

The year 1949 appears at first to be a great divide in Chinese history. The government is radically different after 1949, and even more dramatic is the growth performance. Before 1949, China never launched into rapid, modern economic growth; since 1949, China's economy has always grown rapidly, despite sometimes disastrous policies imposed during Maoist times: For more than a century—from the early nineteenth to the middle of the twentieth century—China's economic performance was mediocre at best. Moreover, under pressure from the West, China disintegrated politically. The most common interpretation has been that China's economy failed in the nineteenth and early twentieth centuries and that 1949, therefore, was a real turning point. After all, the differences are so great that something fundamental must have changed.

This traditional view has been challenged by a group of economists who see the Chinese economy in the early twentieth century as having been largely successful (T. Rawski 1989; Brandt 1987, 1990; Myers 1980). Thomas Rawski (1989) presented revised estimates of aggregate output that imply slow but steady growth in per capita output after the late nineteenth century. Perhaps more important is the philosophical basis of this group's argument. They see the traditional Chinese economy as having been well suited to support economic development. There was indeed some governmental failure during the beginnings of development, but governmental failure was not significant enough to destroy the robust potential of the traditional economy. Moreover, economic development is a long-term process that consists of the accumulation of human and physical capital, together with the evolution of institutions appropriate to a modern economy. Thus this group stresses continuity between the features of the traditional economy and the rapid growth experience that became so obvious after 1949. Implicitly, China would have grown rapidly under any economic system and, lacking a socialist revolution, could have been expected to engage in development along capitalist lines.

The traditional view of Chinese society pre-1949 is strongly defended by another group of scholars, mainly historians (Eastman 1988; Esherick 1991; Richardson 1999 reviews the debate). This group stresses such societal features as the increased pressure on living standards from population growth, the absence of qualitative change in agricultural technology, the continuing pressure of class division and extraction of rents and other surpluses from the poorest farmers, and the risk of famine and disease that threatened the majority of the population. To this group, the turning point at 1949 is the result of a social as well as economic revolution. They see the traditional society as being crippled by unfair distribution of control over land and other income-producing assets. In their view, corrupt political power prevented the emergence of economic growth that could provide benefits to a broad spectrum of the population. Unable to solve its problems, the society was at the mercy of increased population pressure on limited resources. Revolution provided a way to solve some of these problems and unleashed a rapid acceleration of economic growth.

One side (composed primarily of economists) stresses economic continuity—the presence of favorable economic conditions on either side of a divide. In their view, the acceleration of economic growth after 1949 could only have occurred if many favorable conditions were already in place. An even more dramatic acceleration of growth in Hong Kong and Taiwan after the 1950s supports the idea that conditions were favorable for capitalist growth. The other side (composed primarily of historians) stresses the social discontinuity—the presence of radically different social conditions on either side of the 1949 divide. In that view, the sudden acceleration of growth indicates that some new set of conditions was in place that enabled a “takeoff” to occur. Did the Chinese economy “fail” before 1949, and if so, why? Was the Chinese traditional economy well suited to economic development? If so, why was the actual response to the Western challenge so feeble? Was a basis laid, in the pre-1949 era, for the vigorous growth after 1949? To begin to address these questions, we first examine the traditional Chinese economy during three broad time periods, then evaluate the legacy of the traditional economy.

2.1 THE TRADITIONAL ECONOMY, 1127–1911

2.1.1 High-Productivity Traditional Agriculture

Chinese traditional society was overwhelmingly rural, with over 90% of the population living in the countryside. Farmers employed a sophisticated agricultural technology to wrest high crop yields per unit of land cultivated (King

1911). These yields depended on the massive application of human labor to small plots of farmland. A complex and highly productive agricultural technology developed, based not on modern science, but on the trial and error of generations of farmers. A “traditional triad” of farm technology consisted of three key elements: selected seed varieties, organic fertilizer, and irrigation. Early-ripening rice was adapted from Southeast Asia as early as the Southern Song dynasty (AD 1127–1279). Its short growing season allowed farmers to plant two or more crops of grain annually on a single plot of land. Organic fertilizers were applied to fields to maintain soil fertility. Every available nutrient was recycled into the soil: Most important was manure from humans (“night soil”) and animals, but farmers also added pond mud, lime, and green algae to the soil—even the clay bricks used to make chimneys were crushed and spread on fields after they had absorbed enough smoke to build up organic compounds. Finally, sophisticated irrigation systems allowed farmers to precisely control the water on their fields and take full advantage of better crop varieties and fertilizer. Rice shoots were sprouted in seedbeds, then transplanted to flooded fields. As the rice plants matured, fields were drained and the ripe plants were harvested. The productivity of each element was enhanced by the presence of the other elements of the triad.

This highly productive traditional agricultural system could function only with the massive and intensive application of labor. Preparing fields and irrigation canals, hauling fertilizer, and transplanting seedlings were all back-breaking work. The average product per unit of land was high, but the average product per unit of labor input was low. Many farmers barely produced enough to feed their families. But farmers were always able to find some work for an additional hand: the marginal product of labor was even lower than the average product, but it did not drop quickly to zero as more laborers were added. A growing population was supported, but incomes and consumption standards remained low. One of the most striking characteristics of this agricultural system—in contrast to that which evolved in Europe over the same period—is the limited role of animals in farm work and human diet. Meat was a luxury for most Chinese, protein consumption was inadequate, and almost all calories and protein came from grain.

The intensive application of human labor to small plots of land reminded early Western visitors to China of gardening rather than of farming as they knew it, but these observers were also uniformly impressed by the high yields and the intense utilization of resources they observed. The persistent recycling of wastes changed the composition of soils and served to maintain productivity. “Owing to many centuries of cultivation, there were no natural soils left [by the nineteenth century in China]. All soils were man-made in varying

degrees” (Vermeer, 1988, 224). The high-productivity system was created first in the Lower Yangtze, then spread to lowland and riverside areas where irrigation was feasible. Population growth pushed farmers higher up the slopes of hilly country. The introduction of New World crops—especially corn (maize) and potatoes—allowed farmers to spread onto new lands less suited to traditional crops.

This agricultural system supported a growing population for 400 years. Population quintupled between 1400 and 1820: from an estimated 72 million in 1400, at the beginning of the Ming dynasty (1368–1644), population grew to around 381 million in 1820. China’s population grew at a rate of 0.4% per year over this long period, quite fast for a premodern population (Chapter 7). By 1820, China accounted for an estimated 36% of total world population (Maddison 1998; Wang 1999). Moreover, it appears that living standards in China were stable until the early 1800s—there is no evidence of large increases or decreases—and close to average world living standards. China thus accounted for about a third of world GDP in 1820.

2.1.2 The Commercialized Countryside

The densely populated countryside supported a thick network of markets. In areas that were suitable to the building of canals—particularly the Lower Yangtze and Pearl River deltas—regions were tied together by a highly developed system of water transport. The major rivers, particularly the Yangtze, provided links among regions, while the Grand Canal linked the food-surplus Lower Yangtze with the food-deficit North China Plain. For places on the water transport network, even heavy and bulky commodities could enter into trade. Local markets were joined into channels for interregional trade. Dense population and transport networks supported a highly commercialized premodern economy, including sophisticated institutions, competitive markets, and a small-scale “bottom-heavy” economy (Zelin 1991; Brandt 1990; Naquin and E. Rawski 1987).

2.1.2.1 Sophisticated Institutions

Institutional support for the economy included the following:

- Widespread use of money. Paper money was one-third or more of total money in circulation as of 1820.
- Familiarity with large formal organizations. Clan or lineage organizations had extensive economic functions. Sometimes formal shares were issued to regulate an individual’s membership in a corporate-lineage or local-place association.

- Advanced commercial procedures. Written contracts were ubiquitous. Contracts extended beyond business transactions to regulate obligations to family, the gods, and the afterlife. As early as the first century AD, “tomb contracts” proving the right of the dead to occupy a given plot of ground were buried with the dead. The use of middlemen in personal and commercial transactions was nearly universal.
- Legal and customary institutions that supported the economy. Courts existed and were used for lawsuits. Interregional trade was often regulated by local-place and merchants’ associations that helped resolve disputes and created support networks.
- Traditional banks that allowed merchants to transfer funds nationwide.

2.1.2.2 Competitive Markets

- Highly competitive markets for most products. Recent studies of such markets as coal and iron, textiles, and tea confirm that each of these was characterized by numerous suppliers, easy entry, and frequent exit.
- Competitive and efficient markets for land and labor.
- Substantial social mobility. There was no aristocracy or castes defined by birth. Individuals frequently migrated in search of economic opportunity. There were few socially imposed barriers to mobility. While inequality was significant, potential social mobility was real.

2.1.2.3 Small-Scale, “Bottom-Heavy” Economy

Agriculture was based on individual, small-scale households. There were no plantations or large landed estates. Most nonagricultural production was also small-scale and done by rural households. Textiles, leather goods, and iron tools—as well as food products such as wine, tea, sugar, noodles, and edible oils—were all produced by microenterprises in the countryside. Many households farmed, manufactured handicrafts, and marketed their own output. Thus the Chinese traditional economy was a vigorous, household-based economy.

Households were also directly linked to a number of different markets. In many cases the consecutive stages of a production chain were handled by separate specialized households connected by markets. For instance, this kind of vertical segmentation characterized the manufacture of silk cloth. The raising of silkworms, care of silkworm cocoons, spinning of raw silk thread, and weaving of silk cloth were all carried out separately by specialized households or small firms that dealt with each other on the marketplace. Thus chains of

small processors and middlemen linked household producers, merchants, and consumers.

One of the first successes of a “globalizing” China was the rapid growth of the tea export industry after 1880. At its peak more than a million households, mainly in Fujian Province, participated in the tea industry. The average farm household produced a couple of hundred pounds of tea per year, which was in turn processed by hundreds of small tea factories. This export industry grew rapidly around the turn of the twentieth century. But the Chinese system did not cope well with the rise of competition from Japan and India after the twentieth century began. Competitiveness required standardization and reliable high quality, which China’s small-scale and dispersed producers were not organized to provide. As a result, Chinese exporters in the 1920s were pushed out of a world market they had created. As the export industry declined, households exited tea production as rapidly as they had entered it.

This was an economy with a fluid and flexible allocation of resources. On the positive side, resources and labor moved efficiently to the use with the highest rate of return, and exited such activities just as rapidly when returns fell. On the other hand, economic activity was fragmented into small-scale businesses with little capital. For example, cotton fabric was woven in three quarters of China’s counties, but large-scale textile mills, the foundation of the industrial revolution elsewhere, did not emerge in China until the twentieth century. Accumulation of capital into large enterprises was either very difficult or else inefficient compared with dispersed household-based production. Indeed, this fluidity may have been partially the result of a need to avoid risk, a need to prevent wealth from being too obvious to potential predators or rapacious officials. Nevertheless, it is impossible not to be impressed by the sophistication of the traditional Chinese economy. We would have expected the traditional Chinese economy to respond well to new challenges and opportunities presented by the impact of the West. And yet, as we shall see, this was not to be the case.

2.1.3 Crisis of the Traditional Economy?

Despite its enormous strengths, there are signs that the Chinese traditional economy was running up against increasingly severe limitations during the course of the nineteenth century. Inexorable population growth was placing an increased burden on resources that were, at least for the time being, relatively fixed. By the end of the eighteenth century, virtually all the potentially cultivated land in China was being farmed, except for a final frontier in Manchuria, in the Northeast. Elvin (1973) argued that China was in a “high level equilibrium trap.” Traditional technologies permitted high levels of

output, but the opportunity for new investments to further increase output was gone. Riskin (1975) has shown that there was ample elite income available to be invested, so the explanation must be that the productive potential of the traditional technologies was approaching exhaustion, or that institutions did not support productive investment.

During the peak of its capabilities in the eighteenth century, the Qing dynasty had been able to provide the main public goods needed to maintain economic stability. But by the end of the eighteenth century, the Qing dynasty had clearly entered a period of dynastic decline. The reserves of food in public granaries began to decline after the 1790s. Maintenance of large-scale irrigation networks, crucial to high agricultural productivity, began to deteriorate (Elvin and Liu 1998; Will and Wong 1991). Farmers encroached on wetlands and lakes that were essential parts of the complex river ecologies. As population continued to grow, the rural population became increasingly vulnerable to any breakdown in the rural system, with the result that floods or droughts could cause terrible famines. For example, the Wei River Valley, site of the ancient city of Xi'an, had practiced sophisticated irrigation for over 2,000 years. But by the nineteenth century, this infrastructure had broken down and left the population vulnerable to droughts. Subsequently (1928–1931), two million perished in a catastrophic famine after three years of consecutive drought. Even at its best, the Chinese imperial government was always a thin layer upon a vast population. Imperial government revenues were never more than 2%–3% of national income. Around 1800 there was only one government worker per 32,000 people in China, compared with one for every 600 to 800 in Europe at the same time (Perkins 1967). The government was incapable of mobilizing the funding or manpower needed to support the economy as the population grew and public infrastructure deteriorated.

The impact of these social stresses fell disproportionately upon the poor. The fact that this was a fluid, competitive, market-based economy should not allow us to forget the grinding poverty that weighed upon the vast majority of Chinese. Income inequality was significant. Imperial degree-holding “gentry,” who amounted to much less than 1% of the population, received about 20% of total national income (Zhang Zhongli 1955). Land distribution was not extremely unequal: given the importance of labor inputs, small farms were an efficient organizational form. But there were significant disparities in income that were crucial for an economy at such a low standard of living. Tenancy was much more common in the wet rice lands of the south, particularly in the richest delta lands of the lower Yangtze and Guangdong. In the north, tenancy was uncommon, and the main problem was fragmentation into farms too small to support a family because the marginal product of labor was very low. By the

time data are available—from large-scale rural surveys carried out during the 1920s and 1930s—they show substantial tenancy. According to a 1931–1936 survey conducted by the National Agricultural Research Bureau of the Republic of China, 46% of rural households were owners, 24% owner-tenants, and 30% tenants. Rents were high—about 45% of total output. Many farmers were in debt—various estimates collected by Feuerwerker (1969, 87) suggest that 40%–55% of households were in debt, paying annual interest rates of 20%–40%. For heavily indebted tenant farmers—indeed, for owners of small plots struggling to survive—life was very difficult indeed. Many poor farmers were unable to marry or sustain households and helplessly experienced the extinguishing of their lineage, which was the most serious offense against parents and ancestors. Sophisticated traditional agriculture allowed the growth of a huge population, but that population was highly vulnerable to any breakdown in the agricultural system that supported it. As Tawney (1964) put it in the 1930s, “The Chinese peasant is like a man standing on tiptoe up to his nose in water—the slightest ripple is enough to drown him.”

It appears that China was pressing up against the limits of economic possibility given traditional technologies—creating severe crisis—just at the time when a massive challenge was developing from the West. It is clear that ecological exhaustion deprived the economy of readily available materials, such as lumber and metal, and that environmental problems were becoming more severe. The Chinese government was not only unable to develop a coherent response to the external challenge; it was even unable to maintain its own most basic functions. During the 1860s southern China erupted in the Taiping Rebellion, which lasted a decade and ultimately devastated much of the lower Yangtze valley. Thus China entered a century-long period of decline just as the European countries were entering an unprecedented period of economic and population growth.

2.1.4 The Failed Response to the West and Japan

During the nineteenth century foreign powers began to have an increasingly severe political, military, and economic impact on China. Potentially, the economic stimulus from this contact could have been positive, but in fact China during the nineteenth century tumbled into profound social crisis. This crisis was certainly aggravated by the political and military challenge from the West, even though it goes beyond anything we can explain by the direct Western impact. Foreign encroachment on China began during a period of dynastic weakness, and it began with an economic crisis. For many centuries China had run an export surplus with the outside world, including Europe. Imported silver paid for traditional Chinese exports of silk, tea, and porcelain. Steady

silver inflow expanded the money supply and contributed to economic expansion until the 1820s. But in the early 1800s, Britain was the dominant world power, and British merchants were unhappy with the steady drain of silver into China. They searched for a commodity that would appeal to Chinese consumers and that could be imported into China and redress the trade imbalance. They finally located such a commodity in opium. Chests of opium—grown in India—were imported by British merchants through Hong Kong into China. By the 1830s, China was importing more than it was exporting. China now faced both an economic problem—a slowdown caused by slow adjustment to a shrinking supply of monetary metals—and a new social problem, opium addiction.

Chinese attempts to stop the inflow of opium led to the Opium War with Britain in 1839. The British crushed the hopelessly outmoded Chinese defenses, and in the Treaty of Nanking (1842) forced China to cede Hong Kong to British rule and open the first five Treaty Ports to foreign control. Through 1895, China fought four more wars against foreign encroachment and lost each one of them. After each loss, China was forced to pay reparations to the victors and open more Chinese cities to foreign residence and control. The Qing government, already enfeebled, was buffeted by internal and external crises, and never developed an effective response. Internally, the Taiping Rebellion of the 1860s and the Boxer Rebellion of the 1890s were the most notable sources of disruption. Externally, a range of foreign powers attempted to carve out separate spheres of influence in China, so the Chinese government had to cope with multiple adversaries.

Economically, politically, and militarily, Japan gradually took over from the Britain the role of the main foreign power encroaching on China, beginning with the Sino-Japanese War of 1895, which led to the seizure of Taiwan and its incorporation into the Japanese empire. One reason for China's relatively feeble response to foreign pressure may have been that it was under steady pressure for more than a century from a series of different adversaries and never had a "breathing space." In the wake of the antforeign Boxer Rebellion, an allied force from eight countries (six European plus the United States and Japan) occupied Beijing and forced the Qing government to sign the 1901 Boxer Protocol. Essentially, the imperial government was placed under house arrest, and control over tariffs and other tax revenues was ceded to the foreign powers to guarantee payment of a huge indemnity. It is hardly surprising that the Qing government collapsed 10 years later, in 1911.

China's historical opening to the outside world thus coincided with a prolonged period of national humiliation. National weakness tempted foreign aggression, and foreign conquest further enfeebled China. Foreign investment

was not allowed in China before the 1895 Treaty of Shimonoseki, which ended the Sino-Japanese War and provided for China to accept foreign investment. The beginnings of modern industry in China date from shortly after the signing of this treaty. Foreign investment was overwhelmingly concentrated in Treaty Ports, which were governed by foreign powers and not subject to Chinese jurisdiction. At their peak, there were more than 80 Treaty Ports, of which Shanghai was the most important. Extraterritoriality (foreign exemption from domestic law) and foreign control of Treaty Ports and customs revenues were politically controversial until their abolition in the mid-twentieth century. Because of this association between foreign contact and national humiliation, policies of economic and political “opening” to foreigners have remained a sensitive issue through the present day.

The Chinese response to the foreign challenge contrasted sharply with that of Japan. Under foreign threat, Japan was able to strengthen the national government and stave off direct foreign intervention. The Japanese state was strengthened by a radical land reform that redistributed as much as 10% of GNP to the government and to a rising class of entrepreneurial landowners. The government then rapidly initiated a state-sponsored program of industrialization, technology transfer, and manpower training. The Chinese government was incapable of mounting such a response. Some progressive Chinese officials understood the type of measures required to meet the foreign challenge. In the late 1800s these officials did sponsor some industrial projects, including most notably an iron and steel mill in Wuhan and shipyards and armories in the Shanghai area. These projects were called “official supervision and merchant management” (*guandu shangban*), because the projects were government sponsored but with management delegated to experienced merchants. Some of these projects were simply too ambitious to succeed. Poor management and quality problems plagued the Wuhan steel mill; and even with a government guaranteed monopoly as supplier of rails for the first railroad, demand was weak. The Wuhan mill, like most of the other projects, ultimately failed.

Maddison (1998) has compiled some long-run estimates of world population and GDP. The estimates are very rough, but they provide some idea of the relative changes that were occurring during this period. By 1913, after recovering from the Taiping catastrophes, the population of China was about 437 million. Population growth since 1820 had dropped off dramatically, and China had fallen from one-third to one-quarter of total world population. More critically, in 1820, China’s overall GDP had accounted for 32% of world GDP; but by 1913, it had declined dramatically to only 9% of world GDP. Estimated per capita GDP had been 90% of the world average in 1820; and

although China's per capita GDP declined only slightly between then and 1913, in relative terms it sank to less than 40% of the world average, since this was the period when the economies of Europe and the United States surged ahead. Because of the choice of years and population estimates, these figures might slightly overstate China's relative decline, but the general picture is surely correct. From being one of the centers of the civilized world, China had descended to a position of obvious underdevelopment and backwardness. Given the collapse in relative position, the aggressive and predatory attitude of Western colonialism, and the complete failure of the Chinese government to develop a coherent response to the West, it is understandable that the impact of the West turned out to be highly traumatic.

2.2 THE BEGINNINGS OF INDUSTRIALIZATION, 1912–1937

After the collapse of the Qing dynasty and the 1911 Revolution, China entered a new phase in which political and economic change became evident to all. Modern industrial development began, and modern transportation and communication links opened up new possibilities for other sectors. Immediately after 1911 came warlord domination, political fragmentation, and civil war, but in 1927 the Nationalist (Guomindang) Party unified the nation. For 10 years, until the Japanese invasion in 1937, China enjoyed relative peace, and the Nationalist government was able to begin building the institutional framework for development. This period is often called the “Nanjing decade” after the capital of the Nationalist government, during which the government began, tentatively, to invest in such things as education and agricultural extension services. A national surveying project led to an inventory of national resources, and national development plans were drawn up. Few of these activities came to fruition during this period, but groundwork was laid for the future. Skilled individuals were trained, and new technologies were developed, such as the creation of new crop strains. Metaphorically and literally, some seeds of future growth were sown.

2.2.1 Industry

From a tiny base, modern factory production grew at 8%–9% annually between 1912 and 1936, quite a rapid pace of industrialization at this time (John Chang 1969). In 1933 modern factories produced 2% of GDP and employed a million workers, although this was only 0.4% of China's labor force. Two distinct patterns are apparent in this initial industrial growth: “Treaty Port industrialization” and “Manchurian industrialization.”

Modern industry began in enclaves in the Treaty Ports during the early twentieth century. This was the dominant pattern of industrialization in China proper (i.e., China “inside the Great Wall,” excluding Manchuria). Foreigners began to operate factories around the turn of the century, and Chinese quickly followed suit. Early enclave industrialization was concentrated in light, consumer-goods industries, that is to say, in industries at the downstream end of the value chain (see Chapter 3 for further discussion). According to the 1933 census of industry in China proper, textiles made up 42% of total output, and food products (including tobacco) a further 26%. Modern industry was concentrated in a few treaty ports. For example, 70% of textiles were produced in the three cities of Shanghai, Tianjin, and Qingdao. Shanghai alone accounted for 40% of industrial output in 1933. Output from modern textile mills grew rapidly, replacing imports. By the 1930s, China had basically stopped importing textiles and was instead importing significant quantities of raw cotton to feed its own mills.

Enclave industrialization was started by foreigners and grew under the impetus of foreign example and competition. However, native Chinese capitalists quickly became major actors in this process. By the 1930s some 78% of the value of factory output came from Chinese-owned firms, and they were gaining market share. It is clear that the skills necessary for modern industry diffused quickly. Successful Chinese industrialists often had some kind of foreign experience or contact with foreign businesses that provided their initial entry into modern industry. These skills spread rapidly, though, and helped form a basis for further industrialization, particularly in Shanghai. One example was the Shanghai Dalong Machinery Company. Initially set up as a ship repair station, it gradually diversified into repair of machinery for the textile industry. By the late 1920s it began to produce its own models of textile machinery. Spillover of modern industrial skills had clearly begun in some parts of China. Another example is the prominent Rong family of native capitalists, headed by Rong Zongjing, who established the first modern flour mill in Wuxi (outside Shanghai) in 1904. By the 1930s, Rong family enterprises were producing almost a quarter of the cotton textiles and a third of the factory-milled flour produced by Chinese-owned factories.

A very different pattern of industrialization emerged in Manchuria (the Northeast; Table 2.1). Investment in Manchuria was carried out primarily by the Japanese government and by quasi-official affiliates of the Japanese government such as the Southern Manchurian Railroad. Japanese government-sponsored industrialization of Manchuria was carried out to meet a mixture of economic and strategic objectives. Development was focused on heavy industries and railroads. The Japanese developed a dense network of railroads

Table 2.1
Two patterns of industrialization

	China proper	Manchuria
Market	Domestic China	Japanese industry
Ownership	Chinese, foreign	Foreign
Structure	Light, consumer goods	Heavy, mining, producer goods
Skill formation	Steady accumulation	Little transfer of skills
Linkages	Backward	Few or none

and actively exploited the rich deposits of coal and iron ore in the region. For example, the Japanese developed a huge steel mill at Anshan, which is still today one of China's largest producers of steel. Construction began in 1917, and the Japanese poured investment into the mill for 15 years—funded by the Southern Manchurian Railroad—before production was stabilized and profits began. Nowhere in China proper would we have been able to find an investor capable of sustaining an industrial project that required so much capital.

Japanese-sponsored industry in Manchuria was expected to be profitable if possible, but strategic considerations were very important. Most Manchurian industries produced raw materials for Japanese domestic industries. Japan was the most important market. Machinery to operate the factories was imported from Japan. Managers were discouraged from subcontracting with small Chinese firms for inputs or for maintenance and repairs. Moreover, skilled positions within industry were intentionally reserved for Japanese nationals. Thus there were few linkages and spillover effects from vigorous industrialization in Manchuria. In 1933, Manchurian industry accounted for only 14% of total output. However, the Manchurian share of value added was nearly twice this, because of the greater importance of heavy industries with a higher ratio of net to gross output. Moreover, Manchurian industry was poised for dramatic expansion during the subsequent period.

2.2.2 Evaluation: How Broad Was Development in the 1912–1937 Period?

There is wide agreement that a small but significant modern sector grew in China during the 1920s and 1930s. Less clear is the impact that this modern sector had on traditional sectors. Rawski (1989) in particular stresses the potential positive impact on traditional sectors of growing demand from modern sectors, growing cities, and increasing trade. Ingeniously extracting information from limited data, Rawski estimates that agriculture, handicrafts, and traditional transport all had positive growth between 1914 and 1936. Combined with rapid growth of the small modern sector, this finding leads him to

conclude that GDP per capita rose modestly but significantly over the period. The complexity of the relationship between modern and traditional sectors can be seen by examining the single most important industrial sector, cotton textiles, on which extensive research has been done (Richardson 1999, 58). The textile industry has two main segments, spinning and weaving, and the impact of growing factory production was very different on the traditional hand-spinning and hand-weaving industries. Factory spinning is much more efficient than hand spinning, so factories took over most of the growing market. Household spinning declined by more than a third through the 1930s, causing significant hardship in regions where farm households had specialized in spinning. Factory weaving also grew rapidly, taking a third of the market by the 1930s, but in this case the total market increased by more than enough to accommodate a significant increase in hand-weaving output as well. Hand weaving, it turns out, produces a warm and durable product much prized by rural people. Cheaper machine-spun yarn made it possible to produce a lower-cost blended fabric with greater durability and a larger market than traditional homespun.

The cotton textile industry thus exemplifies the complexity of the impact of modern technologies. Some areas benefited, stimulated by new technologies and new sources of foreign and domestic demand. Other areas lost out, as their products were unable to compete with new products. In agriculture, increased commercialization allowed intensification to continue without a technological revolution. Growing cities in eastern China increased the local demand for urban-oriented products, in particular cotton, peanuts, vegetables, fruit, rapeseed, and tung oil. In suburban areas there were also increased opportunities for off-farm employment. Was the introduction of new crops and the attendant commercialization sufficiently widespread to keep rural incomes from declining, or even lead to an increase? Clearly, there were a handful of regions that benefited from increased opportunities, particularly those around growing coastal cities. Most farmers, and especially those in the interior regions, continued to operate on the margin of subsistence as they had for centuries, and they probably noticed little impact. Industrialization had clearly made a start; a foundation had been laid for future progress; but industrialization had not begun to fundamentally change the overall structure of the Chinese economy.

In a broader sense, this was a vibrant society laying the basis for future development. Literacy gradually began to increase. Beginning with individuals born after 1920, there is a gradual but steady improvement in literacy rates that even the subsequent war does not interrupt. Moreover, China was quite open to foreign influence during this period. Some 100,000 Chinese students

went abroad for long-term study. The largest number went to Japan, and significant groups went to the United States and Europe as well. As of 1936, 370,000 foreigners were resident in China. This large interchange created substantial flows of technology, as well as creating an open and stimulating intellectual and cultural environment. Shanghai became the center of a vigorous hybrid modern culture. Although society was divided by sharp political and social fissures, it seemed to be moving forward rapidly.

2.3 WAR AND CIVIL WAR, 1937–1949

A steadily increasing Japanese presence loomed over the successes of the interwar period. Japan had already gained a toehold in Manchuria when it seized the Liaodong Peninsula from Russia in 1905. Moreover, Japan received the former German concessions in Shandong after World War I. In 1931, Japan established the puppet state of Manchukuo, effectively extending control to all of Manchuria. And in 1937 the Marco Polo Bridge incident outside Beijing marked the beginning of the Japanese invasion of China proper. For China, this initiated a nearly unbroken period of warfare that lasted more than a decade, until the Communist victory of 1949.

War brought mass suffering to the population and serious damage to the economy. The disruption of war created conditions that allowed China's civil war between Nationalists and Communists to fester. The Japanese invasion weakened the Nationalist government, and Communist guerillas were able to gain a new legitimacy by fighting the Japanese. The end of the Pacific war in 1945 merely laid the stage for a final showdown between Nationalist and Communist armies. The fog of war also obscures our understanding of the important changes that occurred during this decade. The wartime economy is often omitted from descriptions of China's development. In fact, however, several important changes occurred in this 12-year period.

2.3.1 The Rise and Fall of a Japan-Centered East Asian Economy

Rapid military industrialization in Manchuria under Japanese sponsorship serves to throw light on a more general phenomenon of East Asian development through the 1940s. During this period, a Japan-centered East Asian economic system was coming into existence. Fostered in part by the explicit imperialist calculations of the Japanese government and in part by the intrinsic economic dynamism of East Asia, the Japan-centered economic system had a distinct structure. In some respects, patterns of economic development in

China are easier to perceive if we ask how the different regions of China were related to the Japanese economic system (Ho 1984).

At the core of that system was Japan itself. Most manufacturing and services, as well as government, were reserved for Japan. Next came an inner circle of food producers, primarily Taiwan and Korea. These were incorporated into the empire; and although political repression was intense, the Japanese managed these “assets” carefully, since they were seen as part of the permanent inner circle of the Japanese empire. In both Taiwan and Korea, the Japanese carried out land surveys and strengthened the tax base. They built a good transportation infrastructure and improved education, agricultural extension, and health care. Mortality declined in both colonies, and literacy—defined as ability to read and write Japanese!—increased.

Next came a middle circle of raw-material and semiprocessed-goods suppliers. Manchuria was the primary example (Korea also produced some industrial materials). Manchuria produced both agricultural materials (soybeans and soy-cake fertilizers) for Japan and also crucial industrial materials. Ironically, there was also petroleum in Manchuria, but the Japanese did not discover it. Japanese policy toward Manchuria was more frankly exploitative than toward Taiwan. There were few efforts to foster broad-based economic growth or to spread the benefits of growth to the population. Finally, an outer circle, including most of China proper, was composed of regions with potential markets and sites for investment and future expansion. By the mid-1930s, Japan had surpassed Britain to become the largest foreign investor in Shanghai (at a time when two-thirds of foreign investment in China proper was in Shanghai). The various regions of the Japanese economic empire interacted in a reasonably well functioning economic system. With the Japanese defeat in the Pacific war, this system collapsed. After 1949, China withdrew from the East Asian economy, and East Asian economic integration did not reemerge until many decades later.

2.3.2 The Rise of Manchuria

Even though the Japanese imperial project ultimately collapsed, its contribution to building the industrial economy of Manchuria turned out to be long lasting. Manchurian industrialization actually accelerated during the early war years, growing at least 14% annually between 1936 and 1942. By contrast, industrial output in Shanghai and the rest of China proper peaked in 1936 and never regained prewar output levels until after 1949. By 1942, Manchuria produced the bulk of China’s electric power, iron, and cement, and more than half of industrial output value. By the end of the war, the *majority* of China’s industrial capacity was in Manchuria.

2.3.3 Increased State Intervention

During the war the Nationalist government retreated into the interior of China, setting up a temporary capital at Chongqing in Sichuan (Kirby 1990, 1992). Wartime pressures, as is always the case, led to an increase in state intervention in the economy. Before the war there had been no significant public sector in Chinese industry. In order to move industry inland from Shanghai and build new inland military industrial capacity, the Guomindang government turned to a kind of planning commission, called the Natural Resources Commission (NRC), to run government-sponsored development. Originally focused on mineral development, the NRC was staffed primarily by engineers and gained a reputation as a relatively efficient and honest department of the government. By the early 1940s the NRC was running factories with about 160,000 workers (compared with the one million total factory workers in 1933). Of all industry in unoccupied China, state-run firms accounted for 70% of the capital and 32% of the labor.

Meanwhile, in occupied Shanghai, the Japanese authorities were restructuring industry to support their war aims. Many Shanghai firms were converted to military production, and output of machinery and armaments increased while consumer-goods output dropped. By the end of the war a large part of Shanghai industry was being run by the Japanese military authorities. Already the largest foreign investor in Shanghai, Japan confiscated many factories during the war and forced some Chinese capitalists into collaboration. All these firms were taken over by the Guomindang in 1945. The combination of NRC-developed industries and confiscated Japanese and collaborator factories gave the Nationalist government a large industrial stake in the late 1940s, with the government controlling about two-thirds of modern industrial capital. By 1947 the Chinese government controlled 90% of iron and steel output, two-thirds of electricity, and 45% of cement output. In addition, most major banks and transportation companies were government controlled. This state-run economy in embryo was taken over by the Communist government after 1949.

2.3.4 Inflation

Attempting to pay for the war, yet separated from its economic base in the lower Yangtze, the Nationalist government turned to printing money to finance operations. The result was accelerating inflation, and ultimately hyperinflation. As the government collapsed, inflation became worse. If the Shanghai prewar price level is taken as 100, the price level in 1948 was 660 million. Severe macroeconomic imbalances threatened to cripple the economy.

2.4 LEGACIES OF THE PRE-1949 ECONOMY

2.4.1 Legacy for the Socialist Era (1949–1978)

The immediate legacy of the war years was extreme disruption and serious damage to the economic infrastructure. Destruction of industrial capital and deterioration of agricultural infrastructure (particularly irrigation networks) were serious, and they crippled the economy. At the same time, financial chaos, manifested in hyperinflation, required immediate remedial action that inevitably detracted from short-run economic development. Moreover, war had disrupted whatever economic growth had begun in the 1920s and 1930s, so China was still very poor, probably slightly behind India at this time (Table 2.2).

Several of the adverse economic experiences pre-1949 may have contributed, ironically, to the relatively smooth adoption of socialist institutions after 1949. The Chinese experience with foreign aggression from 1839 through 1945—from the Opium War through the Anti-Japanese War—naturally caused China to be deeply suspicious of Western institutions and world views. China developed a strong aversion to foreign dominance that led to support for closed-door socialist development strategies. Moreover, the reputation of the Nationalist government—the primary opponent of the Communists—was seriously compromised by hyperinflation and by its inability to manage the economy between 1945 and 1949. More generally, the chaos, damage, and suffering of more than a decade of war made the Chinese population willing to accept even a repressive government if it could credibly promise peace and a degree of economic security.

More concretely, wartime changes in the economy aided the Communist government in the execution of its socialist industrialization strategy. The

Table 2.2

A benchmark comparison: China 1952 and India 1950

	China 1952	India 1950
GNP per capita (1952\$)	50	60
Population (million)	573	358
Rice yields (ton/acre)	2.5	1.3
Wheat yields (ton/acre)	1.1	0.7
Industrial output per capita		
Coal (kg)	96	97
Steel (kg)	2	4
Electricity (kW)	0.005	0.04
Cotton spindles	0.01	0.03
Railroads (km; 1936)	20,746	72,000

Japanese had begun the task of developing a core of heavy industry in Manchuria. Subsequently, those industries were seized by the Soviet Army, then passed ultimately into Chinese government hands. In China proper the combination of NRC-developed industries and companies confiscated by Japanese authorities created a foundation for the victorious Chinese Communist Party (CCP) to establish direct control over the industrial sector. In fact, the Nationalist government had even created the nucleus of a planning apparatus, and many skilled officials from the Nationalist Natural Resource Commission even stayed on to work under the new People's Republic of China. Thus the infant Communist government did not have to start from scratch, nor did it have to engage in politically sensitive nationalizations of industry for the first several years.

By 1949, China was still very poor, but development had nevertheless begun. China had a relatively good endowment of human capital. Literacy rates were reasonably high and had already begun increasing. A small university system had been created, and skilled individuals had been trained abroad. Some modern industrial and transport capital had been created that could serve as a nucleus for further development. The socialist development strategy followed between 1949 and 1978 turned its back on the vitality of the traditional economy, but ironically, the fruits of past success dropped into the lap of the new government, which received something like a mandate for its new approach to development.

2.4.2 Legacy for the Post-1978 Market Economy

Important as the legacy of the traditional economy was to the socialist era, it was arguably even more important to the post-1978 market economy. As China began to open up, familiarity with the traditional household-based economic system provided a robust potential to adapt to new economic opportunities. Everywhere in China after 1978, we saw the return of the traditional. Most important, small-scale household businesses sprang up throughout China to meet the market needs that had been neglected under socialism. Under the general rubric of "township and village enterprises," rural businesses grew rapidly in many areas and many different organizational forms, but nowhere more vigorously than in those parts of China where the densely populated, highly commercialized countryside had flourished (Chapter 10). Traditional economic centers suddenly revived with astonishing speed. The Lower Yangtze macroregion began to reclaim its traditional economic primacy, while the Northeast (heartland of the planned economy) receded in importance. There was even a revival of traditional market-based organizational forms, in which large numbers of very-small-scale specialized firms coordinated through

markets with upstream and downstream producers. This pattern was exemplified by the intense entrepreneurial development of private business in Wenzhou, along the southeastern coast. Indeed, that China has been able to grow so rapidly after 1978 is due in no small part precisely to the entrepreneurial and competitive behaviors that had been nourished by the traditional economy.

Traditional links with parts of “maritime China” outside the People’s Republic of China also revived quickly. The Special Economic Zones (SEZs) established early in the reform era reflected the importance Chinese leaders placed on reestablishing ties across boundaries (Chapter 1). Indeed, the rapid economic growth of Hong Kong and Taiwan during the 1960s and 1970s could in itself be considered a continuation and vindication of the traditional economy. After all, these were regions within the traditional Chinese economy that had followed a path of evolutionary growth from traditional beginnings and had relied primarily on small firms to jump-start economic development. After 1978 the capabilities that firms in Hong Kong and Taiwan had developed were reintegrated with the labor and other resources within the People’s Republic, creating explosive growth of foreign trade. In this respect, as well, the traditional economy laid down a highly positive legacy for development after 1978.

Finally, the traditional economy may have left a complex legacy shaping the nature of the transition from plan to market. Foreign intrusion into China was still a sensitive issue in the late 1970s. SEZs were promoted by Deng Xiaoping to jump-start the process of economic opening. The SEZs limited the scope of foreign incursion, but simultaneously demonstrated that policymakers were willing to overcome their traditional aversion to foreign domination. The resulting policy echoed some features of the Treaty Ports forced on China in the nineteenth century, but this time under Chinese sovereignty. These early experiments with SEZs may have contributed to the distinctive “dual track” approach that became a defining feature of Chinese institutional transformation (Chapter 4). The SEZs allowed a new set of market friendly rules to operate in the interstices of the planned economy, foreshadowing the broader transformation of the Chinese economy. Indeed China’s approach to the transition overall, including a fiercely independent resolve to pursue a reform program with “Chinese characteristics,” may plausibly be linked to the traumatic 100 years of encounter with the West.

In this and many other respects, China’s contemporary economy includes a rediscovery of the traditional. Did China’s traditional economy fail? It would be more accurate to say that the positive potential and achievements of China’s traditional economy were repressed for years. War, civil war, and

socialism seemed to make the traditional economy inadequate and irrelevant. From our contemporary standpoint, however, the traditional economy has rebounded. Commercial and entrepreneurial networks and behaviors, rooted in the past, have a new-found relevance and provide a positive legacy for the future.

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Suggestions for Further Reading

The historical literature on China is vast and extremely accessible. For a perspective on China's recent economic history similar to that adopted here, see Richardson (1999). An interesting anthology that brings together related themes from different periods of China's modern history is Kallgren et al. (1991). For a broad overview of Chinese history that is also eminently readable, see Spence (1999). Jung Chang's *Wild Swans* (1991) manages to capture an enormous sweep of Chinese history through a purely personal family memoir.

Sources for Data and Figures

Table 2.2: Kumar (1992). Length of Chinese Railroads from Rawski (1989, 208–09).

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