

Methodological paper China 1800

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At this point, the database China 1800 is in a preliminary state.

Sources for population figures

Population figures in the Qing dynasty (1644-1911) are first and foremost tax figures. Although such figures are available on a year-to-year basis for nearly all regions of China proper, they do not reflect actual figures, because taxation quotas were frozen early in the Qing dynasty. For instance, the taxed population in 1650 was 10.6 million¹, whereas the actual population at this point is estimated between 88 and 130 million². Moreover, children were not taxed and therefore not included in the registers, and migrants, even such who had migrated generations ago, as a rule were registered in their region of origin, not of actual residence. In an effort to revitalize the mutual control system on the village level, *baojia*, the Qing emperor in 1775 demanded that actual figures be included in the tax registers, and this was carried out to a certain extent and believed to have „some empirical basis.“³ Other yearly figures that seem more reliable are those for 1743 and 1808.⁴ Therefore, I give the aggregated data for 1775 (264 million) and 1808 (350 million), but at the same time also operate with the estimates that refer, roughly, the „pre-1840“ era, which I understand to refer to 1800 to 1840 (with a range of 350 to 420 million).

Other sources for the study of demography are household registers and genealogies. While household registers include more complete coverage, they require great efforts for data entry and linkage⁵, and most of all for aggregation.

Estimation of the total population, gender and age distribution in 1800

Population figures in the eighteen provinces of China proper, with estimation of age structures

¹ Liang Fangzhong, p. 248.

² Lavelly and Bin Wong, p. 717.

³ Lavelly and Bin Wong, p. 718.

⁴ Lavelly and Bin Wong, p. 718, with reference to G. William Skinner, (1987). “Sichuan’s Population in the Nineteenth Century: Lessons from Disaggregated Data,” *Late Imperial China*, 8.1:1-79.

⁵ Lee and Campbell, p. 225.

Province	Population 1776	Estimated population, age 0-14, 35% of total	Estimated population, age 15-60, 58% of total	Estimated population, age >61, 7% of total
Gansu	15,068,473	5,273,966	8,739,714	1,054,793
Shaanxi	8,193,059	2,867,571	4,751,974	573,514
Shanxi	12,503,415	4,376,195	7,251,981	875,239
Zhili	20,567,175	7,198,511	11,928,962	1,439,702
Shandong	21,497,430	7,524,101	12,468,509	1,504,820
Henan	19,858,053	6,950,319	11,517,671	1,390,064
Hubei	14,815,128	5,185,295	8,592,774	1,037,059
Hunan	14,989,777	5,246,422	8,694,071	1,049,284
Jiangxi	16,848,905	5,897,117	9,772,365	1,179,423
Anhui	27,566,929	9,648,425	15,988,819	1,929,685
Jiangsu	28,807,628	10,082,670	16,708,424	2,016,534
Zhejiang	19,364,620	6,777,617	11,231,480	1,355,523
Fujian	11,219,887	3,926,960	6,507,534	785,392
Guangdong	14,820,732	5,187,256	8,596,025	1,037,451
Guangxi	5,381,984	1,883,694	3,121,551	376,739
Yunnan	3,102,948	1,086,032	1,799,710	217,206
Guizhou	5,003,177	1,751,112	2,901,843	350,222
Sichuan	7,789,791	2,726,427	4,518,079	545,285
TOTAL	267,399,111	93,589,689	155,091,484	18,717,938

The 1776 population figures are taken from Shepherd, p. 430, Appendix D, Table D3⁶. The age structure is roughly estimated on basis of the values cited by Naquin and Rawski, p. 110: the age structure in traditional China is assumed to be about 35% for the population between age 0 and 14, 58% between 15 and 60, and 7% at age 61 and over. Naquin and Rawski further point out that the official gender ratios are generally biased, with proportions of 120 men to 100 women. Women were certainly underreported, but it is probable that in 1800 fewer women than men lived in China. Assuming a rate of 110 to 100, as in Japan 1804, the 1776 Chinese gender ratios in absolute figures are 140,066,201 men and 127,332,910 women. If the adult population between 15 and 60 is roughly taken as the economically active population, the total of 155,091,484 economically active people consisted of 81,238,397 men and 73,853,088 women.

The official total for the year 1808 is 350,291,724 persons⁷, which, assuming a ratio of 110:100 results in 183,486,141 men and 166,805,583 women, and accepting the rate of 58% for those between age 15 and 60, 106,421,962 men and 96,747,238 women.

⁶ Based on figures in *Qingchao wenxian tongkao*, chap.19 (Commercial Press edition, 1936).

⁷ Liang Fangzhong, p. 252, citing the Veritable Records of the Emperor Renzong, *Qing shilu*, *Renzong shilu*, chap. 77.

The increase between 1776 and 1808, 82,892,613 people, in case of linear growth, would be an annual 0,847395%. The official statistics, however, show large leaps and bounds between single years which can hardly be accounted for, even granting losses due to major uprisings (White Lotus) in the 1790s. Taking the linear growth rate, the population figure in 1800 would amount to 327,425,413. The official statistics record 295,237,311.⁸

The Guo Songyi estimate of occupational structures

In view of the large population figures and the socio-economic diversity of the Qing empire, overall figures can hardly be meaningful except for very broad comparisons. As a point of departure, we offer here a rough estimate of the occupational and status groups of China proper that has been set up by Guo Songyi.

In trying to apply it to our database, these estimates pose several difficulties:

- they refer to a point in time when the population was at 400 million. This mark was first reached, according to the official statistics, in 1835; calculating a linear population increase of 0.847395% annually as between 1776 and 1808, this point would be reached in 1825.
- they refer to percentages of the total population and give absolute figures; both do not tally in all cases.
- Guo Songyi's definitions of general labour participation (50.5%), female labour participation (one fourth to one half of the male participation), and the gender ratio he assumes (100 women to 113 - 119 men) all are debatable. The latter, however, play no role for his general outline.

Since this is the most comprehensive occupational overview that I have come across, I take it as a point departure and set it off against and add further known figures and estimates to the residual category in his scheme.

Basically, Guo Songyi assumes that 90% of the population were farmers, their families and dependents, and 10% were non-farming. The non-farming part is further subdivided as follows:

⁸ Liang Fangzhong, p. 253, citing the Veritable Records of the Emperor Renzong, *Qing shilu*, *Renzong shilu*, chap. 205.

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Occupations and branches	Percentages		Conversion to absolute population figures, including family members and dependents, ca. 1830s	
			Min.	Max.
Agriculture	90%		350,000,000	360,000,000
Non-agriculture	10%		35,000,000	36,000,000
Non-agricultural occupations		Percentage of total	35,000,000	36,000,000
Cattle breeders 牧民占 8%	8%	0.8%	2,800,000	2,880,000
Salt makers 盐灶人户占 10%	10%	1.0%	3,500,000	3,600,000
Artisans, miners, shipbuilders 手工艺匠、矿工、船工等占 15%	15%	1.5%	5,250,000	5,400,000
Merchants 商人、小摊贩 12%	12%	1.2%	4,200,000	4,320,000
Land owners, notability, civilian officials 地主、绅士（包括在任官员等）占 20%	20%	2.0%	7,000,000	7,200,000
Military and low-hierarchy government service 兵弁吏役 10%	10%	1.0%	3,500,000	3,600,000
Migrants and hired labour 游民和各种待雇求食者 20%	20%	2.0%	7,000,000	7,200,000
Fishers, hunters etc. 如狩猎采集者、渔民等等）约为 5%	5%	0.5%	1,750,000	1,800,000

Addition and complementation of the Guo Songyi estimate

As in the Japanese case, the question is to what extent farming families were working for the market and whether and to which extent agricultural wage labour applied in agriculture in 1800. The wide range of the estimates leads to much larger numerical consequences for China, which had about the tenfold population of Japan in 1800.

☉ Three quarters of agricultural labour for self-subsistence (Lab-rel 4 and 5), one quarter for the market (Lab-rels 12): This is the ratio estimated by Ramon Myers and Wang Yeh-chien, and I tentatively apply it for this comprehensive outline.⁹

☉ Tenancy, hired labour, and agricultural bondservice:

Within agricultural labour as these relations, particular kinds of wage labour need to be assigned to Lab-rel 14 („free“ wage labour) and unfree types, belonging to the lab-rels 15, 16, and 17.

As William Rowe points out, tenant-serfs (*dianpu* 佃僕) were „remnants of the manorial economy (*zhuangyuan* 莊園) that had flourished in the Song (960-1279) and Ming (1368-1644).” This system was “mostly swept away by the cataclysm of dynastic change, but some

⁹ Ramon Myers and Wang Yeh-chien, p. 643,

servile tenancy survived in concentrated pockets from Henan to Guangdong, most notably in several Yangzi valley areas such as Anhui's Huizhou prefecture or parts of Jiangnan [Yangzi Delta].¹⁰ Rowe cites a figure of 200,000 persons in Huizhou alone, forming a considerable percentage of the prefecture's overall tenant population. However, if aggregated onto the level of the entire Chinese population in 1800, the percentage of bonded labour, at least in agriculture, cannot have been large. Adding up all the cases and place names which Martin Heijdra cites for the Ming,¹¹ and assuming a population of 200,000 for each of these, we arrive at 1.8 million. Legally, the manor-servant system (*zhuangpu zhi* 莊仆制) was abolished, and the manor servants or serfs were given the status of commoners (*liangmin* 良民) in 1727 by imperial edict.¹² Yet McDermott insists that not only had the system not quite disappeared by 1800, it also changed its connotations, and now referred to tenants – at least in the agricultural context. Moreover, bondservice was not confined to agriculture. It was a complex and heterogeneous system of obligations and duties, in a variety of grades of unfreeness. In late eighteenth-century Suzhou prefecture, one observer stated a figure of twenty to thirty percent of both the rural and the urban population as being bondservants. This very likely refers to tenants and house servants. McDermott, who cites this evidence, asks „can we be far wrong in concluding that field servants could have accounted for no more than 20 percent of the total rural population? This estimate would have the merit of recognizing the reported late Ming practice of using more bondservants than needed, that is, more than the 20 to 30 percent needed by the large landlords.“¹³ However, few historians today would argue for a percentage of as high as 20 percent of bondservice in agriculture for 1800, but for much less than that. I tentatively apply a rate of 1 percent, which amounts to about 1.9 million, and deduct it from the 90% of agricultural labour (Lab-rel 16).

◎ Banner bondservants: For the context of the Qing dynasty, it is still important to mention that the military elite of the banner people, who as such were not entirely free to chose their abode and work either, commanded bondservants in the range of two to three employees per bannerman. Such bondservants staffed, for instance, the Imperial Household Department, and bondservants' daughters were recruited as maids in the Imperial Palace. In principle, the bondservants represented the lower strata of the Manchu population and theoretically were

¹⁰ Rowe, p. 496.

¹¹ Heijdra, p. 528: Huizhou, Ningguo, and Chizhou prefectures in Anhui; Macheng district in Hubei; Taihe in Jiangxi; Nanhai in Guangdong; Nanyang in Henan; Jiangzhou (present day Xinjiang) in Shanxi; and Leiyang in Hunan prefecture.

¹² Shi Qi and Fang Zhuofen, p. 134.

¹³ McDermott, p. 690.

not allowed to marry out of their status group with other banner groups.¹⁴ A strong hierarchy applied within the bondservant group. The highest bondservants could rise to important government positions and acquire great wealth, while the lowliest performed menial tasks in the imperial estates (especially the Han Chinese) and palaces (more Manchu and Mongols). Elliot quotes a figure (for 1720) of 239,494 registered male bondservants in the service of the Banner people. Assuming one additional worker for every bondservant (from among their wives and children), the banner people-bondservant workforce adds up to about 500,000 (Lab-rel 18).¹⁵

Hired labour and tenancy both carried characteristics of bonded labour. Within the natural, self-sustaining economy, the „normal“ case was being considered the household farm where all family members contributed their share to reciprocal labour. If poverty reduced a farming household to the stage of renting land or hiring out labour to a land owner, this was stigmatized at least during the Ming dynasty, even if since the late sixteenth century, the legal status of the hired labourers was gradually upgraded.¹⁶

Since land ownership is no category within our taxonomy, we can confine ourselves to stating that during the Guangxu era (1875-1908), tenants constituted 50-60 per cent of peasant households in the south and 30-40 per cent in the north.¹⁷ Presumably, the percentage of tenancy was lower in 1800. **CHECK FURTHER.**

Free wage labour in agriculture around 1800 still stood in a transitional phase between being thought of as half-bonded and an increasing degree of „freedom“. While the short-term labourers (usually those who worked for shorter than ten months for an employer) had already been set into the status of „good civilians“ (*liang min*) in the late Ming (1587), it took until 1788 when the long-term or permanently hired labour was also “emancipated” in the sense that they could leave their employer on their own volition and legally stood on equal terms.¹⁸ Chinese historians frequently point to the fact that judicial records on lawsuits between hired labourers and their employers increased in the course of the eighteenth century, and especially in the late eighteenth century, showing that the rights of the hired labourers, especially for

¹⁴ Rawski, p. 168.

¹⁵ Elliott, p. 199, table 2.2, figures for 1657 and 1720.

¹⁶ McDermott, p. 679.

¹⁷ Shi Qi and Fang Zhuofen, p. 133. Compare the general rates R.H. Tawney, p. 34, gives for 1918: 50% of the peasants were occupying owners, 30 % were tenants, 20% owned part of the land while renting the remainder. The regional differences were great: In the northern provinces Shaanxi, Shanxi, Hebei, Shandong, Henan, ownership was between 65 and 69%, in the central and southern Jiangxi, Hunan, Guangdong between 31.8 and 27%.

¹⁸ Fang Xing, p. 3

choosing and changing their employment, were enhanced.¹⁹ Historians agree, however, that aggregated evidence for agricultural hired labour is still relatively scarce. Short-term hired labour must have been much more common than the permanent variant; regionally, hired labour was more widespread in South than in North China. The figures which R. H. Tawney quotes from John Lossing Buck for the 1930s are at less than twenty percent of agricultural labour on average for the 2,866 farms in 17 locations in east, central, and north China which Buck and his team had investigated.²⁰ I tentatively set the rate of agricultural labour at 8 percent in 1800. However, this needs to be divided into an estimated 2 % who permanently work as hired farm hands (Lab-Rel 14), and 6% who occasionally, during the three most busy months of the agricultural season, work as hired farm hands, and work on their own (Lab-Rel 12) for the remaining part of the year (Lab-Rel 12).

☉ Hired labour in urban manufacture: Fang Xing estimates a rate of 20% of hired labour in urban manufacture in the Yangzi Delta, the wealthiest and most densely populated region.²¹ While such a figure may apply for the large manufacturing cities, it is certainly too high as a grand total for the entire Qing empire. Rozman also assumes a higher rate of hired labour in urban manufacture in China than in Japan.²²

☉ Workshop sizes in urban manufacture. R. H. Tawney, referring to the Peking social survey carried out by Gamble and Burgess between 1917 and 1919, cites their figure of 34 guilds, consisting of some 107,000 members, including masters, journeymen, and apprentices.²³ The statuses of 90,000 members could be verified, and resulted in the following breakdown: 10,000 (11.4%) masters, 58,000 (64%) journeymen, and 22,000 (24.6%) apprentices. These figures seem very low for masters and very high for journeymen and apprentices. It is amazing that no number for individual craftspeople who had no help or less than three journeymen and apprentices, is given. Tawney further points out that the numbers of journeymen and apprentices per master ranged from 0.9 for the shoe-makers to 106.6 among the silk-dyers, and stresses that generally the undertakings were usually small, so that in ten out of the 25 investigated crafts the number of journeymen and apprentices per master was less than ten, and in only five over twenty. This range per se is not improbable for 1800. I tentatively set the relation at Lab-rel 12 (self-employed) 50%, Lab-rel 14 (employed) 30% and Lab-rel 15 (indentured labour, i.e. apprentices) at 20%. 参照来看，如果我们把手工工人的人数定在五十至六十万上下 **MORE INFO NECESSARY**.

¹⁹ Shi Qi and Fang Zhuofen, p. 142. Wu Liangkai. Fang Xing.

²⁰ John Lossing Buck, *Chinese Farm Economy* (Commercial Press, Shanghai, 1930) pp. 231-237.

²¹ Fang Xing, p. 6.

²² Rozman, p. 83.

²³ R.H. Tawney, p. 114/115.

The absolute and percentual figures which Guo Songyi cites here do not tally. He quotes an absolute figure of 500,000 to 600,000 craftspeople and groups them together with miners and shipbuilders, estimating a percentage of 15 of the non-agricultural occupations, or 1.5% of the total occupations. In absolute figures, for the 1830s, this would be 5.2-5.4 million. Reducing the 5.2 to 5.4 million to those between 15 and 60 (58%) results in 3,016,000. Deducting the craftspeople, even the higher figure, from roughly 3 million, would result in 2.4 million of shipbuilders and miners. **This is certainly too high and needs to be revised. The adjustment will be made with the next revision of the database.**

☉ Military: Shepherd quotes the following, more precise figures for the military²⁴: Total 881,937; Banner forces, 1825: 282,763 men; Green Standard forces, 1785: 599,174 men. This roughly tallies with Guo Songyi's range of 1 percent of the population, if we include other low-level government servants, such as runners, goalers, and police personnel. The Banner forces²⁵ were the elite troops of the Manchu government. They consisted of Manchus, Mongolians, and those Han Chinese who had surrendered to the Manchu in the early seventeenth century before they had conquered the entire Chinese territory. They are also referred to as the „Eight Banners“. Originally, these were the closest followers of the Manchu rulers, and ethnic Manchu only; later, their numbers were extended into twenty-four banners, eight for each ethnicity.²⁶ The figures of 850,000 and 1.6 million banner forces which Mark Elliott estimates for the early eighteenth century, include women and bondservants. He gives a total of between 2.6 and 4.9 mio banner population, counting three dependents per banner man.²⁷ At this point, these figures can't be reconciled with the much lower totals for banner forces and Green Standard forces of approx. 900,000. For the moment, we keep to the Guo Songyi/Shepherd total (1% of the population, which amounts to 4 million people in the 1830s, about 3.2 million in 1800), which can also include a 500,000 bondservant workforce.

The Green Standard forces²⁸ were local militia, under the leadership of local elites²⁹, for the most part in Central and Southern China, and provincial troops consisting of the soldiers of the preceding Ming dynasty which had surrendered after the Manchu-Qing conquest.

☉ Rozman in his comparison of urbanization in China and Japan moreover gives a quote of 0.5% for priests and their families in both China and Japan.³⁰

²⁴ Shepherd, p. 433, Table D.6 "Military Presence in Late Eighteenth-Century China by Province".

²⁵ Designated according to the colours and patterns of their flags: Yellow, white, blue, red, plain and bordered.

²⁶ Naquin and Rawski, p. 4.

²⁷ Elliott, p. 117.

²⁸ Naquin and Rawski, p. 11.

²⁹ Naquin and Rawski, p. 11.

Setting out from the Guo Songyi percentual estimate, projecting it back to the population and economically active figures for 1800, and assuming a male-female ratio of 110:100, we arrive at the following figures.

		Type activity
Total population 1776 (official census)	267,399,111	P
Total population 1808 (official census)	350,291,724	P
Calculated total population 1800	327,425,413	
Total : 210	1,559,169	P
Men 110	171,508,550	P
Women 100	155,916,863	P
Population age 0 to 14 (35%)	114,598,895	Not working
Population age 15 to 60 (58%)	189,906,740	E
Population age 61 to 99 (7%)	22,919,779	Not working
Total: 210	904,318	
Men 110	99,474,959	E
Women 100	90,431,781	E

A first estimate of labour relations in China 1800, based on Guo Songyi, Rozman, et al.

Occupations and branches	Percentages	Percentage of non-agricultural occupations	Absolute figures in 1800		Labour relations
			Total population	Between age 15 and 60	
Agriculture	90%		294,682,872	170,916,066	
<i>Agriculture, reciprocal and self-employed</i>	81%		265,214,585	153,824,459	Lab-rel 405: 75%, Lab-rel 12:25%
<i>Agriculture, bonded</i>	1%		3,274,254	1,899,067	Lab-rel 16
<i>Agriculture, permanently hired</i>	2%		6,548,508	3,798,135	Lab-rel 14

³⁰ Rozman, p. 90.

<i>Agriculture, temporary hired</i>	6%		19,645,525	11,394,404	Lab-rel 14:25%, Lab-rel 12:75%
Non-agriculture	10%		32,742,541	18,990,674	
Cattle breeders 牧民占 8%	0.8%	8%	2,619,403	1,519,254	Lab-rel 405: 75%, Lab-rel 12:25%
Salt producers 盐灶人户占 10%	1.0%	10%	3,274,254	1,899,067	Lab-rel 12
Artisans, miners, shipbuilders 工匠、矿工、船工等占 15%	1.5%	15%	4,911,381	2,848,601	
Artisans, miners, shipbuilders, self-employed: 45%			2,210,121	1,281,870	Lab-rel 12
Artisans, miners, shipbuilders, employers: 5%			245,569	142,430	Lab-rel 13
Artisans, miners, shipbuilders, hired labour: 30%			1,473,414	854,580	Lab-rel 14
Artisans, miners, shipbuilders, self-employed, apprentices 20%			982,276	569,720	Lab-rel 15
Merchants 商人、小摊贩 12%	1.2%	12%	3,929,105	2,278,881	
Merchants, self-employed: 45%			1,768,097	1,025,496	Lab-rel 12
Merchants, employers: 5%			196,455	113,944	Lab-rel 13
Merchants, hired labour: 30%			1,178,731	683,664	Lab-rel 14
Merchants, apprentices: 20%			785,821	455,776	Lab-rel 15
Land owners, notability, civilian officials 地主、绅士（包括在任官员等）占 20%	1.5%	15%	4,911,381	2,848,601	
Land owners, notability, affluent				748,601	Lab-rel 2
Land owners, notability, employers				1,000,000	Lab-rel 13
Civilian officials (Rozman)			400,000	100,000	Lab-rel 18
Bureaucratic sub-elite (Rozman)			4,000,000	1,000,000	Lab-rel 18

Military and low- echelon government service 兵弁吏役 10%	1.0%	10%	3,274,254	1,899,067	Lab-rel 18
Migrants and hired labour 游民和各种 待雇求食者 20%	2.0%	20%	6,548,508	3,798,138	Lab-rel 14
Fishers, hunters etc. 狩猎采集者、 渔民等等约为 5%	0.5%	5%	1,637,127	949,534	Lab-rel 405: 75%, Lab-rel 12:25%
<i>Priests</i>	<i>0.5%</i>	<i>5%</i>	<i>1,637,127</i>	<i>949,534</i>	Lab-rel 7, 18

In italics: additions by the compiler from other sources than Guo Songyi

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