

Economic History, Part 1

The Tokugawa Period (1603–1868) and the Meiji Era (1868–1912)

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Japan's current status as a wealthy nation is the culmination of a process of economic development that continues still. Too often in the past, economic development has been equated with industrialization. By this definition, Japan's economic development began only with its forced opening to the West by Perry in 1853 and the consequent dramatic political, social, and economic changes that followed in Japan throughout the remainder of the nineteenth century. But economic historians now understand that Japan's industrialization and growth in the Meiji era (1868–1912) were possible only because of the political and economic institutions that had already evolved in Japan, particularly during the two and half centuries of autocratic government, economic controls, and seclusion that immediately preceded the Meiji era, referred to (interchangeably) as the Tokugawa Period, the Edo Period, or the Early Modern Period (1603–1868).

Japan was, in superficial respects, an economically backward country at the time of Perry's visits in 1853 and 1854. Nearly all the country's resources were devoted to agriculture, and there was little evidence in Japan of the technological advances of the industrial revolution. But there were many features that differentiated the Japan that Perry saw from lesser developed countries of today. There already existed sophisticated institutions of capitalism such as wholesaling, futures markets, and an infrastructure of roads and waterways financed through widely levied taxes collected by a pervasive and dedicated civil bureaucracy. Large

numbers of ordinary people were functionally literate. Japan's backwardness in the mid-nineteenth century was really a technological backwardness only. In many other respects, Japan was as advanced as the countries of Europe which were then seeking to establish colonial empires.

Tokugawa Period (1603–1868)

We begin our consideration of Japan's economic history by identifying parallels with that of Europe. China was the Greece and Rome of Japan, the source of its system of writing, religion, ideas about government, and much else. But although the golden ages of China's civilization coincided roughly with the classical ages of Europe, China's greatest cultural influence on Japan was not until much later, in the seventh century AD. The manor economy of medieval Europe has its counterpart in Japan's *shōen* estates of the eighth through twelfth centuries AD.¹

And, just as the manorial system that had flourished under the Carolingians gradually devolved into anarchy, so Japan in the twelfth through sixteenth centuries became one great field of battle for mounted warriors. But there was no analogue in Japan to the Renaissance of Europe. In the seventeenth century, as Europe pursued trade,

¹ On the basic facts about *shōen*, see Elizabeth Sato, "The Early Development of the *Shōen*," in John W. Hall and Jeffrey P. Mass (eds.), *Medieval Japan: Essays in Institutional History*, Yale University Press, 1974, pp. 91–109.

exploration, and discovery, Japan became insular and self-isolated. The policies of the Tokugawa dynasty, founded in 1603, brought an end to war but segregated Japan from the scientific, technological, and cultural changes that were to sweep through Europe and America during the subsequent two and a half centuries.

Precursors of the Tokugawa hegemony

The anarchy into which Japan had sunk with the emergence of mounted warriors in the twelfth century was interrupted by two lengthy periods of relative peace, the first referred to as the Kamakura Period (1185–1333) and the later as the Muromachi or Ashikaga Period (1336–1573). Each was a period of ascendancy of one coalition of warriors over others. But the hegemony proved impermanent in both instances. The Kamakura government was mortally weakened by the drain on the country's resources by successfully repelling the Mongol invasions (1274 and 1281). The contest for power was resumed and, for a time, won by Ashikaga Takauji² and his familial successors and their regents (1336–1468). Though nominally still the seat of government in Japan until 1573, the Ashikaga shogunate ceased to hold anything more than local power in the vicinity of the capital at the time of the Onin war of 1469–77. The ensuing period of the warring states (*sengoku jidai*), culminating in ascendancy of the overlord Oda Nobunaga³ in 1568, most clearly resembles the period of feudalism in Europe: political authority resides almost completely in locally powerful warriors, bound to one another by no more than loose confederations.⁴ Before the Onin war there had continued to be at least the semblance of a central authority, not unlike the Carolingian empire of medieval Europe.

In the civil wars that engulfed Japan in the late fifteenth and early sixteenth centuries, there gradually emerged locally powerful rulers known as *daimyō* (lit. "great names"). Eventually the *daimyō* came to exert control over ever more extensive territories. The coming of the Europeans in 1543, and their introduction of firearms, enabled technological advances in warfare that accelerated this tendency. Massed formations bearing lances were no match for those bearing muskets. The new ways of making war elicited new defenses. Castle

cities surrounded by deep moats and high stone walls became the fortress headquarters for the contending factions.

These changes had fortunate consequences for economic development. As a *daimyō*'s authority became more secure and encompassed a wider region, he became more inclined toward policies that had long-lasting benefits and enabled him to draw resources away from neighboring rivals.⁵ Guild monopolies (*za*) were abolished, new roads and irrigation systems were built, and new lands were reclaimed. Standardized systems of weights and measures were introduced—by each *daimyō* separately. These activities were all either socially beneficial additions to the stock of public goods or eliminations of deadweight losses.

By the middle of the sixteenth century, the *daimyō* had come to assume all functions of government within their respective domains called *han*. The ruthless tyrant Nobunaga forged a grand coalition including the most powerful of the *daimyō*, and sealed his ascendancy by occupying Kyoto in 1568. Nobunaga was assassinated in 1582 and succeeded by his lieutenant Toyotomi Hideyoshi.⁶ Hideyoshi himself died in 1598 while pursuing an unsuccessful campaign of conquest in Korea. The descent into another civil war was averted in 1600 by the victory at Sekigahara of forces led by Tokugawa Ieyasu,⁷ who emerged as the unrivaled overlord, founder of the dynasty that was to rule Japan in peace for the next two and a half centuries.

The *baku-han* system

Under Tokugawa Ieyasu and his heirs, Japan at last achieved whatever economic gains reside in a regime of stable and powerful government. In 1603 Ieyasu took for himself the title *shōgun*, a

² Ashikaga Takauji (1305–1358).

³ Oda Nobunaga (1534–1582).

⁴ On parallels between feudalism in Europe and in Japan, refer to the excellent little book by Peter Duus, *Feudalism in Japan*, Alfred A. Knopf, New York, 1969. Regarding the onset of "full feudalism" in Japan which was precipitated by the devolution of the Kamakura government, see his ch. 4 (pp. 61–84).

⁵ This is the basic argument of Kozo Yamamura, "The Agricultural and Commercial Revolution in Japan, 1550–1650," *Research in Economic History*, vol. 5 (1980), pp. 85–107.

⁶ Toyotomi Hideyoshi (1536–1598).

⁷ Tokugawa Ieyasu (1542–1615).

revival of an ancient title assigned to Yoritomo,⁸ founder of the first warrior government in 1185, and claimed also by the Ashikaga in the fourteenth century. The political authority vested in Ieyasu and his heirs is referred to in English as the shogunate or the *bakufu* (lit. "tent government"), terms also used to refer to the earlier warrior governments of Japan. In principle, Ieyasu was merely the most powerful of the *daimyō*, each of whom was the sovereign of his respective *han*. In fact, Ieyasu reserved to himself alone certain rights, including the right to establish foreign policies, the right to issue national currency, the right to establish national standards of measurement, and the right to remove other *daimyō* who threatened the hegemony of the *bakufu* or otherwise gave offense to the *shōgun*. All *daimyō* including the *shōgun* were dynastic in character; as a general rule, each *daimyō* was succeeded by his eldest son.

The *daimyō* were divided by Ieyasu into distinct groups. *Tozama daimyō*, or "outside" *daimyō*, were those who had accepted Tokugawa hegemony only after the battle of Sekigahara; some of them had fought on the losing side, others had remained neutral. The *fudai daimyō*, or "house" *daimyō*, had been allied with Ieyasu at Sekigahara. And the *shinpan daimyō* were blood relatives of Ieyasu and represented a collateral line of ascent should the main line fail to produce an heir. Ieyasu exercised his prerogative as the victor of Sekigahara by reassigning some of the *tozama daimyō* to less prosperous *han* than the ones they had earlier controlled, conferring their original *han* upon *fudai daimyō*. Ieyasu himself controlled the most prosperous *han* of all, called the *tenryō* (lit. "emperor's realm"), which in theory he administered on behalf of the emperor, the symbol of political authority but in effect only a figurehead. The *tenryō* encompassed about a fifth of the entire land area of Japan. It included the major cities of Edo (now Tokyo), Osaka, and Kyo (now Kyoto), the ancient capital and site of the imperial court. Eventually about a third of the population of Japan came to reside in the *tenryō*.⁹

Ieyasu made his headquarters at Edo (renamed Tokyo in the nineteenth century). Prior to this time Edo had been a minor fishing village of little significance, but by 1700 it had perhaps a million residents and was the most populous city in the

world at that time. Its importance as a center of culture and government is indicated by reference to the two and a half centuries of Japanese history during the Tokugawa dynasty as the "Edo Period."

The sources of revenue both for the *bakufu* and the *daimyō* were mainly rice taxes collected from the cultivators. Official *han* monopolies of the production of goods like sake, rapeseed oil, crafts, and the like were additional minor sources of revenue for many *daimyō*. Also, city dwellers were obliged to pay a head tax. There did not exist free commercial intercourse among the *han*. Rather, *daimyō* introduced protectionist policies, charging tolls to travelers passing through, taxing imports from other *han*, or even banning such imports altogether where these competed with official local monopolies. The *daimyō* were not required to remit taxes to the *bakufu* but were occasionally called upon to assist in the building of public works (*tetsudai*) and were also expected to supply guard contingents to imperial and *bakufu* facilities. Neither obligation was an important permanent drain upon the *daimyō* finances.

This *baku-han* (i.e. *bakufu* and *han*) political system initiated by Ieyasu was perpetuated with few changes by his dynastic heirs. The stability of the system was due in large part to various control measures which came to have an important bearing on the economic development of Japan. These included the caste system, alternate attendance, the system for collecting rice taxes, and the seclusion policy.

The caste system (*shi-nō-kō-shō*)

During the Tokugawa era, the Japanese population was stratified into social castes by shogunal decree. Shinto and Buddhist priests, and doctors, were outside the caste system, but nearly everyone else fell into one of four groups: samurai, farmer, artisan, and merchant (*shi-nō-kō-shō*). There were other categories as well, the emperor and his family and the court nobles at one extreme and the outcasts at the other, but these groups did not

⁸ Minamoto no Yoritomo (1147–1199).

⁹ On the details of the Tokugawa governmental system and the ancillary political controls that perpetuated it, see T. G. Tsukahira, *Feudal Control in Tokugawa Japan: The Sankin Kōtai System*, Harvard University Press, 1966, pp. 5–27.

include a significant fraction of the general population. Assignment to a particular caste was according to birth: only the children of samurai were samurai, and any child of a merchant would also be a merchant. As a popular saying of the day had it, "The offspring of a toad is a toad." The natural unit of social organization was not the individual but rather the *ie* (lit. "house"). The *ie* typically consisted of an extended family, a group of persons related to one another by ties of blood or marriage and with a single patriarchal head. The head of an *ie* without natural heirs could adopt an heir from outside the *ie*, often someone who was already an adult, but this practice afforded only a modest prospect that individuals of merit and ambition could attain a caste above that of their own parents.

The social classes were distinguished not only by occupation but also by privilege and status. Of the four major classes, the samurai were at the top. Samurai included the *daimyō* themselves as well as their retinues of vassals, advisers, and military retainers. Only samurai were permitted to wear swords or to take on surnames. Sumptuary manifestos reserved favored consumption items and articles of fashionable clothing for members of the samurai class. Ostensibly, the samurai's role in society was that of soldier, but with no wars to fight the samurai assumed the tasks of civil bureaucracy, mainly tasks associated with the enforcement and collection of taxes. Each samurai *ie* was assigned by the *daimyō* a set annual income to be paid in rice out of the taxes collected. The percentage of the population that comprised the samurai class was probably only about 7 percent throughout the Edo Period. The great majority of people, 80 percent, were farmers, followed by 13 percent artisans and merchants.

Merchants were held in the lowest esteem of the four major classes according to the Confucian ideology embraced by the Tokugawa. It is clear that these social rankings of the four classes were not based on their relative wealth—by the nineteenth century some famous merchants had become quite prosperous and more than a few of the samurai class had become practically destitute.¹⁰ Still, according to the official ideology, it was more desirable to be even a poor farmer than a prosperous merchant.

By imposing the caste system, the rulers of the country attempted to freeze the social order with themselves and their descendants for ever occupying the top place. Yet there were economic costs arising from the caste system. It blocked the complete exploitation of comparative advantages in choices of occupation. For instance, individuals with an aptitude for commerce and trade would not become merchants unless they had been born to that class, a loss to society as well as to the individuals themselves. On the other hand, by choking off any avenue of social advance other than the accumulation of *ie* assets, the caste system contributed to the incentive of families of all classes to delay marriage, and in the event of pregnancy to resort to either abortion or infanticide, at least in the period after 1700,¹¹ thereby restricting population growth.

Each of the respective castes was charged with duties. For the samurai these included observance of correct behavior, administration of the government, and, for the highest samurai, the *daimyō*, the observance of a peculiarly Japanese institution known as "alternate attendance."

Alternate attendance (*sankin kōtai*)

The political measure adopted by the Tokugawa that had the most immediate impact on economic development was the requirement that the *daimyō* spend half their time in Edo and that their families reside there year round. *Daimyō* whose *han* were close to Edo were required to rotate back and forth at six-month intervals, while those whose *han* were remote rotated at longer intervals of up to two years in length. This institution was formally proclaimed in 1635 and was continued until 1862, the very brink of the Meiji Restoration. It is referred to as *sankin kōtai* (lit. "alternate attendance"). The *sankin kōtai* requirement assured that the families of the *daimyō* were perpetual hostages

¹⁰ On the evolving fortunes of merchants during the Edo Period, see Charles D. Sheldon, "Pre-Modern Merchants and Modernization in Japan," *Modern Asian Studies*, vol. 5, no. 3 (1971), pp. 193–206.

¹¹ This is the basic argument of James I. Nakamura and M. Miyamoto, "Social Structure and Population Change: A Comparative Study of Tokugawa Japan and Ch'ing China," *Economic Development and Cultural Change*, vol. 30 (1982), pp. 229–69.

against any *daimyo* activities offensive to the *shōgun*. It also ensured that the Tokugawa could at a minimum cost to themselves preserve their hegemony by carefully monitoring *daimyō* activities and associations, wherever necessary playing one faction off against others, or seeking a quick compromise in the event that opposition threatened.

The economic effects of alternate attendance were many. The first consequence was a massive migration of persons from every part of Japan to Edo. Because *daimyō* families were the wealthiest in the country, Edo became a major consumption center. Extensive commercial activity developed in Edo to supply the *daimyō*, their families, and retainers with the daily necessities in exchange for the rice taxes collected in the various *han*. The most prosperous *han* were located in the western part of the country. Consequently a pattern of trade emerged in which rice collected as taxes in the western *han* was shipped to Osaka where it was stored in warehouses and sold, and bills of trade issued in payment for the rice were exchanged for consumption items in Edo.¹²

Osaka thus became a great entrepot for the entire country. There developed in Osaka sophisticated commercial institutions such as a kind of fractional reserve banking based on the issuance of warehouse receipts for rice, wholesaling networks, and even futures markets.¹³ If as a result of *sankin kōtai* Edo had become the city of samurai, then Osaka had become the city of merchants. The two cities exhibit some of these same ambiances even today.

Besides contributing to the development of Edo and Osaka, *sankin kōtai* had significant economic effects in many of the *han*. Some *han*, particularly those to the west of Osaka, were favorably situated to benefit from the expenditures by *daimyō* processions from more distant *han*. These processions were strictly governed by shogunal decrees to be commensurate in all details to the social rank of the *daimyōs* that led them. The processions of the highest ranking *daimyō* were quite elaborate, and typically included hundreds of servants, retainers, advisers, and so on. If spending by these processions stimulated the economies of some *han*, it is equally true that they acted as a drain on other less favorably situated *han*. Those *han* located in the far reaches of Tohoku (the north-east of the main

island) had to pay taxes to finance spending in other *han* and in Edo without themselves gaining any such commerce.

An additional consequence of the *sankin kōtai* institution is that it added impetus to the development of roads and coastal waterways connecting Edo and Osaka to the farther reaches of the country. The famous Tokaido, depicted in the masterful woodblock prints of Hiroshige, was among the well traveled roads that originally had been developed to accommodate the *daimyō* processions.

Just as the high and mighty had duties to fulfill, so too did the low and common. And for the farmers, or peasants, the most important duty was the payment of taxes.

The *honbyakushō* system

Though the *daimyō* were ostensibly the sovereign rulers of their respective *han* with independent powers to set taxes on their subjects, there did exist a system of collecting land taxes that was quite uniform throughout Japan, referred to as the *honbyakushō* (lit. original farmers) system. In 1582–98 Hideyoshi had undertaken a cadastral survey of all the arable land and recorded the name of the head of each *ie* responsible for paying taxes on each specific parcel. These *honbyakushō* and later their familial successors were divided into groups of five members. Within each such group, all members were held responsible for shortcomings in tax payments by any one of them. Each village had a designated headman, in some instances elected and in others hereditary, who was the official tax collector and intermediary between the samurai and all the groups in the village. In fulfilling the various duties associated with the payment of taxes, villagers evolved a remarkable facility for enforcing advantageous

¹² On the details of these remarkably advanced institutions, see E. S. Crawcour, "The Development of a Credit System in Seventeenth Century Japan," *Journal of Economic History*, vol. 20, no. 3 (September 1961), pp. 342–60.

¹³ The indigenous development and evolution of cotton futures markets in Osaka during the Tokugawa period is described in some detail by William B. Hauser, *Economic Institutional Change in Tokugawa Japan, Osaka and the Kinai Cotton Trade*, Cambridge University Press, 1974.

rules of social behavior, and as a result grew more productive and more governable.¹⁴

The base for the land tax was output, so that the amount of rice collected varied from year to year with the state of the harvest. There was a natural incentive to understate the true size of the harvest, but by test plots and unannounced inspections the state of the harvest was independently measured by samurai assigned to this task. The tax rate was in principle 40 percent but in fact varied from place to place and over time. The *kokudaka*, the aggregate officially assessed annual average rice yield of the land one was authorized to tax, became a status token for the *daimyō* and some lesser samurai, for by shogunal design the size of each's *kokudaka* comported with his place in the social hierarchy. The units of measurement were *koku*; 1 *koku* = 180 liters (5.1 bushels), nominally, the amount of rice thought necessary to sustain an adult for one year.

The highly controlled, even repressive, social and economic system embodied in the various institutions so far reviewed exhibited little change over the two and a half centuries of the Edo Period. Nor was it intended by Japan's rulers that the system should change. To assure stasis, a further measure was required, one that, more than any other, conveys the essence of the Tokugawa era, the closure of the country.

The seclusion policy (*sakoku*)

The third *shōgun*, Iemitsu,¹⁵ grandson of Ieyasu, issued in 1642 an order for the closing of the country (*sakoku*). The Dutch and Chinese were allowed continued contact through the southern port at Nagasaki but were not allowed free transit within Japan. The Dutch were restricted to a minor settlement on the small island of Dejima in Nagasaki harbor, while the Chinese were restricted to a part of Nagasaki proper, and trade with both of them was reserved to the *bakufu* alone. All foreigners of any nationality other than Dutch or Chinese were denied entry into Japan under threat of death, and Japanese abroad were, initially, allowed two years to return to Japan safely or else were ordered to remain as permanent exiles under threat of death upon repatriation. These draconian decrees were strictly enforced for two cen-

turies, with the minor exceptions of some authorized trade with Korea by the Sō clan of Tsushima and some illicit traffic between the southernmost *han* and Chinese traders, by way of the Ryukyus (later to become Okinawa).

The principal reason for the seclusion policy was to prevent military alliances between the European countries and the *daimyō*. In the wars leading to unification, putative alliances between *daimyō* and rivalrous European powers had already set what was, for the Tokugawa, an alarming precedent. Suppression of Christianity was an additional motivation of the *bakufu*, not necessarily distinct from the desire to prevent military alliances with Europeans. The seclusion order and the official outlawing of Christianity represented an attempt to embargo weapons and subversive ideas both at the same stroke. A final motivation for the seclusion order was to reserve for the Tokugawa a quasi-monopoly of imports into Japan, including imports of precious metals.

Economic development during the Tokugawa era

Japan achieved significant industrialization and rising per capita income only after the precipitous demise of the Tokugawa regime and the dismantlement of the *baku-han* system in the mid-nineteenth century. Scholars of Japan's economic history remain divided on whether the draconian economic and political controls of the Tokugawa era retarded Japan's economic development or, in some curious and roundabout way, hastened it. Proponents of either view must reconcile themselves to the mass of evidence that the steady accumulation of human capital in Tokugawa Japan was an antecedent to the nation's rapid economic expansion following its later opening to the West.

From the founding of the Tokugawa dynasty by Ieyasu in 1603 until the Genroku era¹⁶ a century

¹⁴ On this point see James I. Nakamura, "Human Capital Accumulation in Premodern Rural Japan," *Journal of Economic History*, vol. 41, no. 2 (June 1981), pp. 263–81.

¹⁵ Tokugawa Iemitsu (1604–1651).

¹⁶ Genroku era (1688–1704). Japanese dates are identified by the reign year of the successive emperors; for instance, 1997 is Heisei 9, the ninth year of the reign of the Heisei emperor. The Genroku era marks the apogee of Edo culture.

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later, the economy of Japan grew significantly. The population increased from about 20 million in 1600 to about 30 million in 1700. The arable lands were expanded commensurate with this. The great cities, particularly Edo, grew and prospered. However, from 1700 until the Meiji Restoration in 1868, the population grew hardly at all. There was some migration from the cities back to the countryside. The remarkable changes in the political and economic order that had taken place in the early Tokugawa period had no counterparts in the later period.

The extensive growth in the seventeenth century derived from the more secure and durable rights of the samurai class to the taxable output of the economy. Prior to the establishment of the Tokugawa hegemony, *daimyō* and their forerunners perceived a smaller expected return from land reclamation and irrigation projects because of the possibility of its forfeiture in the vicissitudes of civil war. Under the *baku-han* system *daimyō* were secure in their exclusive rights to levy taxes on the lands within their own *han*. To induce the cooperative efforts of farmers in land reclamation, *daimyō* proffered temporary exemptions from taxes for newly reclaimed rice fields (*shinden*). By the end of the seventeenth century this process had approached the fundamental limits imposed by the mountainous geography of the nation. Further economic expansion would require either the discovery and diffusion of superior methods of production, or the accumulation of physical and human capital. The historical record of the late Tokugawa era affords evidence of both technical change and capital accumulation.

From 1700 to 1850 Japan's population seems to have grown hardly at all, remaining at about 30 million persons. The view, once dominant among historians, that these statistics bespeak famine, pestilence, and human misery has fallen under the weight of evidence that Japanese families in the late Tokugawa era voluntarily limited their sizes, to accumulate per capita wealth. Restriction of marriage to the first-born son, who was the only one to inherit family property, and delayed age at marriage were characteristic of samurai and peasant families alike in the late Tokugawa era. Infanticide afforded further controls on family size, particularly for peasants. Thomas C. Smith examined Japanese

village registers and determined that the recorded sex ratio (ratio of male to female registered births) frequently diverged from one, indicating sex-selective population control, i.e. infanticide.¹⁷ Smith focuses on infanticide, roundly condemned even in Tokugawa Japan, because its incidence can be measured indirectly through the recorded sex ratio, not because that was necessarily the most important or prevalent method of family planning in early modern Japan. But if infanticide reflects economic calculation, so too must have other methods of restraining family sizes. Smith found that the variation in the recorded sex ratio over time and across geographic locales reflected the presence or absence of female by-employment opportunity and the relative difficulty of partitioning holdings among male heirs, both of which would be logically associated with economic incentives of families to exercise sex-selective population control.

The rational attempts of late Tokugawa Japanese families to accumulate wealth and raise living standards, and not only through population control, seem to have achieved a modicum of success. Increasing commercial activity, including farm family by-employments (spinning, weaving, pottery making, etc.), increasing trade within Japan, increasing improvements in irrigation and fertilization, and the selection and diffusion of improved strains of rice are all characteristic of eighteenth-century Japan. These developments progressed more rapidly and more completely in regions of Japan that contained the most fertile lands, and which afforded relatively greater opportunity to evade onerous government restrictions on productive activity.¹⁸

The geographic regions around the shogunal capital of Edo (now Tokyo), the major cities of Osaka and Kyo (now Kyoto), and much of the western parts of Japan fared rather better economically in the Tokugawa era than did the regions of the north-east (Tohoku).

¹⁷ Thomas C. Smith, *Nakahara: Family Farming and Population in a Japanese Village, 1717–1830*, Stanford University Press, 1977.

¹⁸ For details, see Kozo Yamamura, "Towards a Reexamination of the Economic History of Tokugawa Japan, 1600–1867," *Journal of Economic History*, vol. 33, no. 3 (September 1973), pp. 509–46.

By the early nineteenth century, rice taxes, head taxes on city dwellers, and franchised monopolies were becoming less and less effective at maintaining the samurai's share of Japan's rising national income.¹⁹ *Daimyō* and *bakufu* alike resorted to debasement of the currency to enhance fiscal resources, with the inevitable result that prices rose and barter displaced monetary trade. Price controls only worsened the state of affairs. Repeated unsuccessful attempts to ban or discourage farmers from engaging in by-employments also failed to enlarge the collection of rice taxes. Attempts to raise the rice tax rates met with stiff resistance and occasional armed insurrection.

Significant political and economic transformation of the Japanese system may ultimately have occurred in the nineteenth century even without the intrusion of foreigners; but we shall never know, for intrude they did.

The Meiji era (1868–1912)

By the dawn of the nineteenth century, Russian, American, and European trade with China was beginning to result in incidental Japanese contacts with foreign vessels, apart from the long sanctioned visits of Dutch and Chinese vessels to Nagasaki. In 1792 Catherine II dispatched a naval envoy to request an opening of trade with Japan, but little came of it. And in 1832 the US president Andrew Jackson sent a naval envoy to China with instructions also to open trade with Japan if feasible, but the envoy died en route and matters went no further at that time. Twenty years later, another US president, Millard Fillmore, dispatched a naval flotilla under the command of Commodore Matthew C. Perry with instructions to demand coal depots and supply stations for American ships, permission for American vessels to enter Japanese ports (to be designated by treaty) for the purpose of trade, and amicable treatment of any Americans marooned on Japan.

Perry reached Uraga harbor near Edo in 1853 and presented the American demands, promising to return for the answer a year later. After unprecedented consultation with the leading *daimyō*, the *bakufu* agreed in 1854 to the treaty of Kanagawa which allowed American ships to obtain provi-

sions at Shimoda (on the Izu peninsula south of Edo) and Hakodate (in the northern island of Ezo, now called Hokkaido), and also provided for an American consul posted in Japan to negotiate further trade relations between the two nations.

Perry's visits initiated a political crisis in Japan that ultimately proved fatal to the *bakufu*'s authority. There was much sentiment among the *daimyō* in favor of armed resistance to the Americans, yet the shogunate acceded to the American requests. In 1858 representatives of the shogunate signed a Treaty of Amity and Commerce with the United States establishing extraterritoriality and American trade in Kanagawa (now known as Yokohama), Nagasaki, Niigata, and Hyōgo (now Kobe), as well as Shimoda and Hakodate. Britain, France, Russia, and the Netherlands signed nearly identical treaties with Japan later that same year.

As foreigners came to the treaty ports and trade commenced on a large scale, Japan's two centuries of seclusion finally ended. During these early years of open trade, foreigners gained an unsavory reputation in Japan for sharp practices and exploitative behavior. It did not help matters that in the Treaty of Amity and Commerce the shogunate had yielded to the American consul Townsend Harris's stubborn insistence that the official foreign exchange rate between Japanese and foreign coins should equal the coins' relative contents of precious metal. Silver coins circulating in Japan in the 1850s held far less value as precious metal than the coins' exchange value in terms of other goods. This was less true of the gold coins then circulating in Japan. The price of Japan's gold coins in terms of its silver coins in 1858 was such that, by trading Japanese silver coins for gold coins, one obtained gold of 3.45 times greater value on the world market than the silver metal given up. The Mexican silver dollars that were the predominant international currency of the Orient at that time were virtually a commodity money, the equivalent of bullion.

¹⁹ In a careful study, Kozo Yamamura demonstrates that the bannermen (*hatamoto*), among the highest ranking samurai other than *daimyō*, maintained relatively constant real income throughout the Edo Period, but grew increasingly discontented as the incomes of peasants and others rose relative to their own. See Kozo Yamamura, "The Increasing Poverty of the Samurai in Tokugawa Japan, 1600–1868," *Journal of Economic History*, vol. 31, no. 2 (June 1971), pp. 378–406.

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To forestall foreigners' trading Mexican silver dollars to the *bakufu* for Japanese silver coins at the unfair exchange rate stipulated in the treaty, and trading the Japanese silver coins for gold ones, the *bakufu* at first, in June 1859, attempted to remint Japan's silver coins, increasing their value relative to gold, and, under the terms of the treaty as understood by the *bakufu*, thereby increasing their foreign exchange value. But a month later, after foreign protests, it had to abandon this scheme and proceeded instead to make the best of a bad situation by reminting the gold coins, greatly inflating their issue and thereby degrading their value relative to indigenous silver coins (which it also allowed to depreciate in value in terms of domestic goods). This eliminated the unfair foreign arbitrage but also led to a four-fold increase in Japanese domestic prices between 1860 and 1866.²⁰

The massive inflation can only have exacerbated the already tense relations between Japanese and foreigners and further tested the shogunate's increasingly tenuous hold on power. In 1858 the reigning *shōgun* had died without an heir, and in the succession dispute and aftermath there ensued purges, executions, and assassinations. Amidst this turmoil, the opening of the treaty ports soon provoked terrorist activity directed against foreign residents. In retaliation, the British navy in 1863 bombarded Kagoshima, a harbor city in Satsuma (in south-west Kyushu, today's Kagoshima prefecture), and the following year it destroyed a coastal battery in Chōshū (at the extreme western tip of the main island of Japan, today's Yamaguchi prefecture). Delay in implementing the terms of the 1858 treaties provoked the threat of a further armed response. In 1865 an allied flotilla entered Hyōgo (today's Kobe) and succeeded in gaining imperial, rather than *bakufu*, ratification of the treaties, now revised so that Japanese tariff rates (tax rates on imports) would be subject to ceilings averaging about 5 percent, not 20 percent as before. These "unequal" treaties, forced on Japan at gunpoint, would be honored by subsequent Japanese governments, but not without rancor.

By 1867 the end of the shogunate was assuming an aura of inevitability. On January 3, 1868, armies of several *han* from the south-west of Japan en-

tered Kyoto and announced the establishment of direct rule by the Meiji emperor, then a boy of fifteen, a "restoration" of the form of government historically assumed to have existed in Japan of the seventh century. In fact, the new government was a virtual oligarchy primarily comprised of the leading figures of the Satsuma and Chōshū *han* governments which had spearheaded the rebellion. Armed resistance to the new government was feeble and unsuccessful.

Early steps of the new government, 1869–1871

Immediately following the 1868 Meiji Restoration, the newly proclaimed ruling council of government, the *dajōkan*, acted quickly to consolidate its authority. At first the Meiji leaders merely usurped the position previously occupied by the Tokugawa *bakufu*, continuing both to collect rice taxes and to pay samurai stipends, and allowed *han* governments to do likewise and function largely as before. During this very early period they had no way of augmenting finances to meet the continuing threat of internal military crisis except to issue inconvertible paper money, and this they proceeded to do.

Under the earlier regime, gold-based currency had circulated in Edo (which the Meiji oligarchs now renamed Tokyo) and silver-based currency had circulated in Osaka and elsewhere. In 1868 the *dajōkan* ordered the conversion into newly issued paper notes of all indigenous silver-based currency. In the treaty ports silver "trade dollars" continued to circulate. The money of various kinds in circulation now included inconvertible notes (*hansatsu*) previously issued by the *daimyō*, as well as gold, silver, and copper coins issued by the *bakufu*, and Mexican silver circulating in the treaty ports. To these were now added the inconvertible notes of the Meiji government, optimistically labeled "gold notes" (*kinsatsu*). The nominal money stock in Japan was expanded by approximately

²⁰ For the details of this episode, refer to Peter Frost, *The Bakumatsu Currency Crisis*, Harvard East Asian Monographs, Harvard University Press, 1970. Also see T(akehiko) Ohkura and H(iroshi) Shimbo, "The Tokugawa Monetary Policy in the Eighteenth and Nineteenth Centuries," *Explorations in Economic History*, vol. 15 (1978), pp. 101–24.

100 percent in the first year after the Restoration. In 1869 prices rose to one and a half times their levels of the previous year.²¹

The gold notes were in fact never convertible into gold. Silver trade dollars now began to circulate throughout Japan, not only in the treaty ports as before. Attempts to establish a gold standard by fiat had resulted in what the government of Japan later referred to as a “de facto silver standard.”²² Actually, the paper money that continued to circulate was not made fully convertible even into silver until 1886.

In July 1871, the Meiji government, in a promulgation known as *haihan chiken*, abolished the *han*, and replaced them with new political units, three *fu* and 302 *ken*, both called “prefectures” in English. In November the same year it consolidated these into three *fu* and 72 *ken*. Japan today has 47 prefectures. With *haihan chiken*, the *dajōkan* assumed all debts and obligations of the *daimyō* rulers of the 260 *han*. It discharged these claims by the forced conversion of notes previously issued by the *han* governments into interest-bearing paper notes (*dajōkansatsu*) denominated in the newly defined unit of account, the “yen.” The gold notes previously issued by the *dajōkan* itself were also withdrawn in exchange for the new interest-bearing yen-denominated notes.

The *han* had been the sovereign domains of the *daimyō*, the samurai feudal lords of the Tokugawa era. The new prefectures were to be ruled by governors, appointed by the Meiji government in Tokyo. Under the earlier regime, *daimyō* had established local monopolies and levied custom duties on imports into their *han*. There was now to be uninterrupted commerce within Japan, and rice taxes, instead of being paid to local authorities, were to be remitted to the government in Tokyo.

Land tax reform

The main sources of revenue both to the *bakufu* and to the *han* governments had been rice taxes. In July 1873, the government moved to replace the rice tax with a monetary land tax (a reform known as *chiso kaisei*). To that end, the government undertook the assessment of all arable land, a process not completed until 1880.²³ As this pro-

cess developed, the land taxes became the major source of revenue to the government. The Meiji land tax reform established, for the first time in Japan, private ownership of agricultural land, improving the economic incentives to allocate land efficiently. The land was initially assigned to the officially registered taxpayers under the previous regime, many of whom were in fact well-to-do former peasants already entering lease arrangements with the true cultivators.

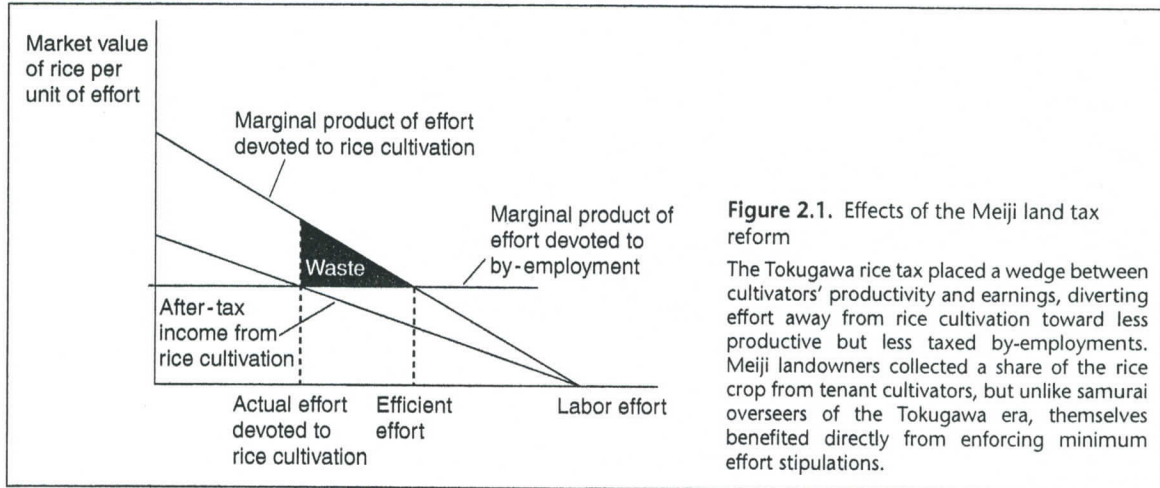
The Tokugawa rice tax had entailed wasteful incentives for cultivators to divert effort from rice cultivation to less productive but less taxed by-employments. Figure 2.1 depicts the waste as the area of a triangle. Samurai overseers, by imposing minimum-effort stipulations and exacting penalties for noncompliance, could have counteracted the distortion and raised national income; but they had little incentive to do so, for their own stipends could not easily have been made to depend upon the diligence of their overseeing efforts and as a general rule were not so dependent. Soon after the Meiji land tax reform, many private landowners entered share tenancy contracts with cultivators which superficially resembled the earlier rice tax in that the share tenants were obliged to remit a percentage of the crop to the landowners. But under the share tenancy arrangements, any improved value of output added directly to the landowner's wealth rather than merely enlarging the remissions to a distant and poorly informed government bureaucracy. Private landowners are more diligent than tax collectors at monitoring cultivators. For this reason, private ownership of land induced higher national output.

Once land became alienable, share tenancy contracts dominated alternative arrangements because they shifted a portion of the risk of unforeseen and uncontrollable fluctuations in output from poor

²¹ Shimbo Hiroshi, “Kinsei no bukka to keizai hatten” (Economic development and the price level in pre-modern Japan), *Toyo keizai shinpo sha* (1978), table 5–9, p. 282.

²² Matsukata Masayoshi, *Report on Adoption of the Gold Standard*, Tokyo, 1899, sect. 3, p. 38.

²³ For concise descriptions of the Tokugawa rice tax and the methods of assessing land value under the 1873 land tax reform, see James I. Nakamura, “Appendix A: Tokugawa and Meiji Land Taxation,” in *Agricultural Productivity and the Economic Development of Japan 1873–1922*, Princeton University Press, 1966, pp. 177–97.



cultivators to wealthy landowners, while contributing to the direct incentives of the cultivators to enlarge the crop size. Wage labor, compared with share tenant labor, would have required more intense monitoring by the landowner. And land rental would have obviated labor monitoring altogether but would have unduly burdened the cultivators qua land lessees with risk, and lowered their demand to rent land. This is why attempts to eliminate share tenancy by forced transfer of land, as occurred in Japan in 1948, were doomed to fail.

Dispossession of the samurai

Besides acting to consolidate sources of revenue, the Meiji government also moved to curtail expenses. The major government expense early on was the payment of stipends to the samurai or warrior caste. The samurai had comprised about 7 percent of the population of Japan throughout the Tokugawa era, compared with the 80 percent who were farmers and the 13 percent who were artisans and merchants. As the effective rulers of the country, the samurai had diverted the taxes to their own consumption. Because they also constituted the civil bureaucracy, a portion of this pay amounted to the expenses of government administration, but a larger portion of it simply represented a transfer. Though the earliest proclamations of the Meiji government (for instance the "Charter Oath," a state-

ment of principles issued by the architects of the new government) had foreshadowed the abolition of the caste system, the government continued to pay the samurai stipends, lacking the temerity not to. However, beginning with the conscription law of 1873, the Meiji government amassed a largely non-samurai force armed with modern weapons, and this may have emboldened it to act. In a series of three steps, the government divested itself of the major drain on public finances which the samurai stipends had at first represented. (These steps are referred to as *chitsuroku shobun*, lit. "stipend measures.") The sequence of actions was:²⁴

- December 1873: voluntary commutation of samurai stipends under 100 *koku*, six years for hereditary stipends, four years for life stipends, one-half paid in cash and one-half paid in bonds bearing 8 percent interest (*chitsuroku kōsai*);
- November 1874: voluntary commutation of stipends greater than 100 *koku* on similar terms;
- August 1876: suspension of all pension payments, compulsory commutation, issuance of "capitalized pension bond certificates [*kinroku kōsai*]."

²⁴ A good reference in English on the chronology of events pertaining to the commutation of samurai pensions is W. G. Beasley, *The Meiji Restoration*, Stanford University Press, 1972, pp. 379–404.

Voluntary commutation necessitated outlays totaling 19.3 million yen of cash and 16.6 million yen in capitalized stipend bonds (*chitsuroku kōsai*) over 1875–6.²⁵ In contrast, the initial 1876 issue of compulsory commutation bonds (*kinroku kōsai*) was in excess of 173 million yen (which amounted to around 40 percent of Japan's 1876 national income).²⁶ Only about a third of those eligible had accepted voluntary commutation.

Those who accepted voluntary commutation must have anticipated the subsequent termination of the stipends. Consider the following. The present value of an hereditary stipend equals the annual stipend divided by the interest rate. It would be rational to accept commutation in return for a lump sum equal to four times the annual stipend only if the real interest rate were greater than 25 percent ($4a > a/i$ only if $i > 0.25$). In fact, the real interest rate was probably closer to 5 percent than to 25 percent. (In 1873 the Japanese government issued pound-denominated bonds on the London market at 7 percent.²⁷) It would therefore have been irrational to accept commutation on the terms offered unless the stipend was thought soon to be terminated unilaterally anyway.

In light of all this, it is no surprise that compulsory commutation was strenuously opposed by the former samurai, some of whom in the south-west parts of Japan began to form private armies.

In February–September 1877 the unrest culminated in the unsuccessful Satsuma rebellion or Seinan war. The precipitating event was the government's bungled attempt secretly to remove arms from Satsuma and place them beyond the reach of the potential rebels, but clearly the real issue was the dispossession of the samurai class. The costs of suppressing the rebellion included 42 million yen for extraordinary expenses (around 10 percent of Japan's 1878 national product), covered by a 25 million yen loan from the Fifteenth National Bank and 27 million yen new note issue.²⁸ The result was further inflation, with the ironic outcome that the samurai pension bonds became worth even less.

Fiscal crisis followed in the wake of the war-tax inflation of 1878. Responding to protests (actually, riots), the government had already lowered the nominal land tax rate from 4 to 3 percent (January

1877). Now the real tax rate was eroded further by inflation. As the land tax was the major source of revenue, a fiscal crisis ensued. Proposals to base the land tax in whole or in part on the price of rice were considered and rejected.²⁹ The finance minister Ōkuma Shigenobu³⁰ proposed a new foreign loan (the government had floated loans in London in 1870 to finance railway construction and in 1873 to finance a portion of the samurai pensions), but this was successfully opposed on the grounds that it would jeopardize Japan's independence from the European powers. In the end, further inflation of the currency was the expedient chosen to defray government expenditures.

Administration of the Finance Ministry under Matsukata, 1881–1886

Three of the leading figures in the Restoration had died within a year of one another in 1877–8, of illness (Kido), battle suicide (Saigō), and assassination (Ōkubo),³¹ leaving the future direction of

²⁵ Yoshio Ando (ed.), *Kindai nihon keizai shi yoran* (Handbook of the economic history of modern Japan), 2nd edn, University of Tokyo Press, 1979, p. 51.

²⁶ *Ibid.*

²⁷ For a table detailing foreign borrowings of the Japanese government up until 1930, see Harold G. Moulton, *Japan: An Economic and Financial Appraisal*, Brookings Institution, Washington DC, 1931 (reprint edn, 1944), p. 376.

²⁸ Motokazu Kimura, "Fiscal Policy and Industrialization in Japan, 1868–95," in Kenneth Berrill (ed.), *Economic Development with Special Reference to East Asia*, New York: Macmillan, 1966, pp. 273–86 (at p. 280).

²⁹ For a discussion of this exchange, see Inoki T(akenori), "Meiji zenki zaisei seiri ni okeru ichi sowa: Godai Tomoatsu no chiso beino ni tsuite" (An episode in the public finances of the early Meiji period: the proposal by Godai Tomoatsu that land taxes be paid in rice), *Kikan gendai keizai*, vol. 47 (1982), pp. 93–105.

³⁰ Ōkuma Shigenobu (1838–1922) was later prime minister (1898 and 1914–16) and founder of Waseda, the most prestigious of Japan's private universities. For a biographical essay on Ōkuma, see Yoshitake Oka, *Five Political Leaders of Modern Japan*, University of Tokyo Press, 1986, pp. 45–84.

³¹ Kido Koin (1833–1877) was a political leader of the Choshu province and major participant in the Restoration. Ōkubo Toshimichi (1830–78) was a leader of the government of the Satsuma *han* and with Kido and Iwakura (Tomomi) a leader of the mission to America and Europe in 1871–3 to seek treaty revision. He was also a key figure in the Meiji government after 1873. Saigō Takamori (1828–77) was a military man, a leader of the Satsuma *han*, a senior official of the Meiji government and ultimately the leader of the unsuccessful Satsuma rebellion. For a riveting essay on the enigmatic Saigō, see Ivan Morris, *The Nobility of Failure: Tragic Heroes in the History of Japan*, Tokyo: Charles E. Tuttle, 1975, pp. 217–75.

Japanese politics unclear. Throughout 1879 and 1880, debate continued without resolution. Then, in the famous Political Crisis of 1881 the finance minister, Ōkuma, proposed the early establishment of representative democracy and was driven from office.³² The winning view advanced by Itō Hirobumi³³ and his followers favored continued autocratic rule at home and military adventurism abroad.³⁴ This would require military and naval forces equipped with the latest weapons, including expensive ships. The rapid establishment of fiscal soundness and a fully convertible currency now headed the political agenda. In conjunction with these developments, Matsukata Masayoshi³⁵ was appointed Minister of Finance in October 1881. As Vice Minister of Finance, Matsukata had been one of the architects of the land tax reform, and after an observation tour of European capitals had advocated a number of further reforms which would now be implemented.

Matsukata introduced several measures, all pitched at establishing, and maintaining, convertibility of the currency into specie. Convertibility of paper money into specie simply means that the government supplies precious metal in exchange for paper money, at a fixed price, to anyone who requests it. If, as in Japan of the 1870s, government reserves prove inadequate to maintain convertibility, the price of precious metal in terms of the paper money becomes freely determined in the marketplace. Any speculative attack that exhausts the government's reserves forces this result. Speculators refrain from supplying currency for specie if exhaustion of government specie reserves would cause specie to depreciate relative to currency, but they rush to do so the instant they deduce that it would have the opposite result.³⁶ A speculative attack will occur sooner, the greater is the rate of inflation of the currency, or the smaller the government's holding of liquid reserves. Take a moment to understand why.

On the first point, inflation of the currency pushes up the prices of goods in terms of currency and makes it more likely that ending convertibility would also push up the price of *specie* in terms of currency. Regarding the second point, the amount of liquid reserves the government commits to maintaining convertibility affects the timing of a speculative attack, for a subtle reason. It cannot be known

with certainty whether an end to convertibility will cause the currency to depreciate relative to specie, or to appreciate. For a speculative attack to end convertibility, it must exhaust the government reserves. The larger those reserves are, the more of the speculators' own wealth must be committed to the attack, and the greater the risk to which the speculators are exposed. If the government's reserves are larger, the speculators will proceed more cautiously, attacking only when supremely confident that an end to convertibility will cause the currency to depreciate relative to specie. Maintenance of convertibility thus represents a highly credible signal that a government holds substantial liquid reserves and commands adequate fiscal resources without resorting to inflation of its currency. For this reason, a government that maintains convertibility of its currency is presumed to hold a richer war chest than one that does not, and represents a more fearsome military adversary. The Meiji oligarchs well understood this. In short, the early establishment of a convertible currency comported perfectly with a prominent political slogan of Meiji Japan: "rich country, strong army" (*fukoku kyōhei*).

³² Ramseyer and Rosenbluth speculate that Ōkuma's affinity for democratic government derived from the fact that he himself was rather popular, and therefore likely to gain election: see J. Mark Ramseyer and Frances M. Rosenbluth, *The Politics of Oligarchy: Institutional Choice in Imperial Japan*, Cambridge University Press, 1995, p. 27.

³³ Itō Hirobumi (1841–1909) from Chōshū province had studied in London in 1863–4; he became a high-level bureaucrat in the Meiji government, visited Europe in 1882–3 to study constitutional law, led the drafting of the Meiji constitution, and served as Japan's first prime minister 1885–8; he again served as prime minister 1892–6, 1898, and 1900, and as resident general of Korea in 1906–9. His assassination by a Korean nationalist in 1909 afforded the pretext for Japan's final annexation of Korea the following year.

³⁴ Albert M. Craig, "Central Government," in Marius B. Jansen and Gilbert Rozman (eds.), *Japan in Transition: From Tokugawa to Meiji*, Princeton University Press, 1986, ch. 2, pp. 61–2.

³⁵ Matsukata Masayoshi (1835–1924) had been a bureaucrat in the Satsuma *han*; he became chief of taxation of the Meiji government in 1871, traveled to Europe in 1878 as head of the Japanese delegation to the Paris exhibition, was later prime minister (1891–2 and 1896–7) and elder statesman (*genrō*) (1896–1924), but is most famous as minister of finance (1881–91, 1895–6, and 1898–1900). For a biography of Matsukata, see Haruko Matsukata Reischauer, *Samurai and Silk*, Harvard University Press, 1988.

³⁶ For an elegant model that represents these ideas, refer to Paul R. Krugman, "Speculative Attacks on Target Zones," in Paul R. Krugman and Marcus Miller (eds.), *Target Zones and Currency Bands*, Oxford University Press, 1991.

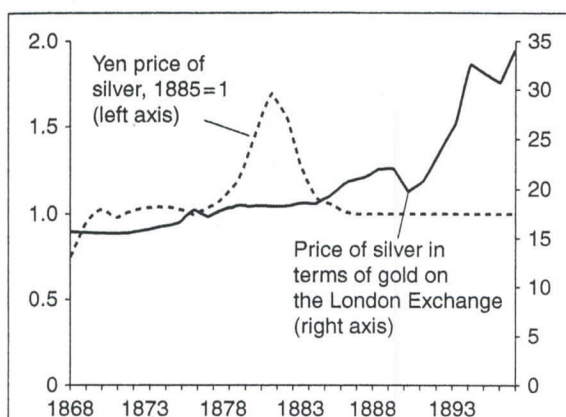


Figure 2.2. Price of silver in terms of Japanese currency and in terms of gold on the London exchange, 1868–1897

Source: Asakura K(okichi) and Nishiyama C(hiaki), *Nihon no kaheitaki bunseki* (Monetary analysis of Japan), Tokyo: Shobunsha, 1974, pp. 35–41.

Japan was proscribed from raising tariff rates above 5 percent on most goods as a result of commercial treaties of 1866, the so-called “unequal treaties”; so tariffs could not be used as a source of added government revenue. Instead, Matsukata accelerated a policy initiated by Ōkuma, to sell government-owned factories, including replicas of manufacturing establishments copied from Europe and America,³⁷ retiring the proceeds and contracting the money supply.

Figure 2.2 illustrates the movement in the price of silver both in terms of Japanese currency and in terms of gold on the London exchange, from 1868 to 1897. The “Matsukata deflation” completely 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 1880s³⁸ 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.³⁹ 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.⁴⁰

³⁷ The most complete account of the pilot plants or “model factories” is Thomas C. Smith, *Political Change and Industrial Development in Japan: Government Enterprise, 1868–1880*, Stanford University Press, 1955. The plants produced textiles, ships, bricks, cement, and glass.

³⁸ 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 Teranishi J(ū rō), “Matsukata defure no makuro keizai gakuteki bunseki” (Macroeconomic analysis of the Matsukata deflation), *Kikan gendai keizai* (Spring 1982), pp. 78–92.

³⁹ 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.

⁴⁰ On the early development of private commercial banking in Japan, see Hugh T. Patrick, “Japan 1868–1914,” in Rondo Cameron (ed.), *Banking in the Early Stages of Industrialization*, New York: Oxford University Press, 1967, pp. 239–89.

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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 other silver standard nations. This windfall, and the sizable 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 transformation. It began to industrialize. From the last decades of the nineteenth century, Japan has numbered among the fortunate nations experiencing what Nobel laureate Simon Kuznets dubbed "modern economic growth,"⁴¹ 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 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.

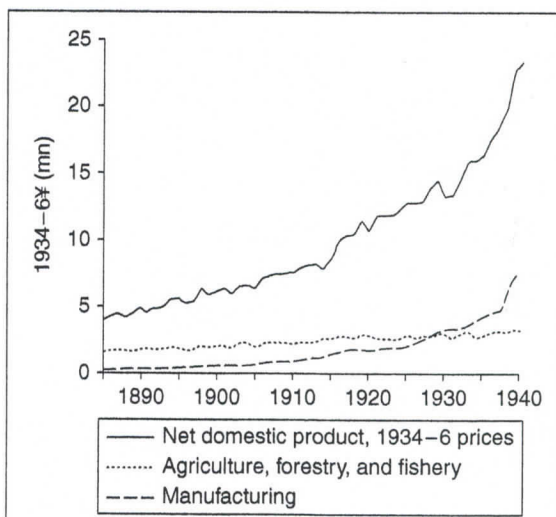


Figure 2.3. Net value added in manufacturing and mining versus that in agriculture, forestry, and fisheries, all in 1934-6 prices, 1885-1940

Besides manufacturing and agriculture, Japan's net national product comprised outputs of construction, services, transport, and telecommunications.

Source: LTES, vol. 1 (1974), table 24, p. 226.

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

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

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.⁴² 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 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.⁴³ 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

⁴² 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.

⁴³ On the agricultural experiment stations, see Yujiro 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. Eleanor 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. 42–6).

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, Darien and Port Arthur. (Vladivostok freezes every winter.)

In the anti-foreigner Chinese rebellion of 1900 (called the "Boxer" rebellion⁴⁴), 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

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 (Itō 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.⁴⁵ 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.⁴⁶ It seems quite natural to place Japan within the framework of that argument, and we shall close our discussion of Meiji industrialization by attempting

⁴⁴ The rebellion drew inspiration from a special kind of martial art, resembling boxing, but infused with mysticism.

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

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

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.⁴⁷

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 backward nations that did industrialize, government subsidy and direction of banking and industry was more prominent. In Russia, even before the revolution, the state both managed and financed railroads and other industrial ventures.

Where does Japan fit into this framework? Japan fits Gerschenkron's framework only if we regard it as one of the *less* backward nations at the time of its first industrialization rather than more backward. Except in the lateness and rapidity of its industrialization, Japan's economic development process more resembles that of England or France than Italy or Russia. Let us consider Japan in reference to each portion of the Gerschenkron quotation.

1. *"The more delayed the industrial development of a country, the more explosive was the great spurt of its industrialization, if and when it came."*

Recent scholarship has blunted some of the sharp edges in Gerschenkron's characterizations of European experience. Gerschenkron probably overemphasized the tendency for more backward nations' first industrializations to occur in great spurts.⁴⁸ We have already learned that the growth of manufacturing in Japan was steady, but undramatic. Nevertheless, in the initial decades of modern economic growth, Japan exhibited a faster rise in per capita GNP than any of the nations that industrialized before it did. Table 2.1 represents Maddison's imputations of the per capita GNP of Japan and selected other nations at their initial point of modern economic growth as judged by Kuznets and in the ensuing fifty years. The nations are arranged in the table in order of the lateness of modern growth. Japan was the latest to experience modern economic growth and also enjoyed the most rapid initial growth. Britain, the first to experience an industrial revo-

⁴⁷ Ibid., p. 44.

⁴⁸ The other basic points of his framework survive. For a recent assessment of Gerschenkron's thought, see Richard Sylla and Gianni Toniolo, *Patterns of European Industrialization: The Nineteenth Century*, New York: Routledge, 1991.

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lution, grew more slowly in initial stages than any country that came after it. The other nations lie between these two extremes in no discernible pattern.

2. *“Moreover, the higher degree of backwardness was associated with a stronger tendency toward larger scale of plant and enterprise...”*

Before World War I, industry in Japan was overwhelmingly “light” industry; silk reeling and cotton spinning were the two leading examples, not heavy, capital-intensive manufacturing. Moreover, factory labor was relatively abundant in Meiji Japan, not scarce, as Gerschenkron found to be true of the relatively backwards European nations. Efficient methods substituted labor for capital rather than the reverse. The profitable early ventures in cotton spinning applied round-the-clock work shifts. Most of the workers were young, single women living in company dormitories. In 1912 Japanese cotton mills employed four times as many workers as American mills of the same size using the same equipment.⁴⁹

Further, a kind of cottage industry and putting-out system persisted in these textile industries well into the twentieth century in Japan, workers using hand looms or small machines and working at home rather than in factories. The profitable ventures in silk-reeling used machinery that substituted where possible endogenously obtainable wooden machine parts for imported metal ones, yet another example of substitution of labor for capital.⁵⁰

Gary Saxonhouse has estimated a(n) hedonic supply of labor schedule based on data from a comprehensive government survey of cotton spinning factories in 1897.⁵¹ Although the 71,000 workers in these factories exhibited high absenteeism and short tenures, they did value safety, rest periods, short work shifts, dormitory space, and personal freedom, as reflected in the compensating wage differentials identified by Saxonhouse. In short, Japanese factory workers responded to economic incentives in a sophisticated way. Perhaps the relative abundance of factory labor manifests the fact that Meiji Japan was not economically backwards in Gerschenkron’s sense, even though its per capita GNP was indeed low. For estimates of per capita GNP in Japan and other

countries at the start of modern economic growth, refer again to Table 2.1.

The table also includes crude figures on the extent of adult illiteracy and degree of urbanization of many of the countries near the starting points of their modern growth. Japan in 1890 was undistinguished from the other nations (except for Italy) in its degree of adult illiteracy. Neither was it significantly less urbanized than most other nations at the starting point of modern economic growth.

3. *“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.”*

Japan’s industrialization was accomplished with little organized direction by government, and only limited intermediation by banks. As will be sketched out in a bit more detail in the chapter on industrial policy (Chapter 9), government encouragement of industry was more a political slogan than a reality. The government set up pilot plants with the assistance of foreign contractors to demonstrate new mechanical devices for silk reeling, cotton spinning, and the like, but the factories were not profitable and were eventually sold. The Meiji government was also a heavy investor in railroads and telecommunications, and in 1906 amalgamated the extant private rail lines into a government enterprise. Further, the government subsidized ocean shipping and shipbuilding, and established the first integrated steel factory in Japan, the Yawata iron works, which produced its first steel in 1901. But it is hard to view any of these efforts as essential. As Nobel laureate Robert Fogel famously demonstrated in

⁴⁹ David S. Landes, “Japan and Europe: Contrasts in Industrialization,” in William Lockwood (ed.), *The State and Economic Enterprise in Japan*, Princeton University Press, 1965, pp. 93–182.

⁵⁰ Thomas C. Smith, *Political Change and Industrial Development in Japan: Government Enterprise, 1868–1880*, Stanford University Press, 1955, p. 57.

⁵¹ Gary R. Saxonhouse, “The Supply of Quality Workers and the Demand for Quality in Jobs in Japan’s Early Industrialization,” *Explorations in Economic History*, vol. 15 (1978), pp. 40–68.

Table 2.1. Conditions at the start of modern economic growth, Japan and selected other nations

	First 50 years of modern economic growth ^a	Per capita GNP in first year of modern economic growth (1985 US\$) ^b	Adult illiteracy near the start of modern economic growth (%)	Urbanization near the start of modern economic growth ^c (%)	Annual average growth rate in real per capita GNP in first 50 years of modern economic growth (%)		
Japan	1886–1936	738	50 ^c	1890	13.1	1887/90	1.8
Canada	1870–1920	1347	n.a.		18.8	1871	1.7
Denmark	1865–1915	1461	<30 ^d	1850	13.8	1860	1.2
Norway	1865–1915	1148	<30 ^d	1850	5.3	1845	1.3
Australia	1861–1911	2954	n.a.		22.1	1861	0.8
Italy	1861–1911	1153	75–80 ^d	1886	25.2	1861	1.1
Sweden	1861–1911	1110	10 ^d	1850	7.6	1860	1.5
Germany	1850–1990	1050	<30 ^d	1850	26.8	1849	1.4
USA	1840–1890	1461	n.a.		8.5	1840	1.5
Belgium	1830–1880	1053	51 ^d	1843	5.4	1846	1.6
France	1830–1880	1077	53 ^d	1832	11.2	1836	1.0
Great Britain	1780–1830	1210	46 ^d	1800	21.3	1801	0.4

^a Dating of modern growth phase based on Simon Kuznets, *Economic Growth of Nations: Total Output and Production Structure*, Harvard University Press, 1971, p. 24, table 2; and Ryōshin Minami, *The Economic Development of Japan: A Quantitative Study*, London: Macmillan, 1986, table 1.1, p. 13.

^b GNP (based on International Comparison Project estimates for 1985 projected into the past) and population from Angus Maddison, *Dynamic Forces in Capitalist Development*, Oxford University Press, 1991, appendices A and B.

^c Japanese illiteracy rates from Koji Taira, "Education and Literacy in Meiji Japan," *Explorations in Economic History*, vol. 8 (July 1971), pp. 371–94, at p. 377.

^d Adult illiteracy rates of European countries based on Carlo M. Cipolla, *Literacy and Development in the West*, Harmondsworth, Middx (UK): Penguin, 1969: Denmark, Norway, and Germany, table 23, pp. 113–14; Sweden and Italy, table 24, p. 115; Belgium and France, table 25, p. 117. (illiterates among army recruits); Great Britain, p. 62 (% newly married persons unable to sign their names).

^e Urbanization rates (% of population residing in cities of 10,000 inhabitants or more, except where otherwise noted) from Adna F. Weber, *The Growth of Cities in the Nineteenth Century: A Study in Statistics*, New York: Macmillan (for Columbia University), 1899: Japan, p. 129; Canada (cities larger than 1,500), p. 130; Denmark, p. 113; Norway, p. 112; Australia (capital cities), p. 139; Italy (cities larger than 6,000), p. 118; Sweden, p. 119; Germany (Prussia), p. 82; USA (cities larger than 8,000), p. 22; Belgium, p. 116; France, p. 71; Great Britain (England and Wales), p. 43.

the American case,⁵² substitute modes of transport greatly diminish the incremental value of a rail system, and even in the Edo Period Japan had developed an extensive infrastructure of post roads and intercoastal waterways. The government promotion of steel and shipbuilding may have served a military purpose but was largely irrelevant to the main thrust of entrepreneurial activity in Japan.

The thirty or forty major cotton spinning companies were established as limited partnerships or joint-stock companies with the equity participation of hundreds of investors. They were independent companies, not closely tied to banks, and they dominated the ranks of the largest companies in Japan right up to the 1930s. The principle sources of raw cotton were foreign as were the

markets for the final product. Entrepreneurs in the cotton spinning industry were thus pursuing an economic opportunity made possible by the removal of a government barrier, the Tokugawa seclusion policy. Not only this, the factory workers themselves, and indeed also the entrepreneurs and managers, might have been constrained by the caste system even had the seclusion policy been abandoned but the other Tokugawa controls remained in place. The spirit of the Meiji era was one of *laissez-faire*, not government control. The economist Koji Taira has, with good reason, described the Meiji transformation of Japan as a "revolution of markets," an opening of Japan to

⁵² Robert W. Fogel, *Railroads and American Economic Growth*, Johns Hopkins University Press, 1964.

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the powers of trade, not only internationally but also internally.⁵³ In short, Japan industrialized without organized direction, similar to the experience of less backward nations such as England or France, rather than the more backward ones such as Italy or Russia.

Conclusion

In the early seventeenth century the Tokugawa shogunate, which ruled Japan from 1603 to 1868, ended for ever the civil wars that had long ravaged the nation, but imposed far-reaching controls including a caste system, the forced concentration of underlords and their families in the Edo capital, a structure of taxes that made land inalienable, and the seclusion of Japan from the outside world. Within this highly controlled political-economic system, the feudal lords of Japan, secure in their rights to levy taxes in perpetuity on the lands under their suzerainty, promoted the reclamation of new rice fields throughout the seventeenth century. The population of Japan rose from around 20 million persons in 1600 to 30 million persons a century later. The Tokugawa capital, Edo, became the consumption center of the rentier class, the samurai, warriors with no wars to fight—in effect, an hereditary and hierarchical civil bureaucracy. Osaka, the city of merchants, became an entrepot for the rice collected in taxes throughout the fertile regions in western Japan, and evolved sophisticated institutions of capitalism including wholesaling networks, futures markets, and a system of issuing warehouse receipts for rice that resembled fractional reserve banking.

The population of Japan grew hardly at all from 1700 to 1850 as land reclamation approached the natural limits of the nation's mountainous geography and families of all castes limited their offspring in order to endow each heir with greater wealth. A modicum of technological advance in the cultivation of rice, increasing commercial activity, and increasing trade within Japan all con-

tributed to moderate growth in living standards further. But perhaps inevitably, given the forced isolation of the country, the wonders of the industrial revolution that had first appeared in Britain near the end of the eighteenth century were nowhere in evidence in the Japan that Commodore Perry demanded in 1853 should open its ports to foreigners. Perry's demands precipitated a political crisis in Japan that culminated in a revolution, the Meiji Restoration of 1868, which replaced the highly conservative *baku-han* political system of the Tokugawa with an oligarchy of forward-looking and energetic reformers from the south-west periphery of the nation.

The Meiji oligarchs proceeded to dismantle the elaborate controls of the Tokugawa era. Foreign treaties had already forced an end to the seclusion policy. Now the oligarchs abolished the caste system, replaced the Tokugawa rice tax with a monetary land tax that assured the alienability of land for the first time, and pensioned off the samurai. The feudal fiefdoms that under the earlier regime had taxed and interfered with domestic trade within Japan itself were abolished, and were replaced by prefectures, mere sub-units of a single, economically integrated national polity, within which free trade and migration were permitted. The steps freeing markets of government controls were joined by others that assured a stable monetary unit and facilitated the capitalization of business. Japan had a central bank from 1882, and a currency convertible into silver from 1886 and convertible into gold from 1897. By the turn of the century, Japan had a proliferation of commercial banks and joint-stock companies. Furthermore, private manufacturing businesses, led by cotton spinning and silk-reeling, had begun gradually to displace agriculture.

⁵³ The apt phrase "revolution of markets" is from the conclusion of Taira's monograph on the historical evolution of Japanese employment practices and labor relations: Koji Taira, *Economic Development and the Labor Market in Japan*, Columbia University Press, 1970.

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