

reversed the previous inflation. It would have been possible to establish convertibility of the currency at a new par, avoiding deflation, but this would have required a smaller cache of reserves and precisely for this reason would have been a less effective signal of military might.

The Matsukata deflation induced a business recession in the 1880s<sup>38</sup> but raised the real value of the land tax receipts, unburdened the government of the annual losses which the government factories had invariably sustained, and restored fiscal balance. The deflation, of course, also raised the real value of outstanding samurai commutation bonds, but the bonds constituted a much smaller claim on government resources than the stipends they had replaced.

Some of the former samurai had used their voluntary commutation bonds as collateral for chartering national banks under an 1873 law patterned after the contemporary US national banking regulations. But because the right of note issue was severely restricted in Japan (in contrast to US national banks), only four national banks had been chartered, and these had all floundered. In 1876 new national banks were authorized under more liberal charters, and by 1879, 153 national banks had been founded, most of which prospered.<sup>39</sup> These national banks were the first joint-stock, limited liability companies in Japan. This soon became the predominant form of organization for newly founded manufacturing firms in cotton spinning and other industries.

Just before his appointment as Minister of Finance, Matsukata had advocated the complete revamping of Japan's banking system, so that a government-controlled central bank with the sole right of issuing bank notes would supplant national banks, completing the set of measures assuring government control of the money supply and maintenance of convertibility. At Matsukata's initiative a central bank, the Bank of Japan, was founded in October 1882. At that time the charters of the national banks were shortened from thirty years to twenty and made nonrenewable. New private commercial banks were now chartered in great numbers.<sup>40</sup>

In 1886, full silver convertibility of government paper money was established, a policy maintained until 1897 and the switch to gold. As Figure 2.2 illustrates, in the last decade of the nineteenth century silver appreciated in value relative to gold as a

consequence of new gold discoveries (in Transvaal, South Africa), an unexpected windfall for Japan and the stable indemnity Japan received in the Sino-Japanese War (which is discussed in the next section), ultimately provided the needed reserves for Japan's adoption of the gold standard.

### Industry, trade, and imperialism in the late Meiji era

As the end of the nineteenth century approached, the Japanese economy underwent a permanent last decades of the nineteenth century. From the numbered among the fortunate nations experiencing what Nobel laureate Simon Kuznets dubbed "modern economic growth",<sup>41</sup> a sustained rise in per capita output, made possible by the continual application of scientific advances to the technology of manufacturing. The hallmark of modern economic growth is the expansion of industry.

In Japan, the industries that mechanized and grew first were cotton spinning and silk reeling. The scale of these industries in Japan of the 1890s should not be exaggerated. In 1893 Japan had forty cotton spinning factories and all together these employed 25,448 persons, only about one-tenth of a percent of the nation's labor force. But cotton and silk goods in 1893 accounted for about a third of the net product in Japan's factories. (Food and beverages, mostly produced in the traditional ways, accounted

<sup>38</sup> The Matsukata deflation happened to coincide with a worldwide slump, and it is difficult to disentangle the effects of the one from those of the other. So argues Teramishi Jūzō, "Matsukata deflation no makuro keizaigakuteki bunseki" (Macroeconomic analysis of the Matsukata deflation), *Kikan gendai keizai* (Spring 1982), pp. 78-92.

<sup>39</sup> Kozo Yamamura has developed evidence that samurai commutation bonds comprised between one-third and one-half of the paid-in capital of Japanese banks in the 1880s, but in specific cases much less. See Kozo Yamamura, "The Role of the Samurai in the Development of Modern Banking in Japan", *Journal of Economic History*, vol. 27 (1967), pp. 198-220.

<sup>40</sup> On the early development of private commercial banking in Japan, see Hugh T. Patrick, "Japan 1868-1914", in Ronald Cameron (ed.), *Banking in the Early Stages of Industrialization*. New York: Oxford University Press, 1967, pp. 239-89.

<sup>41</sup> Simon Kuznets, *Economic Growth of Nations: Total Output and Production Structure*, Harvard University Press, 1971.

industries). In short, both employed readily available, indigenous resources.

A further, unusual, development had contributed to the growth of silk reeling in Japan. A blight known as pébrine afflicted the silkworms of Europe beginning in 1852 in the south of France and continuing in the early 1860s in Italy, wiping out sericulture in Europe precisely at the point when Japan opened to foreign trade. The resulting increase in world price of silk products contributed greatly to Japan's gains from specializing in silk production. Beginning in 1865, Louis Pasteur, already famous for his studies on beer and wine leading to the development of pasteurization, was set to the task of researching the silkworm disease. Pasteur did in fact discover a way of detecting pébrine-infected silkworm eggs and thus preventing the disease. He published these findings in 1871 and effectively ended the European blight, but by then Japan's silk industry was well established on world markets and ripe for mechanization.

Meiji Japan's direct gains from foreign trade should not be overstated. From the opening of treaty ports in 1858, Japan began to export goods having lower relative prices in Japan than in the world outside (raw silk, coal), and to import goods having higher prices in Japan (cotton cloth, wool), certainly achieving gains from pure exchange.<sup>42</sup> And, by expanding its output of the export goods, specializing, it compounded these gains. However, from 1885 to 1910 foreign trade amounted only to about 10-15 percent of Japan's national output, and the direct gains from it were probably a lot less than this, small in comparison to the gains associated with economic growth. The opening of Japan to knowledge of foreign technology did more than free trade to hasten the country's advance toward the industrial age.

The Meiji government actively encouraged the infusion of foreign technology. Under the slogan "increase production, encourage industry" (*shokusan kōgyō*), the Meiji government hired foreign advisers to set up model factories, including mechanized cotton spinning factories and silk filatures, though just how important such factories were to the

<sup>42</sup> For some details on price differences between Japan and the outside world prior to Japan's opening, see Chapter 8 below, and also J. Richard Huber, "Effect on Prices of Japan's Entry into World Commerce After 1858", *Journal of Political Economy*, vol. 79 (May/June 1979), pp. 614-28.

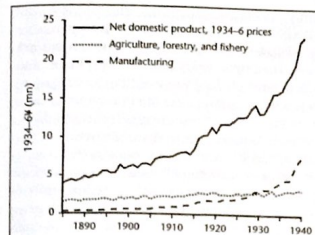


Figure 2.3. Net value added in manufacturing and mining versus that in agriculture, forestry, and fisheries, all in 1934-6 prices, 1885-1940. Besides manufacturing and agriculture, Japan's net national product comprised outputs of construction, services, transport, and telecommunications. Source: ILES, vol. 1 (1974), table 24, p. 226.

for another third.) Factory output in the 1890s represented only about 15 percent of Japan's value-added in manufacturing and perhaps 3 percent of net national product. More significantly, cotton spinning firms were among the first large joint-stock enterprises to succeed in Japan (banks were the first), and in the subsequent decades there would be many more. As Figure 2.3 illustrates, manufacturing output was now growing at a faster rate than agriculture and would eclipse it by around 1930.

Textiles carried a much greater weight in Japan's foreign trade than in its output. Cotton yarn and raw silk, together, accounted for about half of Japan's exports in the last decade of the nineteenth century. Raw cotton accounted for a third of Japan's imports. Clearly, a substantial portion of Japan's gains from specialization arose from the manufacture of cotton yarn and raw silk. The profitability of these industries derived partly from the fact that their mechanization required only an incremental change in long existing cottage industries. In the Edo Period, cotton spinning and silk reeling had both become significant by-employments of farmers using hand tools and primitive methods. Furthermore, even after mechanization in the 1880s and 1890s, both cotton spinning and silk reeling were relatively labor-intensive (often therefore described as "light"

development of these industries has been seriously questioned. This matter is taken up again in the chapter on industrial policy (Chapter 9). Here, suffice it to say that other government steps taken to promote foreign ways had a broader impact on daily life than did the government factories. With the help of foreign advisers, the government set up agricultural experiment stations, established a modern rail system, a telegraph network, a postal system, police forces, and schools and universities.<sup>43</sup> Japan also adopted another foreign institution that eventually proved disastrous: imperialism.

Foreign expansion was a major preoccupation of the Meiji oligarchy. In 1876, two decades after Japan's own forced opening by Perry, the Japanese leaders coerced Korea into opening three of its ports to Japanese traders. From this point, Japan was a rival to the Western powers in pursuit of Asian empire, even though its very own waters encompassed trade ports established by unequal treaties. Korea had historically maintained a tribute relation with its larger neighbor China which the Japanese initiative, by design, threatened to eclipse. The ensuing diplomatic disputes between China and Japan erupted into outright warfare in August 1894. The Sino-Japanese War ended quickly with China's capitulation in February 1895, and in the end proved to be as much an economic success for Japan as a military one.

Expenditures in conducting the Sino-Japanese War totaled 200 million yen, easily more than double the annual government spending up to that time (and about one-eighth of Japan's 1895 GNP). These expenditures were partially defrayed by placing a 43 million yen loan at 5 percent and a 10 million pound sterling loan at 4 percent, both on the London market. Along with this, the Japanese government once again resorted to the inflation tax. The spoils of war outweighed the economic sacrifice, at least if one takes a rather pecuniary view of the matter. The indemnity from China provided in the Treaty of Shimonoseki of 1895 totaled 32 million pounds sterling (equivalent to 362 million yen at the current exchange rate, about one-fifth of Japan's 1896 GNP), and along with this Japan was awarded control of Taiwan and the nearby Pescadores, and promised access to treaty ports on the Chinese mainland on a par with the European powers. In the "Triple Intervention", France, Russia, and Germany

jointly pre-empted Japan from also taking control of the Kwantung peninsula of South Manchuria as agreed under the original terms of the Shimonoseki treaty. Then three years later (in 1898) Russia itself took control of the Kwantung peninsula under a twenty-five-year lease, and began to construct a rail line connecting the newly opened trans-Siberia line to the year-round ports there, Dairen and Port Arthur (Vladivostok freezes every winter.)

In the anti-foreigner Chinese rebellion of 1900 (called the "Boxer" rebellion<sup>44</sup>), the Russian-built Manchurian rail line came under attack, and Russian troops occupied the whole of Manchuria. A combined relief expedition of foreign troops, including a large contingent of Japanese troops, marched on Peking and suppressed the rebellion. Russia agreed at that time to withdraw its troops from Manchuria but was slow to act on it and seemed to threaten Japanese designs on Korea. Tensions between Japan and Russia led to war in February 1904. Japanese land forces attacked Russian positions in South Manchuria, sustaining large casualties but prevailing. Then in May of the following year (1905) the Russian fleet was intercepted en route to Vladivostok and destroyed by a Japanese fleet comprised mostly of warships purchased from Britain. Both sides accepted American mediation and the US President Theodore Roosevelt successfully negotiated a mutually acceptable treaty at Portsmouth, New Hampshire, in 1906. Japan obtained the Russian lease on the Kwantung peninsula and control of the Russian-built Manchurian rail line, recognition of Japan's pre-eminent position in Korea, and control of the southern half of the island of Sakhalin (north of Hokkaido); Japan recognized

<sup>43</sup> On the agricultural experiment stations, see Yutiro Hayami et al., *A Century of Agricultural Growth in Japan: Its Relevance to Asian Development*, University of Minnesota Press, 1975 (esp. pp. 44-59). On the educational system, see Richard Rubinger, "Education: From One Room to One System", in M. Jansen and G. Rozman (eds.), *Japan in Transition: From Tokugawa to Meiji*, Princeton University Press, 1986, ch. 8, pp. 195-230. On the police force and post office, see D. Elton Westney, *Imitation and Innovation: The Transfer of Western Organizational Patterns to Meiji Japan*, Harvard University Press, 1987. On the rail and telegraph networks, see Thomas C. Smith, *Political Change and Industrial Development in Japan: Government Enterprise, 1868-1880*, Stanford University Press, 1955 (esp. pp. 42-46).

<sup>44</sup> The rebellion drew inspiration from a special kind of martial art, resembling boxing, but infused with mysticism

China's sovereignty over Manchuria. Japan received no financial indemnity as it had after the war with China. Japanese deaths in the war with Russia totaled more than 100,000. Moreover, military expenses totaling 1,639 million yen (approximately half of Japan's 1905 GNP) had necessitated massive foreign loans and special taxes.

Assassination of the Japanese resident general in Korea (Itô Hirobumi, then one of the leading survivors among the Meiji oligarchs) afforded the pretext for Japanese annexation of Korea in 1910. Japan's formal empire now included Taiwan and the Pescadores, the southern half of the island of Sakhalin (called Karafuto by the Japanese), Korea, a long-term lease on Port Arthur in South Manchuria, and concessions in selected treaty ports on the Chinese mainland.<sup>45</sup> Extraterritoriality had ended in Japan itself in 1894. In 1911 commercial treaties with the United States and other nations completely restored to Japan control of its own tariffs. Less than fifty years after the Restoration, all of the immediate aims of the Meiji oligarchs had been realized.

#### Meiji industrialization in light of the Gerschenkron thesis

Scholars and others have wondered whether the Meiji transformation of Japan's economy was *sui generis* or, in subtle respects, resembled the experiences of other developed nations. In a series of essays, the famous Harvard economic historian Alexander Gerschenkron argued that the European process of industrial development during the nineteenth century exhibited some coherent patterns that comport well with economic logic.<sup>46</sup> It seems quite natural to place Japan within the framework of that argument, and we shall close our discussion of Meiji industrialization by attempting to do so. The Gerschenkron thesis holds that, as a general tendency,

[t]he more delayed the industrial development of a country, the more explosive was the great spurt of its industrialization, if and when it came. Moreover, the higher degree of backwardness was associated with a stronger tendency toward larger scale of plant and enterprise. . . . Finally, the more backward a country, the more likely its industrialization was to proceed under some organized direction; depending on the degree of

backwardness, the seat of such direction could be found in investment banks, in investment banks acting under the aegis of the state, or in bureaucratic controls.<sup>47</sup>

The economic sense behind these patterns, and some of the evidence, can be briefly sketched. Gerschenkron argued that in the nineteenth century, compared with England, which had the most advanced economy, France was more backward economically, followed in order by Germany, Austria, Italy, and Russia. Here, "backwardness" refers to an amalgam of factors including low per capita output, small extent of urbanization, low degree of literacy, absence of sophisticated business institutions and practices, and so on. In Gerschenkron's characterization, backward countries exhibited relative scarcity of skilled and disciplined workers so that their most economical manufacturing methods employed labor-saving machines and tools, which required capital investment. But financing such investment was problematic because backwardness was apt also to be associated with factors that inhibited the process of financial intermediation. For instance, in order to succeed, private banks themselves require trustworthy borrowers, willing depositors, and managers and clerks with business acumen. Lack of trust in lending could be overcome if banks themselves controlled the businesses to which they lent, but where backwardness was such that banks lacked sufficient expertise to do this or failed to attract depositors, then if industrial development occurred at all it was likely to draw on government direction and public funds. In France, private banks supplied most of the investable funds for industrial development but played little role in the actual management and direction of the businesses to which they lent. In Germany, which took longer to develop and at the time was more backwards than France, private banks themselves organized and managed new businesses in emergent industries. In the still more

<sup>45</sup> For details on Japan's concessions in China outside Manchuria, see Mark R. Peattie, "Japanese Treaty Port Settlements in China, 1895-1937", in Peter Daus, Ramon H. Myers, and Mark R. Peattie (eds.), *The Japanese Informal Empire in China, 1895-1937*, Princeton University Press, 1989, pp. 166-209.

<sup>46</sup> Alexander Gerschenkron, *Economic Backwardness in Historical Perspective: A Book of Essays*, Belknap Press of Harvard University Press, 1962.

<sup>47</sup> *Ibid.*, p. 44.