CHAPTER 1

ECONOMIC TRENDS IN THE LATE CH'ING EMPIRE, 1870–1911

There was little of the Chinese economy prior to the twentieth century that was not included within the agricultural sector or quite intimately connected with it.[1] The bulk of the following essay ought properly to be devoted to an analysis of the structure and development of Chinese agriculture in the nineteenth century and its implications for the rest of the economy. I have, however, while discussing agriculture first, given roughly equal attention to handicrafts, modern industry, trade and commerce, and the fiscal system. If these divisions are so obviously the customary ones, I can only plead my own limitations and the possible extenuation that – with honourable and increasing exceptions – the studies of China's modern economic history upon which I have had to rely for this survey are themselves conventionally descriptive works.

The treatment of material in all of the following sections is unavoidably selective. I have in each case focused on what was new or changing in the last five decades of the Manchu dynasty against a background which, until 1911 and long afterwards, remained a basically unaltered mix of the factors of production operating within a largely constant social context. This is not to imply that nothing of importance changed in the last century of imperial China. On the contrary, ideological and political storms uprooted the Confucian empire. Fundamental economic change and modern economic growth, however, did not come of their own momentum out of the late-Ch'ing economic system. They were pre-eminently the by-products of a new and possibly still tenuous political integration which itself was achieved only after decades of political strife, foreign invasion and civil war.

One must begin by reluctantly accepting that precise quantitative information of a global kind – as opposed to a fair amount of suggestive local and partial data – is not available and probably cannot be satisfactorily derived for pre-republican China. Nowhere is this more apparent

[1] The author gratefully acknowledges the support of the Committee on the Chinese Economy of the Social Science Research Council, and of the Center for Chinese Studies at the University of Michigan in the preparation of this essay.

than in the case of so fundamental a measure as national income. Table 1 reproduces, with modifications, the only attempt, of which I am aware, to estimate China's gross national product in the nineteenth century. The individual components were often arbitrarily arrived at, but it is doubtful whether substantial amounts of more reliable information can be assembled. These estimates roughly indicate the relative sizes in the 1880s of the several sectors of the economy.

TABLE 1

Estimated gross national product of China in the 1880s

Sector	Amount (1,000 taels)	%	
Agriculture	2,229,941		66.79
Nonagriculture	1,108,816		33.21
mining	47,800	1.43	
manufacturing*	128,000	3.77	
construction	30,000	0.90	
transportation	30,000	0.90	
trade	220,000	6.59	
finance	74,645	2.24	
residential housing	164,000	4.91	
government services	164,000	4.91	
professional, gentry and other services	241,313	7.23	
net income from abroad	11,258	0.34	
Total	3,338,757		100.00

* almost entirely handicraft.

Source: Chung-li Chang, *The income of the Chinese gentry* (1962), 296. The principal shortcomings of this estimate, apart from the admittedly critical data question, are Chang's probable overstatement of the share of gentry services, and the much more serious reliance on 1887 official data for the area of cultivated land. As I suggest in the next section, these data and thus the share of agriculture should be adjusted upward by at least one-third. This I have done and, leaving Chang's other components unchanged, I have accordingly recalculated the percentages.

AGRICULTURE

While there were changes in detail and alterations in the size or quality of certain components, the technology and organization of Chinese agriculture differed little in 1911 from what it had been in 1870. (Even into the 1930s it remained largely unchanged.) The principal changes were: a slow but perceptible population increase unaccompanied by an equivalent extension of cultivated land; a resulting decrease – particularly in North China – in the size of the average farm; changes in the pattern of crops grown, partly in response to the increasingly adverse man–land ratio and partly in response to new external market opportunities; the absolute and

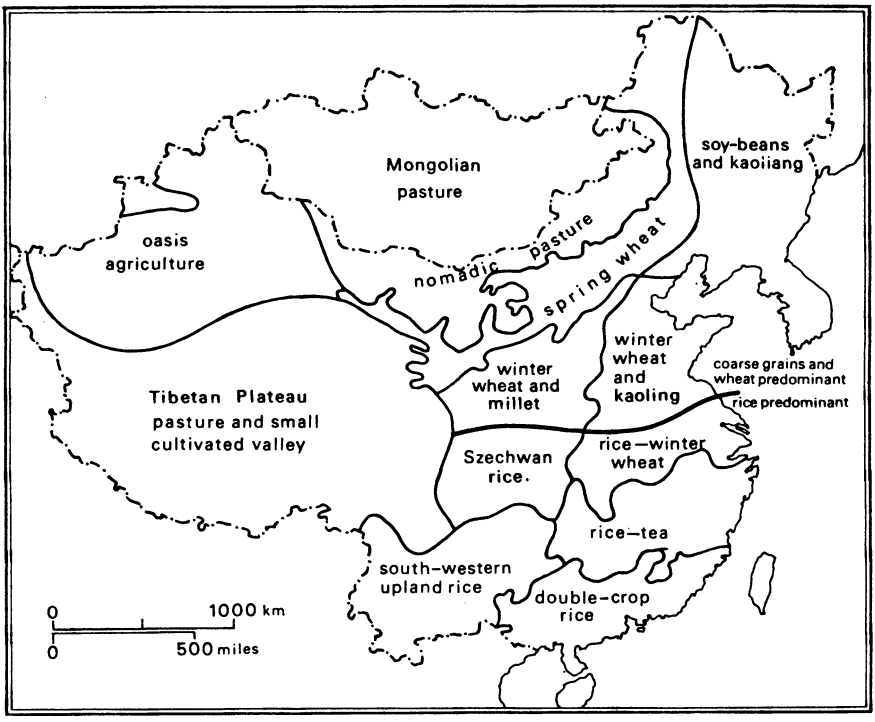
relative decline of cotton spinning as a peasant handicraft and a partial restructuring of the sources of rural non-agricultural income in response to this decline; some differentiation of land-holding patterns in the immediate hinterlands of the growing treaty ports from those of the bulk of the rural interior of China; and a completion of the process already long under way by which the distinction between various legal forms of land tenure was dissipated.

No useful demographic data for the last half of the nineteenth century are of course available. The official estimates for the 1840s put China's population at a little more than 400 million persons; these, it has been argued, while not accurate in detail are relatively good data.[2] The Taiping Rebellion and the other great mid-century uprisings not only resulted in substantial population losses, especially in central China, but also produced a breakdown of the refurbished *pao-chia* system which had collected the reasonably reliable population data for the period 1776–1850. 'The century between 1851 and 1949, despite the availability of various figures, is practically a demographer's vacuum.'[3]

There are, nevertheless, sufficient qualitative indications from which to assert, if not to measure, a slowly increasing population from the 1870s until the end of the dynasty. Migrations of population from provinces to the west and north which had not been so severely afflicted gradually repopulated the Yangtze valley provinces that the civil wars had ravaged. The last four decades of the Manchu dynasty were internally relatively peaceful and, compared to mid-century, prosperous. While the wars with France in 1884–5 and with Japan in 1894–5 were politically and diplomatically of great significance, they had no major demographic effect. The great famine of 1877–8 in North-West China and lesser but still serious famines in 1892–4 and 1900 unquestionably resulted in temporary population losses. Such crises, caused by drought and floods, had been endemic in the past and were experienced again in the twentieth century, for example in 1920–1, 1928, 1931 and 1935. They are inherent components of the demographic pattern characteristic of many 'underdeveloped' countries which combines a high but widely fluctuating death-rate and a high but relatively stable birth-rate to produce slow but substantial population increments.

But, how large an increment? C. M. Chiao and J. L. Buck have estimated from birth- and death-rates observed in 4,216 farm families from four provinces in 1924–5 that the rural population of China might possibly have grown at an average rate of 1.4 per cent per annum between the 1860s and

[2] Ping-ti Ho, *Studies on the population of China, 1368–1953*, 47–64. [3] *Ibid.* 97.



MAP. 2 Major crop areas

the 1920s.[4] Such a rate of increase, if uninterrupted, would have resulted in a doubling of the population during these seven decades, and on the face of it appears too high as an actual long-term average although it might have been valid in some areas for shorter periods. In 1934, the National Agricultural Research Bureau of the Ministry of Industry produced, from retrospective and thus tenuous data assembled by its crop reporters, an estimate of changes in the rural population and the area of farm land between 1873 and 1933 which I reproduce in table 2. A population increase of 17 per cent for the forty years 1873–1913, or an annual average of slightly less than 0.5 per cent, is suggested. Assuming a total population of between 350 and 400 million in 1873, by 1913 this total would have increased to between 410 and 468 million. Bearing in mind that the mid-century population was somewhat more than 400 million, that the Taiping and other civil wars resulted in severe population losses, and that the population of China in 1953, after many years of war and civil war, was enumerated at 583 million in the closest thing to a real census that China has ever

[4] C. M. Chiao and J. L. Buck, 'The composition and growth of rural population groups in China', *Chinese Economic Journal*, 2.2 (March 1928) 219–35.

TABLE 2

Index numbers of changes in China's rural population and area of farm land, 1873–1933 (1873 = 100)

	Population	Farm land
1873	100	100
1893	108	101
1913	117	101
1933	131	101

Source: Department of Agricultural Economics, National Agricultural Research Bureau, Ministry of Industries, *Crop reporting in China*, 1934, 48–53.

experienced, these estimates for 1873 and 1913 are at least not unreasonable.

The National Agricultural Research Bureau's respondents, as table 2 indicates, reported that the farm area in their several localities showed no increase comparable to the slow but continuing population growth which occurred. The resultant worsening of the man–land ratio is reflected in the historical data on average farm size shown in table 3, collected by J. L. Buck's field investigators for his monumental land utilization study. Buck's respondents overwhelmingly attributed the reported decreases in average

TABLE 3

Changes in the size of farms, 1870–1930

Regions, areas and locations	Number of locations reporting	Average crop area per farm (hectares)			
		1870	*1890*	*1910*	*1930*
China	55	1.37	1.35	1.06	0.92
wheat region	29	1.75	1.77	1.32	1.10
rice region	26	0.67	0.81	0.77	0.72
Wheat Region Areas					
spring wheat (Kansu, Tsinghai)	2	0.48	0.51	0.66	0.71
winter wheat–millet (Honan, Shansi, Shensi)	8	1.14	1.28	0.97	0.81
winter wheat–kaoliang (Anhwei, Honan, Hopei*, Kiangsu, Shantung)	19	2.19	2.18	1.53	1.26
Rice region areas					
Yangtze rice–wheat (Anhwei, Chekiang, Honan, Hupei, Kiangsi, Kiangsu)	15	0.77	0.99	0.84	0.79
rice–tea (Hunan, Kiangsi)	6	0.42	0.42	0.76	0.74
Szechwan rice (Shensi, Szechwan)	2	0.82	0.76	0.64	0.55
double-crop rice (Fukien)	1	0.58	0.54	0.55	0.53
south-western rice (Kweichow)	2	—	0.52	0.48	0.36

* Hopei province was, of course, called Chihli in the late Ch'ing period.
Source: John Lossing Buck, *Land utilization in China. Statistics*, 288.

farm size to increases in the population of their areas. In North China (Buck's winter wheat–kaoliang areas) the decline in average farm size was more striking than in central China (the rice–wheat and rice–tea areas). The difference is attributable to the much greater demographic losses from the Taiping Rebellion in the provinces south of the Yangtze River and the consequent temporary fall in the man–land ratio in Central and South China. As population migrated to these then relatively less-crowded provinces from more crowded areas, the man–land ratio rose and average farm size after 1900 slowly declined.

While it is certain that rural living standards between 1870 and 1911 did not improve, there is no conclusive evidence that population growth and declining average farm size were accompanied by a drastic secular fall in the peasant standard of living. The semi-annual official reports from the provinces to Peking on the quality of the summer and autumn harvests do indicate a definite downward trend in the course of the nineteenth century. It is reasonable to expect that some deterioration occurred during the catastrophic rebellions of the 1850s and 1860s as table 4 suggests. A continued decline after 1870, however, is not convincingly confirmed by the numerous reports of local crop conditions which appear annually in the *Reports and returns on trade* by the Imperial Maritime Customs. My suspicion is that the higher proportion of poorer harvests reported in the last decades of the dynasty in part reflects the efforts of the provinces to resist Peking's importunate demands for increased tax remittances, which are described below in the discussion of government and the economy. The depopulation attributable to the rebellions, moreover, could be called a Malthusian safety valve which temporarily reduced the inexorable pressure of population on land.

Conditions of individual farmers and of spatially separate localities of course differed widely, with the difference between survival and misery often depending upon uncertain weather, the rapacity of the local officials and the presence or absence of civil war and banditry in the locality. Overall, however, total crop production between 1870 and 1911 probably increased adequately to support the larger population. This increment was not due to any major changes in farm technology or organization. No important new crops or seed varieties (like corn and early-ripening rice earlier in the dynasty) were introduced in the second half of the nineteenth century. The middle decades of civil war, moreover, had seen a substantial destruction of capital stock which was only gradually replaced. Irrigation, water storage and control, and grain storage facilities were not extended or improved beyond their eighteenth-century levels. The increase in crop production was apparently the result mainly of a shift by farmers to crops

which yielded a larger amount of food or income per unit of land and at the same time required more labour for their cultivation. Crop shifts of this kind in the early twentieth century, as the man–land ratio continued to

TABLE 4

Percentage of chou and hsien in nine provinces reporting above normal, normal and below normal harvests, 1821–1910

	Number of reports*	Above normal	Normal	Below normal
1821	1,114	42.99	54.30	2.69
1825	1,192	46.47	51.67	1.84
1830	1,321	39.64	61.54	1.51
1835	1,229	20.17	65.58	14.23
1840	1,304	25.07	67.02	7.89
1845	1,306	29.24	63.93	6.81
1850	1,019	22.27	72.32	5.39
1855	979	14.09	65.67	20.22
1860	752	20.21	59.04	24.73
1865	1,087	5.79	53.81	40.38
1870	1,255	4.86	45.01	50.11
1875	1,308	6.19	53.66	40.13
1880	1,309	7.79	52.94	39.26
1885	1,246	6.26	49.51	44.22
1890	1,309	5.27	45.37	49.35
1895	1,243	3.94	45.29	50.76
1900	1,190	4.28	42.85	52.85
1905	1,198	4.00	43.24	52.75
1910	1,126	4.61	37.74	57.63

* For eight of the nine provinces both summer and autumn reports are included; the number of *chou* and hsien reporting is thus about half the number of annual reports

Source: Calculated from data in Li Wen-chih, comp. *Chung-kuo chin-tai nung-yeh shih tzu-liao ti-i-chi, 1840–1911* (Source materials on the history of agriculture in modern China, 1st collection, 1840–1911), 761–9, which are based on reports submitted in response to the following edict: 'An edict to the Hu-pu. Hereafter, in reporting the harvest results of the several provinces, use the following categories; eight *fen* [i.e., 80 per cent of a theoretical maximum] is to be taken as a rich harvest, six to seven *fen* as a normal harvest, and five *fen* or less as a poor harvest.' *Ta-Ch'ing Kao-tsung shun-huang-ti shih-lu* (Veritable records of the Ch'ien-lung Emperor of the Ch'ing dynasty), 339. 41a–b, 14 June 1749 (vol. 22, p. 5151 of Taipei reprint, 1964).

worsen, are shown in the data on trends in crop acreage between 1904–9 and 1924–9 collected by J. L. Buck's investigators and summarized in table 5. These indicate a progressive substitution of corn, sweet potatoes and sesame for barley, kaoliang and millet as food crops, and also an increase in such cash crops as cotton to supply the expanding mills of Shanghai and Tientsin. For the period 1870–1911, unfortunately, not even such imperfect although suggestive data are available; but if changes of this kind could occur amidst the political instability and civil war of the

early Republic, they are not implausible in the relative stability of the late-Ch'ing decades. Some partial clues are provided by an examination of trends in the exportation of agricultural products between 1870 and 1911.

TABLE 5

Trends in crop acreages between 1904–9 and 1930–3

	Number of localities reporting	Estimated percentage of total crop area*			
		1904–9	1914–19	1924–9	1930–3
Crops whose acreage increased or was unchanged					
broad beans	7	9	9	9	8
corn	22	11	14	16	17
cotton	29	11	14	18	20
opium	13	14	3	11	20
peanuts	18	9	8	11	11
rapeseed	5	15	21	27	28
rice	17	40	41	37	40
sesame	7	4	8	10	9
soy-beans	7	8	9	10	8
sweet potatoes	18	10	11	12	13
wheat	29	26	27	27	27
Crops whose acreage decreased					
barley	10	24	23	20	19
indigo	12	10	7	2	—
kaoliang	14	26	23	20	16
millet	15	22	18	17	17
sugar cane	10	7	6	5	6

* in the reporting localities
Source: Buck, *Land utilization*, 217.

In value terms, tea was China's most important single export until 1887 when it was overtaken by silk. The proportion of tea to total exports fell steadily from 54 per cent in 1871 to 18 per cent in 1898 and 11 per cent in 1906. While the decline in the absolute quantity of tea exported was far less precipitous, it does suggest that tea acreage did not increase during the four decades under consideration. The exportation of raw and manufactured silk as measured by both quantities and values increased throughout the four decades. This suggests the likelihood that additional land was devoted to growing mulberry and oak trees. In North China and Manchuria the leaves of oak trees fed the worms from whose silk 'pongee', an increasingly important export fabric, was woven.

From 1888 to 1919, with the single exception of 1899, China exported more raw cotton than it imported. This completely reversed the import surplus shown between 1870 and 1887 (except 1874). At first glance it

might appear that the growing exportation of raw cotton is a strong indication that the total cotton crop increased significantly in the last two decades of the Ch'ing. But matters were not in fact so simple. The increase in cotton exports was accompanied by a steady rise in raw cotton prices and by a simultaneous growing inflow of relatively inexpensive machine-spun yarn from India and Japan. The conjunction of these three trends suggests that cotton production did not expand or did not expand sufficiently to meet both domestic and export demand, that the resulting higher domestic prices of cotton and yarn induced weavers to purchase the cheaper imported commodity, and that in turn a reduced domestic demand diminished the inducement to increase raw cotton production.

One crop which definitely expanded in acreage during the last decades of the nineteenth century was opium. In value terms opium was China's largest single import until the mid-1880s. Opium and cotton goods together made up about two-thirds of China's imports in the 1870s and early 1880s; by 1898 the share of the two had fallen to about 50 per cent. This decline was entirely due to a decrease in the quantity (although not the value, which continued to rise) of opium imported, while cotton goods imports increased rapidly. The principal reason for the fall in the quantity of opium imports was the steady spread of domestic opium cultivation. Unfortunately no data are available with which to measure even roughly the area of land newly planted with poppy to replace the imported article. The significant price rises per unit at the very end of the Ch'ing and in the first years of the Republic were caused by market speculation in reduced quantity of the drug as the first step towards its *de jure* if not *de facto* suppression. The legal import trade was abolished at the end of 1917, while efforts to suppress domestic cultivation subsequently varied in success with the morals and financial needs of the local warlords in whose territories the poppy was grown.

Again, judging from data on the quantity and value of exports between 1879 and 1915, it appears possible that there was a substantial increase in crop acreage of soy-beans, rapeseed, sesame and peanuts. Before the 1890s the trade in these commodities was negligible. From the turn of the century, the value of bean products and vegetable oils exported shot quickly upward, the oils going largely to Europe where they were used chiefly in soap manufacture, and the beans and bean cake as well as oil to Japan. The chief producing and exporting area was Manchuria; the flow of population from North China to Manchuria after the Russo-Japanese War was possibly related to an important expansion of soy-bean cultivation. Moreover, efforts to suppress the opium crop in North China led farmers to increase their planting of beans, sesame and peanuts as a substitute cash

crop. On the other hand, important changes in domestic consumption patterns were taking place simultaneously which may suggest that the new bean and oil exports represented not so much an increased crop as a diversion to export of products hitherto consumed at home. From the 1890s there was a rapid increase in imports of kerosene, which replaced the more expensive vegetable oils used to make candles for illumination and other purposes. The remarkable growth in bean and oil exports, then, probably overstates the extent to which cultivation patterns were altered before 1900, although Buck's data give a strong indication, as we have seen, that the acreage of these and other cash crops did increase from the early twentieth century.

Only a very crude estimate of the production of major crops in a typical year at the end of the nineteenth century is possible. Data in the Kuang-hsu edition (1899) of the *Collected statutes* (*Ta-Ch'ing hui-tien*) on the area of land under cultivation – with some adjustments the official figure for 1887 is 847,760,554 *mou* – are imperfect in detail and in any case represent a substantial understatement of the actual cultivated area. The underlying unit of measurement in many localities was a 'fiscal' *mou* used to convert different grades of land to a single standard; some land reclaimed after 1712 had remained unregistered; and the property of the more powerful local elite was not always fully reflected in the tax rolls. The precise degree of under-registration is not known, but judging from J. L. Buck's 1929–33 agricultural survey findings, an upward adjustment by one-third would be quite conservative. Cultivated land (which I take as equivalent to the crop area) in the late-nineteenth century was then perhaps 1,130,344,579 *mou*. No comprehensive nineteenth-century data are available for the proportions of the total crop area planted in individual crops. If, however, the averages of Buck's 1929–33 percentages and those for 1931–7 by the National Agricultural Research Bureau are adjusted for the changes between 1904–9 and 1930–3 shown in table 5, an approximation of the situation in the last decades of the dynasty is possible. Based on these estimates, table 6 presents at least a plausible guess as to the output of major crops in the late-nineteenth century.

The fate of cotton spinning, the most important single rural handicraft in the nineteenth century, is discussed in the following section. In the relatively 'developed' lower Yangtze area (and possibly in Kwangtung as well), where commerce and manufacture were most advanced and where the impact of foreign trade was most substantial, the post-Taiping decades saw an increase in absentee landownership, representing the investment of commercial profits by successful merchants, brokers and compradors. Absenteeism in this sense is to be distinguished from the fact that the great