Tōyō keizai shinpōsha, 1976), provides a full-scale study of this question.

21 Nakamura Takafusa, *Shōwa kyōkō to keizai seisaku* (Tokyo: Nihon keizai shinbunsha, 1978).

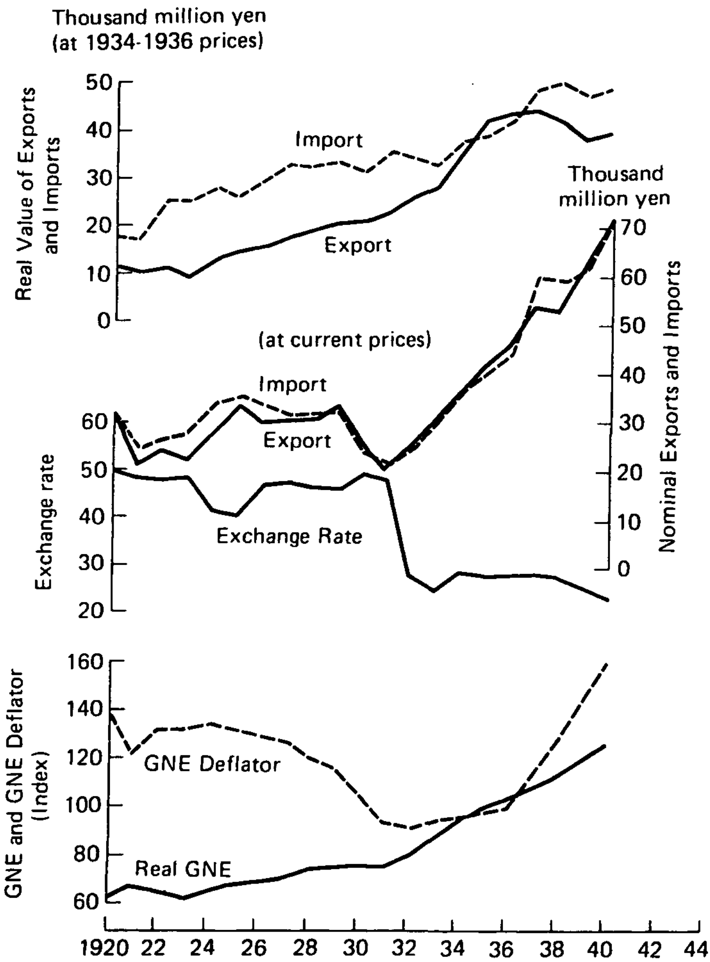

Figure 9.1. Fluctuations in foreign trade, the exchange rate, GNE, and prices. [From Yamazawa Ippei and Yamamoto Yūzō, *Chōki keizai tōkei–14: Bōeki to kokusai shūshi* (Tokyo: Tōyō keizai shinpōsha, 1974).]

Removal of the gold embargo at the old parity would mean a rise in the exchange rate, causing a further increase in the already excessive imports. In order to prevent this, domestic demand would have to fall, and deflationary policies would have to be adopted to pull prices downward. This meant forcing still further hardships on industry. Nevertheless, Inoue Junnosuke, the Finance Minister in the Hamaguchi cabinet, resolutely lifted the gold embargo at the old parity.

Theoretically it would also have been possible to lift the embargo at the so-called new parity, under which the yen's value in gold would have declined in accordance with the market rate of foreign exchange, without damaging business and economic interests.[22] Removal of the embargo at a new parity was hinted at the conclusion of the Genoa Conference of 1922. Ishibashi Tanzan, Takahashi Kamekichi, and other economic journalists, following Keynes's criticism of Winston Churchill, advocated lifting the embargo at this new parity. But there were at least two reasons that Finance Minister Inoue did not choose to do so. The first was his political judgment that a currency devaluation would adversely affect the national prestige. The second reason was his doctrine of "consolidating the business world," according to which deflationary policies should be adopted to promote exports and improve the balance of payments, noncompetitive firms should be eliminated, and the economy's international competitiveness should be strengthened. The Minseitō government took the same course that Churchill had chosen for Great Britain in 1925. Both academic and financial circles supported Inoue's policy and applauded its resoluteness.

While the impact of the American panic of October 1929 was still reverberating throughout the world, the Japanese government lifted the gold embargo at the old parity in January 1930. These two blows struck the Japanese economy simultaneously, and the country was plunged into a severe depression. As the advanced nations began dumping and domestic demand declined, the chemical and heavy industries, which were uncompetitive by international standards, sank and were forced to reduce their work forces. The mining industry, too, confronted with competition from Manchurian coal, dismissed nearly 40 percent of its workers. Although Japan's world-class textile industry was highly competitive, many firms nevertheless chalked up losses. Osaka godōbō, one of the five leading spinning companies, was forced to merge with Tōyō Spinning (Tōyōbō). Even at Kanebō, reputed to be the top firm, a fifty-four-day strike occurred when management proposed a 40 percent wage cut. Every industry formed cartels, striving to reduce output and maintain prices. The government enacted the Important Industries Control Law, which empowered it to compel firms to follow the cartel agreements, and it worked to strengthen the "self-regulation" of industry.[23] Hardest hit, however,

22 Takahashi Kamekichi, *Taishō Shōwa zaikai hendōshi*, vol. 2 (Tokyo: Tōyō keizai shinpōsha, 1954), consistently criticizes Inoue's financial policies from this position.

23 Maeda Yasuyuki, *Shōkō seisakushi Dai 11-kan: Sangyō tōsei* (Tokyo: Tsūshō sangyō kenkyūsha, 1964), pp. 47–76.

were the farm villages, already having been battered by economic slumps throughout the 1920s. The countryside reeled under the sudden drop in the prices of key commodities such as rice and silk cocoons.[24] There were many instances reported of salary payments for village primary schoolteachers being postponed for half a year due to shortfalls in local tax revenues, and of increases in the number of homes that had their electricity cut off. In metropolitan areas the number of unemployed grew, and the majority of recent university graduates were unable to find work.

To cope with this crisis, the Minseitō government did not change its policies. Instead, it continued fiscal and monetary austerity, waited for a recovery from the depression, and attempted to maintain the gold standard. Figure 9.1 shows that even between 1929 and 1931, imports and exports increased steadily in real terms, as did real GNE. In nominal terms, however, there was a marked decline in all three. This demonstrates that the depression was concentrated in a decline in prices, reflecting the special characteristic of the Japanese economy. In 1931, export prices had fallen to 40 percent, and the GNE deflator to 73 percent of their respective 1929 levels. As a result, both firms and farm households went into the red, and unemployment grew. Although this pattern was typical of depressions since the nineteenth century, this one was the most severe in Japan's history. Amid the growing social unrest, Prime Minister Hamaguchi Osachi was wounded by a right-wing youth's bullet that claimed his life after he retired from office. Nevertheless, the Minseitō cabinet did not depart from its original policies.

On September 18, 1931, the Manchurian incident occurred. Despite Tokyo's policy of nonexpansion, the Kwantung Army produced a succession of military *faits accomplis* and expanded the battlefront. This put the government in a difficult position. On September 23, immediately after the incident, Great Britain went off the gold standard. Because of the financial crisis in Germany, it had become impossible to recover British funds there. As orders to reclaim funds invested in Britain came pouring in from continental investors threatened by this situation, it had finally become impossible to cope with the volume. From the perspective of the world economy as a whole, the abandonment of the gold standard by Great Britain, the home of the world's gold standard system, marked a shift toward the international managed currency system of the 1930s and afterward. In Japan, speculators, who had already recognized that maintaining the gold standard was impossi-

24 Nakamura, *Shōwa kyōkō to keizai seisaku*, pp. 107–12.

ble, began both to sell yen and to buy dollars in hopes of realizing profits on the forthcoming decline of the yen. The major speculators were actually foreign banks in Japan and wealthy individuals, but the zaibatsu banks, especially the Mitsui and Mitsubishi banks, were considered to be the principal actors at the time. The Mitsui Bank, for example, had been investing in British government securities via the United States because it was difficult to make stable investments in Japan during the depression. When those funds were frozen, the bank bought dollars to cover them, but this was erroneously reported as "dollar buying" speculation.[25]

In the face of these trends, the Minseitō cabinet continued to support the gold standard in accordance with its established policy. The matter turned into an issue that affected the political fate of the Minseitō cabinet. Finance Minister Inoue harshly criticized those purchasing dollars. Mitsui and Mitsubishi, regarded as the main speculators in dollars, thus became the targets of social opprobrium. Because the government and the Bank of Japan tightened monetary conditions by raising the discount rate in order to absorb the speculators' funds, the depression became even more severe. Dollar speculators, particularly the foreign banks, could not readily reverse their course and cancel their dollar buy-orders. As the end-of-December delivery date rapidly approached for the bulk of the foreign-exchange dollars sold, their expected hope of realizing speculative gains grew steadily dimmer. On December 11, the Minseitō cabinet finally collapsed, disagreeing over Home Minister Adachi Kenzō's insistence on a coalition with the Seiyūkai. It is said that a speculator's plot lay behind Adachi's actions, but even today the facts are not clear.

Succeeding to power, the Seiyūkai cabinet of Inukai Tsuyoshi brought Takahashi Korekiyo to the office of finance minister. On December 13, 1931, gold was reembargoed, and payments of specie were suspended. This act proclaimed the end of the gold standard in Japan forever. The relationship of trust and cooperation between Japan's financial circles and those in Britain and the United States gradually cooled afterward. This relationship, cultivated by Japanese financial circles since the Russo-Japanese War of 1905, had made it possible for Japan to raise foreign capital after the Kantō earthquake and to float local bond issues and electric power company bonds repeatedly during the 1920s. But with the Manchurian incident, the founding of Manchukuo and the outbreak of the Shanghai incident, Thomas La-

25 Ikeda, *Zaikai kaikō*, pp. 135–53.

mont of the Morgan Bank began to take an unfriendly view of Japan.[26] This cooling of international financial relationships meant that when Japan faced a balance-of-payments crisis, it could no longer look abroad for help. However, for several years after Japan's departure from the gold standard, the Japanese economy followed a course of rapid revival and development, and so the balance-of-payments problem became a severe constraint for Japan only after war began with China in 1937.

RECOVERY

With the exception of a six-month interim out of office, Takahashi Korekiyo was at the fiscal and monetary helm as minister of finance from the time Japan left the gold standard in December 1931 until he was felled by an assassin's bullet in February 1936.[27] This was the era of the so-called Takahashi finance. While avoiding abrupt changes, Takahashi gradually relaxed the monetary conditions and promoted industry and foreign trade. In order to do so, he began lowering the discount rate from 1932 onward, reducing it from 6.6 percent to 3.7 percent by July 1933. He took a laissez-faire position on the falling exchange rate. Allowed to settle to its natural equilibrium level, the rate of exchange against the U.S. dollar had dropped from ¥100 to $49⅞ to around $26 by mid-1932 and, after falling below $20 at the end of that year, settled at about $30.80. This was a devaluation of more than 40 percent. Fiscal spending for the military and for rural village relief increased, growing in 1932 by 32 percent over 1931 levels. Central government expenditures declined from ¥1.74 billion in 1929 to ¥1.48 billion in 1931 and then increased to ¥1.95 billion in 1932 and ¥2.25 billion in 1933, after which they were fixed at a level of about ¥2.2 billion. Spending increases were financed with government bonds, but in order not to siphon private funds off the market with a huge government debt issue, a "Bank of Japan acceptance issues" formula was adopted.[28] The Bank of Japan underwrote the bonds when issued, and whenever there was a surplus of funds on the market as fiscal spending proceeded, the Bank of Japan would sell bonds to financial institutions.

26 Mitani Taichirō, "Kokusai kinyū shihon to Ajia no sensō," in *Kindai Nihon Kenkyū*, vol. 2: *Kindai Nihon to Higashi Ajia*, ed. Kindai Nihon kenkyūkai (Tokyo: Yamakawa shuppansha, 1980), pp. 126–7. This study is an outstanding piece of research on the Morgan Trading Company's Thomas W. Lamont.

27 An excellent summary of Takahashi's ideas and policies from the point of view of his contemporaries may be found in Fukai Eigo, *Kaikō 70-nen* (Tokyo: Iwanami shoten, 1941), chap. 21.

28 Ibid., pp. 268–70.

At the heart of the early phase of "Takahashi finance," which lasted until 1933, was a triad of policies consisting of low interest rates, a low exchange rate, and increased fiscal spending. Under these policies the Japanese economy began to recover rapidly. In 1929, at the time the gold embargo was lifted, Takahashi had argued publicly that there was a difference between a nation's economy and that of an individual.[29] Saving and economizing produced increases in individual assets, but for the nation as a whole, they caused a decline in demand and depressed production. Even the money spent at geisha houses became income for the geisha and cooks, and this in turn was respent, increasing demand for the nation as a whole. If gold were disembargoed, fiscal spending squeezed, and public works investment suspended, Takahashi argued, contractors and their employees would lose their jobs first; then as their expenditures declined, the effects would spread to other fields, and both incomes and employment in general would fall, thereby inviting a business slump. Takahashi intuitively understood the "theory of effective demand" subsequently advanced by Keynes, and from that point of view, he criticized lifting the gold embargo at the old parity. As finance minister, Takahashi's policies were based on the concept of promoting effective demand.

These policies were successful. The economy expanded first as a result of the revival of exports and then under the stimulation of increased fiscal spending. According to a survey of the data in Table 9.4 for the years 1932 to 1936, the largest contribution to growth was made by exports. Chiefly responsible for the export increase were textile products such as cotton and rayon fabrics, industries in which depression-induced rationalization – that is, efforts to increase productivity – meshed with the low exchange rate to produce remarkable advances. The rapid increase in Japanese exports during the depression provoked boycotts of Japanese goods in countries such as Britain, India, and the United States. Discriminatory tariffs and import quotas were imposed on Japanese goods, and there were numerous trade disputes.[30] The second-fastest-growing sector after exports was private investment, with both production facilities and residential construction growing at about the same rate. Purchases in government spending were lower than expected. From 1933 onward, Takahashi strove to hold down

29 Takahashi Korekiyo, "Kinshuku seisaku to kinkaikin," in *Zuisōroku,* ed. Takahashi Korekiyo (Tokyo: Chikura shobō, 1936).

30 For the recollections of Inoue Kiyoshi, Okada Gentarō, Tawa Yasuo, and others, see Andō Yoshio, ed., *Shōwa seijikeizashi e no shōgen,* 3 vols. (Tokyo: Mainichi shinbunsha, 1972), vol. 1, pp. 283–306.

TABLE 9.4
Increases in real gross national expenditure (¥ billions)

	GNE	Personal consumption expenditure	Government operating expenditures	Gross government fixed-capital formation	Gross private fixed-capital formation	Exports and income from abroad	(Less) Imports and income going abroad
1931	13.323	9.754	1.685	0.902	1.058	2.029	2.105
1936	19.338	13.328	2.183	1.427	2.209	4.580	4.389
Amount of increase during this period	6.013	3.574	0.498	0.525	1.151	2.551	2.284
Rate of increase during this period (%)	45.1	36.6	29.6	58.2	108.8	125.7	108.5
			39.5				

Source: Calculated from Ohkawa Kazushi et al., *Kokumin shotoku: Chōki keizai tōkei*, vol. 1 (Tokyo: Tōyō keizai shinpōsha, 1974), pp. 214, 218–21.

fiscal spending increases, including military spending, and to reduce the issuing of public bonds. It was once widely believed that the revival of prosperity in the early 1930s was due to increased military spending, but this is incorrect. According to Miwa Ryoichi, the rate of dependence of heavy and chemical industrial output on military demand was at its maximum in 1933 at 9.8 percent and then declined to 7 percent in 1936. For the machinery industry, this rate peaked in 1932 at 28 percent but fell to 18 percent in 1936.[31] Even though the political clout of the military grew stronger, the influence of military spending on the economy was not all that great.

Along with military spending, an important item of fiscal expenditure during this period was the outlay for public works projects for rural village relief ("expenditures to meet the national emergency" – *jikyoku kyōkyūhi*).[32] At the beginning of 1932, rural village relief became a major issue. The assassins of former Finance Minister Inoue Junnosuke, Dan Takuma of the Mitsui zaibatsu, and Prime Minister Inukai Tsuyoshi in the May 15 incident, were farm village youths from Ibaraki Prefecture. In the wake of the bloody May 15 incident, representatives from the peasantry and the provinces submitted a stream of petitions to the Diet. The political parties aligned themselves with their demands. In the summer of 1932 they settled on a plan that called for joint expenditure by the central and regional governments of a total of ¥800 million on rural public works projects creating opportunities for peasants to obtain cash incomes during the three-year period from 1932 to 1934. The plan also provided for low-interest loans of ¥800 million to farm villages over the same period and for the amortization of high-interest obligations. The level of government expenditure on rural relief compares favorably with the increases in military spending during the same period. If the supply of low-interest funds is included as well, the implementation of the plan may even be considered to have had a stimulating effect on the economy, surpassing even that of military spending. The situation of the rural villages gradually improved as the Ministry of Agriculture encouraged the industrial associations movement and the self-reliance movement (*jiriki kōsei undō*).

Policies protecting infant industries were also reinforced. In 1932, tariffs were raised on most chemical and heavy industrial products, particularly pig iron. Considering the roughly 80 percent increase in

31 Miwa Ryoichi, "Takahashi zaiseiki no keizai seisaku," in *Senji Nihon keizai*, ed. Tokyo daigaku shakai kagaku kenkyūjo (Tokyo: Tokyo daigaku shuppankai, 1979), pp. 165, 167.
32 Ibid., pp. 120–2.

TABLE 9.5
The progress of chemical and heavy industrialization

	Index of gross output for manufacturing industries	Share of gross output produced by the steel, nonferrous metals, machinery, and chemical industries (%)
1920	61.4	32.3
1930	100.0	35.0
1936	175.8	45.0
1940	218.2	59.2

Source: Calculated from Shinohara Miyohei, *Kōkōgyō* (Tokyo: Tōyō keizai shinpōsha, 1972), vol. 10, pp. 142, 143.

import prices from 1931 to 1933, caused by the declining exchange rate, it may well be that the chemical and heavy industries found it substantially easier to secure domestic markets for themselves. The shipbuilding and marine transport industries benefited when the government began to pay subsidies in 1932 for the dismantling of old ships and the construction of new ones.[33] Incentives had been granted to the automobile industry since the beginning of the depression, and after 1936 still more substantial protection was added in connection with munitions production. In this way various industries made a steady recovery, seizing on new opportunities for development.

The rapid growth of the rayon industry attracted much attention in industrial circles. By improving their technology, leading firms like Tōyō Rayon, Teijin, and Asahi Bemberg became the world's largest producers of artificial fibers, establishing themselves as a major export industry in the latter half of the 1930s. The technology of such industries as electrical machinery and machine tools, represented by Toshiba and Hitachi, also began to approach world standards and at last became capable of meeting domestic demand. With support from the military, the aircraft industry also raised its level of technology. As Table 9.5 shows, the expansion of chemical and heavy industrial output was remarkable. Its share in the value of the output of manufacturing industries rose by 10 percent from 1931 to 1936 to constitute 45 percent of the total.

Another feature of this period was the emergence of the "new zaibatsu" such as Ayukawa Yoshisuke's Nissan (Japan Industrial Company), Noguchi Shitagau's Nitchitsu (Japan Nitrogen Company), Mori Nobuteru's Shōwa hiryō (Shōwa Fertilizer, later known as Shōwa

33 Ibid., pp. 123–5.

denkō), Nakano Tomonori's Nisso (Japan Soda), Ōkochi Masatoshi's Riken, Inc., and Nakajima Chikuhei's Nakajima hikkōki (Nakajima Aircraft).[34] Nissan controlled firms in mining, automobiles, chemicals, fisheries, records, marine transport, and civil engineering through its holding company. This new zaibatsu grew rapidly by progressively buying up at low prices the stocks of firms whose operations were foundering, improving their performance, and channeling the profits into Nippon sangyō, Nissan's holding company. When Nippon sangyō's stock rose as a result, its capital increased, and these funds were used to expand still further Nissan's sphere of activities. Nippon chisso (Japan Nitrogen Corporation), using electric power obtained from its own hydroelectric generating operations to enter the chemical industry, built a large hydroelectric generating plant in north Korea in the 1920s and produced ammonium sulphate, gunpowder, and methanol with the abundant and cheap electrical power generated there. The cost of Nippon chisso's ammonium sulphate was especially low, making this company one of the strongest firms in Japan at the time. Noguchi Shitagau, the firm's founder, also achieved great success in the rayon industry. Shōwa Fertilizer, which started out as a tiny provincial company, expanded by adopting the process that the Tokyo Industrial Laboratory had developed for manufacturing ammonium sulphate and by linking this process to the development of hydroelectric stations. Nakano Tomonori attained success in the soda industry by presiding over Japan Soda and branching out into related fields. As a Tokyo Imperial University professor, Ōkochi headed up the Institute of Physical and Chemical Research. Devoting his attention to industrial applications of the technology and products developed there, he engaged in a broad range of projects, from piston rings to synthetic sake. Nakajima, a navy officer promoting a domestic airplane industry, turned his hand to producing military aircraft. Toyota had produced automobiles since the 1920s, building on the technology it had developed to manufacture automatic looms.

These new zaibatsu grew by taking advantage of technology that had been accumulating since the 1920s, the economic development that followed the reimposition of the gold embargo, and the stagnation of monetary conditions. The managers of these new zaibatsu had several things in common: They were technical and military men, not management specialists; they developed their firms on the basis of new

34 See Miyake Seiki, *Shinkokontserun tokuhon* (Tokyo: Shunjusha, 1937); and Wada Hidekichi, *Nissan kontserun tokuhon* (Tokyo: Shunjusha, 1937).

technology; they had few links with the existing zaibatsu and financial institutions; and they had little capital. All of them also started up new industries using state capital. Whereas they were engaged mainly in the chemical and heavy industries and had the capability to produce munitions in wartime, their technology was also useful in peacetime. As such, their firms could easily adapt to postwar economic growth. Because the economy of the 1930s had already produced pioneers like Toyota and Nissan, it also had clear links with the post-1950s economic growth.

Special laws to promote the development of the chemical and heavy industries passed the Diet in rapid succession.[35] Beginning with the Oil Industry Law passed in 1934 and the Automobile Manufacturers' Law in 1936, special laws covering the synthetic oil, iron, machine tools, aircraft-manufacturing, shipbuilding, aluminum and light metals, organic chemicals, and heavy machinery industries had be passed by 1941. Their provisions were generally similar. Government approval was required for the firms' yearly plans via a government licensing system; unified standards and control over manufacturing and distribution were imposed; firms were directed to respond to the requirements of the military and the public interest; and the government could order the expansion and improvement of plants and equipment as well as changes in methods of operation and production plans. These special laws ruled that enterprises incurring losses be compensated according to government decree. The laws also provided other forms of protection, such as exemption from land expropriation, income taxes, and corporate taxes; the granting of bounties and subsidies, special privileges for debenture flotations; and the compulsory amortization of plant and equipment. The protectionist policy embodied in these special laws contributed greatly to the development of the chemical and heavy industries during the war and may be regarded as the genesis of the postwar policy of promoting these industries.

In the meantime, the older established zaibatsu, which had become the targets of social opprobrium, did their best in the early 1930s to avert criticism. The Mitsui zaibatsu, partly because it was the most severely criticized, set up a foundation called the Mitsui hōonkai (Mitsui Repayment of Kindness Association) to perform social work services and forced the resignation of Mitsui bussan's managing director, Yasukawa Shunosuke, who had been criticized for his "aggressive" activities. Mitsubishi and Sumitomo made similar efforts. Frequently

35 Maeda Yasuyuki, *Shōkō seisakushi Dai 11-kan*, pp. 238–50.

likened to the "conversion" (*tenkō*) of Communist Party members, such behavior was called "zaibatsu conversion." The activities of the older zaibatsu were generally conservative in this period, and their influence in the economy as a whole declined. Because fiscal spending increases went to farm villages or to small- and medium-sized enterprises, the expansion of deposits in zaibatsu banks was also slow. After 1933 the Sanwa Bank of Osaka, which had many provincial branches, led in volume of deposits.

But as a consequence of the Shōwa financial crisis, oligopolistic control in individual industries advanced. During the recovery period, huge trusts were formed in the iron and paper industries. In 1933 seven private iron–steel manufacturing firms merged with the government-operated Yawata Iron and Steel Works to form the Nippon seitetsu KK (Japan Steel Company), which controlled 97.5 percent of domestic pig iron production and 51.5 percent of domestic steel ingot production. Before the Shōwa financial crisis, the market had been controlled by means of a cartel centered on the Yawata Iron Works, but as a result of the merger it became possible to control the market through a single giant firm. The same year, Mitsui's Ōji Paper Company, Ōkawa Heizaburō's Fuji Paper Company, and Sakhalin Industries merged to form the Ōji Paper Company, a large trust that controlled 90 percent of newsprint production. Because imports of steel products and machine-made paper were depressed by the low exchange rate, these monopolies ended up dominating their respective domestic markets, and after the war they were broken up by the economic deconcentration policy. During 1932 and 1933, large-scale business mergers were also carried out in rapid succession in banking, beer, and machinery. The functions of cartels were also strengthened. The large electric power companies, hard-pressed during the depression and plagued by the pressure of their loans from financial institutions, acceded to the demands of the zaibatsu banks to form an electric power federation. When prices for goods produced in industries dominated by trusts and cartels increased as a result of these trends, the criticism of these monopolies grew stronger. In 1936 the Important Industries Control Law was amended so as to suppress the activities of the cartels.[36]

In the 1930s, Japan also focused on the economic development of the puppet state Manchukuo and the economic penetration of north China. With support from the government in Tokyo the Kwantung Army, in de facto control of Manchuria, collaborated with the South

36 Ibid., pp. 68–72.

Manchurian Railway Company (Mantetsu) to set up the Mantetsu Economic Research Bureau and the First Economic Construction Plan for Manchukuo. The plan's essential goals, which rested on an ideology critical of a free economy and domestic capitalism, were to prevent "capitalists" from monopolizing profits, to "promote the good of all the people," "to place key economic sectors" under state control, and to develop economic interdependence between Manchuria and Japan.

With regard to currency, the Manchukuo Central Bank was established, and a managed currency (the *yuan*) linked to the Japanese yen at parity was issued.[37] Japan and Manchukuo thus had a shared currency, and the "Japan–Manchukuo Economic Bloc" came into being.[38] This measure was in line with general worldwide trends after the abandonment of the gold standard, that is, the creation of a "sterling bloc" centered on Great Britain and the Commonwealth, and a "dollar bloc" centered on the United States. In industrial development, key industries such as steel, gold mining, coal mining, oil, ammonium sulphate, soda, coal liquefaction, electric power, automobile transport, and air transport were placed under state control. Following the principle of establishing one company per industry, special corporations were created by the Manchukuo government and the South Manchurian Railway, each putting up 30 percent of the capital and the remainder being raised from the general public.[39] The Manchukuo government supervised the personnel and accounting of these special companies, but it also granted them special privileges such as profit subsidies and tax exemptions. Because Manchukuo was originally founded under the slogans of "Denounce capitalism" and "Keep out the zaibatsu," direct investment from metropolitan Japan was excluded. The capital for industrial development was raised through the issue of South Manchurian Railway debentures. Domestic capital was permitted to be used in industries not considered key, but a policy was adopted to discourage the development of industries that competed with domestic Japanese production, such as rice cultivation and cotton spinning.

Because this conception of Manchurian development was based on the anticapitalist ideology of the Kwantung Army and the South Manchurian Railway, the domestic economic community was hostile. The

37 Kobayashi Hideo, "Manshū kinyū kōzō no saihensei katei–1930 nendai zenhanki o chūshin to shite," in *Nihon teikokushugika no Manshū*, ed. Manshūshi kenkyūkai (Tokyo: Ochanomizu shobō, 1972), pp. 151–74. 38 Ibid., pp. 196–206.

39 Hara Akira, "1930 nendai no Manshū keizai tōsei seisaku," in *Nihon teikokushugika no Manshū*, pp. 44–9.

flotation of South Manchurian Railway debentures thus fared poorly. Furthermore, it was impossible for the South Manchurian Railway, whose personnel came mainly from railroad or military backgrounds, to provide the workers necessary for extensive industrial development. This was the Achilles' heel of the South Manchurian Railway Company, which, on the pretext of cooperating in building the new country, was attempting to control the Manchukuo economy. It was also the reason that the company gradually became estranged from the army. After 1933 the Kwantung Army drew up a plan to split the South Manchuria Railway Company into a group of independent affiliates (*kogaisha*), one for each sector. The South Manchurian Railway Company's functions were limited to managing the railroad and acting as a holding company for the affiliate companies. The Kwantung Army also devised a plan to strengthen its control over the affiliate companies. The plan came to naught, but rather than abandon it, the army continued to look for an opportunity to put it into effect.[40]

Driven by a sense of crisis and aware that it might be necessary to comply with the army's plan, the South Manchurian Railway planned to move south of the Great Wall into north China. After 1934 the Kwantung Army cooperated with the North China Garrison army to establish a de facto sphere of influence in north China by cutting it off from Kuomintang control and setting up pro-Japanese political regimes. It also developed plans for obtaining from the area raw materials such as iron ore, coal, and salt, which were in short supply in Manchukuo. The South Manchurian Railway did the research for this project.[41] In 1935 the railway established the Hsingchong ("Revive China") Company as its affiliate. The North China Garrison Army succeeded in establishing a pro-Japanese regime in eastern Hopei and a regime with a certain degree of autonomy from Nanking in Hopei-Chahar. After 1936 the Japanese negotiated with both these regimes for rights to develop their raw material resources, but the effort did not make much progress, owing to opposition from the Chinese. But these practical maneuvers did enable the advance by Japan's big spinning companies into the Tientsin area, particularly after 1936.

The domestic situation in Japan changed radically with the increased power of the military after 1936. On February 26, 1936,

40 Hara Akira, " 'Manshū' ni okeru keizai seijisaku no tenkai–Mantetsu kaisō to Mangyō sōritsū o megutte" in *Nihon keizai seisakushi ron*, ed. Andō Yoshio (Tokyo: Tokyo daigaku shuppankai, 1976), vol. 2, pp. 211–13, 296.

41 Nakamura Takafusa, "Nihon no kahoku keizai kosaku," in *Kindai Nihon kenkyūkai*, vol. 2, pp. 159–204.

Takahashi Korekiyo was killed by a military assassination squad. Under the newly formed Hirota cabinet, which was dominated by the demands of the military, the economy strayed from the path of economic rationality. Since 1934 Takahashi had consolidated the level of fiscal spending, had done his utmost to curb the expansion of military spending, and had tried to reduce the size of government bond issues. These policies seem to have reflected the views of Fukai Eigo, governor of the Bank of Japan and a close partner of Takahashi, who agreed with Keynes's theory of true inflation. According to this theory, if there is a surplus of capital plants and equipment, raw materials, or labor, an expansion of demand will not induce inflation, but if that margin of surplus is lost, inflation will occur. Fukai appears to have believed that Japan had achieved virtual full employment in the latter half of 1935.[42] Takahashi's opposition to an expanded scale of military and fiscal spending was thus based on such thinking.

Finding it impossible to oppose the demands of the military, Finance Minister Baba Eiichi of the Hirota cabinet attempted to cooperate with them. He approved a five-year large-scale armament expansion plan for the army and a six-year plan for the navy.[43] The national budget for fiscal year 1937 was almost 40 percent larger than that of FY 1936. This budget expansion was to be covered by a large tax increase and national bond issues. To facilitate the issue of public bonds, Baba lowered the discount rate and revived a low-interest-rate policy. Business leaders resisted the proposed tax increase, but at the same time they moved to increase imports in anticipation of inflation and a stronger demand for imported raw materials accompanying the expansion in military demand. As a result, the balance of payments was heavily in the red at the end of 1936. At the beginning of the year, the country had to begin shipping gold abroad. Price increases also became noticeable. Baba's policies failed immediately, and after a clash with the Diet in January 1937, the Hirota cabinet was replaced by the Hayashi cabinet. The new finance minister, Yūki Toyotarō, reduced Baba's budget, curtailed the tax increases, and mended relations with business leaders. When the first Konoe cabinet was organized in June 1937, Kaya Okinori and Yoshino Shinji, two leading bureaucrats, took office as minister of finance and minister of commerce and industry.

In the army, Ishiwara Kanji, the planner and executor of the Man-

42 Fukai, *Kaikō 70-nen*, pp. 322–331. See also Yoshino Toshihiko, *Rekidai Nihon ginkō sōsai ron* (Tokyo: Mainichi shinbunsha, 1976), pp. 186–8.

43 Aoki Nobumitsu, *Baba Eiichi den* (Tokyo: Ko Baba Eiichi-shi kinenkai, 1945), pp. 263–4.

churian incident, took the lead in formulating a plan to expand direct military preparations for the expected outbreak of war with the Soviet Union, to expand the chemical and heavy industries, and to establish a firm base for munitions production. This plan's objective was to expand the productive capacity of the Japan–Manchukuo economic bloc, swiftly drawing on the resources of Japan, Manchukuo, and north China. Table 9.6 shows that ¥6.1 billion of the needed capital was to come from domestic Japan and ¥2.4 billion from Manchuria.[44] The army plan, which took approximately one year to draft, was presented to the Konoe cabinet, which was organized with the mission of implementing it. In the summer of 1936, Ishiwara, seeking a review of the plan, had shown the newly completed first draft to a few politicians, including Konoe, and to members of financial circles such as Ikeda Shigeaki, Ayukawa Yoshisuke, and Yūki Toyotarō. He obtained their informal consent to cooperate in implementing the plan. Yūki's appointment as finance minister, Ikeda's appointment as governor of the Bank of Japan during the Hayashi cabinet, and Konoe's subsequent appointment as prime minister all were intended to encourage the realization of this plan.

The Konoe cabinet was unable to use such methods as fiscal and monetary stringency, suppression of domestic demand, reduction of imports, and promotion of exports to eliminate the balance-of-payments deficit. Immediately after taking office, Finance Minister Kaya and Commerce and Industry Minister Yoshino announced three economic principles: "expansion of productive capacity, balance of payments equilibrium, and regulation of the supply and demand for goods." This announcement indicated that their attention would be turned to establishing priorities for commodity imports and expanding productive capacity within the constraints imposed by preserving the balance-of-payments equilibrium. It implied the necessity of implementing direct national controls over commodity imports and capital. Economic controls were thus invoked across the board after the outbreak of the Sino-Japanese War in July 1937, but even if the war had not occurred, it is highly likely that sooner or later controls would have become unavoidable.

In Manchuria, the Manchuria Five-Year Development Plan, based on Ishiwara's first draft, was drawn up and immediately put into effect in 1937. It was thought that to carry out this plan, skilled specialists should manage industrial production. In November 1937 Nissan's

44 Nakamura, *Economic Growth in Prewar Japan*, pp. 268–85.

TABLE 9.6
Production targets in the five-year plan for key industries

	(A) Production targets			(B) Present capacity			(A) as a proportion of (B)		
	Total	Japan	Manchuria	Total	Japan	Manchuria	Total	Japan	Manchuria
Ordinary automobiles (1,000s)	100	90	10	37	37	—	2.7	2.4	—
Machine tools (1,000s)	50	45	5	13	13	—	3.8	3.5	—
Rolled steel (1,000s of tons)	13,000	9,000	4,000	4,850	4,400	45	2.7	2.0	8.9
Oil (1,000s kl)	5,650	3,250	2,400	364	210	154	15.6	15.5	15.6
Coal (1,000s tons)	110,000	72,000	38,000	55,560	42,000	13,560	2.0	1.7	28.0
Aluminum (1,000s tons)	100	70	30	21	21	—	4.8	3.3	—
Magnesium (1,000s tons)	9	9	3	0.5	0.5	—	4.8	3.3	—
Electric power (1,000s kw)	12,750	11,170	1,400	7,210	6,750	460	1.7	1.7	3.0
Shipbuilding (1,000s tons)	930	860	70	500	500	—	1.9	1.7	—

Note: Other than these, the production target for weapons was ¥960 million, a 2.1-fold increase over current capacity, and the target for airplanes was 10,000 (Japan, 7,000; Manchuria, 3,000).
Source: "Jūyō sangyō go-ka-nen keikaku jisshi ni kansuru seisaku taikō (an)," Ministry of the Army, May 29, 1937. Shimada Toshihiko and Inaba Masao, eds., *Gendaishi shiryo*, vol. 8. *Nitchū sensō* (1) (Tokyo: Misuzu shobō, 1964), pp. 730, 746.

Ayukawa Yoshisuke founded Manchurian Heavy Industries (Mangyō). Using Nissan's capital and technology, he gathered all the Manchurian companies in the heavy and chemical industries under its control.[45] The South Manchurian Railway become a holding company concentrating on operating the railroad, and its reorganization was accomplished only after many setbacks.

WAR

In July 1937 Japan plunged into an undeclared war with China. Contrary to expectations that it would be decided quickly, the war stretched on. The nation's economic strength was strained by shortages of key raw materials, particularly oil, and the tightening of economic controls. Economically, the outbreak of the China war was but a continuation of the trajectory along which the country had already been hurled. The Japanese economy was administered with the sole object of meeting the military demand. Ordinary industry and popular livelihood were sacrificed to that end. Although several factors linked to postwar economic growth were developed during this period, the process as a whole was a march to destruction.

The most persistent feature of the war economy was the continual strengthening of economic controls. War with China broke out just after the government accepted the army's plan for heavy and chemical industrialization. There was no alternative but to administer the economy by strengthening controls and by giving priority in allocating limited materials and capital to meet military demand. The necessity for economic controls had been urged by young bureaucrats, military personnel, and even economists since the 1920s.[46] The worldwide depression made clear that the capitalist free economies had come to a standstill. The need to control the economy and to institute planning could be seen from the success of the Soviet Union's five-year plans. The military also contended that World War I had demonstrated that the next war would be a total war requiring the mobilization of the economy as well as the polity. Research on the development of a mobilization structure had in fact been conducted at the Natural Re-

45 See Hara, " 'Manshū' ni okeru keizai seijisaku no tenkai," in *Nihon keizai seisakushi ron*, vol. 2, pp. 209–96.

46 Nagata Tetsuzan, "Kokka sōdōin junbi shisetsu to seishōnen kunren" in *Kokka sōdōin no igi*, ed. Tsujimura Kusuzō (Tokyo: Aoyama shoin, 1925), is a good example of early ideas on mobilization. An outstanding summary of the mobilization scheme focusing on the military may be found in Mikuriya Takashi, "Kokusaku tōgō kikan setchi mondai no shiteki tenkai," in *Kindai Nihon kenkyū*, vol. 1: *Shōwa-ki no gunbu* (Tokyo: Yamakawa shuppansha, 1979), sec. 1.

sources Agency since 1927. Ideological demands for a system of economic control had been tried in Manchukuo after 1932, but at home their realization was limited to the unification of the electric power generation and transmission industry in 1938. Full-scale economic controls in Japan proper were instituted only when other alternatives were discounted.

During the first three months of the China war in 1937, military expenditures came to ¥2.5 billion, an amount virtually equal to the national budget for the year. Faced with a pressing need to check increases in imports and currency expansion, the government passed the Temporary Capital Adjustment Law and the Temporary Export and Import Commodities Law. In March 1938, the Diet enacted the National General Mobilization Law. Under these laws, the government acquired sweeping powers: (1) The establishment of firms, capital increases, bond flotations, and long-term loans came under a licensing system; (2) the government was empowered to issue directives concerning the manufacture, distribution, transfer, use, and consumption of materials connected with imports and exports, particularly their restriction or prohibition; and (3) the government was also empowered to issue directives on the conscription of labor power, the setting of working conditions, the disposition of firms' profits, the use of funds by financial institutions, the administration, use, and expropriation of factories and mines, and the formation of cartels.[47] These measures were invoked one after another as the war situation became more grave.

In October 1937 the Cabinet Planning Board (Kikakuin), charged with comprehensive planning, began operations.[48] Its major responsibilities were to regulate the supply and demand for major commodities necessary for economic activity and to draw up a materials mobilization plan. The required volume of key raw materials imports on which Japan depended – for example, iron and steel, oil, copper, aluminum, raw cotton, wool, and rubber – was calculated as the difference between the combined military, government, and industrial demand and the domestic supply. Within the constraints set by the amount of available foreign exchange, an import plan was drawn up for each commodity, and the commodities were allocated among the army, the navy, and the private sector. These plans were initially made for October to December 1937. From then until the defeat, plans were first prepared every year and then subsequently every quarter. To imple-

47 Maeda, *Shōkō seisakushi Dai 11-kan*, chaps. 2, 3.
48 Mikuriya, "Kokusaku tōgō kikan setchi."

ment the Five-Year Plan for Key Industries, the planning board also prepared the Industrial Capacity Expansion Plan, which it put into effect in 1939.[49]

Japan thus quickly entered a wartime controlled economy. Economic control policies were unavoidable because of the political necessity of raising funds for huge military outlays, ensuring raw materials for the import-dependent chemical and heavy industries, and producing munitions. Japan's foreign trade situation at this time is shown in Table 9.7. After 1938 the aggregate foreign trade balance was in the black. A breakdown of these figures, however, shows that an export surplus was maintained in the yen bloc, in which settlements were made in yen, but in other areas, in which convertible foreign exchange was required, there was a continuous import surplus. For key raw materials such as coal, iron ore, and salt, Japan could be self-sufficient in the yen bloc; but for oil, bauxite, scrap iron, rare metals such as nickel and cobalt, crude rubber, raw cotton, and wool, Japan was compelled to depend on imports from dollar and sterling areas. Efforts to promote further its chemical and heavy industries increased Japan's dependence on the British and American currency areas. The materials mobilization plan, launched at a time of large import surpluses in 1937, was drawn up on the assumption that an estimated ¥3 billion in foreign exchange revenues from 1938 exports would be available, but owing to a slump in the United States and the slack production of cotton textiles for export, the figure was slashed to ¥2.5 billion by midyear. Because priority in the allocation of imported goods was for munitions and for use in expanding productive capacity, the import of materials used for consumer production, such as raw cotton and wool, was cut back. Because of the increasing squeeze on consumer goods as well as poor rice harvests, a rationing system for rice, matches, and sugar was adopted in 1940. Fearing soaring prices, the government fixed prices and initiated price controls. But these new controls only stimulated black market dealings. In order to crack down on such activity, the economic police was established. Allocations of munitions goods were made on the basis of a coupon system, but it was not always easy to obtain the actual goods. Everywhere, complicated controls proliferated.

The Japanese continued to do their utmost to develop the resources of Manchuria and China. The North China Development Corporation

49 See commentary in Nakamura Takafusa and Hara Akira, eds., *Kokka sōdōin*, vol. 1: *Keizai (Gendaishi shiryō 31)* (Tokyo: Misuzu shobō, 1970).

TABLE 9.7
The balance of international trade in the 1930s (¥ millions)

	Totals			Trade with the yen bloc (China, Manchuria, and Kwantung)			Trade with the world outside the yen bloc		
	Exports	Imports	Settlement balance	Exports	Imports	Settlement balance	Exports	Imports	Settlement balance
1931	1.147	1.235	−89	0.221	236	−15	0.926	1.000	−74
1932	1.410	1.431	−21	0.276	206	70	1.134	1.226	−72
1933	1.861	1.919	−56	0.411	281	130	1.450	1.636	−186
1934	2.171	2.283	−111	0.520	311	209	1.652	1.972	−320
1935	2.499	2.472	27	0.575	350	225	1.924	2.122	−198
1936	2.693	2.764	−71	0.658	394	264	2.035	2.370	−335
1937	3.175	3.783	−608	0.791	437	354	2.384	3.346	−962
1938	2.690	2.663	27	1.166	564	602	1.524	2.099	−575
1939	3.576	2.918	658	1.747	683	1.064	1.829	2.235	−406
1940	3.656	3.453	203	1.867	756	1.111	1.789	2.697	−908
1941	2.651	2.899	−248	1.659	855	804	992	2.044	−1.052

Source: Japan Ministry of Finance, Customs clearance statistics, 1931–41.

and the Central China Promotion Corporation set up affiliates in their respective regions to develop natural resources. Coal and iron ore development were given top priority in China, and the Japanese army went as far as to reduce the number of trains transporting local food supplies in order to send coal to Japan. In Manchuria, Manchurian Heavy Industries, headed by Ayukawa Yoshisuke, worked to establish every kind of industry in the region, including automobile production. However, Ayukawa's plan to try to introduce American capital and technology into Manchuria proved overly optimistic. It ignored America's nonrecognition of Manchukuo and the Open Door principle. When his plan finally failed, Ayukawa had to resign.[50]

In July 1939 the United States announced the abrogation of its Treaty of Commerce and Navigation with Japan. In January 1940 the United States became free to restrict exports to Japan as a form of economic sanction. The outbreak of the European war in September 1939 led to expectations that strategic goods imports would become more difficult. From 1939 to 1940, Japan mobilized all the gold and foreign exchange it could and boosted its imports of petroleum products, rare metals, and other strategic goods. The Bank of Japan's gold reserves were nearly depleted.[51] In July 1940, observing Nazi Germany's successful invasion of France and expecting the imminent defeat of Britain, Japan's military drew up plans to invade Singapore and the Dutch East Indies (now Indonesia) to gain access to their abundant supplies of raw materials such as oil, rubber, and tin. Support was growing for the reckless view that the war in China remained unresolved because Britain and the United States were backing the Kuomintang government and that Japan should act in concert with Germany to defeat Britain and force the United States to withdraw from Asia. In September 1940, Japan advanced into northern French Indochina (present-day North Vietnam) and signed a treaty of alliance with Germany and Italy. The United States responded by tightening its export restrictions against Japan and then steadily turned the screws to reduce Japanese economic power.

In 1939, Japan instituted general wage and price controls and established a unified nationwide wage system. The workers in the commerce and service industries were conscripted for compulsory work in munitions production. The companies' dividend rates were restricted, and finance was placed under comprehensive controls as well. Intend-

50 Hara, " 'Manshū' ni okeru keizai seijisaku no tenkai," pp. 248–95.
51 See the explanatory comments in Nakamura and Hara, eds., *Kokka sōdōin*, vol. 1, pp. lxix–lxxii. See also in the same volume, "Ōkyū butsudo keikaku shian" and "Setsumei shiryō."

ing to increase munitions production, the government in the fall of 1940 put forth plans for a New Economic Order parallel to the New Political Structure being organized at the same time.[52] The intent of this plan was to shift firms from a profit basis to a production basis; to separate the owners of capital from the managers of the firms; to designate government officials as managers; to make firms increase their production in accordance with government directives; and to organize cartels called industrial control associations to implement government economic controls such as production quotas and materials allocations. The business community opposed this plan, on the ground that it was a "communist" idea that threatened the fundamental principles of a capitalist economy. A compromise was finally reached, but just barely.

In early 1941 Japanese-American negotiations began. During their stormy course Germany invaded the Soviet Union. In July, Japan advanced into southern French Indochina. In response, the United States froze Japanese assets in America and imposed a total embargo on petroleum exports. The embargo on petroleum, Japan's most critical war matériel, was the biggest trump card the United States held. Japan's army and navy had reserves of 8.4 million kiloliters of petroleum products, an amount that could meet its military demand for no more than two years of fighting. Opinion within the army and navy was dominated by the belligerent view that Japan should go to war with Britain and the United States to obtain raw materials from Southeast Asia rather than give in to external pressure. This mood propelled the country into the Pacific War.[53]

Six months after the beginning of hostilities, Japan occupied a vast area demarcated by a boundary running through Burma, Thailand, the Malay Peninsula, Singapore, Sumatra, Java, Borneo, the Celebes, and the Solomon Islands. Some observers thought that with petroleum supplies safely in hand, the dream of the Greater East Asia Co-Prosperity Sphere had been realized. Many firms moved to invest in the development of mines, rubber, and raw cotton in the region, and some even laid plans for hydroelectric power and aluminum refining. The government drew up the optimistic Plan for the Expansion of Productivity, using "Greater East Asia" as its arena. The plan projected that within fifteen years, production would be expanded from three to five times the cur-

52 See Nakamura Takafusa and Hara Akira, "Keizai shin taisei" in *Nihon seiji gakkai nenpō 1972-nen* (Tokyo: Iwanami shoten, 1972).

53 Nakamura Takafusa, "Sensō keizai to sono hōkai," in *Iwanami kōza, Nihon rekishi*, vol. 21: *Kindai 8* (Tokyo: Iwanami Shoten, 1977), pp. 115–16.

TABLE 9.8
Figures on the Pacific War and ocean-going transport

	1941 (December only)	1942	1943	1944	1945
Losses of ship tonnage					
No. of ships	12	202	437	969	639 (271)
No. of tons (1,000s)	56	948	1,793	2,058	1,503 (756)
Ship construction					
No. of ships	4	77	254	699	188
No. of tons (1,000s)	6	265	769	1,700	560
Volume of oceangoing transport					
Planned (A) (1,000s tons)	41,408[a]	40,368	33,397	27,820	9,400
Achieved (B) (1,000s tons)	39,601[a]	39,486	33,047	20,720	7,279
Rate of plan achievement (B/A %)	95.6	97.8	99.0	74.5	77.4
Of amount achieved:					
Japan, Manchuria, and China (1,000s tons)		21,914[b]	29,624	18,151	2,003[c]
Southeast Asia and others (1,000s tons)		862[b]	3,605	2,627	137[c]
Volume of Southeast Asian raw material shipments to Japan					
Oil (1,000s kl)	–	1,428	2,623	1,500	–
Bauxite (1,000s tons)	–	323	792	565[d]	–
Crude rubber (1,000s tons)	–	65	78	68[d]	–
Manganese ore (1,000s tons)	–	71	89	67[d]	–
Totals, including other items (1,000s of tons, except for oil)	–	1,514	1,581	909[d]	–

[a] Totals for Apr. to Dec. 1941.
[b] Jul. to Dec. 1942. [c] Jan. to Mar. 1945.
[d] Figures for 1944 are forecasts.
Source: Nakamura Takafusa, "Sensō keizai to sono hōkai," in *Iwanami kōza, Nihon rekishi, vol. 21: Kindai 8* (Tokyo: Iwanami shoten, 1977), Tables 5, 8, 9.

rent level. The immediate problem, however, was how to fight a war with the raw materials Japan now controlled.

There were no longer any foreign exchange restrictions for raw material imports from the Greater East Asia Co-Prosperity Sphere. Payment was made with Japanese military scrip or with Southeast Asia Development Bank vouchers. Marine transport capacity rather than foreign exchange became the critical bottleneck. The tonnage of Japan's ocean-going capacity at the beginning of the Pacific War was 6.5 million gross tons, of which about 5.5 million gross tons, excluding tankers and repair vessels, could be mobilized (see Table 9.8). It was thought that even if 2.9 million gross tons of army and navy warships were used for combat or military service, 3 million gross tons, including tankers, would be kept in service for freight transport to provide the transport capacity necessary to keep production going at the level called for by the 1941 Materials Mobilization Plan. At the beginning of

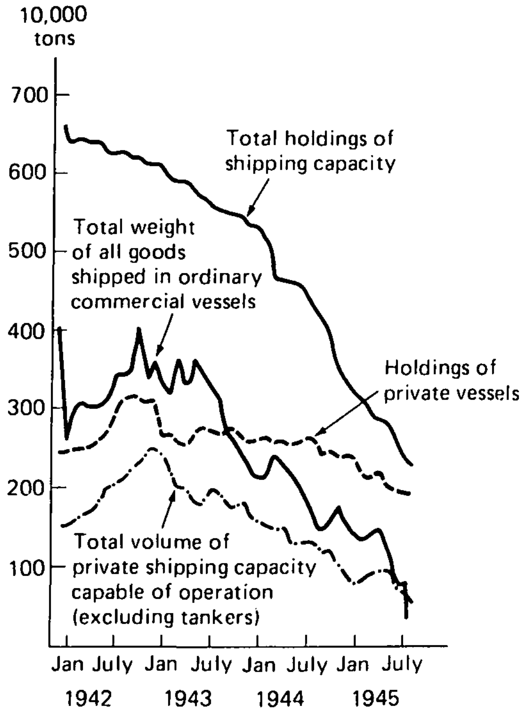

Figure 9.2. Shipping capacity and shipment of goods during World War II. [From Oi Atsushi, *Kaijō goeisen* (Tokyo: Nihon shuppan kyōdō, 1952), appended tables.]

the war, based on estimated annual losses of 800,000 to 1 million tons and estimated annual production of 600,000 tons of new ships, it was forecast that Japan could maintain 3 million gross tons of capacity. This forecast proved excessively optimistic.[54]

In reality, the army and navy vessels were not replaced easily, and losses exceeded expectations. Realizing the importance of shipping, the Japanese government tried to increase shipbuilding output, but marine transport tonnage continued to decline. As Table 9.8 indicates, shipments of Southeast Asian raw materials, in particular, failed to meet expectations. Figure 9.2 shows the decline in shipping capacity as a barometer of fighting strength. Japan's ship tonnage (civilian vessels) for transporting general commodities reached a peak in October 1942 as a result of the cancellation of military vessel requisitioning, but after the battle of the Solomon Islands, its ship tonnage shifted

54 Ibid., pp. 116–17.

into decline. After the latter half of 1943, in particular, it fell steadily because of the all-out American sea and air offensive. Especially notable was the decline of volume shipped, which dropped in conjunction with the ships' falling rate of operation. After the fall of the Marianas in July 1944, the sea lanes to Southeast Asia were blocked, and so it became impossible to procure raw materials anywhere but Japan, Manchuria, and China. In 1945, when food shortages in the homeland reached crisis proportions, the transport of grains and salt from China and Manchukuo became the ultimate mission for shipping, but even that was brought to a standstill by air attacks. In regard to marine transport, Japan had already lost the war in the summer of 1944.[55] Jerome Cohen summarized this situation: "It may be said that in large measure Japan's economy was destroyed twice over, once by cutting off of imports and secondly by air attack."[56]

Domestic production trends until defeat are shown in Table 9.9. Wartime controls clearly expanded Japan's chemical and heavy industrial production and reduced the output for private demand in such industries as textiles. For this reason, production in industries catering to private demand, including agriculture, continued to decline after the latter half of the 1930s. The Japanese were forced to endure extreme hardship. Even within the heavy and chemical industries, the outputs in various sectors achieved maximum levels in different years. Because production priorities focused on aircraft and ships during the Pacific War, the production of materials such as steel and chemicals fell from 1943 onward. Production efforts were concentrated solely on final products such as weaponry, military aircraft, and ships. As a result of extraordinary effort, aircraft production increased from 6,174 planes in 1941 to 26,507 in 1944, and the production of warships grew from 201,000 to 408,000 tons, both peak levels of output.[57] However, the eleventh-hour production effort was unable to turn around the deteriorating war situation.

At the beginning of the Pacific War, the Japanese government was behind in its efforts to organize a wartime economic mobilization, and began only in the fall of 1942. Because Japan's early military successes exceeded expectations, government leaders overlooked the necessity of all-out economic mobilization efforts. When the American counter-

55 See ibid., pp. 123–36.
56 Jerome B. Cohen, *Japan's Economy in War and Reconstruction* (Minneapolis: University of Minnesota Press, 1949), p. 107.
57 According to Okazaki Ayakoto, *Kihon kokuryoku dōtai sōran* (Tokyo: Kokumin keizai kenkyū kyōkai, 1953).

TABLE 9.9
Wartime production indexes (1937 = 100)

	Agriculture production index	Rice	Mining production index	Coal	Manufacturing production index	Steel	Machinery	Chemicals	Textiles	Foods
1936	98	102	92	92	85	87	75	87	88	91
1937	100	100	100	100	100	100	100	100	*100*	100
1938	98	99	106	108	103	115	110	114	83	101
1939	*105*	*104*	112	113	114	123	135	*122*	83	*104*
1940	99	92	*120*	125	119	128	163	120	75	90
1941	95	83	*120*	125	123	132	188	120	60	78
1942	100	101	118	121	120	140	195	100	48	69
1943	96	95	119	*127*	121	*156*	214	87	31	58
1944	76	88	108	120	*124*	146	*252*	80	17	47
1945	59	59	51	74	53	52	107	33	6	32

Source: Agriculture: Production indexes compiled by Ministry of Agriculture and Forestry using 1933–5 as the base period (*Dai 30-ji Nōrinshō tōkeihyō*). Mining and manufacturing: Ministry of International Trade and Industry, *Shōwa 35-nen ki jun kōkōgyō shisū sōran*. (Italicized figures are the maximum values reached by each index during this period.)

attack began, the failure to mobilize adequately became an irretrievable handicap. In any case, once the need for the mass production of aircraft and ships became clear, the Japanese government attempted to "make the impossible possible." For example, in order to increase steel production, the government set up a large number of simple twenty-to-one-hundred-ton-capacity small blast furnaces in Korea, Manchukuo, and China. Their performance was extremely poor, however, and they did not produce the expected results. In order to cope with shortages of metal materials, including scrap iron, the government collected city streetcar rails, the handrails of bridges, and even the bells in Buddhist temples. The textile industry's spinning machinery was scrapped and turned into raw materials for shells. In the wake of shutdowns and cutbacks, many factories in the consumer goods industry were converted into munitions factories. Good results were produced in the shipbuilding industry in 1943 by using a "snowball" method. Shipbuilding volume was expanded by importing iron ore only in the amount needed to build ships, and the ships thus built were then used to import more iron ore. In order to cut down on the volume of ocean shipping, various kinds of production facilities, including blast furnaces, were transferred to China and Manchuria, and the practice of on-the-spot production was adopted, but this effort disappointed expectations.

In the fall of 1943, in order to increase munitions production, especially aircraft, a Ministry of Munitions was established by merging the Cabinet Planning Board and the relevant departments in the Ministry of Commerce and Industry. At the same time a Munitions Companies System was inaugurated. Key firms were designated as "munitions companies"; those in charge of production were given titles as government officials; employees were treated as impressed labor and not allowed to quit their jobs; and the companies were responsible for increasing production in accordance with government instructions.[58] But the government also compensated these firms for losses. In each industry designated, financial institutions took responsibility for supplying the necessary capital.

The labor force presented a difficult problem during the war. Out of a population of slightly under 80 million, 2.4 million had been conscripted into military service by the end of 1941. In August 1945 this number had swelled to 7.2 million. To compensate for the resulting

58 Jūyō sangyō kyōgikai, *Gunjukaishahō kaisetsu* (Tokyo: Teikoku shuppan, 1944). No coherent study of the munitions companies exists.

labor shortage, young men in consumer goods or tertiary industries were conscripted and mobilized to work in factories and mines. After 1944, students from the middle-school level up were employed in munitions production and forced to suspend studies of any kind almost entirely. In the consumer goods industries, especially textiles, and in the tertiary industries, firms either converted to wartime production or went out of business as raw materials and merchandise disappeared. Their machinery and equipment were scrapped for munitions production, and their workers were put to work in factories and mines. The government promoted the forced reorganization of business, and it compelled small- and medium-sized enterprises to convert to munitions production or go out of business, mainly in order to mobilize their workers.[59] The 1944 bulge in the secondary industry work force and the deterioration of the tertiary industry work force, as seen in Table 9.3, were the consequences of such policies.

The quality of daily life suffered. After 1938 it became impossible to obtain cotton and woolen goods. In 1940 necessities such as rice, *miso* (bean paste), and soy sauce were rationed, but these, too, gradually ran short, and food shortages for the urban population became severe in 1943. The standard daily Japanese caloric intake was 2,200 calories, including 70 grams of protein, but the actual daily intake in 1941 was 2,105 calories and 64.7 grams of protein. By January 1944, rations provided a mere 1,405 calories.[60] People tried to stave off starvation by foraging in the farm villages or buying on the black market outside official distribution channels. The government had put limited price controls into effect after the start of the China war for fear of inflation. In 1940 the government began setting official prices for everything, but it was impossible to eradicate illegal transactions. From a 1937 base-year value of 100, the consumer price index rose to 149 in 1940, 208 in 1944, and 254 in May 1945. If black market prices are included, these indexes must be calculated as 161 for 1940 and 358 for 1944.[61] The latter figures are most likely closer to the actual situation.

After 1940 the government officially set wage levels on the basis of type of employment, educational background, age, and number of years of experience. This was done because it was feared that wage-cost increases would cause price increases. Because wage rates were calculated on the basis of official prices, they could never catch up

59 Yui Tsunehiko, *Chūshō kigyō seisaku no shiteki tenkai* (Tokyo: Tōyō keizai shinpōsha, 1964), pp. 342ff.
60 Hōsei daigaku Ōhara shakai mondai kenkyūjo, *Taiheiyō sensōka no rōdōsha jōtai* (Tokyo: Tōyō keizai shinpōsha, 1964), p. 149.
61 Cohen, *Japan's Economy*, p. 356.

with actual consumer price increases. Real wages sank to almost half their prewar level.[62]

By the time of defeat in August 1945, Japan had lost approximately three million lives (more than half were military personnel) and a quarter of its national wealth. The remaining total value of its national wealth was virtually the equivalent of what it had been in 1935. The war reduced the accumulation of the intervening decade to charred and smoldering ruins.[63] It is also true, however, that the conditions for sustaining postwar economic growth were already sprouting among those ruins. The wartime munitions industry provided the prototype for the chemical and heavy industrial sector, which was at the heart of postwar growth. Machine gun factories began to produce sewing machines, and range finder plants began making cameras. Linkages between big factories and small business subcontractors that developed in the munitions industry also became the basis for the postwar subcontracting system. So too the designation of specific financial institutions to finance munitions companies created close relations in which can be found the origins of the postwar "financial groupings" (*kinyū keiretsu*). Administrative guidance by government ministries and the Bank of Japan, often pointed to as a special characteristic of postwar Japan, was also a legacy of the wartime controls. The seniority wage system spread throughout the economy when wage controls were instituted, and enterprise unions were the successors of the Patriotic Industrial Associations (Sangyō hōkōku kai) organized in each firm after the labor unions were broken up. During the war the government purchased rice on a dual-price system, buying cheaply from landlords but paying a higher price when buying directly from producers in order to accelerate increased rice production. This practice had the effect of lowering rental rates, thus clearing the way for the postwar land reform. Even though the recollection of the wartime period is repugnant to those Japanese who lived through it, it was a stage preliminary to rapid postwar growth.

CONCLUSION

Both for the world and for Japan, the period from 1920 to 1945 was an unusually stormy and convulsive era. Looking back on the course that

62 Yamada Junzō, "Senjichū no rōdōsha" in *Gendai Nihon shihonshugi taikei:* vol. 4, *Rōdō*, ed. Aihara Shigeru (Tokyo: Kōbundō, 1958), p. 97.

63 Keizai antei honbu, *Taiheiyō sensō ni yoru wagakuni no higai sōgō hōkokusho* (Tokyo: Keizai antei honbu, 1948).

the Japanese economy pursued during those years, one may point out the following special features relevant to the postwar experience. First, the trend toward chemical and heavy industrialization that began during World War I constantly accelerated. Second, precedents for economic policies aimed at economic growth and full employment had already achieved success in the 1930s. Third, the prototype of postwar Japan's distinctive economic system was molded during the war years, although not necessarily intentionally. These circumstances also explain why Japan was able to achieve remarkably high growth, even by world standards, in the 1920s and 1930s.

However, even from a strictly economic standpoint, the economy of the 1920s and 1930s differed in several respects from that of the post–World War II era. First, politics were in absolute ascendancy over the economy. Examples of this are the removal of the gold embargo at the old parity for reasons of national prestige; the imposition of economic controls in conjunction with the military invasion of China and plans for war with the Soviet Union; and the plunge into the Pacific War without a dispassionate assessment of the nation's economic strength. Second, after the breakdown of the classical principle of laissez-faire, many policies were experimented with on a trial-and-error basis, but no general principle clearly emerged in its place. The failure of Inoue's fiscal policies and the success of Takahashi's are conspicuous examples of this. Third, the economy's extraordinary experience under wartime controls, when all was concentrated on winning the war, reduced the lives of the people to ruins.