

## 5 Copper, silver, and tea

### The question of eighteenth-century inflation in the Lower Yangzi Delta

*Sui-wai Cheung*

Chinese historian Quan Hansheng used the term "price revolution" to describe the Chinese economy in the eighteenth century. He postulated that, as had happened in sixteenth-century Europe, a kind of hyperinflation followed the massive quantities of silver that came into the country from the tea trade (Quan Hansheng 1956: 475–508).<sup>1</sup> While Quan's theory is still highly influential among China historians,<sup>2</sup> recent findings suggest modifications to his views.

Quan was the first historian to use official price reports to show price trends in rice in Suzhou 蘇州 in the eighteenth century; his argument for an eighteenth-century price revolution was based on this data. The decision to base his theory of a price revolution on Suzhou rice prices made sense: the city was the most important long-distance market for rice on the Yangzi. Based on the data he found, Quan argued that rice prices were stable in the first half of the century, began to rise at the middle of the century, and, by the last quarter of the century, were four times what they had been at the beginning of the century (see Table 5.1). Along with demographic growth, Quan (1956) saw the inflow of foreign silver as the major driving force behind the inflation of rice prices.

The weakness of his theory lies in the paucity of the data. Quan found bountiful price data from official reports between 1693 and 1719,<sup>3</sup> but he based the price trend for the rest of the century on only three points of data, and only the first two points, from 1748 and 1770, were from Suzhou; the third point, from 1786, was actually the price of rice in Wuxi 無錫 County, Changzhou 常州 Prefecture (1956: 483). Moreover, the extraordinarily high prices of rice in 1748, 1770, and 1786 were due to sudden grain shortages in the Lower Yangzi; therefore, comparing these prices with those from early in the century exaggerated not only the scale of inflation, but the impact of imported silver. Since the monetary system in the eighteenth century was bimetallic, featuring both copper cash and silver, I shall be discussing price changes in both kinds of money in the Yangzi Delta.

#### The monetary system

Throughout early and high Qing (1644–1800), a bimetallic monetary system featured copper cash and silver. The government cast copper coins to be used in

Table 5.1 Price index of rice (upper-grade) in Suzhou (1713 base year)

Year	Tael per shi	Index
1706	1.39	140
1707	1.25	126
1708	1.65	167
1709	1.35	136
1712	0.80	81
1713	0.99	100
1714	1.05	106
1715	1.17	118
1716	1.10	111
1717	1.05	106
1718	0.96	97
1719	0.86	87
1748	2.00	202
1770	4.46	451
1786	4.30	434

Source: Quan Hansheng 1956: vol. 2: 483–484.

local markets for small transactions, while silver ingots or coins were imported from foreign countries and used in large-scale transactions and interprovincial trade.

When people used copper cash in large units, they strung their coins together through the holes in the coins, making a "string" (*chuan* 串), which varied in size (number of coins) and value from market to market. Strings were composed of a combination of legitimate state coins, illegal coins from private mints, and even coins from previous dynasties, so even if two regional markets used the same number of coins per string, the percentages of each kind of coin on a string were likely to differ from market to market.<sup>4</sup>

These variations made the Qing copper cash economy difficult to understand, but historians have agreed that commodity prices in copper cash rose in the late eighteenth century (see Peng 1958: 824; Wilkinson 1980: 32; Chen Zhaonan 1966: 12–17; Vogel 1987: 7). Their explanations as to why this happened, however, have varied. Chen Zhaonan attributed the phenomenon to an oversupply of copper cash and a fall in the demand for it, caused by the use of silver coins and merchant bills (1966: 48–54). Adachi Keiji, while unopposed to the inflation explanation, objected to the notion that silver predominated in market activities and argued that copper cash remained the major means of exchange in rural markets. He further explained that the rapid development of market activities in rural areas increased the demand for copper cash in the second half of the eighteenth century (Adachi Keiji 1990: 387–412). Building on Adachi's study, Kuroda Akinobu showed that the Qing government, suffering from reduced domestic copper output and a surge in copper prices, had failed to issue enough cash to satisfy the market need. As a result, debased coins from illegal mints were used to meet the demand. Local officials, desperate to meet coin production

quotas, also issued debased coins. As the value of copper cash then plummeted, commodity prices rose (Kuroda Akinobu 1994: 50–53).

In the last decade of the century, the debasement of copper cash caused inflation in the Lower Yangzi region. In 1791, to keep the value of copper cash from lowering the salaries of soldiers in Jiangsu Province, the Qianlong emperor allowed the Jiangsu governor to pay the soldiers in silver. At the same time, he allowed the copper mint in the province to close temporarily, to elevate the value of copper cash (*Da Qing Gaozong Chunhuangdi Qianlong shilu* 1964: 1389.17a).

We have little data to show the long-term price trend in copper cash of any commodity in the region at the time. One of the few sources is a commonly cited paragraph on “rice prices” (*mijia* 米價) (see, for instance, Peng Xinwei 1958: 824, 829 [n. 21]; Chen Zhaonan 1966: 14), in the book *Liyuan conghua* 履園叢話 (*Miscellaneous Words in the Lü Garden*):

In Qianlong 20 [1755], a plague of locusts stripped [the vegetation from] the four prefectures [of Suzhou, Songjiang 松江, Changzhou, and Zhenjiang 鎮江] and caused famine. [As a result,] the price of rice rose to 35 or 36 cash and cases of death from hunger were numerous. Thereafter, bumper harvests occurred in successive years and the price gradually returned to normal: only 14 or 15 cash for a *sheng* 升 [of rice] as the usual price. When the drought occurred in Qianlong 50 [1785], each *sheng* of rice rose to 56 or 57 cash. From then on, no matter whether the harvest was good or bad, the usual price was between 27 or 28 and 34 or 35 cash.

(Qian Yong 1838: 18)

Whereas the preceding record indicates inflated rice prices in the Yangzi Delta from 1786 onward, without a complete series of rice prices we cannot tell when the price of rice was 27 or 28 cash, and when it rose to 34 or 35 cash. Lacking this data, we cannot track changes in the price of copper cash on the Yangzi.<sup>5</sup> So, although there may well have been a general inflation of commodity prices in copper cash in the Yangzi Delta in the late eighteenth century, the data backing this conclusion is limited.

Like copper cash, the standard for silver varied from market to market. In many transactions, people used silver bullion, but the price of each ingot was based on fineness and weight. During the second half of the eighteenth century, the use of foreign silver coins spread up the coast from Guangdong to Jiangsu, but since the coins came from different countries, the silver standard remained unfixated, even though in most government transactions and official price reports silver had to be uniformly evaluated according to the *kaiping* 庫平 tael, a treasury tael equal to about 37.3 g of silver, and theoretically of 1,000 fineness (Vogel 1987: 4–5).

### The price of rice in Suzhou

The price of rice in Suzhou in 1748, which was 2 taels per *shi* 石 according to Quan Hansheng, was a high point in the inflationary trend in the first half of the

century. In this year, the Qianlong emperor noted: “Grain is a daily necessity of the people. However, in recent years, it is getting dear. How can the poor bear that?”<sup>6</sup> Officials generally attributed inflation to rapid population growth, and Quan (1964) added that the influx of American silver contributed to the problem. Although there is no question that prices were high that year, it is necessary to put them in context.

The high price of rice in Suzhou of 1748 was actually due to the fatal combination of a poor harvest and a policy disaster. In the autumn of 1747, Suzhou and its neighboring prefectures suffered from storms and flooding that ruined the rice harvest. To put more grain on the market, Anning 安寧, the Jiangsu provincial governor, ordered grain hoarders to sell their stock, and for reduced prices. According to some reports, Anning even confiscated the grain of hoarders who refused to participate in these reduced-price sales. Anning’s high-handed policy reduced grain merchants’ profits, which discouraged them from importing rice from other provinces and aggravated the grain shortage in Suzhou; the situation did not improve until Anning left the post (*Da Qing Gaozong Chunhuangdi shilu* 1964: 298.11a–b, 300.9a–b, 314.33a–b; *Shilitao xunkan* 1963: 563). A 1748 memorial by the Zhejiang governor Fang Guancheng 方觀承 noted that, “with regard to the high price of rice in Suzhou, Songjiang, Hangzhou 杭州, and Huzhou 湖州, there are different explanations, but most [observers] attribute it to the rare arrival of guest merchants” (*Zhupi zouzhe*: reel no. 56.1116–1119).

A study by Yeh-chien Wang (1992: 35–68) modified Quan’s conclusions with a detailed survey of Suzhou rice prices, using official reports from the First Historical Archives in Beijing (see Figure 5.1). Although Wang also argued that

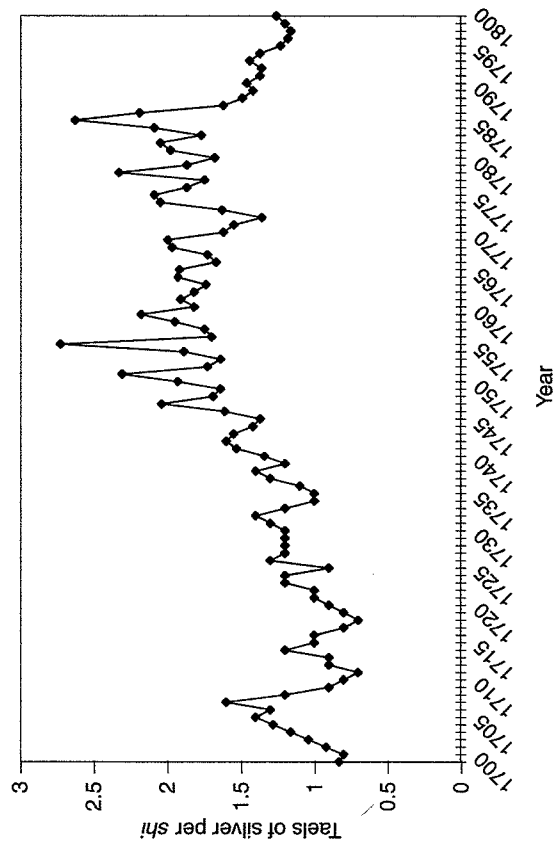


Figure 5.1 Trend of rice prices in Suzhou (second-grade rice).

there was a price revolution, his estimated price increases fell far below Quan's. Whereas Quan argued that prices quadrupled between 1700 and the 1780s, Wang's data showed that they increased by only 50 percent. Moreover, Wang's data, more clearly than Quan's, showed that prices thereafter dropped dramatically. In the last 12 years of the century, they fell from around 1.4 taels per *shi* to between 1.4 and 1.16 taels. In 1799, the price of rice rose again, but the decline from 1789 to 1798 was obvious.

Although Wang noticed this decline he dismissed it, remarking that price reports for those years were unreliable. He stated that until new data were found, there could be no explanation for the anomaly (Wang 1992: 49). Quan's theory of a price revolution was too entrenched, and the discovery of another new price series from Xiaoshan 蕭山 County, Zhejiang Province, increased Wang's ambivalence toward the new data he had found.

### The price of rice in Xiaoshan

A new price report from Xiaoshan, first cited by Tanaka Issei (1986), was drawn from a record by the Lai 來 lineage and provided an unbroken series of grain prices from 1683 to 1802. Despite being a small county in Shaoxing 紹興 Prefecture, Xiaoshan was close to Hangzhou, the largest commercial city and the provincial capital in Zhejiang, so it seemed likely that this Xiaoshan series could provide insights into rice prices in Hangzhou, and perhaps even in the Yangzi Delta.

However, inconsistencies between the official rice prices in Suzhou and the Lai lineage record in Xiaoshan are noticeable. Table 5.2 compares the rice prices and Figure 5.2 the price trends in these two places. As Yeh-chien Wang noted and Figure 5.2 portrays, for most of the eighteenth century trends in both places moved in the same direction, but they diverged after the 1786 famine: the price of rice in Suzhou continually declined, whereas Xiaoshan prices had another peak in 1794. In addition, Xiaoshan prices were higher overall. What was going on?

To begin to explain, some of the Lai lineage data reflected supply and demand in Xiaoshan, as in 1785 and 1786, when rice cost 3.5 taels per *shi* after a drought in 1785 and resulting widespread famine in Henan, Shandong, Hubei, Anhui, and Jiangsu. Wang Huizu 汪輝祖, a native of Xiaoshan, left a firsthand account of the misery he saw on his journey from Suzhou to Beijing, of unburied corpses and children sold into slavery. Rice went for 4,300 copper cash per *shi* in Wuxi,<sup>7</sup> while north of the Yangzi River, in Suqian 宿遷 County, a *shi* of rice cost a staggering 10,200 copper cash (Wang Huizu 1796: *shang*, 56b–62a).

However, some price information in the Lai lineage record is not so explicable. In 1794, although there were no reports of famine in Zhejiang, rice went for 3.5 taels per *shi*, a price as high as the famine years of 1785 and 1786. Wang, writing in 1796, remembered the price jump in terms of copper cash:

During the summer [of 1794], one *dou* 斗 of rice cost 330 to 340 copper cash. In the past, when the price of rice rose to 150 to 160 cash, people

Table 5.2 Rice prices in Suzhou and Xiaoshan, 1781–1800

Year	Suzhou series (tael per <i>shi</i> )	Xiaoshan series (tael per <i>shi</i> )
1781	1.68	2.30
1782	1.98	2.00
1783	2.05	1.90
1784	1.77	2.05
1785	2.09	3.50
1786	2.63	3.50
1787	2.19	2.10
1788	1.62	2.10
1789	1.49	2.00
1790	1.42	2.00
1791	1.46	2.20
1792	1.37	2.50
1793	1.36	3.30
1794	1.44	3.50
1795	1.37	2.70
1796	1.23	2.20
1797	1.18	2.75
1798	1.16	2.18
1799	1.20	1.85
1800	1.26	2.85

Sources: the "Suzhou series" is drawn from Wang 1992: table 1.1; the Xiaoshan series is drawn from Tanaka 1986: table 4 (pp. 47–50).

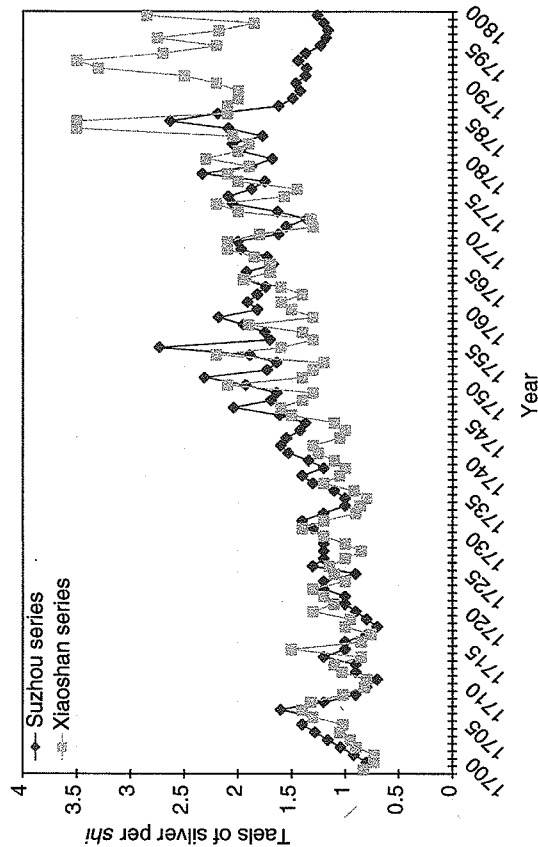


Figure 5.2 Trend of rice prices in Suzhou and Xiaoshan.

would starve. Now, rice is often dear, but people still live happily. The reason is, in previous years, high prices affected only rice; but now, all items including fish, shrimp, vegetables, and fruit are expensive. Therefore, both peddlers and peasants can make a living.

(Wang Huizu 1796: *xia*, 65b)

According to this account, then, the price of rice was 3,300 to 3,400 copper cash per *shi* (ten *dou* in a *shi*). But, since all commodity prices were rising, peddlers and peasants could charge more too; people were not suffering.

Based on this account, Lin Man-houng argued that the high price of rice in Xiaoshan in 1794 was caused not by crop failure, but by a sudden increase in the supply of silver. She pointed out that general inflation was consistent with the large quantities of silver flowing into China through the overseas trade; as a result of the influx, the price of bullion fell, raising commodity prices in silver. According to Lin (1989: 295–298), Xiaoshan was one of the areas affected by increased silver.

Her argument is impressive, but Wang Huizu did not mention a fall in the price of silver, nor the widespread use of silver in Xiaoshan. He noted, instead, that the amount of cash that was exchanged for 1 tael of silver had skyrocketed between 1761 and 1792, from just under 800 to 1,300, and that it continued to rise until, in 1794, it stood at 1,440–1,450. Wang attributed this rise to the prevalence of adulterated copper coins (1796: *xia*, 57a, 65b). Therefore, it may be concluded that the inflation of commodity prices in Xiaoshan was driven by the devaluation of copper cash and not by any increase of silver in circulation. The price of rice would be high for the same reason.

We may then surmise that the Lai lineage account became distorted when cash amounts were converted to silver. According to the Lai data, a *shi* of rice in Xiaoshan in 1794 sold for 3.5 taels of silver. Converted back to copper cash at the rate of 1,440 to 1,450 cash per tael as cited by Wang, this was equivalent to 5,040 to 5,075 cash, a price way too high to be credible, despite the fall in copper cash in those years. According to Wang, the price was only between 3,300 and 3,400 cash that year.

Kuroda agreed that in the last decades the price quotations in the Lai lineage record did not refer to market prices. He supposed that the lineage accountants distorted prices to avoid giving the impression that the lineage was saving money on ritual expenses. He argued that the lineage accountants adopted a fixed conversion rate between cash and tael when compiling the price record, instead of calculating by the actual market exchange rate (Kuroda 2003: 109). But if the accounting manager altered the conversion rate arbitrarily, the record is of limited use. Without knowing the conversion rate, it is impossible to calculate original market prices.

A study by Kishimoto-Nakayama Mio showed that, in Fujian and the Yangzi Delta, people used a fixed rate of copper cash for 1 tael of silver; Kuroda (2003: 109; see also Kishimoto-Nakayama Mio 1997: 327–363) postulated that the Lai lineage might have used the fixed standard of 700 copper cash to 1 tael, known

also as “70 percent cash” (*qizhe qian* 七折錢). But Xiaoshan County, in a different province, had a different standard. Wang noted that, in 1799, in the districts east of Xiaoshan City, people called the legal cash (*zhiqian* 制錢) the “90 percent cash” (*jiuzhe qian* 九折錢), and this rate did not refer to silver and copper cash, but to “legal cash,” the copper cash issued by the state, and “market cash” (*shiqian* 市錢), the private cash that circulated in local markets.<sup>8</sup>

Wang’s reminiscences are much more useful for reconstructing the money economy in Xiaoshan than the Lai lineage account. In addition to leaving a comprehensive record of prices, Wang gave clear explanations of the figures quoted. He was very conscious of price differences in various locations, and when quoting prices he mentioned the kind of money to which he was referring. From Wang’s record, Table 5.3 shows the prices of copper cash in Xiaoshan and its nearby districts in terms of rice, *kuping* taels, and foreign silver dollars between 1786 and 1805.

The copper cash prices of rice were consistently high in the late eighteenth and early nineteenth centuries, but that was not necessarily due to the debasement of copper cash (Table 5.3). In 1802, 1803, and 1805 (there is no data for 1804), Wang noted that despite good autumn harvests of rice, continuous rainfall in the third and fourth lunar months destroyed the wheat crop and escalated the prices of other grains, including rice. The worst season was in 1805, when the price of rice soared to 4,500 to 4,600 cash per *shi* in the third lunar month. On the twenty-ninth day of that month, when thousands of people rushed to a local Buddhist temple to buy government grain at a discount, 60 women were killed in the ensuing crush (Wang Huizu 1806: 69b–84a).

Table 5.3 Prices in Xiaoshan, 1786–1805

Year	Price of each <i>shi</i> of rice (in legal cash)	Exchange rate of each <i>kuping</i> tael of silver (in legal cash)	Exchange rate of each dollar of foreign silver (in legal cash)
1786	n.a.	1,000	n.a.
1792	2,800–3,100	1,300	1,000
1793	n.a.	n.a.	n.a.
1794	3,300–3,400	1,440–1,450	n.a.
1795	n.a.	n.a.	1,070–1,090
1796	n.a.	n.a.	1,200–1,300
1797	n.a.	1,020–1,030	800–1,200
1798	n.a.	n.a.	n.a.
1799	n.a.	n.a.	840–845
1800	n.a.	1,000	760–880
1801	n.a.	900	650
1802	2,600–3,200	n.a.	650–660
1803	n.a.	n.a.	n.a.
1804	3,000	n.a.	n.a.
1805	3,000–4,600	n.a.	n.a.

Sources: Wang Huizu 1796: *xia*, 56b–79b; 1806: 5a–88a.

The debasement of copper cash occurred slowly over the last quarter of the eighteenth century. In 1792, Wang noted: "Before 1761, for each *kuping* tael of silver, one exchanged no more than 780 or 790 cash. In 1786, the exchange rate was still less than 1,000 [cash]. Now, it is 1,300 cash" (1796: *xia*, 57a).

To compensate for the devaluation, local officials altered the tax conversion rate. Though the state collected the land tax in silver, local officials allowed taxpayers to pay in copper cash, but when its value fell, the amount needed (to convert into silver) rose. When customary fees (*lougui* 陋規) increased by inflation were added, taxpayers faced a sudden and steep tax hike. In 1792, when the conversion rate of 1 *kuping* tael was 1,300 cash, county magistrates actually demanded 1,800–2,000 cash for the land tax. On top of that, people in Xiaoshan had to pay the grain tribute tax levied in rice-producing provinces. By rule, the tax was levied in kind, but it was common practice for taxpayers to pay cash to their magistrates, who then bought the rice to ship to the capital. In 1792, when people in Xiaoshan found that they had to pay 40–60 cash more for each *dou* of rice than they had in the previous year, some taxpayers sued the magistracy for corruption, though, as Wang remarked, to no avail (1796: *xia*, 57b).

The fall in copper cash hit bottom in 1794, when 1 *kuping* tael was worth 1,440–1,450 cash, and the price of rice soared to 330–340 cash per *dou*. But as we saw and Wang noted, famine was averted because the prices of everything else "including fish, shrimp, vegetables, and fruit" went up as well (1796: *xia*, 65b). In the surge of inflation, peddlers and peasants were less affected, since they got higher prices for their goods and grain as well.

The price of copper cash remained low in 1795 and 1796, but there was an upturn in 1797. One silver dollar went for 1,070–1,090 cash in 1795, rose to 1,200–1,300 in 1796, and plummeted in 1797 (Table 5.3).<sup>9</sup> Wang noted: "At the beginning of the tenth lunar month, each dollar of foreign silver was sold for 1,200 cash. [The price] decreased day by day, and within ten days, each dollar was sold for only 800 cash." By 1799, a silver dollar bought only 840–845 cash. Although in 1800 the rate increased slightly to 870–880 cash in the first half of the year, it dropped again to 760–770 cash in the last month. In 1801 and 1802 the rate fell as low as 650 cash (Wang Huizu 1796: *xia*, 79a, 1806: 5a–69b).

There are two main points to take from the investigation of Xiaoshan prices. First, the debasement of copper cash, which may have begun in coastal China in the 1770s, or even earlier, became serious between 1792 and 1796. Second, in 1797 the value of copper cash began to rise. In 1800 the retail price for 1 *kuping* tael was 1,000 copper cash, marking a return to the 1786 level (Table 5.3). We can see that the fluctuating conversion rate was caused in part by the oversupply of illegal debased cash, but the fluctuating price of imported silver also contributed.

### Tea and silver

Throughout the eighteenth century, the tea trade brought a considerable amount of silver into China, most of it from Britain. Chaudhuri, using records from the British East India Company, showed a five-fold growth in tea imports to

England, from 8.9 million pounds in the 1720s to 37.3 million pounds in the 1750s. The price the company paid, mainly in silver, was high and still rising, from £611,000 (or 69,000 kg of silver)<sup>10</sup> in the decade between 1721 and 1730, to £1,693,000 (or 192,000 kg of silver) in the decade from 1751 to 1760. These figures did not account for the tea smuggled into England to evade the high duties or the tea consumed in other European countries (Chaudhuri 1978: 386–388). The influx of silver so lowered its value in China that by 1763, Japan, the silver exporter for China for two centuries, began to import silver from China. Between 1763 and 1782, Japan absorbed a total of 6,374 *kanme* 貫 (or 24,000 kg)<sup>11</sup> of silver from China (Yamawaki Teijirō 1964: 215). The amount was small, but the significance was great: by the mid-eighteenth century, because of the tea trade, the price of silver was lower in China than in Japan.

As England imported more tea than any other country, China relied on the British East India Company for silver, especially after the British Parliament passed the Commutation Act in 1784. Before the Act, the high British tea duty had encouraged European companies to smuggle tea into England. No one was sure of the true extent of the smuggling, but illicit tea seized by customs officers and sensational stories by reformed smugglers convinced everyone that the problem of tea running was out of control (Chaudhuri 1978: 385, 392). In response, the British Parliament passed the Commutation Act and reduced the customs duty on tea from 119 to 12.5 percent.<sup>12</sup> The Act not only stimulated tea exporting from China, it made smuggling less profitable and concentrated the tea trade in the hands of the British East India Company.

H.B. Morse showed how the company benefited from the Act with the following figures. Between 1776 and 1780, the total amount of tea exported to Europe from Guangzhou 廣州 was 698,000 *shi*, with the British East India Company exporting 210,000 *shi* of it (less than one-third). After the Commutation Act, between 1786 to 1790, the total export from Guangzhou was 1,096,000 *shi*, and the British East India Company had bought 774,000 *shi* (over half) of it (Morse 1926–1929: 117). From that point on, any difficulty the company had in acquiring silver was certain to disrupt China's economy. What would soon prevent the British East India Company from obtaining European silver was Britain's war with France.

### The Napoleonic Wars and silver

During the Napoleonic Wars, British merchants still put to sea and sailed for China, but not even British naval superiority allowed the company to buy enough European silver for the China trade (see Table 5.4). In 1791 and 1792 the company could still ship silver to Guangzhou. But when war with France broke out in 1793, for three years company ships could not bring a single kilogram of silver to China. The transport of silver resumed in 1796, but the quantity was very small, only 4,572 kg. In 1797 the amount of silver imported rose, but it was not until 1798, when the war was nearly over, that normal shipments resumed, with 49,971 kg of silver sent to Guangzhou.

Table 5.4 Silver shipped to Guangzhou by the British East India Company

Year	Tael	Kilogram (1 tael = 0.0378 kg)
1786	2,062,080	77,947
1787	1,912,320	72,286
1788	2,094,878	79,186
1789	1,321,920	49,969
1790	2,315,520	87,527
1791	172,800	6,532
1792	518,400	19,596
1793	0	0
1794	0	0
1795	0	0
1796	120,960	4,572
1797	626,570	23,684
1798	1,321,984	49,971
1799	1,616,954	61,121
1800	440,103	16,636

Source: Morse 1926-1929: vol. 2: 119, 135, 151, 172, 179, 184, 192, 205, 256, 266, 278, 294, 310, 321, 347.

The scarcity of silver caused the British East India Company serious difficulties in its China trade. On March 11, 1793, the company's Canton treasury still held 1,138,338 taels (43,029 kg) of silver, but by June 1796 the amount was down to 13,081 taels (494 kg). Although some credit had been used in the trade, specie still played an important role in transactions. Tea had to be paid for, at least in part, in silver, while customs duties and fees had to be paid entirely in silver. In December 1796, the Committee, the branch of the British East India Company at Canton, urged the London office to dispatch "an ample remittance of bullion" with all speed. The Committee even turned to barter, deciding on February 8, 1797 to use tin and lead in lieu of silver; later that month a Chinese merchant was actually paid in tin and lead for his raw silk and nankeens (Morse 1926-1929: 205, 277-281). When the flood of silver shrank to a trickle, trade between Chinese and British merchants became difficult to sustain.

The decline in imported silver must also have caused the price of silver in China to soar, which would have been reflected in the silver-to-cash exchange rate, as was detected in Xiaoshan, Zhejiang. It also would have led to a fall in commodity prices in terms of silver. In this light, the decline in Suzhou grain prices in the final decade of the eighteenth century was not a reporting error at all. Actually, it was a reflection of the fluctuating value of silver, and part of the price trend of the eighteenth century, which should be taken into account in any description of long-term inflation.

## Conclusion

In the eighteenth century, China's market development flourished in tandem with the tea trade. Silver poured into China from European countries, especially from Britain. Quan Hansheng used this flood of silver to justify a theory of inflated commodity prices quoted in silver, as well as a price revolution in silver; he based his influential theory on rice prices in Suzhou.

Whereas rice prices were an important marker, reflecting the livelihood of the common people, Quan's data was sparse and imprecise; famine, the devaluation of copper cash, and the vagaries of the tea trade all had an effect on rice prices. New data from Yeh-chien Wang has shown the rate of inflation to have been much milder than Quan postulated. In addition, Wang's data indicates that the price of rice declined from 1789 to 1798, especially during the Napoleonic Wars.

Unfortunately, Wang himself did not trust the data, especially after the Lai lineage record of rice prices in Xiaoshan came to light, showing marked discrepancies with the official Suzhou prices that Wang had found. But as we saw, poor grain harvests, famine, and the debasement of copper cash all contributed to the fluctuations of rice prices in Xiaoshan. Besides, as the Lai accountant seems to have altered the conversion rates arbitrarily, the price record of the lineage is distorted and of limited use.

As China became more deeply enmeshed in the world economy, it also became more vulnerable to the financial ups and downs of its trading partners. Trade with Britain peaked after the Commutation Act of 1784 lowered the British tea tax and before the onset of the Napoleonic Wars. But from 1793, when Britain was at war with France and the British East India Company had little silver to send to China, Chinese commodity prices quoted in silver fell sharply. This leads to two conclusions: First, although China did experience inflation, the rate of inflation was mild. Second, in the last decade of the century, China suffered from deflation instead, as a result of the sudden lack of silver caused by the Napoleonic Wars. The theory of a price revolution in terms of silver was exaggerated.

## Notes

- 1 Quan's theory of a high inflation rate in eighteenth-century China has been supported by Yeh-chien Wang and others. See Wang (1972: 347-368); Nakayama (1978: 1-33); Jiang Jianping (1992); and Lin Man-houng (1989: 291-325).
2. An example of Quan's influence is Madeleine Zelin's argument that high inflation caused the *huohao guigong* 火耗歸公 reform (return of meltage fees to the public coffers) to fail. She noted that local government finances had improved during the early eighteenth century because of the success of the *huohao guigong* reform, but, in the later decades, prices rose sharply, and the budget was insufficient again. See Zelin (1992: 298). In addition, Philip Kuhn (1970: 50-51) has argued that the rise in commodity prices in the late eighteenth century was one of the major causes of the White Lotus Rebellion between 1796 and 1805.
- 3 Quan supplemented the price data of rice in Suzhou with data from official reports between 1723 and 1735, in a later article (1959: 521-522).

- 4 For this reason, Endymion Porter Wilkinson stressed that when using cash to indicate price level, one has to be clear about the local habit of cash circulation (1980: 15–16). For more details of copper cash in the Qing, see Peng Xinwei (1958: 14–17). With regard to the political theory behind copper cash, see von Glahn (1996: 15–47).
- 5 Recently, Kuroda (2003: 101–117) attempted to solve this problem by providing a series of rice prices in Tunxi 屯溪, in southern Anhui, which he found in an account book of a local clan with the Jin surname. Tunxi was a regional market for neighboring counties, but since it was not in the Yangzi Delta, to what extent its economy was integrated with the delta remains in doubt. In addition, Tunxi apparently used a different standard of copper cash than the delta. For example, while rice was sold at 56 or 57 cash per *sheng* in Suzhou and neighboring cities, in Tunxi the price was as low as 9 cash. These are the problems we have to solve before we can make any meaningful comparison of rice prices between Tunxi and Suzhou, or other places.
- 6 The imperial edict from which this text derives was quoted in a memorial presented by official Yang Xifu in 1748, compiled in *Qing jingshi wenbian* 1992: 39.21a–25b.
- 7 Quan Hansheng cited this figure, converted into silver, as one of his principal pieces of data. Wang Huizu stated that the conversion rate from copper cash to silver was about 1,000 *wen* 文 to 1 tael in 1786 Xiaoshan. Applying this rate to Wuxi, Quan suggested that 4,300 *wen* equaled about 4.3 taels, an extremely high price at the time. See Wang Huizu (1796: *xia*, 57a); Quan Hansheng (1956: 483 [notes]).
- 8 By this standard, 100 market cash equaled 90 legal cash. Wang emphasized that in the county's capital city and its neighboring districts, the conversion rate was 100 market cash to 95 legal cash, and that the rate changed depending on the market. See Wang Huizu (1806: 36b–37a, 64b).
- 9 Silver dollars, called *yangqian* 洋錢 or *fanyin* 番銀 (foreign silver), were brought to Suzhou and Hangzhou by inland merchants in the late 1770s, but to what extent the silver was used as a means of exchange remains in doubt (see Zheng Guangzu 1845: 44a). Silver coins appeared in Xiaoshan around the same time, but for many years, as Wang noted, they were used only as marriage gifts. It was not until the last decade of the century, when more silver coins appeared, that local people preferred them to silver bullion as money to use in larger transactions in Xiaoshan; see Wang Huizu (1796: *xia*, 79a–b).
- 10 The conversion rate for £1 sterling was 20 shillings, or 240 pence, while 1 tael equaled 6 shillings, 8 pence; £1 sterling was therefore equal to 3 taels of silver (see Morse 1926–1929: vol. 2, “Conventional Equivalents”). Besides, 1 tael equaled 0.0378 kg of silver (see Moloughney and Xia 1989: 78). Then, by calculation, £1 sterling was equal to 0.1134 kg of silver.
- 11 The conversion rate is 1 *kanme* to 3.76 kg of silver, as suggested in Moloughney and Xia (1989: 78).
- 12 The Commutation Act was passed by the House of Commons on August 16, 1784; from August 1, 1785, all the existing duties, imposts, subsidies, and surtaxes were repealed, replaced by a simple duty of 12.5 percent on all tea sold. See Pritchard (1936: 146); Morse (1926–1929: vol. 2: 116).

## References

- Adachi Keiji 足立啟二. (1990) “Min Shin jidai ni okeru senkeizai no hatten 明清時代にわたる銀經濟の發展.” In Chūgokushi kenkyūkai, ed., *Chūgoku sensei kokka to shakai tōgō* 中國專制國家と社會統合. Kyoto: Bunrikaku, pp. 387–412.
- Chaudhuri, K.N. (1978) *The Trading World of Asia and the English East India Company, 1660–1760*. Cambridge: Cambridge University Press.
- Chen Zhaonan 陳昭南. (1966) *Yongzheng Qianlong nianjian de yinqian bijia bianqiong* 雍正乾隆年間銀錢比價變動 (1723–1795). Taipei: Zhongguo xueshu zhuzuo jiangzhu weiyuanhui.
- Da Qing Gaozong Chunhuangdi (Qianlong) shilu* 大清高宗純皇帝(乾隆)實錄. (1964) Reprint, Taipei: Hualian chubanshe.
- Jiang Jianping 蔣建平. (1992) *Qingdai qianqi migu maoyi yanjiu* 清代前期米谷貿易研究. Beijing: Beijing daxue chubanshe.
- Kishimoto-Nakayama Mio 岸本美緒美緒. (1997) *Shindai Chugoku no bukka to keizai hendo* 清代中國物價と經濟變動. Tokyo: Kenbun Shuppan.
- Kuhn, Philip. (1970) *Rebellion and Its Enemies in Late Imperial China: Militarization and Social Structure, 1796–1864*. Cambridge, MA: Harvard University Press.
- Kuroda Akinobu 黒田明伸. (1994) *Chuka teikoku no kozo no seikaikeizai* 中華帝國の構造の世界經濟. Nagoya: Nagoya University Press.
- Kuroda Akinobu. (2003) “What Can Prices Tell Us About the 16th–18th Century China? A Review of ‘Shindai Chugoku no bukka to keizai hendo (Prices and economic changes in Qing China)’ by Kishimoto Mio.” *Chugokushigaku*, 13: 101–117.
- Lin Man-houng 林滿江. (1989) “Shijie jingji yu jindai Zhongguo nongye: Qingren Wang Huizu yiduan Qianlong liangjia jishu zhi jieshi 世界經濟與近代中國農業:清人汪輝祖一段乾隆糧價記述之解析.” In Zhongyang yanjiuyuan jindaishi yanjiusuo 中央研究院近代史研究所, ed., *Jindai Zhongguo nongcun jingjishi yanjiuhui lunwenji* 近代中國農村經濟史研究會論文集. Taipei: Zhongyan yanjiuyuan jindaishi yanjiusuo, pp. 291–325.
- Moloughney, Brian and Weizhong Xia. (1989) “Silver and the Fall of the Ming: A Reassessment.” *Papers on Far Eastern History*, 40: 51–78.
- Morse, H.B. (1926–1929) *The Chronicles of the East India Company Trading to China, 1635–1834*. Reprint, Taipei: Chengwen shuju, 1966, vol. 2.
- Nakayama Mio 中山美緒. (1978) “Shindai zenki Kōnan no beika dōkō 清代前期江南の米價動向.” *Shigaku zasshi* 史學雜誌, 87(9): 1–33.
- Peng Xinwei 彭信威. (1958) *Zhongguo huobi shi* 中國貨幣史. Shanghai: Shanghai remin chubanshe.
- Pritchard, Earl H. (1936) *The Crucial Years of Early Anglo-Chinese Relations, 1750–1800*. Pullman, WA: State College of Washington.
- Qian Yong 錢泳. (1838) *Liyuan conghua* 履園叢話. Reprinted in Xuxiu siku quanshu bianzuan weiyuanhui, ed., *Xuxiu siku quanshu* 續修四庫全書. Shanghai: Shanghai guji chubanshe, 1995, vol. 1, 139.
- Qing jingshi wenbian* 清經世文編. (1992) A reproduction of the 1886 edition of He Changling 賀長齡, ed., *Huangchao jingshi wenbian* 皇朝經世文編 (1827). Reprint, Beijing: Zhonghua shuju.
- Quan Hansheng 全漢昇. (1956) “Meizhou baiyin yu shiba shiji Zhongguo wujia geming de guanxi 美洲白銀與十八世紀中國物價革命的關係.” Reprinted in Quan Hansheng, *Zhongguo jingjishi luncong* 中國經濟史論叢. Hong Kong: Xinya yanjiusuo, 1972, vol. 2, pp. 475–508.
- Quan Hansheng. (1959) “Qing Yongzheng nianjian (1723–1735) de mijia 清雍正年間 (1723–1735) 的米價.” Reprinted in Quan Hansheng, *Zhongguo jingjishi luncong*. Hong Kong: Xinya yanjiusuo, 1972, vol. 2, pp. 517–545.
- Quan Hansheng. (1964) “Qianlong shisanian de migui wenti 乾隆十三年米的米貴問題.” Reprinted in Quan Hansheng, *Zhongguo jingjishi luncong*. Hong Kong: Xinya yanjiusuo, 1972, vol. 2, pp. 547–566.
- Quan Hansheng. (1972) *Zhongguo jingjishi luncong* 中國經濟史論叢. Hong Kong: Xinya yanjiusuo, vols. 1–2.

- Shilitao xunkan* 史料旬刊. (1963) Taipei: Kuofeng chubanshe.
- Tanaka Issei 田仲一成. (1986) "Shindai Setō sōzoku no soshiki keisei ni okeru sōshi engeki no kinō ni tsuite 清代浙東宗族の組織にわたる形成宗河演劇機能について." *Tōyōshi kenkyū* 東洋史研究, 44(4): 32-67.
- Vogel, Hans Ulrich. (1987) "Chinese Central Monetary Policy, 1644-1800." *Late Imperial China*, 8(2): 1-52.
- von Glahn, Richard. (1996) *Fountain of Fortune: Money and Monetary Policy in China, 1000-1700*. Berkeley, CA and Los Angeles, CA: University of California Press.
- Wang Huizu 汪輝祖. (1796) *Bingta menghen lu* 病榻夢痕錄. Reprinted in *Wang Longzhuang xiansheng yishu* 汪龍莊先生遺書, Jianguo Ju, edn., 1889, vol. 1.
- Wang Huizu. (1806) *Menghen luyi* 夢痕錄. Reprinted in *Wang Longzhuang xiansheng yishu*, Jianguo Ju edn., 1889, vol. 1.
- Wang Yeh-chien. (1972) "The Secular Trend of Prices during the Ch'ing Period (1644-1911)." *Journal of Chinese Studies*, 5(2): 347-368.
- Wang Yeh-chien. (1992) "Secular Trends of Rice Prices in the Yangzi Delta, 1638-1935." In Thomas G. Rawski and Lillian M. Li, eds., *History in Economic Perspective*. Berkeley, CA: University of California Press, pp. 35-68.
- Wilkinson, Endymion Porter. (1980) *Studies in Chinese Price History*. New York and London: Garland Publishing.
- Yamawaki Teijirō 山脇棗二郎. (1964) *Nagasaki no tōjin bōeki* 長崎の唐人貿易. Tokyo: Yoshikawa Kobunkan.
- Yang Xifu 楊錫紱. (1748) "Chenming migui zhi you shu 陳明米貴之由疏." *Qing Jingshi wenbian* 清經世文編, 39.21a-25b.
- Zelin, Madeleine. (1992) *The Magistrate's Tael: Rationalizing Fiscal Reform in Eighteenth-Century Ch'ing China*. Berkeley, CA and Los Angeles, CA: University of California Press.
- Zheng Guangzu 鄭光祖. (1845) *Xingshi yibanlu* 醒世一斑錄. Reproduction of the 1852 edn., Hangzhou: Hangzhou guji chubanshe, 1982.
- Zhupi zouzhe* 硃批奏摺. Microfilm. Beijing: Zhongguo diyi lishi dang'anguan.

## 6 An early modern economy in China

### A study of the GDP of the Huating-Lou area, 1823-1829

Bozhong Li

This study attempts to reconstruct the GDP of the Lower Yangzi Delta in the beginning of the nineteenth century. It is part of a cooperative research project carried out by myself and Jan Luiten van Zanden. We applied the same methods, standards, and measures to reconstruct the economies of the Netherlands and the Lower Yangzi Delta in the said period and then compared them. The result of my five years of work are presented in my recent Chinese book (Li Bozhong 2010). This chapter summarizes my findings in English.

#### The issue

One of the central themes in studies of Chinese economic history is China's real economic situation before the arrival of the modern West in the mid-nineteenth century. Views on this theme are highly divergent in previous scholarship. At one extreme, some scholars assert that the Chinese economy had fallen into unending and ever-deepening "involution" well before the mid-nineteenth century. At another extreme, other scholars hold that the Chinese economy had performed so well that an indigenous capitalism, or "Chinese capitalist sprouts," had been well under way in the late imperial period. This debate has been going on for nearly a century but is far from over; just the contrary, it is intensified by the recent row regarding the claim of a "Great Divergence" between China and Europe around 1800 and will surely continue to be a focus of scholarly discourse about China for a long time (Pomeranz 2000).

As the most economically advanced area of China in the past millennium, the Yangzi Delta, or the "Jiangnan area" as it is called in traditional Chinese literature, has held a special role in Chinese economic history and has been under the most intensive study in the past century. Thanks to generations of scholarship and effort, we now have a much better knowledge of the economy of this area than of any other part of China. Many influential explanations of the Chinese narrative have been drawn from the experience of this area.

Yet, there are obvious shortcomings in the previous scholarship. The most serious one, it seems to me, is that our understanding of the delta's economy prior to the turn of the twentieth century remains quite fragmented. We know much about particular aspects of the economy — such as agriculture, rural



# **The Economy of Lower Yangzi Delta in Late Imperial China**

Connecting money, markets, and institutions

**Edited by Billy K.L. So**

# Contents

First published 2013

by Routledge  
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN  
Simultaneously published in the USA and Canada  
by Routledge  
711 Third Avenue, New York, NY 10017

*Routledge is an imprint of the Taylor & Francis Group, an informa business*

© 2013 Selection and editorial matter, Billy K.L. So; the contributors,  
their contributions.

The right of the editor to be identified as the author of the editorial  
material, and of the authors for their individual chapters, has been asserted  
in accordance with sections 77 and 78 of the Copyright, Designs and  
Patents Act 1988.

This publication was licensed by Academia Sinica, the worldwide  
Exclusive Licensee.

All rights reserved. No part of this book may be reprinted or reproduced or  
utilized in any form or by any electronic, mechanical, or other means, now  
known or hereafter invented, including photocopying and recording, or in  
any information storage or retrieval system, without permission in writing  
from the publishers.

*Trademark notice:* Product or corporate names may be trademarks or  
registered trademarks, and are used only for identification and explanation  
without intent to infringe.

*British Library Cataloguing in Publication Data*

A catalogue record for this book is available from the British Library

*Library of Congress Cataloguing in Publication Data*

So, Billy K.L. (Billy Kee Long), 1952–

The Economy of Lower Yangzi Delta in late imperial China: connecting  
money, markets, and institutions/Billy K.L. So.

p. cm. – (Academia Sinica on East Asia)

Includes bibliographical references and index.

1. Yangtze River Delta (China)—Economic conditions. 2. China—

Economic conditions—1644–1912. I. Title.

HC428.Y3S6 2012

330.51'13203—dc23

2012006988

ISBN: 978-0-415-50896-4 (hbk)

ISBN: 978-0-203-10183-4 (ebk)

Typeset in Times New Roman  
by Wearset Ltd, Boldon, Tyne and Wear

*List of illustrations*

*Contributors*

*Acknowledgments*

ix

xii

xv

## 1 Economic values and social space in the historical Lower Yangzi Delta market economy: an introduction

1

BILLY K.L. SO

## PART I

### Money, productivity, and price: a matter of economic values

15

### 2 Cycles of silver in Chinese monetary history

17

RICHARD VON GLAHN

### 3 Cotton textile production in Jiangnan during the Ming–Qing era and the matter of market-driven growth

72

HARRIET T. ZURNDORFER

### 4 Agricultural productivity in early modern Jiangnan

99

GUANGLIN LIU

### 5 Copper, silver, and tea: the question of eighteenth-century inflation in the Lower Yangzi Delta

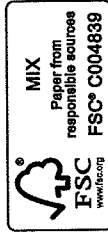
118

SUI-WAI CHEUNG

### 6 An early modern economy in China: a study of the GDP of the Huating-Lou area, 1823–1829

133

BOZHONG LI



Printed and bound in Great Britain by  
CPI Group (UK) Ltd, Croydon, CR0 4YY