Why Was the Factor Market So Weak in pre-Opium War China?

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The issue that given the growth possibilities, why China did not manage to become a capitalist economy before the Opium War (1840) has been one of the most debated points in Chinese economic history. This paper argues that China's 'problem' was deeply rooted in the structure of the economy. Such a structure was fundamentally of the customary type with which trade took place mainly in the form of agrarian surplus. The main evidence is from China's GDP accounting.

1. Nature of China's material wealth and three components of the economy

China's material wealth and its market size and dynamics were noticeable to the outside world since Marco Polo (*c.* 1254–1324). The real boost of information about China to the Europeans, however, took place when the textiles/porcelain for silver trade became formalised and regularised via Manila known as the 'Manila Galleon Trade' from 1565 to 1815 (Boxer 1970). Under the galleon trade, China supplied the world with porcelain and silk in exchange for hard currency in the form of silver mined from the New World and Japan, as Schurz states (Schurz 1985: 68), 'the Chinese were not buyers, but sellers, and they demanded silver in exchange for their goods'. According to H. B. Morse, from 1699 to 1751 over 90 percent of the British exports to China took the form of silver (Morse 1926–9: 307–13).

It is commonly accepted both within and outside China that as much as one-third of New World silver was exported to China (Ni and Xia 1990; Flynn and Giraldez 2002). The sheer capacity of China's supply of textiles

and porcelain, its appetite for foreign silver and the resultant silver standard in China were remarkable. It is thus not surprising that Adam Smith famously praised China in 1776 when the British Industrial Revolution was under its way his *An Inquiry into the Nature and Causes of the Wealth of Nations* that 'China has been long one of the richest, that is, one of the most fertile, best cultivated, most industrious, and most populous countries in world' (ch. 8), and 'China is a much richer country than any part of Europe, and the difference between the price of subsistence in China and in Europe is very great' (ch. 11, pt. 3). Recent work also concluded that until the early nineteenth century the Chinese living standards at least in well-to-do region such as Jiangnan were comparable with those of the most affluent parts of Western Europe (Pomeranz 2000; Hubson 2004).

A common pitfall, however, is that one tends to assume from China's material wealth and foreign trade performance that it had, by and large, an empire-wide market which was well-integrated with a high degree of commercialisation. In reality, this was not the case. China fell behind Western Europe in what we generally called the 'marketisation' and monetisation of the economy.

First of all, there is no agreed figure for China's net total intake of foreign silver due to incomplete data. As far as we can tell, the annual silver output form the New World (Brazil, Mexico, Peru, Potosi and Chile) produced in all 102,254 metric tons of silver from 1521 to 1800, or 145,410 tons from 1521 to 1875 (Soetbeer 1879: 60, 70, 79, 82–3, 92 and Table 1; see also Austria Finanzministerium 1903–5). One-third of it, the amount assumed to have ended up in China by trade, was thus 34,100 tons (by 1800) to 48,470 tons (by 1875), counting the New World silver only. In another account, from 1741 to 1910, the world silver output totalled 745,000 million ounces, or 23,171,735 tons (Vilar 1976: 331).Thus China's share

would have been 7,723,910 tons from the whole world from 1741 to 1910. Alternatively, one can count the Mexican silver output alone which is 44,838 tons from 1521–1800, or 76,205 tons for 1521–1875. One-third of it is thus 14,946–25,400 tons. The discrepancies are huge. It is important to clarify the amount of silver imported to China because it was one of the key indicators of China's commercial growth.

A better approach is to look at China's own record. Some estimates suggest that around 200–300 million pesos were imported to China from 1571 to 1760/1821 (Qian 1986; Zhang 1998: 327). Given that one million pesos weight 24.45 metric tons, this is only 4,890–7,335 tons of silver, or 4.8–7.2 percent of the New World output from 1521 to 1800. This is the most pessimistic amongst all estimates.

According to another source, from 1571 to 1644 the total amount of silver received by China has been estimated at 53–100 million pesos (or 1,295–2,445 tons, averaging 1,870 tons) (Liang 1989: 178–9). Later, during 1700 to 1840, the West was responsible for exporting 6,340 tons of silver to China (Zhuang 1995: 71). These make a total of 8,210 tons of silver. In between, in the second half of the sixteenth and the first half of the seventeenth centuries, Japan became an important silver supplier to China of 122–223 tons a year with a minimum of 6,100 tons (Quan 1993: 8; Reid 1993: 27).[1] Altogether, China imported 14,310 tons of silver. If the Japanese silver is excluded, it is just 7.8 percent of the New World output (1521–1800).

In the third account, from 1721 to 1886, China's net import of silver has been estimated at 747 million Mexican pesos, or 18,264 tons (Lin 1991: 11). This would make 12.5 percent of the New World output (1521–1875).

[1] One estimate for China's intake of the Japanese silver is only 48.9 million *liang* (1,833 tons) (Zheng 1994: 83).

One thing is for sure, no matter which way we look at it, China does not match one-third of the world output of the metal.

Now, amongst Chinese figures of 8,210 tons and 18,264 tons as the estimated silver imports from the West, the closest match is one-third of the afore-mentioned Mexican silver output, at 14,946–25,400 tons. The point is that the Mexican output was only 14.6 percent (1521–1800) or 17.5 percent (1521–1875) of the New World's total.

A recent and more realistic estimate of China's net intake of foreign silver from the sixteenth and seventeenth centuries puts a figure of 150 million *liang*, or 5,595 metric tons, taking the outflow of 29 million *liang* during 1800–1830 into account (Wu 2001: 33, 287).[2] This means that a proportion, 31.9–69.4 percent, of China's imported silver was eventually re-exported to other economies, still a huge discrepancy. This matched the pattern of the opium trade from the eighteenth to the nineteenth centuries (Brook and Wakabayashi 2000: chs 1, 3, 7, 13 and 14).

At this point, it raises the doubt of just how much the Qing economy was truly 'silverised' (von Glahn 1996). Indeed, the most cited evidence of the Ming 'One-whip Method' only resulted in some 40 percent of silver payment with 60 percent paid in the old forms of goods (Wu 2001: 220, 222). Thus, the command component of the economy, which constituted an insignificant proportion of China's national economy, was unable to be fully monetised, let alone silverised. Likewise, evidence suggests that in Hubei and Suzhou during the mid-nineteenth century the rent *per se* was always paid in kind, although rent deposit payable to the land owner was paid in currency (mainly

[2] This is barely 5.5 percent of the output-based estimate (102,254 tons) for the New World silver. But it seems not too far from the reality as the total registered silver deposit in 1933 was 146.2 million *liang* (Gao 2000: 103). Thus, higher estimates – up to one billion pesos (24,450 tons) – should be regarded as too high (e.g. Ye 1963: 71).

bronze coins) (Tian 1997: 48–54, 62–3, 291–7). So, the customary economy did not use money extensively.

Secondly, not all the silver was in constant circulation to facilitate market activities. According to the Ming regulations, eight million *liang* of silver should be reserved all the time in the Imperial Treasury (Wu 2001: 224). This figure increased under the Qing as seen from the Qing official data for silver reserve held by of the Imperial Treasury, taking up a considerable share from in China's aggregate silver supply. The following are figures of over the period from 1667 to 1774 years (Lü 1984):

	Average per year (million *liang*)
1667–77	10.7
1678–88	20.0
1691–98	39.5
1703–13	51.7
1714–24	38.0
1725–35	47.9
1736–46	32.7
1747–57	31.9
1758–68	50.3
1769–74	75.8
Average	39.9

With the deduction of silver reserves, the amount of silver in circulation would have to be more limited than one might think: only 70 percent of the 150 million *liang*. So, the 'active silver' in the economy was in the region of 100 million *liang*.

This means that either the velocity of silver circulation of this 100 million *liang* was very high to compensate the meagre supply of the monetary metal. Or, the Chinese domestic market had other means to facilitate day-to-day market exchange. Given the fact that China's indigenous base metal currency in the form of bronze coins continued to exist in large quantities until the end of the Qing,[3] a bi-metallic system must have been in place. Also contributing was the fact that mint coins were more uniform than imported silver and hence bore lower transaction costs.

Bear in mind, the market was only one of three distinctive components in the economy, the other two being the command economy and the customary economy (Deng 2003). More importantly, the market was not the mainstream component in China. It is estimated that by the Opium War China's aggregate value of all commodities was in the region of 350–388 million *liang* (Liu and Wang 1996: 73; Wu 2001: 149), roughly one *liang* per head for the population.[4] At the end of the nineteenth century, China had in all 25,000 to 30,000 rural markets/fairs, (Xu 1997: 24) together with 3,277 urban markets (Skinner 1977: 298).

This 350–388 million *liang* of commercial GDP would be thinly shared at 10,520–11,660 *liang* of business per market per year. If so, the 100 million *liang* may not have been able to cope with the market monetary demand. Later, we will see that even this 100 million *liang* was not all needed for market exchange: silver had another mission in China.

Back to the total commercial GDP: it had to be a small proportion of China's total GDP of 3,178.5–3,496.4 million *liang* for the 1830s which is estimated by the following simple formulae:

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[3] In the period of 1742–73 the total supply of mint bronze coins totalled 966 million, worth roughly one million *liang* of silver at the current price (Wang 1985: 207), not trivial by any standard. On average 32,200 coins were shared by each of the 30,000 rural markets.
[4] Wu Chenming's earlier estimate was lower than 300 million *liang* (Wu 1983: 109).

$$\Sigma_{GDP(i)} = 1/\alpha\Sigma_{A(i)}$$
$$\alpha\Sigma_{A(i)} = 1/\beta\Sigma_{F(i)}$$
$$\beta\Sigma_{F(i)} = \pi\varepsilon\Sigma_{P(i)}$$

Hence: $\Sigma_{GDP(i)} = 1/\alpha\beta\pi\varepsilon\Sigma_{P(i)}$

Where $\Sigma_{GDP(i)}$ is the total GDP of the chosen period (i); $\Sigma_{A(i)}$, the agricultural GDP of the same period, α being the percentage of the agricultural GDP in China's total (generously, α = 80 percent); $1/\beta\Sigma_{F(i)}$, the agricultural GDP as a function of total food output (generously, β = 80 percent) of the same period; $\beta\Sigma_{F(i)}$ minimum total food output; $\varepsilon\Sigma_{P(i)}$, the total food consumption of the Chinese population at the subsistence level of the same period, ε being the minimum consumption per adult per year (180kg husked rice, or 257kg un-husked rice with 30% waste), π the price level of food, and Σ_P the total population. For our purpose, a minimum approach is preferred with the assumption that there is no saying or surplus in the economy.

It is reasonable to assume children made up one-third of the total population and that each child consumed two-thirds as an adult. In food consumption terms, the real consumption of the population as a whole is thus discounted by 0.11 because of children. It is known the China's population in 1833 was 398.9 million (Deng 2004: Appendix 2), or 355.0 million after converting children to adults. This can be converted to the volume of $\varepsilon\Sigma_P$ as 63,900 million kilograms of husked rice. The weight can then be converted to 881.5 million *shi* (石).[5] Given that the average husked

[5] One Qing *shi* equals 72.49 kg (Liang 1980: 545; Chao 1986: 209).

rice (π) was in the region of 3,000–3,300 bronze coins per *shi* (Yu 2000: 888; cf. Wang 1992), the total value of $\pi\varepsilon\Sigma_{P(i)}$ for the 1830s can thus be established as 2,644,500–2,908,950 million coins, or 2,034.2–2,237.7 million *liang* of silver.[6]

We can now work the whole way for the values of (1) $\alpha\Sigma_A$ = 2,542.8–2,797.1 million *liang*, (2) $\Sigma_{GDP(i)}$ = 3,178.5–3,496.4 million *liang*.[7] China's non-agricultural GDP is thus 635.7–699.3 million *liang*. Now, the 350–388 million *liang* of the commercial GDP is 10.0–12.2 percent of China's total GDP of the time. If the total GDP is estimated any higher with surpluses, the commercial share of it will be even smaller.[8]

From the size and share of China's commercial GDP, the merchant class had to be small. To take the sea-going merchants as an example, a careful study of the family backgrounds of 5,473 gentry members from the Jiaqing Reign (1796–1820) throughout the Guangxu Reign (1875–1908) shows that on average only 3.5 percent of the gentry members had a commercial background, despite the seemingly high profit from the trade

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[6] Conversion is based on the minimum ratio of one *liang* for 1,300 bronze coins (Yu 2000: 859; cf. Lin 1993).

[7] This is compatible with others' estimates. It has been estimated that in 1850 China's total GDP was in the region of 18,160 million silver *yuan* (圓) of the 1930 price (Liu *et al*. 1999: 66). This can be converted to 12,712 million *liang* of silver, which can be further converted to 3,570.8 million *liang* of silver of the 1830 price (Liu and Wang 1996: 179). Chang Chung-li's estimate for the 1880s as 2,781.3 million *liang* of silver suggests a major recession (Chang 1962: 196).

[8] There is a caveat here. One may try to use the 350–388 million *liang* commercial GDP to work out China's total GDP and agricultural GDP. But it faces the acid test of whether in the end the economy was able to feed its recorded population size with food at the given price. Thus, if one take the figure of 350–388 million *liang* as 20 percent of China's GDP to reflect the net surplus above the subsistence food consumption. This will set China's total GDP at a maximum of 1,940 million *liang*, leaving 1,552 million *liang*, or 2,017,600 million bronze coins, maximum as the total food bill for subsistence living. At 3,000 – 3,300 bronze coins per *shi*, this food bill would buy a maximum 672.5 million *shi*, or 48,751.9 million kilograms (one Qing *shi* of grain weights 72.49kg), of husked rice, enough for a population of 270.8 million of adults only, or 304.3 million with children. This is only 76 percent of China's population.

(Chang 1955: ch. 4).Given China's well entrenched social mobility, it is reasonable to suggest that a similar percentage existed across China's general population. This would make a total of 2.8 million merchants (or 14 million including their families) for China's some 400 million citizens. These 2.8 million merchants participated in a commercial arena with a total value of 350–388 million *liang* of silver. On average each merchant had 125–138 *liang* worth business a year if all other types of traders were excluded. It is almost certain that the vast majority merchant businesses were on a small scale, which suited perfectly China's market fragmentation under the dominance of customary economy. Also, that 3.5 percent of the Chinese had the access to a maximum of 10.0–12.2 percent of China's total GDP means that the merchant class may have been 1.9–2.5 times better off than China's average.

Even so, the lion's share of the market economy still belonged to the rural sector where the merchant influence was relatively weak. On the eve of the Opium War, China's rural commercial output include the following items (Wu 2001: 149):

	Total value (million *liang*)	of which primary goods
Food[9]	163.3	163.3
Cotton clothes	94.6[10]	–
Tea	31.9	31.9
Cotton wool	12.8	12.8
Raw silk	12.0	12.0
Total	314.6	220.0
% in agricultural GDP[11]	11.2–12.4	7.9–8.7
% in China's GDP	9.0–9.9	6.3–6.9

This 314.6 million *liang* accounts for 81–90 percent of China's total commercial GDP (350–388 million *liang*), of which 70 percent is made of primary products (220 million *liang*). If one takes salt production into account, another 30 million *liang* should be added to the list,[12] the total value of primary goods becomes 250 million *liang*; and the non-urban commercial GDP 334.6 million *liang*. This leaves a small margin for services and urban

[9] This would be the value of 80 million *shi* (石) of unhusked rice. If husked, this would be in the region of 56 million *shi*, or 4.1 million metric tons (one Qing *shi* of grain weights 72.49kg), enough to feed 22.5 million adult males for a year at the subsistence level (500 g of rice per day). This 22.5 million occupies 5.6 percent (based on China's 398.9 million of 1833) to 6.0 percent (based on China's 377.6 million of 1887) of China's total population (see Deng 2004: Appendix 2). On Wu Chengming's other account, the marketed grain was only 30 million *shi* of grain (worth 60 million *liang*) presumably in the form of unhusked rice (Wu 1983: 277). If husked, this would be in the region of 21 million *shi*, or 1.5 million metric tons, enough to feed 8.3 million adult males for a year (cf. Perkins 1969: 297–307), or 2 percent of China's total population. These say much about the limits for China's urbanisation as well as commercialisation.

[10] One estimate suggests that this amount of cotton textiles was sold by a half of China's rural households who produced textiles to the other half who did not (Xu 1992: 201). If true, the total number of rural textile producers would be in the region of 31.9 million households (based on the 1833's census of 398,942,036 of which 80 percent being rural with five people per household, see Deng 2004: Appendix 2). Each such household would on average produce 3.0 *liang* of cotton textiles for sale, an equivalent of 1.5 *shi* of rice.

[11] Aforementioned: total agricultural GDP at 2,542.8–2,797.1 million *liang*, and China's total GDP at 3,178.5–3,496.4 million *liang*.

[12] This 10 million *liang* salt tax revenue was the result of a 30 percent tax rate applied to salt sale although the tax rate varied widely with no single rate across the empire (for salt tax revenue, see Zhou 1981: 426).

manufactures at 53 million *liang*, which is 13.7–15.1 percent of China's total commercial GDP.

The share left for commercial services is just 28 million *liang* after the urban manufactures (Wu 2001: 148–9):

Porcelain	6.0 million *liang*
Metals	4.5
Silk textiles	14.6
Total	25.1
% in non-agricultural GDP[13]	3.6–3.9
% in China's total GDP	0.7–0.8

It is worth noting that the value of the rural manufactures (cotton clothes of 94.6 million *liang*) is 3.8 times of its urban counterpart.

More importantly, it has been estimated that of the 350–388 million *liang* of commercial GDP, only 20 percent, or 70.0–77.6 million *liang*, was subject to domestic long distance trade (Wu 1983: 253–64). Given China's market fragmentation, this is realistic percentage. This 70.0–77.6 million *liang* is merely 2.0–2.2 percent of China's 3,178.5–3,496.4 million *liang* worth total GDP. This basically means that the urban sector, urban merchants and long distance trade would not make a great difference to the economy, a point that was proven by Chinese history of the post-Song era.

One may assume that some or all of this 70.0–77.6 million *liang* (2,623–2910 tons, or 107.2–119.0 million pesos) worth trade was eventually geared towards export. Considering the Cohong monopoly set China's FBO price 2.7–3.0 times higher than China's domestic price level, a point which is to be elaborated later, this 70.0–77.6 million *liang* would inflate up to 210–232.8 million *liang* (7,869–8,730 tons, or 321.6–357.0 million pesos) a year,

[13] Aforementioned: China's non-agricultural GDP at 635.7–699.3 million *liang*, and China's total GDP at 3,178.5–3,496.4 million *liang*.

very close to China's total intake of foreign silver over three and half centuries since 1571. In reality, the total value of China's annual export from 1820 to 1833 was a maximum of 1.52–1.64 million *liang* (Yan 1955: 3–5; Shen 1985: 110),[14] equivalent to only 2.1–2.3 percent of China's long-distance trade value. This share would be 0.4–0.5 percent of China's 350–388 million *liang* of commercial GDP, or a pathetic 0.04–0.05 percent of the 3,178.5–3,496.4 million *liang* worth of total GDP.[15]

The command component of the economy can be measured by the state revenue. In the first half of the nineteenth century (1820 to 1848), the Qing Land-Poll Tax revenue was 29.4–32.8 million *liang* per annum (Liang 1980: 401, 415). If other taxes such as the salt levy and customers duties which normally contributed up to a quarter of the Qing annual revenue, and hence another 10 million *liang* maximum (Zhou 1981: 419–21, 426), the command economy claimed a total of 40–43 million *liang* of silver, or 1.2–1.4 percent of China's total GDP of 3,178.5–3,496.4 million *liang*.[16] If one takes the maximum tax revenue at 80–90 million *liang* a year, the share of the command economy was still only 2.4–2.8 percent of China's total GDP. If the taxes in kind and government services are included, the share was likely to be around 5.0 percent of China's total GDP, maximum.

When we put the market and command economies together, they make up 12.4–15.0 percent of China's GDP. The rest has to be the customary economy (85.0–87.6 percent).

China's overall structure is reflected in Table 1.

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[14] The figure of 1.54 million is based on China's export value to Britain at 1.066 million a year as 70 percent of China's total exprt. This value includes the Cohong monopolistic price mark-up. So, the value measured by China's domestic price would be only a quarter of the 1.52–1.64 million *liang*.

[15] Again, the share measured by the domestic price would be a quarter of this 0.05 percent.

[16] This is largely compatible with Feuerwerker's estimate (Feuerwerker 1984: 322).

Table 1. China's GDP Structure, *c*. 1830 (in million *liang* of silver)

	Sum	% in China's total GDP
1. Total GDP	3,178.5–3,496.4	100
2. Agricultural GDP	2,542.8–2,797.1	80
3. Non-agricultural GDP	635.7–699.3	20
4. Customary GDP		85.0–87.6
5. Command GDP		≤5.0
6. Commercial GDP	350.0–388.0	10.0–12.2
7. Total silver stock	150.0	4.3–4.7
8. Local, grassroots trade GDP		8.0–10.0
9. Rural commercial GDP	314.6	9.0–9.9
10. Rural primary goods traded GDP	220.0	6.3–6.9
11. Rural manufactured goods traded GDP	94.6	2.7–3.0
2. Urban manufactured goods traded GDP	125.1	0.7–0.8
13. Long distance domestic trade GDP	70.0–77.6	2.0–2.2
14. Export GDP	1.52–1.64	0.04–0.05
15. Imported foreign silver	1–10	0.03–0.3

The Qing monetary tax structure reflects the stance of the economy in Table 2 where the increase in salt tax was a result of an increase in salt consumption due to population growth rather than a higher degree of commercialisation.

Table 2. Qing Monetary Tax Structure (in *Silver-Liang*), 1652–1820

	Land and Poll* (I)	Salt (II)	Customs (II)	I:II¶	Population
1652	21,260,000	2,120,000	1,000,000	6.8	38,559,811
1682	26,340,000	2,760,000	2,000,000	5.5	46,969,550#
1766	32,910,000	5,740,000	5,400,000	3.0	208,095,796
1820	30,206,000	5,740,000†	2,933,000§	3.5	361,693,379#

Source: Taxes based on Based on Liang 1980: 401; Zhou 1981: 419–21, 426; Tang 1992: 126–28. Population based on Deng 2004: Appendix 2.
Note: *Tax collected in grain mainly for the annual North-bond Grain Shipping (漕糧) is not included. †No data for 1820 so that the 1766 revenue is used as a proxy. §Estimated figure based on the highest share of the customs duty revenue (8.85%) during 1652–1766. ¶The minimum ratio. #Population figure of 1680 and 1812 as the nearest available.

To sum up, China's market economy was only 10.0–12.2 percent of China's total GDP. Long-distance trade was negligibly 2.0–2.2 percent of China's total GDP. A high 70 percent of the commercial GDP took the form of rural primary products. So, the commercial engine was in effect the rural sector which claimed 81–90 percent of China's trade value. It was almost certain that most of the grassroots market activities did not involve silver. The need for day-to-day domestic circulation with silver came to exist mainly in wholesale and property deals. Silver entered the retail market almost certainly because of opium. Large quantities of opium regularly consumed in Qing China were certainly supported by large quantities of disposable income.

But either the wholesale and property deals or opium consumptions was identical with a high degree of commercialisation in the economy. Besides, by 1800, some 70 years after the first commercial shipment of

opium to China by the Portuguese,[17] the total importation of opium to China was merely 2,000 chests worth about 800,000–1,200,000 pesos (19.6–29.3 tons) per year (Pritchard 1929: 160), not enough to make opium a 'drug food' for the general population. Only after the 1820s did the importation and consumption of opium take off (Gong 1999: 118). Still, opium never exceeded half of the total value of China's imports even during its peak in 1880.[18]

2. Institutions that underpinned China's Peculiar Structure

The fundamental institutional reason for this market peculiarity lied in China's indigenous landholding property rights (free holding and lease holding), something that emerged in the Qin and Western Han as the mainstream type of landownership (Deng 1999a: chs 2–3). Other economic institutions evolved around this very core. In the beginning, the emergence of such rights may have well been by accident, common in a 'non-ergodic world'. But after these rights yielded good results, uncertainty was replaced by certainty, and private goods (to serve landholders) became public goods (to serve society). If such certainty lasted long enough, it led to a developmental path with which the economy became 'path dependent' on it (North 2004: chs 2 and 5). The private land property rights and the economic certainty associated with them shaped the Chinese incentive cluster and changed the landscape of the pre-modern Chinese economy. On the other

[17] In 1729, the Portuguese shipped the first recorded 200 chests of opium to Macao, ushering in the age of opium trade with China (Phipps 1835: 208). The first British opium cargo arrived half a century later in 1773 (Pritchard 1929: 150).

[18] The estimated proportion of opium addicts in China's total or regional population has varied widely from mere one percent (Gong 1999: 293–4) to 50–70 percent (Brook and Wakabayashi 2000: 9, 194, 214). It is reported that 80–90 percent of all officials took the drug (*ibid*.: 294).

hand, society-wide consciousness kicked in. Confucianism was used to endorse this landholding pattern and its related social class distinction. With this consciousness, private ownership rights over land became more than a 'hardware factor' but a social norm as the public perception and expectation became conditioned with such rights (North 2004: 103). Any move away from such a norm will face resistance from moral judgment as well as vested interest in society (Olson 1982). If the majority of the society have the vested interest in the current norm, a change from it will be doubly difficult. This is precisely what takes place in a non-ergodic, uncertain world where chances played an important role in determining a future path with a degree of certainty.

With the landholding property rights and incentive cluster, the very cell of the traditional Chinese economy was the landholding household-cum-farms. This cell determined a non-feudal social structure and distinctive social mobility in the history of the Chinese Empire on the one hand, and the dominance of the customary component in China's national economy on the other (Marsh 1961; Eberhard 1962; Ho 1962; Rawski 1979: Deng 1999a). In the Chinese system, wealth spread relatively evenly, not because it was distributed and redistributed by the market or the state, but because it was produced relatively evenly at the micro level by private producers. The model best suited is that of A. V. Chayanov (1925).

For a Chayanovian household, the goal is to maximise its total output and utility collectively. An efficient Chayanovian household will be able to feed its members. And, as far as one can tell, the Chinese did this reasonably well (Buck 1937b: ch. 11). In a Chayanovian economy, market exchange is a second order factor, a vent for surplus, and a trade-off for idling/leisure due to farming seasonality: about 14 percent of the year (Buck 1937a: 294–6). This seasonality was responsible for a commercial output of

China's rural sector in the region of 20 percent of China's total agrarian GDP during the late Qing (Perkins 1969: 68, 115; Feuerwerker 1976: 86). The commercial share was not trivial but not overwhelming either to challenge the customary component (Deng 1999a: 343–8), a component which was expanding rapidly through internal migration during the eighteenth century (Cao 1997: 619). Given the private nature of the Chinese households, this Chayanovian behaviour had little to do with the Confucian state but a lot with rational choice in a non-ergodic world.

In China's Chayanovian economy, the market component was overshadowed by the customary component and the continuous growth and development of the latter was not guaranteed with or without the Marxian 'class struggle'. The secret lies in the surplus-cum-trade in an overwhelmingly customary economy where labour is free or nearly free and where the concept and mechanisms of marginal product of labour are nonexistent. But it was successful in achieving utility maximisation with China's own natural endowments, indigenous landholding property rights and traditional technology. This trend continued until the early twentieth century, even when China was in political turmoil as shown in John L. Buck's comprehensive survey of China's rural economy. The rural well-being can be measured by nutrition values above the subsistence level (Buck 1937b: 10, 128, 129, 131, 135) which fits in well with the Confucian moral economy of *minben* (see Table 3):[19]

[19] Carl Riskin also recognises Chins's surplus economy, although his margin is set at 19 percent instead of Buck's 23.7 percent (Riskin 1975: 68).

Table 3. China's Regular Food Supply and Surpluses

	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	Average
Protein	153	135	168	122	138	129	131	118	136.8
Calorie	114	103	120	106	125	121	126	117	116.5
Carbohydrate*	111	100	112	103	124	120	126	119	114.4
Calcium*	140	127	176	119	128	105	120	100	126.9
Average	129.5	116.3	144.0	112.5	128.8	118.8	125.8	113.5	123.7

Note: Z1= Spring Wheat Zone, Z2=Winter Wheat-Millet Zone, Z3=Winter Wheat-Kaoliang Zone, Z4=Sichuan Rice Zone, Z5=Yangtze Rice-Wheat Zone, Z6=Southwest Rice Zone, Z7= Rice-Tea Zone, Z8=Double Cropping Rice Zone. *Taking the lowest reading as the benchmark.

Inevitably, this Chayanovian customary economy in China led to what can be defined as a 'cheap food economy' which was then translated into a 'cheap labour economy', thanks to high-yield farming. It is not all that surprising that Adam Smith commented in the second half of the eighteenth century that (ch. 11, pt. 3):

> *Rice in China is much cheaper than wheat is anywhere in Europe. … The difference between the money price of labour in China and in Europe is still greater than that between the money price of subsistence; because the real recompense of labour is higher in Europe than in China, the greater part of Europe being in an improving state, while China seems to be standing still.*

This cheap labour economy can be further defined as one of a 'high-level equilibrium trap' coined by Mark Elvin (1973). It fed its population well

but allowed very limited margin, rather than a Western European level, of commercialisation and urbanisation (Deng 2003).[20]

On the whole, the three components of the Qing economy were not only in harmony which minimum tension between them, but also in synergy to support one another. The secret lies in China's elastic supply of land for farming, property rights over farming land and social mobility, something unique in China's non-feudal past (Deng 1999a: chs 3–4). This explains well why a market in the Chayanovian context was able to grow into full-blooded capitalism, a point that we will return to later on.

3. Market conditions

From studies of China's domestic market structure, it is obvious that the market was open, decentralised, and even democratic, at least at the grassroots level of *caoshi*, *jishi*, *xushi*, and *miaohui* with easy entry and exit.

Quantitatively, China's grassroots markets overwhelmingly outnumbered urban markets. To take the end of the nineteenth century as a proxy, the aforementioned 25,000 to 30,000 rural markets/fairs (Xu 1997: 24) versus 3,277 urban markets (Skinner 1977: 298) make China's rural–urban market ratio 7.7–9.2 to 1.

In terms of market participants, the urban-market participants were 21.5 million in China's total of 354.6 million (Skinner 1977: 300),[21] with a rural–urban population ratio of 16.5 to 1. Even in the most commercially advanced Jiangnan region, the rural–urban ratio is estimated as 5.7 to 1 (or a 15 percent urban population) for the mind-Qing (Li 2003: 412). So, clearly,

[20] In 1784, China's coastal Hangzhou only managed to have 11 percent urban share in its population (Liang 1980: 449).
[21] The rural population is estimated as 90 percent of China's total of 394 million of the time.

China's market was mainly rurally based. This matches the rural domination of the Chinese economy.

A cluster of grassroots fairs would normally formed a relatively stable local market. Many such local markets formed a regional market within a macro-economic region. Traditional China can be divided into 8–9 such geo-economic regions (Chi 1936; Skinner 1964–5; Fei 1975). Under such a hierarchical structure, despite the range of possibilities for market exchange to take place horizontally cross region and/or vertically cross level, it was most certainly that market exchange moved up to another level or to another region only when it became absolutely necessary. Such a division hindered an empire-wide resource and factor allocation. At best, each level of the market achieved a local and partial equilibrium, which may have well been at sub-optimal in the national economy, not to mention that fragmentation is the synonym of absence of economies of scale. Ample examples of the systematically documented price differences for the same commodity (such as rice) from Chinese record have proved the point of local and partial equilibrium (see for example Wang 1992), despite the recent estimates that by 1840 China may have had a total of 12 national highways across the empire (Liu 1993: 163–226), 50,000-kilometre long internal navigable rivers and 10,000-kilometre long coastal shipping routes (Wu 1983: 245–9) and 200,000 vessels with an aggregate 5 million tons (Fan 1985:47–8, 82–5). The frequency of the commercial traffic between these regions has remained unknown.

On the other hand, it is not too hard to imagine that when goods and services were traded across China's macro-economic regions, their volume diminished so much that monopoly over them became easy. This explains the phenomenon that at the top of China's market hierarchy, trade became more organised, better monitored and controlled by a small number of

commercial agents and, especially, the Chinese state. Apart from the control over salt trade in the form of state leases/licenses, a liberal version of the long tradition of 'salt-iron state monopsony and monopoly' originated in Han times, under the Ming–Qing era (1368–1840), foreign trade was controlled to the extent that the 'chartered dealers' and 'ocean-trading dealers' were appointed by the state and made answerable to the state regarding their commercial dealings (Deng 1999b: ch. 3). Considering the small quantities of these monopolised goods, it was not the case that the Chinese state was very strong and efficient, as portrayed by the practitioners of the 'Asiatic Mode of Production' and 'Oriental Despotism' (Wittfogel 1957; Brook 1989). Rather, it was the Chinese market at the top that was small and weak.

The structure of the market in traditional China was complicated, but not necessarily sophisticated at the same time. China's market fragmentation inevitably depended on multiple interfaces in order to link all parts together. With each such interface, market agents, often professional merchants, were needed. These agents were entrepreneurs who operated those interfaces for their livelihood. In the world of classical and neo-classical economics, this professional entrepreneurial merchant class will be able to knock down market barriers and interfaces in a bid for an integrated domestic market and capitalism. In the process the merchant class incarnated as the bourgeoisie. In reality, Western European markets were the closest thing in this regard, which was then mistaken as the universal pattern in the world by Karl Marx and his followers. Indeed, under the influence of the Marxian doctrine, there was once an influential school of thought of 'sprout of capitalism in China' in the 1950s and 80s (Li 1981; Xu and Wu 1985). The practitioners of this school failed to explain that why and

how China's capitalist sprout, as precious as it was, never grew up to fruition before the Opium War.[22]

Such geographic division and fragmentation of the Chinese market system is clearly reflected by the perpetual heterogeneity of the Qing currency and messy money supply.[23] Apart from China's own ingots (92.5–98 percent purity), foreign silver came to and circulated in China in all purities, shapes and sizes: silver coins (European, Mexican, US, British Hong Kong, Franco-Saigon, and Japanese, 90 percent purity),[24] and nuggets.[25] There existed a hierarchy amongst these forms: ingots were on the top and nuggets at the bottom. Between different silver coins, there was also a pecking order. For example, the Mexican dollar was normally discounted up to 25 percent against the Spanish dollar despite their identical purity (Geng 1933: 150–4; ZY 1964). The discount rate peaked at 80 percent in 1856 in wake of Taipings' victory in the Nanjing region (Li 1993: 55–6). But overall, foreign silver coins dominated the market due to the huge quantities available and the quality guaranteed by the foreign mints (ZY 1964: 749; Zheng 1982: 691).

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[22] Clearly, the great institutional divergence between Western Europe and East Asia began with the Italian city-states, the Italian Renaissance (*c.* 1330–1550), and continued with the age of European mercantilism (*c.* 1500–1800) (Hicks 1969; also Horrocks 1925; Molho 1969; Ekelund and Tollison 1981; Martin and Romano 2000). But in China there was instead a symbiotic relationship between the market fragmentation and professional merchants to sustain both in the long run.

[23] Amongst imported silver coins, the common ones in circulation were (1) the Dutch 'Knight with Sward' (馬劍), (2) the Spanish 'Original Silver Dollars' (本洋) with various names such as 'Hair Coils' (大髻，小髻) and 'Alien Gods' （番佛), (3) Portuguese 'Cross' (十字), (4) Mexican Carolus dollar or'Eagle Dollar' (鷹洋), and (5) American 'Liberty Head' (蓬頭) (Zhao 1990: 613–4).

[24] These coins came to China at different times: the Spanish ones before 1821; Mexican, after 1821; British-Hong Kong, after 1866; US, after 1873; Japanese, after 1871; Franco-Saigon, after 1885.

[25] Pieces between 1 and 4 *liang* was called 碎銀; those under 1 *liang*, 滴珠.

To make the situation even worse, there existed many different weight measures for *liang*. Even the most authoritative measures used by the central government, the Treasury Silver Weight Standard and the Customs Silver Weight Standard were not unified with a difference of one percent: the former weights 37.30–37.31 grams;[26] the latter, 37.68 grams. There were 56 Local Silver Weight Standards varying from 35.14 grams to 37.50 grams with a shocking 11.2 percent of difference (Zhang 1987: 130). In Zhili alone, there were six parallel local silver weight standards of 35.16 grams, 36.00 grams, 36.05 grams, 36.18 grams, 36.80 grams and 37.43 grams. Overall, only four local standards ever overlapped.[27]

In this context silver and weight heterogeneity, silverisation could be Emperor's new clothes. The situation alleviated only in 1889/90 when the Qing mint in Guangdong finally began to manufacture China's first official coins, imitations of the Spanish model in design and silver content, called 'Dragon Dollars'.[28] Other provinces soon followed the suit: 1894 in Hubei, 1896 in Zhili, 1897 in Jiangshu, and 1898 in Fengtian, Jilin, Xinjiang, Anhui, Hunan, Fujian, Sichuan and Yunnan. But not until 1910 was the official name of the silver currency *yuan* was finally introduced as the official unit to end a five-layer hierarchy.[29]

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[26] The Treasury Standard changed to 37.30 grams in 1904.

[27] These were: (1) 35.84 grams shared by Hunan's Xiangtan (湘潭) and Yunnan (雲南), (2) 36.00 grams shared by Tianjin (天津) and Shenyan (瀋陽), (3) 36.05 grams shared between Beijing, Changsha (長沙) and Chongqing (重慶), and (4) 36.56 grams, also called Grand Canal Standard (漕平兩), shared between Shanghai (上海), Yangzhou (揚州), Anqing (安慶), Jiujinag (九江) and Mogol's Kulun (庫倫) (based on Zhang 1987: 130).

[28] Before 1889, several attempts were made to mint silver currencies: (1) Tibetan silver dollars (西藏銀幣) in 1793, (2) Taiwan silver ingots (台灣紋銀， 壽星銀) in 1837, 1853 and 1862 (Zhao 1990: 612, 614).

[29] The five layers were made of coins weighting 7 錢 2 分 (大洋), 3 錢 6 分, (小洋) 1 錢 4 分 4 厘, 7 分 2 厘, and 3 分 2 厘.

The delay of China's own uniform silver coinage was three centuries after the first shipment of the New World silver via Manila. The reason for such a long delay was not technical, as the Chinese were good at metallurgy and fully capable of mass-producing coins of base metal. The delay was not because of a market failure, as the intake of the foreign sliver in large quantities was in itself a direct result of market function. The rationale was that the Chinese were so tolerant anything in sliver and not in a hurry to melt those coins, ingots and pieces down was rooted in the peculiar function of the precious mental in China as a form of asset more than a medium for market exchange. The closest alternative is precious stones whose utility is mainly to hold value. Given that China produced regular surpluses and that China's base metal currency in bronze did not serve well the need for storing value, the only other options had to be the investment in real estates or human capital in the form of Confucian education.

Before the Manila Galleon Trade, silver (as well as gold) was regarded as treasure exclusive to the very rich. Only when quantities of imported silver became large enough to reach ordinary savers, did it become an ideal saving device for ordinary Chinese to invest in. This explains well why a large proportion of the imported silver ended in private hands. This also explains why there was no need to unify silver, as the function of market circulation was only secondary,[30] so much so, those who did use silver in market transactions were called 'silver holders' to distinguish them from the others (Yang 1988: 280).

Indeed, before 1889 the only thing the Chinese did to the foreign silver was to smelt it down for ingots. Even silver smelting never reached a large scale. So, only at the very end of the Qing did the making of the Chinese

[30] The parallel can be drawn from investment in diamonds: there is no need to unify diamonds.

own silver currency begin. In other words, by end of Qing silver's utility from predominantly storing value was beginning to change to predominantly facilitating market exchange. As a large proportion of the imported silver was used as savings, not as a currency for on-going market exchanges, there was no real need for the Chinese to unify their silver that they hoarded. This behaviour was ultimately determined by China's high-yield, customary agriculture.

In this context, the long delay was not a state failure, either. The Ming-Qing state had no apparent need to end the chaos in the monetary market, as the tax payments collected in silver had no difference with other payment in kind such as cloth and grain. It seems that there was no incentives for the Ming-Qing state to standardise the silver mess, in particular given that the coinage of the precious metal yield no gain from seniorage, only the sheer cost in making the coins if the weight of the metal functions as the benchmark of the currency. Such cost was not to be offset by revenue from taxing commerce. So, the lack of action shows at very least a low dependency of the Chinese state and Chinese economy on commerce for revenue.

On the contrary, seniorage was applicable to bronze currency. So much so, counterfeiting activities were widespread until the early nineteenth century by the private sector (Lin 1993: 389).[31] But there was a catch, to yield the seniorage, a token currency has to be uniform and guaranteed by the state.[32] So. Chinese token currency served well as a medium for market

[31] From 1790 to 1795, a total of 2.4 billion such fake coins were confiscated by the Qing authorities (Lin 1993: 392).

[32] Although bronze coins were not completely uniform, the difference were tolerable as there were only a handful makes: apart from the mainstream 'legal tender' (通寶)， there were 'Taiwan Minor Coins' (台灣小制錢) in circulation in the seventeenth and eighteenth

exchange. This explains why China's own bronze coins remained well entrenched at all levels until the very end of the Qing. In comparison, silver entered circulation only when absolutely necessary, partly because of its heterogeneity and partly because of Gresham's Law with which an inferior money (bronze coins) drove the superior money (silver) out of circulation. This heterogeneity in currency suggests that China either had limited market activities, or limited market integration, or both.

China's monetary heterogeneity created needs and opportunities for interfaces to operate between markets, which in turn created the need for agents who operated those interfaces. One typical such interface was the money dealers and silver-smelters, thriving on China's currency non-uniformity. Indeed, the history of the Sshanxi native banks, stretching from the 1820s to the 1920s, was at the same time of the history of money conversion in China's heterogeneous monetary market.[33] These banks reached their glory during the Taiping Rebellion by handling government taxes remittance from the south to the north of an average of 1.9 million *liang* of silver a year in 1862–93 (RY and CJ 1990: 135–6). Their business declined sharply after the standardisation of the Qing currency at the end of the nineteenth century.

The impact of China's market fragmentation and heterogeneity was profound. At a closer look, Chinese merchants and their grouping were just as fragmented as the markets themselves. During the Qing, there were ten major home-place-based merchant groups stemmed from Huizhou, Sshanxi,

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centuries in Taiwan and 'Kangxi Minor Coins'(康熙小制錢) or 'Beijing Coins' (京錢， 京墩) in circulation from 1660 to 1860 mainly in the capital city (Zhao 1990: 609, 612, 614).

[33] The Sshanxi native banker used their own 'internal silver weight standard' (咱平銀, 本平銀) to do the trick.

Shaanxi, Shandong, Ningbo, Guangdong, Fujian, Longyou, Dongting and Jiangyou (Zhang and Zhang 1993).[34]

Here, the term of *bang*, meaning 'gangs' or 'groups', does not indicate the size of these circuits,[35] as a *bang* can have a membership of any number from three to a few hundred. Evidence suggests that each *bang* may have had a membership well under 100 (Yu 1993: 173). So, in all, the ten groups may have the total membership of 10,000 maximum, although these groups did not all exist at the same time: the northern-based groups had a longer history than the southern China-based groups, which fits in well with China's market growth differentiations. Also, there were internal changes. Within the Sshanxi Group, the native bankers began only in the 1820s the earliest (Zhang 1995).

Geographically, these groups did not seem to spread nation-wide. It is known that before the Opium War, there were only 10 home-place associations in Hankou and 6 in Shanghai (Yu 1993: 38), 4 in Beijing and 2 in Suzhou （Xu and Wu 2000: 179). Thus, on average these groups may each have had one office in Hankou and half of them may have had an office in Shanghai. Such distribution of offices was compatible with the limited number of the *bang* members. Although they were all involved in long distance trade, there was no clear-cut specialisation or division of labour amongst these groups. In most cases, these groups were more territorial than specialised in a particular field. Although they aimed at building up, smoothing and cultivating their internal personalised bondage,

[34] The hybrid of the costal group also made up an umbrella group of maritime merchants (海商) (Deng 1997: ch. 4).
[35] In this study the term of 'circuit' is preferred to that of 'network', as Chinese associates and connections did not necessarily represent an open system.

the internal bondage was not necessarily strong. This is supported by the loose organisational structure of such associations.

A more special specialised type was represented not by home-place associations but by sectoral associations for the market agents of the same business. But before the Opium War, these associations were small. They were far less mobile than their home-place counterparts. If anything, before the Opium War, they were not the equivalent of ‘guilds’ in Western European tradition (Peng 1995).

Statistically, these merchant associations of both types never spread evenly across the empire. Given the small number of these associates, it is safe to assume that the vast majority of the Chinese merchants did not belong to these organisations, as until the early twentieth century many sectoral associations only had a few dozen members and the largest sectoral associations had barely over 3,000 members (Yu 1993: 148–9). Merchant associations were largely absent in the North during the entire Qing. The establishment of such associations was overwhelmingly a southern phenomenon (see Table 4).

Table 4. Recorded Private Business Associations, 1644–1911

	Total	North China			South China		
		I	II	III	I	II	III
1644-60	2	0 (0%)	0	0	2 (100%)	1	1
1661-80	8	1 (12.5%)	0	1	7 (87.5%)	4	3
1681-1700	6	2 (33.3%)	0	2	4 (66.7%)	2	2
1701-20	9	3 (33.3%)	0	3	6 (66.7%)	4	2
1721-40	21	7 (33.3%)	2	5	14 (66.7%)	9	5
1741-60	9	0 (0%)	0	0	9 (100%)	5	4
1761-80	14	1 (7.1%)	0	1	13 (92.9%)	5	8
1781-1800	30	5 (16.7%)	1	4	25 (83.3%)	14	11
1801-20	25	5 (20.0%)	0	5	20 (80.0%)	3	17
1821-40	20	0 (0%)	0	0	20 (100%)	1	19
Total	124	24 (19.4%)	3	21	120 (80.6%)	48	72

Source: Peng 1995: 999–1046; *cf.* Xu and Wu 2000: 179, 181.
Note: Percentages are show shares between the north and south during the same period.
I – Regional total, II – Home-place associations, III – Sectoral associations.

The most developed merchant circuit was perhaps the salt merchants who were intimately linked to the Ming state due to the private-public partnership in transporting grain to feed army garrisons along China's long border line in the North, commonly known as the '1371 Salt Policy'. As a reward for their services, the private grain transporters were allowed to undertake the salt trade. Under such a salt dealership scheme, licensed salt merchants collectively supplied the empire with a homogenous, price and income inelastic product in salt. However, evidence indicates that these salt merchants constituted of a large number of small operators.

To take one of the salt production centres of the Qing, the Sshanxi's Salt Late in Yuncheng, [36] as an example, the total annual output of 100–180

[36] Salt Late in Yun Cheng happens to be the third largest inland salt lake in the world.

million *jin*, or 59,680–107,430 metric tons, [37] was divided into some 427,000–751,000 licensed portions at 240–250 *jin* each (as of from 1730 to 1850). In 1782, a total of 425 salt merchants shared in all 667,000 licensed portions (as of 1791), averaging 1,570 such portions each at 376,800 *jin* (225 tons) (Xu and Wu 2000: 348, 351). About 40 percent of the salt was traded by small and irregular dealers (Wang 1996: 101) which was very much the tradition of the salt trade.[38] The total FOB value of each 376,800 *jin* was 3,770 *guan* (see Yu 2000: 935–6),[39] roughly 3,430–3,770 *liang* of silver of the time (Lin 1993: 359), which could buy 95–105 *mu* of good land of free hold in Suzhou during the same period (Yang 1988: 242). This amount of silver was not enough to make millionaires even in lucrative business such as the salt market.

On the whole, the aggregate capital investment needed for the upper bound of 180 million *jin* of salt (107,430 tons) was worth about 1.8 million *liang* maximum for the Sshanxi Group. Considering the fact that an adult male needs 5–10 grams of salt per day or 2–3 kg per year, the total consumption of salt in the Empire was in the region of 1,800 million *jin* with the assumption that the roughly 400 million strong population constituted of two-thirds of adults and that the remaining children each consuming half of the adult intake. So, the Sshanxi salt dealers' 180 million *jin* provided 10 percent of China's total population. Thus, the total investment of the salt merchants can be estimated as 18 million *liang*, not something outrageous. Even so, it was reported that during 1796 to 1850 as much as three quarters of salt merchants' capital had to be borrowed by the Huizhou *bang* despite

[37] One Qing *jin* is 596.82 grams.
[38] It is worth noting that one and half century earlier the 1640s, there were 6,304 licensed salt merchants in the same district for a total of 82.0 million *jin* of salt with an average of 13,000 *jin* (7.8 tons) per head (Xu and Wu 2000: 348–9).
[39] The calculation is based on 10 *wen* (文) per *jin* of salt, FOB.

its reputation as the richest in the business (Wang 1996: 163). So, the total capital of the salt merchants may have well been under 10 million *liang* in the early nineteenth century.

Even amongst the Sshanxi native bankers, the average operators were small. From 1897 to 1900 there were in all 647 banks/branches of different owners of Sshanxi origin in 124 locations regardless of their survival rate (Tian 1994: Appendix). The average amount of capital each banker possessed was 10,000 to 20,000 *liang*, greater than the Huizhou salt dealers but not overwhelmingly. Therefore, the total capital of the Sshanxi bankers was around 6,470,000–12,940,000 *liang*, averaging 9,705,000 *liang*. This is quite similar to the total investment of the salt merchants. Matching their investment sums, these banks had limited scale and scope, too. During the hey days of the native bankers of the early twentieth century, the Big Three – Rishengchang, Weitaifeng and Rixinzhong – had in all 35 branches between them in 23 locations with an average of 11.7 branches in 7.7 locations per bank (Wei 1944: 160–202). Clearly, there was no empire-wide operation by any single banker. In addition, the profitability of these banks was very modest: in 1852, end-year net profit of the most successful Rishengchang was merely 714.16 *liang*. Even in the early twentieth century (1906), its end-year aggregate net profit was still just 2,051.28 *liang* from a total of 14 branches with a total asset of 360,000 *liang* (or 13.4 tons) on the book (Wei 1944: 160–202).[40] The same financial constraint faced by both the salt dealers and native bankers clearly indicates the upper limits of personalised circuits in business dealings.

[40] This is about 25,700 *liang* per branch, not too far off the 20,000 *liang* mark. The low profit was determined by low charges, only 0.6–1.4 percent of the customer's capital (Wei 1944: 223–8). This low rate was a result of throat-cutting competition between rival native bankers.

Related to native banks were moneylenders. During the Qing the loans provided by money-lenders were small, rarely exceeding 200 *liang* and often in bronze coins (Liu 2000: 41–4, 55, 69–72). Accordingly, moneylenders' capital assets were small. A large pawnshop had on average 30,000–40,000 *liang*; and a small one, merely 1,000–2,000 liang (Liu 2000: 81). In 1812, China had in total 23,139 pawnshops with the aggregate capital of 347,085,000 *liang* with an average capital asset of 15,000 *liang*. This is very similar to the average capital of the Sshanxi bankers. However, given bankers and pawnshops were where the money was, the 10,000–15,000 *liang* of silver worth asset was an exception rather than the norm: as estimated earlier, if the 2.8 million merchants exclusively controlled China's 350–388 million *liang* commercial GDP, they only had 125–138 *liang* worth business a year. Evidence from the purchasing price for the status as the 'Student of the Imperial Academy' amongst a total of 238,678 punters during 1821–40 also suggests that 100.1 to 112.8 *liang* of silver was all that it took for one to enter the gentry club (Chang 1955: Table 23). Hence 100 *liang* was roughly what a well-to-do rural family afforded to buy such a status.

There can be little doubt that by and large, pre-Opium War China had an active but rather primitive market system. Merchants' undertakings were small. Commercial capital was expensive. The state involvement was minimal despite its articulated protection of land deeds as the sole evidence of ownership (Yang 1988: 249).[41] Much depended on the private sector in the form of a guarantor to honour these contracts. Moreover, although it was technically a practice to have formal, law-binding written contracts in buying, mortgaging and selling real estates, settling terms of tenancy, borrowing

[41] Normally, the Ministry of Rite (禮部) set up the templates of contacts for citizens to copy (部照). Unless there was a dispute, the Qing state was not to be involved (Yang 1988: 88–9, 251).

money from the moneylender (IOU), and paying taxes, formal contracts were infrequent. Customary oral contracts took exactly the same effect as the written ones (Yang 1988: 56).

It now becomes easily understandable why and how Chinese merchants as a whole depended on a matrix of circuits of acquaintances for their business survival. In a non-ergodic world, such personalised relationships always cuts both ways: it smoothes market operations for insiders but also creates barriers and rents to outsiders. For example, it was stated that the Guandong and Fujian transport gangs imposed a surcharge on cargos of outsiders (Peng 1995: 106). However, within the personalised matrix of relationships, there will always be an upper limit for one to make money from his or her own business while maintaining one's own network to support partly others' businesses in the 'all for one and one for all' fashion, not to mention the time and energy required to maintain such networks. Such a network cannot be expanded indefinitely. So, the importance of the merchant class and their organisations in China's commercial undertakings should not be overplayed.

Chinese culture and lineage tradition may have been handy in strengthening and streamlining such circuits. But the need for personalised networks *per se* was determined by China's peculiar market conditions.[42] Conceptually, there was much less need for circuits of acquaintances at the grassroots level. Only when trade activities expanded beyond the local level, did they become necessary. Also, if most merchants were small traders with limited resources, the threshold for them to take risks had to be high. A circuit of acquaintances helped reduce risks. The perpetuation of such

[42] Indeed, from the scientific experiment of 'six degrees of separation', it is clear that technically any society has potentially a matrix of circuits to link up every member (Chen 2003: 91–2). But to institutionalise it as the foundation of business is determined by specific market conditions.

merchant circuits indicates clearly a lack of market integration in the long run. So, Chinese merchants were the persona of Chinese market. This challenges the view that professional merchants in pre-modern China were weak and non-entrepreneurial. On the contrary, it took a lot of trouble and investment to forge personal links and massage the market. The Chinese merchants needed to be very innovative to overcome the problems associated with China's non-integrated, imperfect market. Indeed, from the institutional economics point of view, it was almost certain that the Chinese merchants had the vested interest to maintain China's market fragmentation and currency heterogeneity *status quo*.

The merchant group that stayed on the very top of the market hierarchy was the 'chartered merchants' and 'chartered merchant houses'. At their peak prior to the Opium War, there were 36 of them. The Qing system, a reincarnation of the Ming, was established around 1757, the same time as Guangzhou was opened as China's sole port for maritime trade with the outside world. Although they attracted much public interest both at home and abroad, the number of these merchants was negligibly tiny: at most 100 in all at any given time vis-à-vis 2.8 million merchants in the empire.

With a small number in a concentrated port granted the privilege to run China's monopoly over imports and exports, the chartered merchants were not the typical kind of the market operator in China at all. The very nature of this new breed was that the chartered merchants operated in the market on behalf of the command economy and thus had all the pros and cons associated with the command economy. Surely enough, these merchants all had suffix *guan* or *qua* in their official titles.

To begin with, all the chartered merchants were hand-picked by the state as the sole agents to operate in foreign trade. These dealers were made responsible for customs control of imports and exports, payment of

commercial taxes, and liaison between foreign traders and ordinary Chinese merchants, as well as between foreign traders and the Chinese authorities (e.g. Chen 1993). Such power and responsibility of native merchants were unprecedented in Chinese history. These merchants were thus properly called by the English, the "Emperor's Merchants" or 'Great Mandarin Merchants' of the Chinese Empire (Gilbert 1929: 65–77; Jörg 1982: 66). In return to their services, the chartered merchants had more than their fair share in China's most lucrative business and were hence super rich. Pan Youdu, one of the chartered merchants of the early nineteenth century, managed to accumulate a fortune worth 10 million Mexican silver dollars by 1820, or 244.5 tons of silver (Chen 1993: 245). This amount of personal wealth was definitely an exception in China's commercial circle. These merchants had a great responsibility financially to help out the Qing treasury when disasters struck. This often took the form of 'donations' which in the Cohong context were in fact surcharges. In the early nineteenth century, Pan Youdu, 'donated' a total of 800,000 *liang* of silver (29.8 tons).[43] Business failures of these merchants were seen as letting the state down and thus not tolerated. The penalties were extra-economic and disproportionately heavy including confiscation of family wealth and exile of 'guilty merchants'. Such measures were never extended to ordinary merchants and the licensed salt dealers. All considered, the chartered merchants were not representative of the merchant class of the Qing Empire.

All of these – fragmented markets, multiple interfaces, interface-cum-agents, territorial merchants, personal links and small scale operation –

[43] In 1801, Pan donated 100,000 *liang* of silver (3.7 tons) for disaster relief in Beijing. By1807, he donated another 600,000 *liang* (22.4 tons) to the Qing coffers before his retirement (see Chen 1993: 269, 217, 275). Between 1780 and 1817, Pan also paid 6,225 *liang* of silver (232.2 kilograms) to help his fellow chartered merchants (ibid.: 266–7, 277–8). In addition, Pan purchased two official titles, another form of donations to the stat each worth several thousand *liang* (ibid.: 254–5; see also Jörg 1982: 80).

indicate not only the weakness of the market economy in China but also a lack of demand for services from the professional merchant class. Such a lack of demand was determined by China's socio-political and economic structures of pre-modern times (Deng 1999a: chs 2–3). China's degree of commercialisation, never mind capitalistic sprout, must have been low by pre-modern Western European standard.

In this context, it becomes easier to understand the plight of a great many studies in the field of Chinese merchants and commercialisation: they concentrated too much on the supply side of the story to see why and how the merchants and commercialisation did not move along or move along so slowly. What is often overlooked is the demand side of the story to ask why and how the Chinese economy did not need merchants and commercialisation to the similar degree as that in Western Europe during the late medieval period. The answer is provided by our analysis of the dominance of the Chayanovian customary component in the economy in the long run.

4. Final remarks

China's commercial undertakings were very small in both absolute and relative senses. The dominance of the customary economy means that China was unable to release factors for industrial and commercial pursuit at a higher rate. It was only natural for the economy as a whole not to develop a factor market, crucial for capitalism.

References (to be included)