

## **Chapter Four:** **Market Integration And** **Over-Production In The Yangzi**

Grain prices are not merely a matter of fluctuations in the value of money. They also are affected by the relationship between supply and demand, in which demographic changes and agricultural production are essential issues.

Many eighteenth-century Chinese bureaucrats had the impression that the population was growing. In 1748, for example, when the Qianlong emperor ordered all provincial governors to submit individual reports on why grain prices were escalating under his rule, the officials unanimously reported that the price increase was caused by population growth, which was itself a result of the enduring peace and prosperity.<sup>1</sup>

Unlike most officials, Hong Liangji saw population growth as a menace to social stability. When a Junior Compiler (*Bianxiu*) in the Hanlin Academy at Beijing, Hong was sent to inspect schools in Guizhou province in 1792. During his short visit there, he wrote some essays on national affairs, and in one of them addressed the harm of a continuing imbalance between population size and agricultural production. Hong warned that the total amount of farmland in the empire had expanded five-fold in the past hundred years, but the population growth had been twenty-fold, and he suggested the court begin to consider how to save the empire from a possible rebellion, resulting from a rise in grain prices and a decline in wages. Hong did not, however, provide data to support his hypothesis.<sup>2</sup>

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<sup>1</sup> See Chuan, "Qianlong shisannian de migui wenti," pp. 547-66; Cheung Sui-wai, "Qingdai de miliang shichang guannian," *Xinya shuyuan lishi xuexi xikan*, vol. 8 (1990): 35.

<sup>2</sup> Hong Liangji wrote the essay on population in 1793, which was later compiled in his "Juanshige wen jiaji" (n.d.; in *Sibu beiyao: jibu*, vol. 549 [Taipei: Zhonghua shuju, 1981], repr. from Hong Liangji, *Beijiang yishu*, n.d.), 6b-8b.

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The hypothesis of a food crisis in China due to overpopulation, though unsupported by evidence, seemed to have been widely accepted among contemporary Europeans. In 1798, renowned classical economist Thomas Malthus (1766-1834) published in London his influential study, *An Essay on the Principle of Population*. Malthus had never traveled to China, nor does he seem to have studied China's economy in any serious way. Nevertheless, in this study he asserted that almost all the land in China had already come under tillage, and therefore the country was unable to support any extra population. In this light he wrote:

[It] appears . . . that the redundant population, necessarily occasioned by the prevalence of early marriages, must be repressed by occasional famines, and by the custom of exposing children, which, in times of distress, is probably more frequent than is ever acknowledged to Europeans.<sup>3</sup>

In 1959 Ping-ti Ho popularized the idea of a Malthusian Crisis and applied it to political changes in modern Chinese history. Following Malthus, Ho stressed that traditional Chinese culture lacked rational methods of birth control. Ho believed that the optimum population size in the Qing, as corresponding to agricultural output, was reached between 1750 and 1775; and indeed, during the last quarter of the century, some contemporaries like Hong Liangji were alarmed by the lowered standard of living. The population continued to grow exponentially until the Taiping Rebellion (1851-1864), which caused the deaths of more than 30 million people along the Yangzi valley, checked the excessive population growth. To support this theory, Ho provided Qing government data from government documents and local gazetteers. He showed that China's population increased dramatically, from 143 million to 295 million, between 1741 and 1800, and to a high of 429 million in 1850, on the eve of the Taiping Rebellion.<sup>4</sup> But Ho failed to show how the rebellion demonstrated that the population was

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<sup>3</sup> Thomas Malthus, *An Essay on the Principle of Population* (1798; repr. New York: W. W. Norton and Company, 1976, 2004), pp. 31-2.

<sup>4</sup> Ho, *Studies on the Population of China*.

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excessive, or link it clearly to the millions of deaths caused by the Taiping uprising.

With the population data provided by Ho, the idea of over-population became more popular in the writings of modern scholars. Dwight Perkins subscribed to this view, although he emphasized agricultural development in peripheral regions as the major contributing factor, pointing out that China had begun to run out of cultivable land by the nineteenth century. Perkins stressed that only the Taiping Rebellion kept the rising population from outstripping China's food supply.<sup>5</sup> Similarly, Mark Elvin's discussion of the failure of industrialization in China focused on population. Elvin argued that the abundance of cheap labor made the invention of labor-saving machinery unnecessary. For these reasons the Yangzi delta fell into a "high-level equilibrium trap" that delayed China's industrialization.<sup>6</sup> Philip C. C. Huang argued that population growth forged the structure of pre-liberation society, diminishing the marginal returns in agriculture, and shrinking productivity and income. This process, which Huang called "involution," had a harmful effect on agricultural workers. They could not support their households on their wages; most of them clung to a small farm, whose produce was indispensable for subsistence, while also taking employment as proletarian workers. In this economy, increased numbers of people were tied both to family farming and to wage labor, unlike European proletarians who were completely severed from family farming. It was this combination of long-term semi-proletarianization with short-term natural or man-made calamities that made the condition of poor peasants in China so desperate.<sup>7</sup>

But while the theory of excessive population growth has become a useful tool to explain many social and economic changes in modern and contemporary Chinese history, recent studies have raised doubt over whether the actual population growth constituted a crisis. Bozhong Li conducted a quantitative

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<sup>5</sup> Perkins, *Agricultural Development in China*, pp. 26-9, 184-6.

<sup>6</sup> Elvin, *The Pattern of the Chinese Past*, pp. 298-315.

<sup>7</sup> Huang, *The Peasant Economy and Social Change in North China*, pp. 293-9; *idem*, *The Peasant Family and Rural Development in the Yangzi Delta, 1350-1988* (Stanford, California: Stanford University Press, 1990), p. 12.



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study on the population increase and agricultural production in the Yangzi delta, or the Jiangnan region, and found that the theory of a population crisis was actually a romantic image that scholars should avoid. Li argued that the Jiangnan population actually grew quite slowly – at only about 0.3 per cent a year – between 20 million in 1620 and 36 million in 1850. He stressed that the low growth rate was not a result of the so-called Malthusian checks that included wars, natural disasters, and epidemic diseases, but of demographic behavior. The Jiangnan people employed a wide range of birth control methods, including contraception, delayed marriage, abortion, infanticide, and sterilization.<sup>8</sup> Would food be a problem with the mild annual increment of 0.3 per cent, albeit an increment added to an already large population? Li argued that Jiangnan's agriculture developed along with this demographic change: first, there was an increase in the rational use of available agricultural resources like cultivated land, water, human labor, and animal labor; second, there was a rise in production, that is, in increasing the labor and capital invested in a given area of cultivated land to provide a larger yield.<sup>9</sup> In sum, the theory of over-population has been exaggerated, at least in the populous Yangzi delta.

Echoing Li's study, James Lee and Wang Feng disagreed with the Malthusian perception applied by Ping-ti Ho to the traditional Chinese, which held that they did nothing to control their population in a rational manner. On the basis of Chinese genealogies and household registers, Lee and Feng argued that Chinese marital fertility was significantly lower than European marital fertility. The low fertility was an outcome of three demographic mechanisms: late-starting childbearing, early-stopping childbearing, and long birth intervals. The theory of over-population in eighteenth-century China was a myth, an inaccurate reflection of the realities.<sup>10</sup>

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<sup>8</sup> According to Li, the cotton oil consumed by many poor people in Jiangnan contained a modest amount of gossypol, which has a strong contraceptive function. See Li, *Agricultural Development in Jiangnan*, p. 20.

<sup>9</sup> *ibid.*, pp. 3-38.

<sup>10</sup> See James Z. Lee and Wang Feng, *One Quarter of Humanity: Malthusian Mythology and Chinese Realities, 1700-2000* (Cambridge,



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Building on these recent studies, Kenneth Pomeranz has abandoned the theory of population pressure to explain the slow development of China's industrialization. Instead, he argues that the Yangzi delta did reach a stage of proto-industrialization in the early Qing, but its industrial development was disrupted by the depletion of timber. In order to sustain its industrial growth, the Yangzi delta had for a long period imported food, timber, and bean cakes from the middle Yangzi (Jiangxi, Hunan, Hubei, and Sichuan provinces) and Shandong. During the last quarter of the eighteenth century, however, as many of these peripheral regions themselves developed industrially, such supplies ceased. Under these circumstances, the delta could not make the transition from proto-industrialization to industrialization, and, in the nineteenth century, the nine macro economic regions suggested by G. William Skinner appeared in China instead of a grand integrated economy. Taking Hunan as an example, Pomeranz showed that the province had long exported food to the Yangzi delta in return for industrial goods. But in the late eighteenth century, the Hunan hillsides were developed for agriculture, and farmers there began to grow peanuts, tea, and various oilseed crops. In their desire to trade for these crops, the lowland population began to sell their rice to the highlanders, reducing the amount of rice they exported to the Yangzi delta.<sup>11</sup> But Pomeranz does not take into account the rice that was still widely grown in the delta.

In this chapter, I shall show that the long-distance rice trade actually shrank in the late eighteenth century, demonstrating that it was not population pressure that drove the price trend, though I am not opposed to the idea of rapid population growth at this time. What I do not accept is Pomeranz's suggestion that the phenomenon was a consequence of Hunan's industrial development. Instead, I shall emphasize the results of the harvest, especially those in the Yangzi delta, as the major factor in the grain market.

When dealing with the question of rice sufficiency, I shall avoid basing judgments on estimates of rice production divided by population size. This methodology, applied by many

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Massachusetts, and London, England: Harvard University Press, 1999), pp. 83-92.

<sup>11</sup> Pomeranz, *The Great Divergence*, pp. 13, 22, 215, 225-6, 228, 246-8.

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population studies, does not show changes in rice demand as it ignores two basic facts. In the first place, rice was never the single food choice, even in central and southern China. People could eat cheaper food, like sweet potatoes, in times of food shortage. In other words, the demand for rice changed from time to time depending on the market conditions. In the second place, if the region under study was not a single market, there was not necessarily a correlation between the supply of food and its demand. In this light, I shall begin by discussing the meaning of rice consumption in the Yangzi delta, and then outline the extent of the rice market, with Suzhou as the centre.

### *The Choice Of A Staple Food*

In the Ming and Qing, rice was not a staple food for the poor. In the sixteenth century, according to the scholar Tian Yiheng (fl. 1570), poor families in the delta consumed wheat, barley, buckwheat, soybean, black bean, broad bean, and millet, instead of rice.<sup>12</sup> Eighteenth-century writers also observed that only better-off families ate rice as a staple. In 1738, the Shandong Governor suggested that famine-stricken Jiangsu buy millet and beans from his province; Nasutu, the Governor-general of Liang-jiang, declined the suggestion and replied: "The people in Jiangnan are used to eating rice, they do not eat coarse food (*zaliang*)."<sup>13</sup> In a memorial sent a month later, Nasutu added that Shandong millet and beans could be sold only in northern Jiangsu, a poor region, because the eating habits of that region were similar to those in Shandong.<sup>14</sup> Nasutu's tone in these two memorials reflected a rather snobbish pride in the wealthier lifestyle of southern Jiangsu, as indicated by its people's daily rice consumption.

Consumption habits are important in determining the amount of rice traded in the Ming-Qing period. When Chuan and Kraus reckoned that Taicang faced a grain deficit because much of its land was given to cotton, that was only half the story.<sup>15</sup> The

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<sup>12</sup> Tian Yiheng, *Liu qing riza*, (1573; repr. Jiangsu: Shanghai guji chubanshe, 1992), p. 482.

<sup>13</sup> *Zhupi zouzhe*, microfilm, reel no. 54, pp. 2351-4 (QL 3.9.21).

<sup>14</sup> *ibid.*, pp. 2423-30 (QL 3.10.12).

<sup>15</sup> Chuan and Kraus, *Mid-Ch'ing Rice Markets and Trade*, pp. 64-5.

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other half, implied in Nasutu's memorial above, was that people in the Yangzi delta cash-cropping areas were generally rich and therefore ate rice instead of coarser foods. Abe Takeo made this point tersely in his study on the grain supply in the Qing, noting that when we consider the common desire to eat higher quality food, the supply of rice, which was a status food, was really not enough.<sup>16</sup>

Furthermore, certain varieties of rice were considered higher quality than others. According to Shen Chiran (1745-1816), a Hangzhou scholar, people in the wealthiest prefectures of the Lake Tai basin, including Hangzhou, Jiazhou, Huzhou of Zhejiang, and Suzhou of Jiangsu, considered the rice grown in the middle Yangzi, known as *xian*, not just inferior but inedible. They ate only local rice, or *geng*, which cost more but was better in taste and texture. In order to have local rice all year round, people in these prefectures removed its husk, stored it in ceramic urns, and buried the urns in the twelfth lunar month. The rice preserved in this way was called "rice hulled in the winter" (*dongchongmi*).<sup>17</sup> This account indicates that choices based on price and quality must be considered in any discussion of trade patterns, just as urbanization and cropping are.

Shen's account allows us to depict the long-distance rice trade on the Yangzi in the eighteenth century. The rice grown in the delta was superior to that grown in other parts of the Yangzi valley. The local people considered it particularly tasty, but it was so expensive that only the wealthy could afford it. Ordinary people ate the *xian* grown in the middle Yangzi valley. Many rich people in the Yangzi delta regarded *xian* as inedible, but its retail price was usually cheaper even after long-distance transport. It is reasonable to assume that the size of the long-distance market depended on the price difference between *geng* and *xian*. When

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<sup>16</sup> Abe, "Beikoku jukyū no kenkyū", p. 493.

<sup>17</sup> Shen Chiran, *Hanye congtao* (xu dated 1808; comp. in *Youmanlou congshu*, n.p., 1924; repr. Jiangsu: Guangling guji keyinshe, 1986), 3/15a. That the local *geng* cost more than *xian* is also shown by Norimatsu Akifumi. According to his statistics, the retail price of *xian*, using Suzhou as an example, was usually 0.3 to 0.4 tael of silver per *shi* cheaper than the local *geng*. See Norimatsu, "Yōzeiki ni okeru beikiku ryūtsū to beika hendō," pp. 158-62.



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the price difference was large, the long-distance trade on the Yangzi was prosperous; when it was small, the trade shrank.

### *Suzhou As The Central Rice Market*

Yeh-chien Wang observed that the five macro-regions in central and southern China—consisting of the lower Yangzi (or the delta), the middle Yangzi (inclusive of Jiangxi, Hunan, Hubei, and Sichuan Provinces), the Lianghuai region (northern and southern territories of the lower Huai River), Fujian Province, and Guangdong Province—were integrated into a single rice market, with Suzhou prefecture as its centre.<sup>18</sup>

The city of Suzhou is almost as old as Rome, but low-lying plains and marshy lowlands made up the bulk of the prefecture in the first millennium. Only in the twelfth century did official initiative and local entrepreneurship transform the landscape into rich agricultural land, giving rise to the adage: “When Suzhou and Huzhou ripen, the empire has enough.”<sup>19</sup> According to Shiba Yoshinobu, agricultural development in Suzhou corresponded to political development in the Song. In 1127, when Jurchen conquest of north China forced the Song court to move south to Hangzhou, the court secured the Huai River as its foremost northern border in the east, but regarded the Yangzi River as its second northern frontier. The three biggest military garrisons along the Yangzi at that time were E'zhou, Jiankang (Nanjing in the Ming and Qing), and Hangzhou. Since the grain tax was insufficient to feed soldiers in these garrisons, the Song government had to buy rice on the market. Hangzhou, the Southern Song capital, imported rice from neighboring prefectures, especially Suzhou, Xiuzhou, and Huzhou.<sup>20</sup>

The grain trade on the Yangzi began to decline in the latter half of the thirteenth century, when military skirmishes in the middle and lower Yangzi Valley disrupted the flow of traffic. Then in 1276 Hangzhou fell to Mongol invaders, and the resulting

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<sup>18</sup> Wang, “Food supply and grain prices in the Yangzi delta in the eighteenth century,” pp. 445-6

<sup>19</sup> Michael Marme, *Suzhou: Where the Goods of All the Provinces Converge* (Stanford, California: Stanford University Press, 2005), p. 2.

<sup>20</sup> Shiba Yoshinobu, *Sōdai keizaishi no kenkyū* (Tokyo: Kazama Shobo, 1968), pp. 154-67.

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decline in Hangzhou's urban population reduced its need for long-distance grain. Under the Yuan, the new capital was established at Beijing, far from the Yangzi; other than the grain tribute, the grain trade between the two regions was minimal.

Beginning in the late sixteenth century, as Kawakatsu Mamoru has pointed out, the grain trade revived and flourished on the Yangzi. As a result of commercial development, the Yangzi delta now suffered a chronic shortage of local grain and needed to import much grain from upstream. This long-distance grain market expanded to include rice from Jiangxi, Hunan, and Hubei.<sup>21</sup> The central rice market now became Suzhou. Unlike Southern Song Hangzhou or early Ming Nanjing, Suzhou was not a political capital but a commercial emporium; a place of silk and tea. Importing grain from upstream on the Yangzi, and raw cotton from North China via the canal, Suzhou exported finished goods and luxury products in all directions, particularly to Beijing and other cities. Merchants from its neighboring prefecture, Huizhou, were well positioned to tap into this rising economy. They sojourned in large numbers in Suzhou, buying silk along the Yangzi River and the Grand Canal. They also were involved directly with overseas commerce.<sup>22</sup>

Although Yeh-chien Wang asserted that with Suzhou as its centre, the five macro-regions in central and southern China were integrated into a single rice market, he did notice that Guangdong was less integrated in the Yangzi rice market. He showed that the correlation coefficient of rice prices was 0.7 between Suzhou and each of the prefectures of Hangzhou, Quanzhou, Hanyang, and Huaian, but only 0.4 between Suzhou and Guangdong. (See Map 4.)<sup>23</sup> This phenomenon fits Chen Chunsheng's observation that the Lingnan region (of Guangdong Province and Guangxi Province) formed another integrated rice market in the eighteenth century. Chen argued that with the city of Guangzhou as its distribution centre, Guangdong imported rice from Fujian, Jiangxi, and Hunan, but most of all from Guangxi,

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<sup>21</sup> Kawakatsu Mamoru, *Min Shin Kōnan nōgyō keizaishi kenkyū* (Tokyo: Tokyo daigaku shuppankai, 1992), pp. 206-19.

<sup>22</sup> Marme, *Suzhou*, pp. 38-9, 147 and 197.

<sup>23</sup> Wang, "Food supply and grain prices in the Yangzi delta in the eighteenth century," Table 6 (p. 450).

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via the West River (or Xi River). Chen estimated that trade on the West River reached 3 million *shi* of husked rice annually.<sup>24</sup>

If that is true, then the rice trade probably was organized in two large macro-regional, integrated markets, both taking shape in the eighteenth century, with Suzhou and Guangzhou as their hubs.

Located midway between Suzhou and Guangzhou, Quanzhou in Fujian could import rice from both markets. Wang argued that Quanzhou imported rice mainly from Taiwan. He did not estimate the volume of the rice trade between Guangdong and Quanzhou, but indicated that Quanzhou and its nearby prefecture, Zhangzhou, annually imported 1 million *shi* of husked rice from Taiwan, but only between 200,000 to 700,000 *shi* from Suzhou.<sup>25</sup> These figures imply that between the two large macro-regional rice markets, there was a third integrated rice market which encompassed Zhangzhou-Quanzhou and Taiwan; but judging from the trade amounts, this market, with its centre at Zhangzhou-Quanzhou, was relatively small.

Compared to Guangxi and Guangdong, the rice trade in the Yangzi valley, at about 10 million *shi* annually, was much larger. According to Chuan and Kraus, this huge amount of rice was first transported to Suzhou, and then redistributed to other rice-deficit prefectures within Jiangsu province, as well as to the two neighboring coastal provinces of Zhejiang and Fujian.<sup>26</sup> Rice shipped downriver to Suzhou came from as far west as Chongqing, with Hankou town in Hanyang prefecture as the most important distribution centre on the route. Every autumn, merchants from the Yangzi delta came to Hankou to buy rice from local brokers, who had gotten it from rice-growing regions in Hubei, Hunan, and even Sichuan.<sup>27</sup> The merchants shipped this rice down the Yangzi

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<sup>24</sup> Chen Chunsheng, *Shichang jizhi yu shehui bianqian: shiba shiji Guangdong mijia fenxi* (Guangdong: Zhongshan daxue, 1992), pp. 45-6.

<sup>25</sup> Yeh-chien Wang, "The food supply in eighteenth-century Fukien," *Late Imperial China* 7, no. 2 (Dec., 1986): 90-5.

<sup>26</sup> Chuan and Kraus, *Mid-Ch'ing Rice Markets and Trade*, pp. 60-3.

<sup>27</sup> Hunan Governor Zhao Shenqiao wrote in 1709 that rice merchants from Jiangsu and Zhejiang came to Hankou because the Hunan rice exported to these provinces came through Hankou. This and other official documents by Zhao Shenqiao were later compiled in the *Zhao*



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River to the town of Fengqiao, 7 *li* (4 kilometers) west of Suzhou city.

A 1743 memorial by the Suzhou Governor Chen Dashou noted Fengqiao's importance:

I humbly observe that Suzhou, as the centre of all directions, relies on sojourning merchants for more than half of the rice it consumes... For this reason, along the riverbanks of the Fengqiao town, [the tasks of] unloading rice from junks and putting it into warehouses (*zhan*) are conducted every day.<sup>28</sup>

Chen depicted a busy scene on the riverbanks, where traveling merchants sought local buyers or transported rice to other regions. The cities of the Yangzi delta in Jiangsu, no doubt, were among the most important buyers, but substantial amounts of rice were sent to Zhejiang and Fujian as well.

### *The Rice Trade Between Suzhou And Zhejiang*

Although Zhejiang province is bordered by the three Yangzi provinces of Jiangxi, Anhui, and Jiangsu, it only obtained grain from Jiangsu. Transport between Jiangxi and Zhejiang would have been over mountain trails.<sup>29</sup> Between Zhejiang and Anhui rivers provided transport, but led to wealthy and rice-deficient Huizhou, which had to be supplied via Zhejiang. (See Map 5).<sup>30</sup>

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*Gongyigong zizhi guanshu* (n.d.; repr. 1850), 6/75a-77b. In 1755, the Governor-general of Hunan and Hubei also remarked that Hankou was the major market for rice from Hunan and Sichuan. See *Lufu zouzhe*, microfilm, reel no. 50, pp. 1291-2 (QL 20.12.17). Other memorials which show Hankou as an important rice market in the middle Yangzi include *Zhupi zouzhe*, microfilm, reel no. 56, pp. 1727-30 (QL 14.2.28), reel no. 56, pp. 2877-9 (QL 22.2.26).

<sup>28</sup> *Lufu zouzhe*, microfilm, reel no. 49, p. 2039 (QL 8.3.3).

<sup>29</sup> The trails were all about 70 to 80 *li* (39-45 kilometers) long. See *Lufu zouzhe*, microfilm, reel no. 50, pp. 2092-3 (QL 27.11.16).

<sup>30</sup> According to a memorial by a Censor in 1730, rivers linked Anhui to Jiangxi and Zhejiang. Anhui imported rice from these two provinces. See *GZD-YZ*, vol. 16, p. 57 (YZ 8.3.26).

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Only Jiangsu had the surplus and the transport to sell rice to Zhejiang.<sup>31</sup>

Jiangsu was linked to Zhejiang by the sea coast and by rivers. But to curb piracy it had since the early Qing been government policy that junks on the coast could carry no more than 50 *shi* of rice for their own consumption,<sup>32</sup> so Zhejiang was unable to import much rice from Jiangsu by sea. The export ban was sometimes lifted in times of famine, as happened in 1751 after Zhejiang Governor Yonggui made a special request.<sup>33</sup> But the coastal prefectures of eastern Zhejiang, such as Shaoxing and Ningbo, were not poor, themselves being major trading centres,<sup>34</sup> and a 1748 memorial claimed that they still produced their own rice, and were usually quite self-sufficient in it.<sup>35</sup> Looking at the map, it seems that, should they have needed it, Shaoxing and Ningbo could have gotten rice from Fengqiao via Hangzhou by canal. In reality, this rarely happened, since the route was long and arduous. Even when these prefectures needed rice in famine years, they requested temporary permission for sea transport. In the drought year of 1751, Zhejiang's Governor Yonggui sought temporary permission for the sea transport of rice,<sup>36</sup> noting that it was cheaper to import rice by sea than via the inland waterways.<sup>37</sup>

Western Zhejiang imported rice mainly from Fengqiao. The rice was sent to western Zhejiang by either the Shao River or the Grand Canal, primarily to the three highly commercialized prefectures of Hangzhou, Jiaxing, and Huzhou. During the Ming and Qing, their population had grown rich from the production of silk, some of which was exported from Guangzhou and some woven into cloth at Suzhou.<sup>38</sup> Being wealthy, Hangzhou, Jiaxing, and Huzhou purchased rice, mostly *xian*, from Suzhou. Evidence

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<sup>31</sup> GZD-YZ, vol. 16, p. 57 (YZ 8.3.26); *Gaozong shilu*, 215/25a (QL 9.4).

<sup>32</sup> *Shengzu shilu*, 232/8b-9a (KX 47).

<sup>33</sup> *Gaozong shilu*, 393/18a-b (QL 16.6).

<sup>34</sup> *Zhupi zouzhe*, microfilm, reel no. 56, pp. 947-50 (c. QL 13).

<sup>35</sup> *ibid.*, pp. 1270-6 (QL 13.7).

<sup>36</sup> *Gaozong shilu*, 393/18a-b (QL 16.6).

<sup>37</sup> GZD-QL, vol. 1, p. 661 (QL 16.9.14).

<sup>38</sup> [*Yongzheng*] *Zhupi yuzhi*, 41/52a (YZ 6.7.6); *Zhupi zouzhe*, microfilm, reel no. 56, pp. 947-50 (c. QL 13); GZD-QL, vol. 30, pp. 492-3 (QL 33.4.29).

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for the prosperity of this rice trade is provided by the growth of secondary rice markets, such as the towns of Pingwang, Nanxun, and Chang'an, which lay along the canal south of Fengqiao. Rice shipped from Fengqiao to western Zhejiang was first transported southward to Pingwang, where a portion was unloaded to sell in nearby Jiaxing prefecture. The rest was either transported west to Huzhou prefecture via Nanxun or south to Hangzhou prefecture via Chang'an.<sup>39</sup>

Official memorials show that the quantities of rice transported from Fengqiao to western Zhejiang were very large, even when the harvest in Zhejiang was good. In a memorial of the seventh lunar month of 1751, when Zhejiang suffered from drought and poor harvests, Yonggui, the Zhejiang Governor, said that even in good harvest years, Zhejiang imported 2 to 3 million *shi* of rice from Fengqiao.<sup>40</sup> In the difficult year of 1751, 239,000 *shi* of rice was shipped from Fengqiao to western Zhejiang in a single month.<sup>41</sup> In the fourth lunar month of the next year, the amount reached 100,000 *shi* every day.<sup>42</sup>

Thus Suzhou, as the central rice market along the Yangzi, provided rice not only for southern Jiangsu, but also for western Zhejiang. In contrast, there was no consistent flow of rice from Suzhou to Fujian, as I shall show in the following section.

### *The Rice Trade Between Suzhou And Fujian*

In Fujian province the prefectures of Fuzhou, Zhangzhou, and Quanzhou on the coast, and Tingzhou in the interior, suffered from chronic rice shortages due to the high population density. (See Map 6.) Yeh-chien Wang has estimated that 9 to 10 million people lived in the twelve prefectures of Fujian at mid-century, with half of them in the above four prefectures.<sup>43</sup> Besides

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<sup>39</sup> Both Liu Shiji and Fan Shuzhi trace the development of these towns in the Ming-Qing period. See Liu, *Ming-Qing shidai Jiangnan shizhen yanjiu*, pp. 66-7; and Fan Shuzhi, *Ming-Qing Jiangnan shizhen tanwei* (Shanghai: Fudan daxue chubanshe, 1990), pp. 296-9 (Pingwang town), pp. 432-51 (Nanxun town) and pp. 402-4 (Chang'an town).

<sup>40</sup> *GZD-QL*, vol. 1, p. 142 (QL 16.7.13).

<sup>41</sup> *GZD-QL*, vol. 2, p. 31 (QL 16.11.23).

<sup>42</sup> *GZD-QL*, vol. 2, p. 744 (QL 17.4.22).

<sup>43</sup> Wang, "The food supply in eighteenth-century Fukien," pp. 81-7.



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population density, the “desire to eat higher quality food” was especially prevalent in those urbanized prefectures, contributing to the rice shortage.

It is true that many Fujianese were too poor to eat rice. The Acting Jiangsu Governor, Yaerhashan, wrote in 1749: “With regard to the sweet potatoes in Fujian province, 60 to 70 per cent of the poor people rely on them for food. Each catty costs only 2 to 3 *wen* [of copper cash].” In 1751, another Fujian Governor, Pan Siju, stated: “The poor families in Zhangzhou and Quanzhou have mostly sweet potatoes as their daily staple. Therefore, 60 to 70 per cent of [their] hilly land [is used] to grow sweet potatoes.” In 1752, Chen Hongmou, who had in that year taken over as governor of Fujian, said in his memorial: “Now, sweet potatoes and other *zaliang* are bountifully harvested everywhere. They are cheap and filling. Poor people are glad to buy them for their meal.”<sup>44</sup>

Fuzhou, the provincial capital, on the other hand, and the two coastal, commercialized prefectures of Zhangzhou and Quanzhou, had a higher living standard than other Fujian prefectures, and their people could afford to eat more rice.<sup>45</sup> Still, it was difficult for Fujian to import rice from the north through the interior. Jiangxi to the northwest, a well-known rice-producing province, was separated from Fujian by mountains. There were no suitable rivers, not even the Min, which could be used to transport grain from Jiangxi through the mountain range to the affluent cities of Fujian’s coast. The rice trade between Fujian and the two provinces to the north was for this reason limited to very small amounts, mostly carried overland by small-scale peddlers.<sup>46</sup>

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<sup>44</sup> *Zhupi zouzhe*, microfilm, reel no. 56, pp. 1809-15 (QL 14.4.25); *GZD-QL*, vol. 1, p. 743 (QL 16.9.21); *GZD-QL*, vol. 4, p. 182 (QL 17.10.28). Yeh-chien Wang also observed the widespread consumption of sweet potato in Fujian; see his “The food supply in eighteenth-century Fukien,” p. 89.

<sup>45</sup> Tingzhou was a mountainous prefecture in westernmost Fujian. Although Yeh-chien Wang suggested that it had rice shortages, information on its rice trade is rare, suggesting that such trade was insignificant.

<sup>46</sup> *GZD-YZ*, vol. 7, p. 446 (YZ 5.2.10), vol. 7, p. 907 (YZ 19.4.6); vol. 14, p. 200 (YZ 21.4.16), vol. 14, p. 205 (YZ 21.4.16).

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Furthermore, despite being a coastal province, the ban on maritime trade meant Fujian could not import much rice from Zhejiang or Jiangsu by sea; illegal rice transport between Fujian and the northern provinces was minimal due to the difficulties of navigation. Before the advent of the steamship, sea traffic was dependent on the prevailing wind. Junks could sail south from Suzhou to Fujian from the autumn on, but Fujian needed rice in the spring. The most severe grain shortages occurred in the second and third lunar months. From the early eighteenth century, Fujian officials regularly held reduced-price sales in Zhangzhou and Quanzhou to relieve shortages during these two months.<sup>47</sup> By the fourth lunar month, the internal grain supply in the province came into effect with the wheat harvest.<sup>48</sup> The first crop of rice was harvested in the sixth lunar month, and the second crop of rice in the ninth lunar month.<sup>49</sup> All of Fujian's major rice-growing areas—including Jianning, Yanping, Shaowu, and Taiwan—grew rice for the second crop.<sup>50</sup> By the time the northeastern prevailing wind blew, in the tenth lunar month, rice markets in Fujian were plentifully supplied with domestic rice, and had no need of northern rice.

The discordance between the prevailing wind and the market cycle is shown in the following case. In Fujian in 1726, rice prices were still high in the fifth lunar month; in Zhangzhou and Quanzhou prefectures, rice cost from 2.1 to 2.3 taels of silver per *shi*.<sup>51</sup> The rice shortage (and resultant high price) was caused

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<sup>47</sup> *GZD-YZ*, vol. 7, p. 138 (YZ 4.12.20). See also [*Yongzheng*] *Zhupi yuzhi*, 45/111a (YZ 4.12.20).

<sup>48</sup> Like sweet potatoes, wheat was not a preferred food, but an important coarse food (or *zaliang*) for the poor. Its extensive cultivation is shown by frequent memorials of its harvests. See *GZD-QL*, vol. 2, p. 868 (QL 17.5.2), p. 876 (QL 17.5.2); vol. 7, p. 907 (QL 19.4.6); vol. 10, p. 853 (QL 20.3.5); vol. 64, p. 148 (QL 52.4.26).

<sup>49</sup> *GZD-YZ*, vol. 11, p. 690 (YZ 6.11.5); *GZD-QL*, vol. 1, p. 438 (QL 16.8.18); vol. 3, p. 299 (QL 17.7.4); vol. 18, p. 541 (QL 28.7.22); vol. 21, pp. 55-6 (QL 29.6.7); vol. 34, pp. 693-4 (QL 39.2.29); vol. 52, p. 156 (QL 47.6.19); vol. 56, p. 131 (QL 48.5.12).

<sup>50</sup> *GZD-YZ*, vol. 8, p. 303 (YZ 5.6.4); *GZD-QL*, vol. 1, p. 438 (QL 16.8.18); vol. 18, p. 541 (QL 28.7.22); vol. 21, pp. 55-6 (QL 29.6.7); vol. 52, p. 156 (QL 47.6.19); vol. 56, p. 131 (QL 48.5.12).

<sup>51</sup> *GZD-YZ*, vol. 5, p. 890 (YZ 4.5.4).

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by the heavy drain of rice to neighboring Chaozhou in Guangdong province, where the rice harvest that year had been decimated by floods.<sup>52</sup> High prices spread from Chaozhou to Zhangzhou and Quanzhou, and on to Fuzhou. According to an official memorial, in the fifth lunar month more than 40,000 people from Zhangzhou and Quanzhou came to Fuzhou every day to purchase rice.<sup>53</sup>

The imperial government acceded to Fujian Governor Mao Wenquan's request to have 150,000 *shi* of rice transported over the mountains from Jiangxi to Fujian.<sup>54</sup> At other times of the year this shipment could have come by sea, shipping the rice down the Yangzi River to Suzhou and then Shanghai, and transferring it to ocean-going vessels bound for Xiamen, the Fujian port. But the prevailing wind did not favor such a shipment, so Mao decided to use the under-developed land route instead, and asked the Jiangxi government to bring 150,000 *shi* of rice to the border between the two provinces.<sup>55</sup>

Gao Qizhuo, the Governor-general of Fujian and Zhejiang, stated that the idea of transporting so much rice on a mountain trail some 70 *li* (39 kilometers) long was foolhardy. Gao emphasized the amount of labor and manpower needed for the project: a porter could only carry 7 *dou* (0.7 *shi*) of rice, so 214,000 porters would have to be hired to carry 150,000 *shi* of rice.<sup>56</sup> Although such transport was expensive and slow, in the face of famine the Yongzheng emperor approved it.<sup>57</sup>

Early in the sixth lunar month, the food shortage in Fujian worsened as it began to seem unlikely the province would have a good harvest for its own first crop, the weather being too dry for the rice plants to ripen.<sup>58</sup> At this critical juncture, Gao Qizhuo suggested transferring 70,000 *shi* of unhusked rice from the

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<sup>52</sup> Chen, *Shichang jizhi yu shehui bianqian*, p. 202. See also GZD-YZ, vol. 5, p. 754 (YZ 4.3.26), p. 892 (YZ 4.5.4).

<sup>53</sup> GZD-YZ, vol. 6, p. 46 (YZ 4.5.20).

<sup>54</sup> To begin with, Mao only asked for 100,000 *shi* of rice. The Yongzheng emperor not only permitted this amount, he added 50,000 *shi* to it. See GZD-YZ, vol. 6, p. 12 (YZ 4.5.14); *Shizong shilu*, 44/24a (YZ 4.5).

<sup>55</sup> GZD-YZ, vol. 6, p. 12 (YZ 4.5.14).

<sup>56</sup> *ibid.*, p. 302 (YZ 4.7.18).

<sup>57</sup> *ibid.*, p. 394 (YZ 4.8.1).

<sup>58</sup> *ibid.*, p. 208 (YZ 4.6.22).



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Zhejiang government granaries by sea.<sup>59</sup> But Gao's idea of sea transport was just as unrealistic as Mao's idea of land transport, since the wind was from the south, unfavorable to a shipment from north to south; the Zhejiang rice could not even begin its journey for at least another two months.

Then, in the last twelve days of the sixth lunar month, a continuous heavy rain in Fujian saved the rice crop. Governor Mao Wenquan claimed that the rain was the answer to his sincere prayers.<sup>60</sup> The harvest was good, and prices plummeted by the middle of the seventh lunar month, long before rice from Zhejiang was actually transported to Fujian. In Zhangzhou and Quanzhou prefectures, the retail price of each *shi* of rice had reached a peak of 3.9-4.0 taels; the price now returned to the normal level of 1.7-1.9 taels. The price of rice dropped sharply in Fuzhou, too: fresh rice there sold for just 1.5-1.6 taels per *shi*.<sup>61</sup> The famine in Fujian was over; starvation had been averted without help from Jiangxi or Zhejiang.

The first sea shipment of Zhejiang rice, 30,000 *shi* of unhusked rice, finally reached the port of Xiamen early in the ninth lunar month.<sup>62</sup> The rice from Jiangxi that came by way of mountain trails was even slower: by the second day of the ninth lunar month, only a little more than 10,000 *shi* had reached Fujian.<sup>63</sup>

The inter-provincial rice trade responded slowly to market changes in Fujian. Unlike western Zhejiang, Fujian had no close trade links with the provinces north of it, with connections to Jiangsu particularly weak. Tingzhou prefecture in the west did import rice from Jiangxi via mountain trails, but only in small amounts. Fujian also imported rice from Southeast Asian countries, sometimes up to 100,000 *shi* a year,<sup>64</sup> but this was not a

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<sup>59</sup> *ibid.*, p. 177 (YZ 4.6.19).

<sup>60</sup> *ibid.*, p. 208 (YZ 4.6.22).

<sup>61</sup> *ibid.*, p. 301 (YZ 4.7.16).

<sup>62</sup> *ibid.*, p. 521 (YZ 4.9.2).

<sup>63</sup> *ibid.*

<sup>64</sup> Qing government documents record that rice imported into Fujian from Southeast Asian countries was approximately 90,000 *shi* in 1752, 80,000 *shi* in 1754, 123,000 *shi* in 1755, and 92,000 *shi* in 1756. See Wang, "The food supply in eighteenth-century Fukien," p. 92.

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regular practice.<sup>65</sup> Instead the urban population in Fujian consumed mostly the province's own rice supply. As Yeh-chien Wang has documented, Fuzhou, on the lower reaches of the Min River, received a great deal of rice from the upper Min valley, including Jianning, Yanping, and Shaowu prefectures; while the other two prefectures with heavy demands, Zhangzhou and Quanzhou, imported rice from Taiwan.<sup>66</sup>

Thus most of the rice exported from the middle Yangzi valley went to southern Jiangsu and western Zhejiang. Eastern Zhejiang and Fujian only traded with this rice market when their own harvests were extremely poor.

### *Poor Harvests And Their Impact On Trade, 1700-1755*

There is a consensus among scholars that in the eighteenth century the Yangzi delta had to import a sizable amount of rice from the middle reaches of the valley to support its urban population. Han-sheng Chuan and Richard A. Kraus estimated the normal annual trade at 9-14 million *shi*, obtaining this figure by multiplying the non-agricultural population by per capita consumption of rice, and then subtracting the amount of rice likely to be supplied by local farms.<sup>67</sup> Using this method, Yeh-chien Wang ascertained that in the latter years of the century the delta needed to import 11-16 million *shi* annually.<sup>68</sup> These scholars considered rice to be the subsistence food in the Yangzi, and therefore did not take into account consumption choices between rice and sweet

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<sup>65</sup> A 1765 memorial stated that the Southeast Asian rice import was particularly high between 1754 and 1758, ranging from 90,000 to 120,000 *shi* annually, but sharply declined after 1758. By 1765, the amount was insignificant. The memorial gave two reasons for the decline. First, poor rice harvests in Southeast Asia led to higher prices for the grain. Second, Fujian merchants had imported grain from abroad to get imperial degrees, which, once awarded, gave the merchants little incentive for further trade. See *GZD-QL*, vol. 25, pp. 812-4 (*QL* 30.8.24).

<sup>66</sup> Wang, "The food supply in eighteenth-century Fukien," pp. 90-1.

<sup>67</sup> Chuan and Kraus, *Mid-Ch'ing Rice Markets and Trade*, pp. 60-5.

<sup>68</sup> Yeh-chien Wang, "Food supply and grain prices in the Yangtze delta in the eighteenth century," in his *Collected Essays in the Economic History of Qing China* (Taipei: Daoxiang chubanshe, 2003), vol. 3, p. 330.

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potatoes, or even between *geng* rice and *xian* rice. The major weakness of their studies, however, was the assumption that the high degree of urbanization in the delta made it necessary to import a sizable amount of rice. Abe Takeo and Wu Chengming went directly to the government documents to understand the rice trade; but since they also were preoccupied with the common idea of the “sizable minimum import of rice”, they used the year 1734—in which Hankou exported 5 million *shi* of rice to the delta in six months—to determine the average trade volume on the Yangzi. Takeo estimated 5-10 million *shi* as the annual trade volume, while Wu suggested 15 million *shi*.<sup>69</sup> As a matter of fact, the year 1734, as will be discussed below, was an exceptionally good trading year.

The size of the rice trade varied from year to year, but for the sake of easy comparison I will divide the analysis in two, with 1755 as the middle line. When the assumption of a high minimum trade volume due to population pressure is set aside, a completely different picture of the “Jiangnan economy” emerges, as we shall see.

The volume of the rice trade, in my opinion, was determined mostly by the price of rice. And, as many writers have pointed out, the price of rice was affected by seasonal cycles. In the Yangzi delta, where spring wheat and autumn rice were the two major crops, wheat was harvested in the fourth lunar month and rice between the sixth and the tenth.<sup>70</sup> If the rice harvest was poor, rice prices would soar until the wheat harvest in the fourth lunar month of the following year.

Poor harvests were frequent in the first half of the early eighteenth century. In 1724, flooding from storms in both Jiangsu and Zhejiang resulted in poor autumn harvests.<sup>71</sup> The food

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<sup>69</sup> Abe, “Beikoku jukyū no kenkyū,” p. 509; Wu, *Zhongguo ziben zhuyi yu guonei shichang*, pp. 256-7.

<sup>70</sup> Two kinds of rice, early ripening and late ripening, were grown in the delta, but the latter harvest was far more important. Early-ripening rice was harvested from the sixth through the eighth lunar month, depending on district, while the late ripening rice, in general, was harvested between the ninth and the tenth lunar month. See Wang, “Food supply and grain prices in the Yangzi delta in the eighteenth century,” p. 439.

<sup>71</sup> *GZD-YZ*, vol. 3, p. 254 (YZ 2.9.28).



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situation improved after a good wheat harvest in 1725, but a prolonged period of continuous rain, which is very harmful to rice near harvest time, struck these two provinces again in the autumn of 1726. The result was another poor harvest and high prices for rice.

The years of shortages and rising prices in the Yangzi delta stimulated the long-distance rice trade, especially between the sixth lunar month of any given year and the fourth lunar month of the following year. In the eleventh lunar month of 1724, the Governor of Sichuan wrote that after the autumn harvest 10 to 20 boats, each carrying 1,000 to 2,000 *shi* of rice, sailed east every day.<sup>72</sup>

The harvests from 1727 to 1731 went unnoticed in the archival records. From 1732 to 1755, however, poor harvests caused by either flood or drought occurred repeatedly in Jiangsu and Zhejiang. The rice trade along the Yangzi flourished. In the seventh lunar month of 1734, the Governor-general of Hunan and Hubei wrote:

Your servant thinks that Jiangsu and Zhejiang merchants have shipped [from Hankou] over 5 million *shi* of rice. In the meantime, [however] rice prices in Hunan and Hubei are still low.<sup>73</sup>

Five million *shi* was no small amount, and it seems likely that even more rice was subsequently traded, given that the price remained low. However, trade only reached this level when delta harvests were poor.

When trade increased, rice merchants became more aggressive. Previously, merchants waited in Hankou for rice boats from Hunan; now many merchants went to Hunan to buy directly from the boats. In 1739, the Hunan Administration Commissioner gave a vivid account of the proceedings:

I was also told that along the Heng River and Xiang River, the practice of “crafty shopkeepers (*puhu*) purchasing rice by jumping onto the boats” prevails.

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<sup>72</sup> *ibid.*, p. 399 (YZ 2.11.2).

<sup>73</sup> [*Yongzheng*] *Zhupi yuzhi*, 54/86b (YZ 12.7.8).

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As soon as they discover that boats are anchoring at the river banks, either they, relying on their own strength, “jump to purchase”, or they hire shameless ruffians to do so. Even when the boats are still at a distance of some ten feet from the bank, they stand on the edges of other boats, and use bamboo poles to jump over so that they can buy the rice they need. In other cases, they sail in small boats to block the way in order to make their purchase. The consequence is that weak people wait at riverbanks with no opportunity to buy rice, and the powerful people can buy up the rice to hoard it. The villagers (*xiangmin*), seeing this competition to purchase [their rice], raise its price and refuse to sell it at a low price.<sup>74</sup>

The demand created by poor harvests in the delta brought prosperity to Hunan rice farmers and merchants.

People also grew wealthy in the regions where food was scarce. Rice speculation was rampant in the delta. In two 1744 memorials, the Anhui Governor and the Zhejiang Administration Commissioner condemned the practice in their provinces. Many wealthy merchants amassed vast quantities of rice and pawned it, as a way of hoarding the rice, keeping it out of circulation, and driving up the price even higher. With the proceeds from the pawnshops, the merchants bought even more rice.<sup>75</sup> These merchants were making profits of up to 400 and 500 per cent.<sup>76</sup>

Such rampant speculation alarmed the Qing government, and in 1744 the Qianlong emperor permitted the Anhui governor to impose a ban on rice speculation in his province's pawnshops.<sup>77</sup> In 1745, the Board of Revenue demanded that all provincial governors investigate rice pawning and hoarding in their provinces and suggest ways to end it. In Suzhou City, however,

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<sup>74</sup> *Hunan shengli cheng'an* (Changsha, 1820), 34/46a-b.

<sup>75</sup> *Lufu zouzhe*, microfilm, reel no. 50, pp. 146-8 (QL 9.3.7); *Zhupi zouzhe*, microfilm, reel no. 55, pp. 2344-6 (QL 9.4.26); *Gaozong shilu*, 215/23b-24b. See Chapter Five for more about rice pawning and how the local and imperial governments dealt with it.

<sup>76</sup> From a censor's memorial. See *Lufu zouzhe*, microfilm, reel no. 50, pp. 203-5 (QL 9.5.27).

<sup>77</sup> *Gaozong shilu*, 215/23b-24b.

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the Jiangsu Governor Chen Dashou opposed such government control. He claimed that prohibiting rice pawning would be worse than useless; it would only force all the hoarders to move their rice out of Suzhou.<sup>78</sup>

The prohibition would not be imposed in Jiangsu for another two years, when, in 1747, in reply to a request from Censor Tang Pin, the Qianlong emperor banned rice pawning in all provinces.<sup>79</sup> The replacement of the dissenting Chen Dashou, Anning, now imposed the ban after a poor local harvest in the same year. In consequence, the grain shortage worsened. Famine was induced also in Zhejiang in 1747, when Governor Chang'an imposed a similar ban in Hangzhou, and drove up grain prices. According to a 1748 memorial by Fang Guancheng, Chang'an's successor, there were twenty-four private warehouses (*zhanfeng*) for rice storage in Hangzhou, where 200,000 *shi* of rice were always kept; but once the ban was imposed, all that rice was taken elsewhere. Worse still, merchants no longer brought rice to Hangzhou. The price of rice in Hangzhou, and throughout Zhejiang, skyrocketed. Thus the high price of rice in both Jiangsu and Zhejiang in 1748 was due more to the imperial court's anxiety about rice speculation than to the speculation itself.

After 1748, when the delta shortages ceased, the long-distance rice trade declined.<sup>80</sup> Then drought struck Zhejiang again in 1751, and large amounts of rice were once again exported from the middle Yangzi to the shortage area. In only the first six months of 1751 Sichuan exported 231,000 *shi* of rice.<sup>81</sup> In the seventh and eighth lunar months, a total of 800,000 *shi* of rice

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<sup>78</sup> *Zhupi zouzhe*, microfilm, reel no. 55, pp. 2718-21 (QL 10.1.8). Part of the content of this memorial was compiled later in *Qing jingshi wenbian*, under the name of Chen Dashou: "Fu buyi jin mitun he chengong shu". See *Qing jingshi wenbian*, 26/58a-59a.

<sup>79</sup> *Gaozong shilu*, 286/24a-25a.

<sup>80</sup> Jiangsu reaped a bumper crop of rice in the autumn of 1748. See *Gaozong shilu*, 320/24a-25b (QL 13.7). Then in 1749, "the price levels between Jiangxi-Huguang and Jiangnan-Zhejiang were equal. Rice trade was little," wrote the Governor-general of Liangjiang. See *GZD-QL*, vol. 3, p. 94 (QL 17.5.2).

<sup>81</sup> *GZD-QL*, vol. 1, p. 200 (QL 16.7.21).



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reached Suzhou, bound for Zhejiang.<sup>82</sup> Between the first day of the ninth lunar month and the eighth day of the tenth lunar month of 1751, Zhejiang rice merchants bought another 239,000 *shi* in Suzhou.<sup>83</sup> This increase in the rice trade was also recorded by the Hushu Customs, the last customs station down the Yangzi River before Suzhou (see Map 4), which reported that from mid-1751 to mid-1752 its tax revenue increased by 110,000 taels, mainly from the duty on rice.<sup>84</sup>

In autumn 1752, the Yangzi delta produced bumper crops.<sup>85</sup> Then in 1755 most of Jiangsu and parts of Zhejiang were flooded.<sup>86</sup> The damage to the rice crop seems to have prompted Sichuan alone to export 200,000 *shi* of rice to southern Jiangsu in the last three months of 1755.<sup>87</sup>

In sum, there were two general periods of prosperity for the long-distance rice trade in the first half of the century, from 1724 to 1727, and from 1732 to 1755. Both coincided with shortages in the delta and lasted only a total of sixteen years. After 1755, the situation changed dramatically.

### *Bumper Harvests And Over-Production, 1756-1800*

After 1755 bumper harvests became more frequent in the delta, and the long-distance rice trade increasingly dormant. Bozhong Li suggests that the widespread use of bean-cakes as fertilizer

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<sup>82</sup> From the seventh lunar month to the 21st day of the eighth lunar month, 700,000 *shi* of husked rice (*mi*) and 200,000 *shi* of unhusked rice (*gu*) left Hushu Customs for Zhejiang. See *GZD-QL*, vol. 1, p. 466 (QL 16.8.21).

<sup>83</sup> *GZD-QL*, vol. 2, pp. 31-2 (QL 16.11.23).

<sup>84</sup> *GZD-QL*, vol. 4, p. 76 (QL 17.10.6).

<sup>85</sup> In the fiscal year from mid-1752 to mid-1753, the Hushu Customs recorded a decrease in its tax income. The Jiangsu Governor attributed this to the bountiful harvest in the Yangzi delta: "I observe that the harvests in Suzhou, Songjiang, and Zhejiang were really bountiful. The prices of rice were low, [and therefore,] little rice was shipped by 'guest merchants' from Jiangxi and Huguang." See *GZD-QL*, vol. 8, p. 84 (QL 19.4.22).

<sup>86</sup> *Gaozong shilu*, 493/9a-b (QL 20.7), 497/28a-b (QL 20.9), 498/9a-b (QL 20.10), 499/37a-b (QL 20.10).

<sup>87</sup> *GZD-QL*, vol. 13, p. 504 (QL 21.1.19).

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increased rice yields; but such a process would have been gradual and would not explain the sudden good harvests.<sup>88</sup>

Bumper harvests in the delta began in the autumn of 1756, when Jiangsu and Zhejiang had abundant rice harvests, and “few [merchants] came to Hunan and Hubei to purchase rice.”<sup>89</sup> Similar reports were frequent in the last four decades of the century. In 1767, the delta yielded another bumper crop, and in the eleventh lunar month an imperial commissioner reported:

For several months, rainfall and sunshine have come at good times [for the growth of crops]. On my journey I discovered that the rice crop being harvested is exceptionally bountiful for recent years. In Songjiang prefecture, top-quality rice is [now sold at] 12 to 13 cash per *sheng* [i.e., 0.01 *shi*]. It is rumoured that this price is even lower than that in Jiangxi, Hunan, and Hubei. Suzhou prefecture is crowded with people, [but the price of rice] is less than 14 or 15 cash per *sheng*. [The rice prices] in other prefectures such as Changzhou, Zhenjiang, and Jiangning are roughly the same.<sup>90</sup>

That the price of rice in populous Jiangsu was lower than in Hunan and Hubei was corroborated by the Jiujiang Customs in northern Jiangxi. The Jiujiang Customs levied duty based on the size of the boat, not the value of the goods it carried. Boats passing through customs mostly carried rice from Hunan and Sichuan.<sup>91</sup> In 1768, Jiujiang Customs stated that Anhui, Jiangxi, Hunan, and Hubei had had poor harvests, resulting in a sharp increase in their rice prices, and that since the rice trade along the Yangzi River had become unprofitable, the customs revenue had decreased by about 45,000 taels.<sup>92</sup>

In 1772 and 1773, the lower Yangzi provinces of Jiangsu and Zhejiang again reaped bountiful harvests. For these two years,

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<sup>88</sup> Li, *Agricultural Development in Jiangnan*, pp. 112-32.

<sup>89</sup> *GZD-QL*, vol. 15, p. 660 (QL 21.10.2).

<sup>90</sup> *GZD-QL*, vol. 27, pp. 713-4 (QL 32.11.27).

<sup>91</sup> Xu Tan, “Qingdai qianqi de Jiujiang Guan jiqi shangpin liutong,” *Lishi dang'an*, 1999.1:86-91.

<sup>92</sup> *GZD-QL*, vol. 30, pp. 153-5 (QL 33.3.22).

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although the Sichuan government prohibited merchants from shipping rice out of the western province, the lower Yangzi had no rice shortages.<sup>93</sup>

The rice trade prospered again in early 1777, but only temporarily.<sup>94</sup> In the seventh lunar month of that year, the Yangzi delta had another abundant harvest, which again caused the long-distance trade between Suzhou and the middle Yangzi to grind to a halt. According to a Hushu Customs report, rice prices in the delta were lower than those in Anhui, Hunan, Hubei, and Sichuan; during the fiscal year between the ninth lunar months of 1777 and 1778, Hushu Customs revenue from rice dropped by 115,000 taels of silver.<sup>95</sup>

In early 1779, the governors of both Jiangsu and Zhejiang reported a revival in the long-distance rice trade,<sup>96</sup> which peaked after a poor harvest in the delta in autumn 1785.<sup>97</sup> We must not, however, exaggerate the prosperity of the rice trade in these seven years. First of all, the Yangzi delta reaped extremely bountiful harvests in 1782 and 1783, which decreased its need for outside rice.<sup>98</sup> Second, although the delta had a poor harvest in 1785, its rice imports from the middle Yangzi between the eighth lunar month of 1785 to the fourth lunar month of 1786 totaled only about 1 million *shi*.<sup>99</sup>

Then, beginning in 1788, the delta had bumper harvests for several consecutive years. In 1789 the Hushu Customs annual report stated: "In the last fiscal year [from mid-1788 to mid-1789],

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<sup>93</sup> *Gaozong shilu*, 917/16b-17b (QL 37.9), 938/33b-34b (QL 38.7).

<sup>94</sup> In the first four months of 1777 more than 2 million *shi* of rice were shipped to Suzhou. See *GZD-QL*, vol. 37, pp. 822-3 (QL 42.2.24); vol. 38, pp. 538-9 (QL 42.5.6).

<sup>95</sup> *GZD-QL*, vol. 44, pp. 812-4 (QL 43.9.17).

<sup>96</sup> *GZD-QL*, vol. 47, pp. 1-2 (QL 44.2.27); vol. 47, pp. 62-3 (QL 44.3.3).

<sup>97</sup> *Gaozong shilu*, 1236/29a-31a (QL 50.8).

<sup>98</sup> *GZD-QL*, vol. 56, p. 616 (QL 48.6.28); vol. 57 (QL 48.9.24).

<sup>99</sup> In 1785, Hunan itself had a poor harvest and had to import rice from Sichuan and Jiangxi. Sichuan and Jiangxi therefore became the major exporting provinces for the delta. See *Lufu zouzhe*, microfilm, reel no. 51, pp. 1569-72 (QL 50.9.9), reel no. 51, pp. 1592-3 (QL 50.9.13); *Zhupi zouzhe*, microfilm, reel no. 57, pp. 3097-9 (QL 50.10.13); *Lufu zouzhe*, microfilm, reel no. 51, pp. 1643-4 (QL 50.11.9); *Zhupi zouzhe*, microfilm, reel no. 57, pp. 3239-40 (QL 51.4.16).



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the provinces of Jiangsu and Zhejiang had bumper harvests, and so their rice price is low.”<sup>100</sup> Later in the same year, a Zhejiang official reported: “This year, both early and late harvests in Zhejiang are extremely good. Grain prices are also very low.”<sup>101</sup> In 1793, the Qianlong emperor stated that: “Jiangsu has had bumper harvests for several years.”<sup>102</sup>

The long-distance rice trade was so reduced that by 1788 the surplus was felt in Hunan. According to the Hunan Governor, farmers suffered greatly because for years they had not been able to sell their abundant rice harvests in the saturated market. To tide them over, the governor suggested that the Hunan government purchase their rice.<sup>103</sup> The Qianlong emperor permitted this, and encouraged the provincial governments of Hubei, Anhui, and Jiangxi to buy Hunan rice as well.<sup>104</sup> But these three provinces showed little interest in doing so. The Hubei Governor argued that the imperial government’s reimbursement would not even pay for transporting the rice, while Jiangxi and Anhui agreed that Hunan rice would cost more than their own rice after transportation costs were included.<sup>105</sup>

Thus, in 1788, Hunan, Hubei, and Sichuan rice was unmarketable in the Yangzi delta. The Jiujiang Customs reported:

In past years, six to seven thousand [rice] boats [from Sichuan, Hunan, and Hubei] passed the Jiujiang Customs house during the summer and autumn. This year (1788), only several tens of rice boats came to the customs.<sup>106</sup>

The long-distance rice trade from Sichuan to Jiangsu had virtually halted.

The rice trade from Jiangxi to Jiangsu was also quite small in 1788. Only a few private rice boats reached the Hushu

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<sup>100</sup> *GZD-QL*, vol. 72, p. 171 (QL 54.5\*.11).

<sup>101</sup> *GZD-QL*, vol. 73, p. 555 (QL 54.9.28)

<sup>102</sup> *Gaozong shilu*, 1437/16a (QL 58.9).

<sup>103</sup> *GZD-QL*, vol. 70, pp. 714-5 (QL 53.12.22).

<sup>104</sup> *Gaozong shilu*, 1318/34a (QL 53.12).

<sup>105</sup> *GZD-QL*, vol. 70, pp. 760-1 (QL 53.12.27), 791-2 (QL 54.1.3); vol. 71, p. 184 (QL 54.2.6).

<sup>106</sup> *GZD-QL*, vol. 71, p. 142 (QL 54.1.29).

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Customs in the fiscal year 1788-89.<sup>107</sup> Both customs houses attributed the drastic decline to relatively poor harvests in the middle Yangzi regions such as Jingzhou in Hubei province, and to good harvests in the delta.<sup>108</sup>

The decline of the rice trade persisted due to good harvests in the Yangzi delta. In the sixth lunar month of 1792, the Governor-general of Huguang stated that:

In recent years, since the downstream [regions] inclusive of Jiangnan, Anhui, Jiangxi, and Zhejiang had good harvests for successive years, grain prices [in these regions] have fallen to a similar level as those in Sichuan. When transportation fees are added, [merchants] trading [rice from Sichuan to the above downstream regions] often lost their capital. For this reason, few [rice] boats traveled to and fro [between Sichuan and the downstream regions].<sup>109</sup>

The long-distance rice trade, according to Fuying, the Superintendent of Jiujiang Customs, revived briefly in 1792, with the Jiujiang Customs reporting an increase of 7,777 merchants' boats of all kinds passing through that year.<sup>110</sup> Then in 1793 Fuying stated that 11,094 fewer merchant boats of all kinds passed through customs than had in 1792; and in 1794 the number had dropped by another 6,135 boats. In the eleventh lunar month of the year he explained that:

Grain [produced] in Sichuan, Hunan, and Hubei used to be transported to and sold in Jiangsu and Zhejiang. This year, the price [of rice] in the middle [Yangzi] was the same as in the lower [Yangzi]. Sojourning

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<sup>107</sup> *GZD-QL*, vol. 72, p. 171 (QL 54.5\*.11).

<sup>108</sup> *GZD-QL*, vol. 71, p. 142 (QL 52.1.29); vol. 72, p. 171 (QL 54.5\*.11).

<sup>109</sup> *Gaozong shilu*, 1412/33b-34a (QL 57.9).

<sup>110</sup> *Zhupi zouzhe*, microfilm, reel no. 20, pp.1862-6 (QL 59.11.26).

Fuying did not state the actual number of merchant boats passing Jiujiang Customs in each fiscal year, only that their number was 6,135 fewer in 1794 than in 1793, 17,229 fewer than in 1792, and 9,452 fewer than in 1791. The last two figures show that 1792 was a good year compared to 1791 because the number of boats increased by 7,777.

## *Market Integration and Over-Production*

merchants can make no profit. Therefore, there is little trade. Although Jiangxi had a good harvest, few of its rice boats passed through customs.<sup>111</sup>

In the twelfth lunar month, he wrote that owing to reductions in the rice and timber trade, tax revenues that year were 158,200 taels less than in 1792.<sup>112</sup>

The long-distance rice trade along the Yangzi River was still dormant in 1795. Explaining the deficit of tax revenues, the Superintendent of the Hushu Customs wrote: "Prices of rice in all regions [of the middle Yangzi] were equal to those in Jiangsu and Zhejiang. Merchants were unable to make a profit and trade stopped as a consequence."<sup>113</sup>

The long-distance rice trade revived after 1795, when the abundant harvests and bumper crops ended; trade still depended on the demand for rice in the delta. In 1814, drought in Anhui and Zhejiang caused a severe grain shortage, which encouraged speculation. A Censor wrote that an Anhui merchant had hoarded more than a million *shi* of rice in 28 warehouses in the major market towns in his province. Hoarding in Zhejiang was so rampant that local officials felt the need to reiterate the law against it.<sup>114</sup> The scarcity of rice in Anhui and Zhejiang drove up the price in neighboring provinces. As a result, as Nakamura Jihei has proved, large quantities of rice were transported from Hunan to Nanjing (called Jiangning in the Qing; see Map 4), causing a new boom in the rice trade along the Yangzi River.<sup>115</sup>

In short, the long-distance rice trade declined due to bumper harvests in the latter half of the century, especially from 1788 to 1795. The bumper harvests in the Yangzi delta fed the people of Jiangsu and Zhejiang cheaply; they needed little rice from the middle Yangzi provinces. As a result, the long-distance rice trade dwindled to a trickle.

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<sup>111</sup> *ibid.*

<sup>112</sup> *Gaozong shilu*, 1467/6a (QL 59.12).

<sup>113</sup> *Zhupi zouzhe*, microfilm, reel no. 20, pp. 1922-4 (QL 60.3.13).

<sup>114</sup> *Jiaqing shilu*, 295/4a-b (JQ 19.8), 295/8a-9a (JQ 19.8).

<sup>115</sup> Nakamura Jihei, "Shindai Kokō kome ryutsu no ichi men: Nankin no Konan kaikan yori mita," *Shakai keizai shigaku* 18, no. 3 (1952): 272.



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In view of the above, it makes sense that Hunan's rice export changed from one year to the next, depending upon the rice harvests in the delta. In the following section, I shall discuss Hunan's role in the long-distance rice trade.

### *Hunan's Rice Export*

Hunan had been the major rice-producing province as early as the seventeenth century, according to Fujii Horoshi, who cited a late Ming proverb: "When Huguang has a bountiful harvest, the Empire has enough."<sup>116</sup> Ming government documents also recorded Hunan's role as a rice supplier for the delta. In 1640, when the delta suffered from drought, Suzhou Governor Huang Xixian, prohibiting blockades of rice boats from other provinces, said: "In Suzhou, rice production is insufficient to meet local demand. Zhejiang relies on rice from Jiangxi and Huguang, and Suzhou also considers it a life-saving medicine (*xuming zhi gao*)."<sup>117</sup>

The development of Hunan as the major rice supplier for the empire, according to Yamamoto Susumu, was a consequence of agricultural expansion in the Yangzi valley from the twelfth century onwards. During the Southern Song dynasty, the Chinese had begun to convert the land bordering Lake Tai in the delta into paddies. In later centuries, paddy fields extended to the middle reaches of the Yangzi.<sup>118</sup> The expansion, according to Shigeta Atsushi, accelerated in the sixteenth century when many farmers migrated from the delta to Hunan to evade heavy taxes.<sup>119</sup> By the eighteenth century, the vast region that encompassed the fertile plain bordering Lake Dongting and the alluvial plains along the middle and lower reaches of the Xiang River in Hunan had emerged as the most important rice farming and export district in China. (See Map 7.)<sup>120</sup>

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<sup>116</sup> Fujii, "Shinan shōnin no kenkyū," 36.1, p. 25.

<sup>117</sup> Huang Xixian, *Fu Wu xilüe* (1640), 1/18a-19a.

<sup>118</sup> Yamamoto Susumu, *Shindai no shijō kōzō to keizai seisaku* (Nagoya-shi: Nagoya daigaku shuppankai, 2002), p. 23.

<sup>119</sup> Shigeta Atsushi, *Shindai shakai keizaishi kenkyū* (Tōkyō: Iwanami shoten, 1975), pp. 3-6.

<sup>120</sup> Yamamoto, *Shindai no shijō kōzō to keizai seisaku*, pp. 24-34. Bin Wong also found that in mid-century large export markets emerged in

## *Market Integration and Over-Production*

The central market for the export trade was Xiangtan county. A 1709 memorial by Hunan Governor Zhao Shenqiao highlighted the county as the major rice market, with big wharves and shops.<sup>121</sup> A 1728 memorial by another governor, Wang Guodong, vividly described the market in Xiangtan:

I saw that a thousand junks gathered like clouds, merchants from all directions formed clusters covering several *li*, the market was piled with goods for trading, and the dwellings there were packed together like the teeth of a comb.<sup>122</sup>

Xiangtan, south of the Yangzi on its tributary, the Xiang River, grew with the trade to become the largest rice market in the province. It was to Xiangtan that merchants from Hankou in Hubei province came, to buy rice for the Yangzi delta.<sup>123</sup>

With Xiangtan as the focal point, the Dongting Lake basin and the Xiang River lowlands comprised the principal rice export zone in Hunan in the eighteenth century.<sup>124</sup> Hengyang county, south of Xiangtan, was the second largest rice market in

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the counties bordering Dongting Lake. See R. Bin Wong, "The political economy of food supplies in Qing China," (Ph.D. diss., Harvard University, 1983), pp. 159-62.

<sup>121</sup> Zhao Gongyigong *zizhi guanshu*, 6/75a-77b.

<sup>122</sup> [Yongzheng] *Zhupi yuzhi*, 17/79b (YZ 6). Xiangtan's predominance in Hunan's rice export trade did not end until it was replaced by Changsha in the early twentieth century. See Wong Wing-ho, "Shichang yu guojia: Hunan sheng Xiangtan yu Changsha migu shichang ge'an yanjiu, 1894-1919" (Ph.D. diss., Hong Kong University of Science and Technology, 2001), pp. 338-9.

<sup>123</sup> Evelyn S. Rawski, *Agricultural Change and the Peasant Economy of South China* (Cambridge, Massachusetts: Harvard University Press, 1972), pp. 101-32. See also Shigeta Atsushi, *Shindai shakai keizaishi kenkyū*, p. 14.

<sup>124</sup> The counties inside this zone, along with Xiangtan, were: Changsha, Hengyang, Shanhua, Xiangyin, Yiyang, Xiangxiang, Hengshan, Baling, Linxiang, Huarong, Wuling, Taoyuan, Longyang, Yuanjiang, Lizhou, and Anxiang (see Map 7). In a 1753 memorial, the Provincial Administration Commissioner of Hunan stated that the rice trade took place in these counties, see *Hunan shengli cheng'an* (1820), 23/21b.

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Hunan.<sup>125</sup> Whenever there was a great demand for rice in the delta, merchants travelled to Xiangtan and Hengyang, or even the smaller markets on the Xiang River, for rice. The rice was transferred to larger boats at Hankou, and then sent downriver to the delta.<sup>126</sup>

In the second half of the century, Hunan's rice export trade became much less prosperous. In a study of the rice trade from Hunan to Nanjing, Nakamura Jihei showed that Hunan rice merchants formed a guild in Jiangning, and even built a wharf there for their rice boats. They laid down regulations to manage the wharf, inscribed the rules of embarkation on a stone tablet, and, to house the tablet, had a small stone temple built to the God of Fortune. The guild, the wharf, and the temple represented the Hunan rice merchants' commercial interests in Nanjing until 1775 when, for unknown reasons, the temple was destroyed; thereafter, fewer Hunan rice boats called at Nanjing. Nakamura suggested that trade between Hunan and Nanjing declined until 1814, when Nanjing suffered from famine. In that year many Hunan rice boats called again at Nanjing, and a new group of Hunan merchants repaired the wharf in Nanjing.<sup>127</sup>

Nakamura's description of interrupted trade from 1775 to 1814 corroborated the overall decline in exports from Hunan during this period. Moreover, noting that Nanjing's grain needs were satisfied easily by its neighbouring provinces of Anhui and

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<sup>125</sup> There is less information in the Gazetteer of Hengyang County about its eighteenth-century rice market, but a nineteenth-century gazetteer, the *Hengyang xianzhi* (Gazetteer of Hengyang County), stated that Hengyang was less prosperous in the rice trade than Xiangtan, and that the volume of rice exported from Hengyang was only 70 per cent of that from Xiangtan. (See *Hengyang xianzhi*, 1872, 11/10.1a.) Hengyang, the province's second largest rice market during the eighteenth and into the nineteenth century, was replaced by the Changsha rice market by the late nineteenth century. According to Bin Wong, this probably was due in part to the introduction of steamboats, which could not navigate the Xiang River as far upstream as Hengyang. See Wong, "The political economy of food supplies in Qing China," p. 327.

<sup>126</sup> *Zhao Gongyigong zizhi guanshu*, 6/75a-77b.

<sup>127</sup> Nakamura, "Shindai Kokō kome ryutsu no ichi men," p. 270.



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Jiangxi, he concluded that Nanjing only needed rice from Hunan in times of poor harvests.<sup>128</sup>

Like Nakamura, Kitamura Hiroano subscribed to the view that the rice trade declined in the last few decades of the eighteenth century, but he attributed this to social and economic developments in Hunan, or the supply side of the trade, rather than to the drop in demand in the delta. Kitamura found that Wuxi county in Jiangsu stopped importing Hunan rice around 1752, and Nanjing followed suit in 1775. He used these two cases to show that the Hunan rice trade along the Yangzi valley declined in the late eighteenth century. Turning to conditions in Hunan, he attributed their shrinking rice export to greater local demand as a consequence of population growth and a rising living standard.<sup>129</sup>

Nakamura, however, dated the decline several years earlier than it actually set in. The reason Wuxi did not import rice from Hunan in 1751 was that Hunan rice went to other markets in the delta in that year.<sup>130</sup> As to his argument on the high demand for rice within Hunan, his sole example was Yongzhou, the southernmost prefecture in Hunan, which, because of its

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<sup>128</sup> *ibid.*, p. 272.

<sup>129</sup> Kitamura Hironao, "Shindai no shōhin shijō ni tsuite," *Keizaigaku zasshi* 28, nos. 3-4 (1953): 1-22. Kitamura's view was echoed in a study by Kenneth Pomeranz, though Pomeranz provided no new information. Kenneth Pomeranz, *The Great Divergence*, pp. 246-8.

<sup>130</sup> The flow of the rice trade was disrupted in 1751. In normal years most rice from the middle Yangzi was unloaded first in parts of Jiangsu, such as Nanjing and Wuxi, which would absorb a certain amount of Hunan rice in this way. The majority of this imported rice was then shipped to Fengqiao town, where Zhejiang merchants bought rice for their province. In 1751, because of famine in Zhejiang, this trade pattern changed. In the seventh lunar month of that year, in response to the high price of rice in Zhejiang, Governor Yonggui of Zhejiang requested an exemption of the duty on rice imports to Zhejiang, to encourage more rice to flow into the province. The state immediately granted his request. The exemption of duty in Zhejiang, along with high prices for rice in that province, meant that most of the rice being shipped from the middle Yangzi eastwards went straight to Zhejiang without stopping at Jiangsu. Wuxi and Jinkui, the two counties in Jiangsu, could therefore import no rice from Hunan that year. See *GZD-QL*, vol. 1, p. 142 (QL 16.7.13), p. 301 (QL 16.7.29), p. 466 (QL 16.7.13), p. 571 (QL 16.9.5), and p. 575 (QL 16.9.5).

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remoteness, was only weakly linked to the rest of Hunan.<sup>131</sup> Within Yongzhou prefecture, Qiyang county was in the best position to develop an inter-regional trade because it was upstream of the Xiang River. That trade, nevertheless, consisted primarily of pine logs being sent downriver, which, because of the current, was much easier than taking rice upstream.<sup>132</sup> According to Hunan officials' reports in 1709 and 1753, some merchants from Hengyang and Changsha to the north did take rice to Qiyang, but only in small amounts, as transporting bulky products upstream on the Xiang River was so hazardous.<sup>133</sup> It was more likely that Qiyang exported rice to these cities in the late eighteenth century. The 1828 *Yongzhou fuzhi* (Gazetteer of Yongzhou Prefecture) stated:

Qiyang is known for its rice production. According to elders, twenty or thirty years ago the amount of its rice taken to Xiangtan and Hankou was generally more than a hundred thousand *shi* annually.<sup>134</sup>

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<sup>131</sup> A large part of Yongzhou prefecture was agriculturally underdeveloped even in the nineteenth century. In Jianghua county, for instance, half of the territory was still inhabited by the Yao hill tribe in the Tongzhi reign (1862-74). The land was hilly, and its inhabitants, both Yaos and Hans, used the primitive method of slash-and-burn farming on what little flat land there was. See *Jianghua xianzhi* (1870), 10/7a.

<sup>132</sup> Nineteenth-century gazetteers stated that one of Qiyang's major trades was the export of pine wood, and many Qiyang families made their fortune out of the timber trade. With the expansion of rice cultivation in Qiyang the local supply of pine trees dwindled, and Qiyang merchants explored the upstream region of the Xiang River, like Jianghua, for more wood. (See *Qiyang xianzhi*, 1870, 22/7b, *Jianghua xianzhi*, 1870, 10/7b.) It is possible that this timber trade began in the eighteenth century.

<sup>133</sup> *Zhao Gongyigong zizhi guanshu* (n.d.; repr. 1850), 6/75a-77b; *Hunan shengli cheng'an* (1820), 5b-6a.

<sup>134</sup> The rice trade between Qiyang and Xiangtan did not continue to flourish like this in the nineteenth century. According to the *Yongzhou fuzhi*, the declining rice export trade was a result of population growth. See *Yongzhou fuzhi* (1828) 5a/18b. The same passage was also seen in *Qiyang xianzhi* (1870), 22/7a.

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If this is true, there was no shortage of rice in Hunan, even as its export was grinding to a halt.

Circumstantial evidence also suggests that Hunan had a surplus rather than a shortage. Table 4.1 and Figure 4.1 show price data for the first-grade rice of Hanyang prefecture, Hubei province, between 1739 and 1798, indicating prices in Hankou (in Hanyang), the biggest rice market in Hunan and Hubei.<sup>135</sup> The data show that except for two short periods—in 1779 and from 1785-86—the price of rice was stable at around 1.5 taels per *shi*. Prices did rise sharply in 1779 and 1785-86, when rice cost more than 2 taels per *shi*, but these prices were due to drought.<sup>136</sup> Local gazetteers recorded starvation in both Changsha and Hengyang during those years, and, in the famine of 1779, a spread of disease in other counties. The drought was even more severe in 1785. No rain fell on Hunan at all between the fourth and the seventh months. When another drought occurred the following year, many people in Daozhou had nothing to eat but bark and grass.<sup>137</sup> It was due to the accidents of weather and consequent famine that prices rose, not an underlying trend that increased demand.

The grain storage figures also indicated a rice surplus in Hunan. Since the beginning of the Qing dynasty, Hunan, like other provinces, had established ever-normal granaries in the county cities, whose function was to keep the price of grain stable. Every year during seasonal high prices for rice, magistrates sold a portion of their reserves on the market at a discount; when the rice shortage ended, the magistrates used the proceeds to replenish the granaries. In this way, the ever-normal granaries reported an annual reserve.<sup>138</sup> In the early phase of the establishment of the

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<sup>135</sup> In 1709, Hunan Governor Zhao Shenqiao stated that the rice transported from Hankou to Jiangsu and Zhejiang was mostly from Hunan. *Zhao Gongyigong zizhi guanshu* (n.d.; repr. 1850), 6/75a-77b.

<sup>136</sup> See the charts in *Zhongguo jin wubainian hanlao fenbu tuji*, comp. Zhongyang qixiangju qixiangke kexue yanjiuyuan (Beijing: Ditu chubanshe, 1981), pp. 160-4.

<sup>137</sup> *Hunan tongzhi* (1885), 244/26b-27b.

<sup>138</sup> *Hunan tongzhi* (1757), 39. See also Pierre-Etienne Will, "Part II: Structural problems," in Will and Wong with Lee, eds., *Nourish the People: The State Civilian Granary System in China, 1650-1850*, pp. 103-93. The subject of granary operation is also discussed in Chapter



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ever-normal granaries, the court encouraged provincial governments to expand their granary reserves. But in 1748, after receiving several complaints from officials that these government purchases had pushed up already-high grain prices, the court determined to set a maximum limit for the stock in each province. Under this quota system, Hunan was required to maintain 700,000 *shi* of rice in granary reserves.<sup>139</sup> However, as Zhong Yongning noted, the Hunan government never followed this guideline. In the second half of the century, it continued to buy a great deal of rice from local markets, in amounts much larger than the amount of rice sold out.<sup>140</sup>

The granary reserve in Hunan expanded considerably during the second half of the century. In 1753, though the quota was still 700,000 *shi*, Hunan ever-normal granaries had accumulated reserves totaling 1,163,000 *shi*.<sup>141</sup> The expansion of the reserves was caused for the most part by purchases made by the government at times of bumper crops in order to help the rice cultivators. In 1755, for example, after the autumn harvest, Hunan Governor Chen Hongmou found that the grain harvest was so fruitful that it outstripped demand, and as a consequence, producers were forced to sell at non-compensatory prices or could not sell at all. Chen ordered Hunan county magistrates to buy an unlimited amount of rice from local producers until the price rose to the normal level.<sup>142</sup> Repeated government purchases brought the reserves up to 1,504,000 *shi* in 1789.<sup>143</sup> Against these figures, however, the amount of rice disbursed to stabilize prices, except during the rice-shortage years of 1779 and 1785-86, were quite

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<sup>139</sup> *Hunan tongzhi* (1757), 39/18a. See also *Hunan tongzhi* (1885), 55/7b.

<sup>140</sup> Zhong Yongning, "Shiba shiji de Xiangmi shuchu yu Qing zhengfu de liangshi tiaokong zhengce," *Zhongguo shehui jingjishi yanjiu*, 1993.4, p. 66.

<sup>141</sup> *GZD-QL*, vol. 6, pp. 901-2 (QL 18.11.29).

<sup>142</sup> William T. Rowe, *Saving the World: Chen Hongmou and Elite Consciousness in Eighteenth-Century China* (Stanford, California: Stanford University Press, 2001), p. 164. See also Chen Hongmou (1696-1771), *Peiyuantang oucun gao (wenxi)* (1837), 37/1b-2b.

<sup>143</sup> *GZD-QL*, vol. 74, pp. 30-1 (QL 54.11.5).

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stable.<sup>144</sup> Since government stock increased without a concomitant increase in disbursement, the impression is not of government speculation on rising prices, but the government holding more grain in times of surplus.

Furthermore, the reserves increased most drastically in counties in the rice-export zone, and less so in remote counties. In Changsha county, between 1748 and 1810, the reserves rose from 10,000 to 70,000 *shi*.<sup>145</sup> But in the remote county of Chaling reserves increased only from 8,000 *shi* in 1748 to 10,900 *shi* in 1759, and in Qingquan itself from 16,000 *shi* in 1748 to 29,000 *shi* in 1760, and then 45,000 *shi* in 1801.<sup>146</sup> Bin Wong, who first drew attention to the Hunan rice storage figures, also found that reserves in the Hunan ever-normal granaries increased in the later years of the eighteenth century, and the trend of increasing reserves is the opposite of the trend for disbursal.<sup>147</sup>

Bin Wong found a similar state of affairs in community granaries (*she cang*). By the 1740s and 1750s, most of Hunan had community granaries. Unlike ever-normal granaries in the county seats, community granaries were small and scattered throughout the rural areas. Community granaries were also run by civilians instead of officials; they lent grain instead of selling it; and they solicited contributions of grain from the gentry and wealthy commoners instead of buying it.<sup>148</sup> In return, the grain donors were awarded imperial examination degrees, which was an honor. But according to Bin Wong the rural granaries in Hunan were never adequately stocked. In 1754, Governor Hu Baoquan feared that reserves had declined because of the granary's outstanding

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<sup>144</sup> The relevant figures were: 133,000 *shi* in 1768, 108,000 in 1773, 104,000 in 1777, 451,000 in 1778, 401,000 in 1779, 402,000 in 1787, and 175,000 in 1789. *GZQ-QL*, vol. 32, pp. 575-6 (QL 33.11.24); vol. 33, pp. 355-6 (QL 38.11.10); vol. 41, pp. 54-5 (QL 42.11.18); vol. 45, pp. 683-4 (QL 43.11); vol. 48, pp. 302-3 (QL 44.11.9); vol. 66, p. 309 (QL 52.11.15); vol. 74, pp. 30-1 (QL 54.11.5).

<sup>145</sup> *Hunan tongzhi* (1757), 40/1a; *Changsha xianzhi* (1810), 9/42a.

<sup>146</sup> *Hunan tongzhi* (1757), 40/2a-b; *Chaling xianzhi* (1790), 10/3b; *Qingquan xianzhi* (1869), 4/4a.

<sup>147</sup> Wong, "The political economy of food supplies in Qing China," p. 274.

<sup>148</sup> *ibid.*, p. 103.

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loans, but the main problem was the lack of contributions of grain. While Hu's successor, Governor Chen Hongmou, was able to collect on many outstanding loans in 1756, he could not convince people to give more of their harvests. Between 1757 and 1780, despite rapid population growth, there were no new grain contributions in the province. Then, from 1781 onwards, Hunan people suddenly seemed to become generous. In 1781 Governor Liu Tang called for contributions and set a target of 120,000 *shi* of grain. Surprisingly, many people responded enthusiastically. Within two years, out of forty-five departments and counties in the province, fifteen surpassed their assigned targets, thirteen met their targets, and only seventeen fell short. In 1785 the Governor reported that he had collected 224,400 *shi*, so much that he called a halt to contributions.<sup>149</sup>

At this point there was so much grain in both ever-normal and community granaries in Hunan that the provincial government had to lend grain to the military. Bin Wong has pointed out that reduced-price sales to the public dropped from 218,681 to 60,231 *shi* between 1748 and 1786, as military disbursements increased from 59,307 to 96,548 *shi*.<sup>150</sup> In 1790, the Hunan government ordered both ever-normal and community granaries to send grain to military troops. This was the first time that community granary reserves had been used for purposes other than loans to local people.<sup>151</sup>

Bin Wong argues that the decline in granary use in Hunan during the last two decades of the century, despite increased reserves in both ever-normal and community granaries, was a result of official choice. He suggested that the intensive grain mobilization in the late 1770s and early 1780s placed an additional burden on granary managers and officials, in that they had to manage and monitor such large amounts of grain. The rejection of regular official monitoring at the turn of the century lifted this bureaucratic burden off the shoulders of local officials and placed it onto local leaders, giving them more social

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<sup>149</sup> *ibid.*, pp. 245-82. The name of the Hunan Governor in 1781 was not Liu Tang, but Liu Yong.

<sup>150</sup> *ibid.*, p. 277.

<sup>151</sup> *ibid.*, p. 282.



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responsibility.<sup>152</sup> It is noteworthy that these events coincided with a growing role of merchants in the management of city affairs, usually through guilds and charity organizations.<sup>153</sup>

But if we also look at the development of the long-distance rice trade on the Yangzi River, the picture changes. From 1780 onwards, as we have seen, bumper harvests in the delta made Hunan's rice export trade much less prosperous than in previous decades. It is likely that the shrinking market proved a hardship to Hunan rice farmers, peasants who looked to their local officials for help. This was followed by an official call for grain contributions to community granaries, which when finally answered was of such extraordinary success that the governor had to call a halt. The plummeting grain prices enabled many of Hunan's wealthy to earn imperial examination degrees in return for their contribution, much more easily than they would have done in a high-priced market. And in addition to community granaries, the ever-normal granaries also began to absorb an excess of local rice, as the Hunan government stopped grain disbursal and substantially increased reserves, especially within the rice export zone. It is not clear how successful these measures were. What we do know is that Hunan officials felt overloaded by a surplus, and took steps to alleviate it. Besides halting the grain contribution, they transferred a portion of their reserves to the military.

On balance, the evidence provided by Kitamura is weak; there is much stronger evidence for a surplus of rice than for a growing demand in Hunan. The rice surplus altered the routine management of the ever-normal granaries: instead of selling the grain at a low price, the granaries bought much of the local grain. In this regard, Qing officials were still actively intervening in the grain flow, and the ever-normal granaries continued to function well in the late eighteenth century.

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<sup>152</sup> *ibid.*, p. 286. Bin Wong goes into more detail to introduce this theory in his book. See Will and Wong, ed., *Nourish the People*.

<sup>153</sup> See William T. Rowe, *Hankow: Commerce and Society in a Chinese City, 1796-1889* (Stanford, California: Stanford University Press, 1984); Elisabeth Sinn, *Power and Charity: The Early History of the Tung Wah Hospital, Hong Kong* (Hong Kong: Oxford University Press, 1989)

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### *Conclusion*

The investigation in this chapter clears up our questions about price trends of Suzhou rice in the eighteenth century. As indicated in Figure 3.1, the price of rice fell after 1786 and did not rebound until 1799. Chapter Three showed that the fall of rice prices between 1793 and 1798 was caused by a decline in imported silver; this chapter showed that due to a poor harvest in 1785 the price of rice was extremely high in 1786, but returned to normal in 1787, at the end of the famine. In 1788 the price continued to drop in the wake of successive bumper harvests in the Yangzi delta. Although these abundant harvests came to an end in about 1795, the price of rice in Suzhou remained low because the silver shortage had already set in and influenced prices until 1799. In a nutshell, the fall in rice prices in Suzhou in the last dozen years of the eighteenth century was caused by the dual factors of silver shortages and bumper rice harvests in the delta.

Once we perceive that the decline of the long-distance rice trade on the Yangzi River was a result of bumper harvests in the delta, we can re-think the idea of a unified market in the eighteenth century. Modern scholarship assumes that the delta was so commercialized that it was unable to grow enough rice for its own subsistence, but that argument is weakened in that the volume of trade on the Yangzi was determined by the size of harvests in the delta. Even during the last decade of the century, as a result of bumper harvests, Jiangsu and Zhejiang were able to provide cheap and plentiful rice for their population for fairly long periods of time, and for this reason the flow of rice from the middle Yangzi slowed to a trickle. It makes little sense to assume that the decline of the long-distance rice trade on the Yangzi was caused by a growing demand for rice in Hunan itself. During this period, especially between 1788 and 1795, rice producers in Hunan faced an extremely unpredictable exporting market. Their problem was not shortage, but over-production, and it is unreasonable to attribute the phenomenon to agricultural improvements, like the introduction of bean-cakes as fertilizer, since the long-distance rice trade recovered as soon as bumper harvests in the delta ceased, in the early nineteenth century.

If the Yangzi delta was able to provide sufficient cheap local rice for its population, then it cannot be considered to have

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been over-populated. In the eighteenth century, the population grew rapidly in the delta, but not to the extent that food shortages were inevitable.

The reality was that the Yangzi valley and nearby regions were still segmented, and that transportation costs could still be prohibitive unless price differentials between regions were exaggerated by food shortages. We may choose to think of the trading networks of eighteenth-century China as a prototype integrated market, but that does not mean that the integrated market extended to all provinces to which Yangzi rice was brought or that the market was necessarily integrated in the same provinces in any one year.

Yet to be considered is the role of the government in the evolution of the grain market. That subject covers both administrative theory and its application, and shall be addressed in Chapter Five.