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# 清代經濟史論文集 (三)

*Collected Essays in the Economic  
History of Qing China*

王業鍵◎著

# 清代經濟史論文集（三）

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Qing China , Volume Three

王業鍵

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著者：王業鍵（Yeh-chien Wang）

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# Economic Developments, 1644-1800

Ming society's vigorous market economy had expanded in conjunction with the empire's customary and command economies<sup>1</sup> and even begun replacing the command economy during the sixteenth century, when monetary transactions increased. In the customary economy people bartered goods and exchanged labor services within communities throughout the empire. In the command economy, the military and bureaucracy mobilized resources through direct taxation and corvée labor.<sup>2</sup>

Favorable developments, including irrigating more farmland, planting new food crops, improving cropping intensity, and leasing land under multiple land ownership, enabled the economic core areas of the Lingnan in the southeast, the Kiangnan region in northern Chekiang and southern Kiangsu, and the northern part of the Grand Canal to market their products throughout the Ming empire (see Map 3).<sup>3</sup>

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The authors acknowledge the assistance of Hoover Institution Research Fellow Linda Chao.

<sup>1</sup> The customary and command modes of economy are "ideal types" described in John Hicks, *A theory of economic history* (Oxford, 1969), ch. 2. In the customary economy, households participated in production and exchange according to convention and institutions (rules, practices, beliefs, and so forth).

<sup>2</sup> The command economy bears some resemblance to the tributary mode of production, a concept used by Hill Gates, *China's motor: A thousand years of petty capitalism* (Ithaca, N.Y., 1996). The command economy includes the extraction of taxes (in money or kind), resources, and typically below market prices.

<sup>3</sup> For a good discussion of these favorable developments see Martin Heijdra, "The socioeconomic development of rural China during the Ming," in *The Ming dynasty 1368-1644, Part 2*, Vol. 8 of *The Cambridge history of China*, ed. Denis Twitchett and Frederick W. Mote (Cambridge, 1998), pp. 516-78. We define the Lingnan region as the Nanling Range and the three physiographic subregions

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On the supply side, owners of labor, land, and credit in the customary and market economies exchanged these resources with private economic organizations (families, partnerships, associations, and guilds) to produce a variety of goods and services. Such factor and product markets, transacting in kind, money, or by credit, made up the economic life of small and large villages, market towns, and administrative cities. Private organizations targeted their production of goods and services to the market economy, making it easier for merchants and brokers in the economic core areas to interact with markets in the periphery; more counties and provinces became interdependent through trade as well as linked with overseas markets, while they still participated in the customary and command economies.<sup>4</sup>

By the late sixteenth century some irrigation systems had deteriorated, the number of absentee landlords (especially in the north) had increased, and more households had entered into servile relationships with powerful families. Because the Ming state had to defend its northern frontier, the rural tax and corvée burden also increased. Rural leadership, in response to the people's growing resentment and alienation, began to mirror the corruption and ineptness of the empire's political center. Rural rebellions broke out in the second quarter of the seventeenth century, further weakening the Ming state, so that Ch'ing armies in the northeast were able to enter the capital in early 1644.

By the 1680s the Ch'ing had consolidated its control over the empire, and favorable economic developments resumed. Those developments resemble the late Ming market expansion, but the early Ch'ing market had more interregional trade, depended more on overseas markets, and had a larger population. Meanwhile, the relationship between the market and customary and command economies changed.

This chapter attempts to describe these significant economic developments before 1800 and why they occurred. It also elucidates how state and private economic organizations, operating under new institutions

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south of those mountains that lie within Kwangtung and Kwangsi provinces except for the prefectures of Ch'ao-chou and Chia-ying.

<sup>4</sup> The modes of long-distance communications and mercantile activities to integrate the late Ming market economy are well described by Timothy Brook, "Communications and commerce," in Twitchett and Mote, eds., *The Ming dynasty 1368-1644, Part 2*, pp. 579-707.

or rules, reduced the economy's transformation and transaction costs to produce quality goods and services for a growing population spread over large areas, where living standards approximated those of the recent past. The Ch'ing state and society could not maintain these remarkable achievements into the first half of the nineteenth century, when market failure replaced market success, social grievances worsened, and great rebellions spread.

## Significant Economic Developments

Writing in the early 1690s, T'ang Chen, a retired scholar and failed merchant, described the depressed market economy of the preceding decades:

More than fifty years have passed since the founding of the Ch'ing dynasty, and the empire grows poorer each day. Farmers are destitute, artisans are destitute, merchants are destitute, and officials too are destitute. Grain is cheap, yet it is hard to eat one's fill. Cloth is cheap, yet it is hard to cover one's skin. Boatloads of goods travel from one marketplace to another, but the cargoes must be sold at a loss. Officials upon leaving their posts discover they have no wherewithal to support their households. Indeed the four occupations are all impoverished ! <sup>5</sup>

But even this dismal picture was a great improvement over the 1640s and 1650s, when people died of starvation and disease. T'ang's account, however, tallies with other accounts of his day that allude to widespread poverty, chronic underemployment, depressed prices, stocks of unsold goods, the scarcity of money (particularly silver), and merchants and officials down on their luck.<sup>6</sup> Although T'ang believed that the scarcity of money was the primary cause of this protracted crisis, wars, banditry,

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<sup>5</sup> Quoted from Richard von Glahn, *Fountain of fortune: Money and monetary policy in China, 1000-1700* (Berkeley, 1996), p. 223.

<sup>6</sup> For economic misery in north China see Jonathan D. Spence, *The death of Woman Wang* (New York, Viking, 1978); for other parts of China see Frederic E. Wakeman, Jr., "China and the seventeenth-century crisis," *Late Imperial China*, 7, No. 1 (June 1986), pp. 1-26.



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epidemics, repression of all maritime activity along the southeast coastal provinces also contributed.

In 1661 the K'ang-hsi government ordered all people residing along the coast from Chekiang to the border with Vietnam to move some seventeen miles (50 *li*) inland. Troops constructed watchtowers and positioned guards on the coast to prevent anyone from living there. Until 1685 few people engaged in coastal and foreign trade, except smuggling, so that the customary and command economies predominated. During these decades, although grain harvests improved, few participated in that market because the economy had contracted and local grain prices hit bottom.

The population declined in mid-century as a result of wars, banditry, and epidemics. Estimates vary, but for Kwangtung province the population fell from 9 million to 7 million; Kwangsi's population declined from 3.4 million to 2.8 million between 1640 and 1661.<sup>7</sup> For the empire as a whole, three estimates agree that population reached around 200 million by 1600, declined sharply in the mid-seventeenth century, and then began to recover by 1700, to reach between 150 million and 200 million.<sup>8</sup> With fewer able-

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<sup>7</sup> Robert B. Marks, *Tigers, rice, silk, and silt: Environment and economy in late imperial South China* (Cambridge, 1998), p. 158.

<sup>8</sup> Ping-ti Ho conjectures that population reached 150 million by 1600. See his *Studies on the population of China, 1368-1953* (Cambridge, 1959), p. 264. Perkins, Yim, and Ko estimate the 1600 population to be 200 million, which falls between Heijdra's low and medium estimates of 185 million and 231 million but well below his high of 289 million. Heijdra's reason for a higher estimate is that Ming population in 1380 was 85 million instead of the 60 million usually presumed. He also asserts that Ming population expanded until 1650 in spite of rebellions and hard times between 1625 and 1650, so that his 1650 population estimates are much higher than those of Perkins (100-150 million) and Ko (80-100 million). Given these new Ming population estimates, the baseline population estimate for 1700 is difficult to determine precisely. We opt for a range of 150-200 million, which implies that Ch'ing population had nearly recovered the mid-seventeenth-century level, if we accept the estimates of Perkins and Ko, or population recovery was much slower to reach the 1650 level, as projected by the Heijdra estimates (his medium and high figures). Adopting our range, of benchmark estimates implies that the annual rate of population growth from 1700 to 1794 rose between 0.47 and 0.80 percent. Estimates by Yim can be found in Shu-yuan Yim, "Famine relief statistics as a guide to the population of sixteenth-century China," *Ch'ing-shih wen-ti* 3:9 (Nov. 1978), pp. 1-30. For those by Ko Chien-hsiung, see his *Chung-kuo jen-k'ou fa-chan shih* (Fu-chou, 1991), pp. 240-

bodied workers to prepare the soil and harvest crops, the amount of cultivated land declined in mid-century. Wildlife revived, tigers again roamed the hills, and large tracts of land recovered some of their former fertility.<sup>9</sup>

By 1684 K'ang-hsi consolidated the new Ch'ing imperial state's governance. His armies repulsed military challenges to the new order, secured the empire's northern frontier, and established Ch'ing authority on Taiwan. He and his officials had begun to harness both Manchu and Chinese talents for government services, re-open China to Western scientific knowledge, reduce anti-Manchu hostility among the Chinese literati, and restore maritime trade.<sup>10</sup>

The Chinese endured more than a half century of suffering before foreign trade and domestic commerce revived; by the century's end prosperity was slowly returning. Economic recovery was most conspicuous in the old core areas: people reclaimed and farmed the rich lands of the Pearl River delta, the Kiangnan region, and the northern region along the Grand Canal. Meanwhile, migrants poured into Hupel, Hunan, and Szechwan. Southern Kansu, southern Shensi, the northern two-thirds of the western Hupei high-lands, and southwestern Honan also attracted migrants.<sup>11</sup> Colonization of Manchuria began, and emigrants from Kwangtung and Fukien provinces went to Taiwan and Southeast Asia, areas delineated as developed, developing, and underdeveloped (see Map 1).

The long coastline's developed areas, comprising some ten provinces extended from the north to the southeast, had the highest population densities and the three economic core areas. In late Ming the splendid cities of these core areas were prosperous, had thriving Confucian academies and creative art and literary centers, and had factor and product

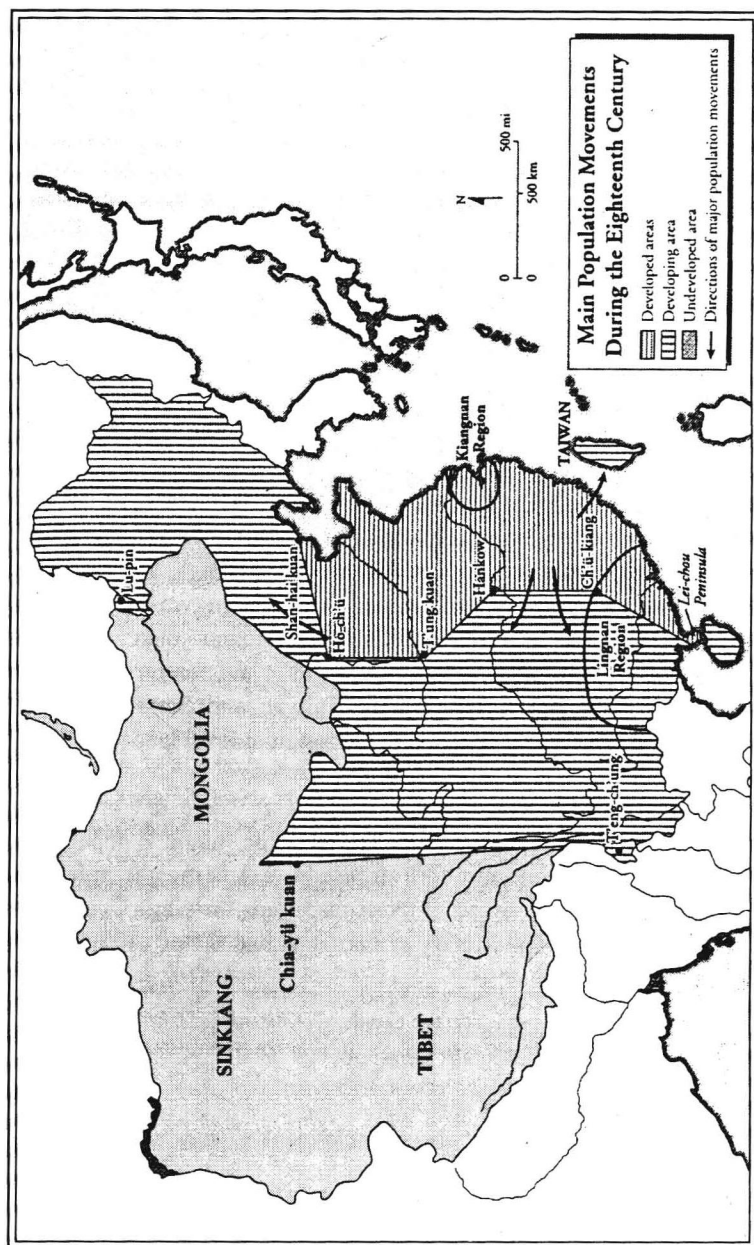
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1. For Ming estimates by Heijdra, see the *Cambridge history of China*, Vol. 8, p. 438. For the 1794 official estimate, see Ho, *Studies on the population of China*, p. 270.

<sup>9</sup> Marks, *Tigers, rice, silk and silt*, pp. 327-45.

<sup>10</sup> Lawrence D. Kessler, *Kang-hsi and the consolidation of Ch'ing rule, 1661-1684* (Chicago, 1976), p. 167.

<sup>11</sup> Ho, *Studies on the population of China*, p. 139. See also the account of migrants settling Szechwan in early Ch'ing by Mori Noriko, "Shindai Shisen no imin keizai," *Tōyōshi kenkyū*, 45, No. 4 (March 1987), pp. 141-68.



Map 1. *Main Population Movements during the Eighteenth Century.* Wang Yeh-chien, *Land Taxation in Imperial China, 1750-1911* (Cambridge, Mass.: Harvard University Press, 1973), figure 5.1.

markets that specialized in industrial crops, handicraft commodities, and diverse services. The developing areas of Manchuria, Shensi, Kansu, Hupei, Hunan, Kwangsi, Szechwan, Yunnan, Kweichow, and Taiwan absorbed migrants during the eighteenth century and became integrated through a complex market economy. The underdeveloped area encompassed the frontier provinces of Outer and Inner Mongolia, Sinkiang, Tibet, and Tsinghal. (See Map 1 for population migration within and between provinces from the 1690s to the early nineteenth century.)

Estimates of population and cultivated land are suspect because households underreported to avoid taxation and corvée labor, and because overzealous officials sometimes inflated population growth.<sup>12</sup> The official numbers for the population and cultivated land in the 1780s, at the height of economic and administrative vigor, are probably closer to reality, for then, population density and foodgrain production and distribution had solidified and were not disrupted until the rebellions of the mid-nineteenth century.

The estimates in Table 1 not only show the population densities in areas producing surplus grain, areas lacking sufficient grain, and areas selfsufficient in grain, but reveal how population and cultivated land were allocated among the three areas. Nearly half the population, farming only 28 percent of the cultivated land, depended on the grain trade to survive; the areas with insufficient grain supported high population densities, higher than those for Western Europe, and were the developed provinces of the empire. In other words, long-distance trade was involved in feeding almost half the population. About one-tenth of the population, in areas with a population density roughly equivalent to that of many Western European countries, produced just enough grain for their support but farmed about one-quarter of the empire's cultivated land. Finally, 45 percent of the population produced a foodgrain surplus, which entered the market economy to support the demands of roughly half the empire's population. During the eighteenth century, the developed area of the coastal provinces became increasingly dependent upon the developing region's supply of

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<sup>12</sup> See G. William Skinner, "Sichuan's population in the nineteenth century: Lessons from disaggregated data," *Late Imperial China*, 7, No. 2 (Dec. 1986), pp. 1-79, which claims that officials inflated population estimates for Szechwan province by some 20-30 percent.

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Table 1 Distribution of Population and Population Density by  
Developmental Areas, 1786

Area	Population	Percent of total	Cultivated area (sq km)	Percent of total	Population density (persons per sq km)
Surplus grain-producing areas	131,356,000	45	2,118,500	48	62
Insufficient grain-producing areas	135,912,000	47	1,235,500	28	110
Self-sufficient grain-producing areas	23,723,000	8	1,051,950	24	23
Undeveloped areas	112,000	—	575,400	—	0.19
Ch'ing China (including undeveloped areas)	291,103,000	—	4,981,350	—	59
Ch'ing China (excluding undeveloped areas)	290,991,000	100	4,405,950	100	66

*Source:* Wang Yeh-chien and Huang Kuo-shu, "Shih-pa shih-chi Chung-kuo liang-shih kung-hsü ti k'ao-chi," in Chung-yang yen-chiu-yüan chin-tai-shih yen-chiu-suo, *Chin-tai Chung-kuo nung-ts'un ching-chi shih lun-wen chi* (Taipei: Chung-yang yen-chiu-yüan chin-tai-shih yen-chiu-suo, 1989), p. 278.

grain. Annual grain shipments moved through an ever expanding market economy, often supplemented by state grain shipments to alleviate grain shortfalls. As Map 4 attests (see p. 61), grain imports from Southeast Asia and Taiwan were crucial and supplemented the shipments overland and along inland waterways of the Yangtze, Wei, and other rivers. These people farmed roughly half the empire's cultivated lands and resided mainly in the provinces of the developing area.

By the 1780s, population migration and growth had combined to produce high population density levels that exceeded those in Western Europe. Productivity and output also were high (see below). These economic conditions, as Ester Boserup points out, are highly correlated with advanced technologies that become applicable and economical only where "population density exceeds a certain level."<sup>13</sup>

<sup>13</sup> Ester Boserup, *Population and technological change: A study of long-term trends* (Chicago, 1981), p. 4. Boserup conceptualized a density scale grouping in which

Table 2 presents population density groups in imperial China and ten provinces and compares them with population density groups in European countries in the mid-eighteenth century. Note that the combined population density group measure of 7-8 is that of the most densely populated European nations, Italy, and the Low Countries. Ten provinces supported a population of over 200 million and had a population group density measure of 8-9, higher than that of any Western European country. By 1750 Western Europe's total population had reached only 100 million, less than half the total population of the Ch'ing empire's ten most populated provinces, all of which had population group density measures of 8-9.<sup>14</sup>

Table 2. Population Density Groups in European Countries (1750) and China (1786)

Country	1750	1784-1786
Ch'ing China	--	7-8
Hupei		8-9
Chihli		8-9
Anhwei		8-9
Kiangsu		8-9
Hunan		8-9
Fukien		8-9
Shantung		8-9
Honan		8-9
Chekiang		8-9
Kiangsi		8-9
Italy	7-8	
Spain	6	
Germany	7	
France	7	

countries having 4-8 and 8-16 persons per square km are ranked 4-5, or of sparse density; 16-32 and 32-64 persons per square km are ranked 6-7, or of medium density; countries having 64-128 and 128-256 persons per square km are ranked as 8-9, or dense; and countries with 256-512 as a 10, or very dense. For the areas of China producing insufficient grain, see Wang Yeh-chien and Huang Kuo-shu, "Shih-pa shih-ch'i Chung-kuo liang-shih kung-hsü ti k'ao-ch'a," in Chung-yang yen-chiu chin-tai-shih yen-chiu-so, *Chin-tai Chung-kuo nung-tsun ching-chi shih lun-wei chi* (Taipei, 1989), pp. 278-80.

<sup>14</sup> David Grigg, *Population growth and agrarian change: An historical perspective* (Cambridge, 1980), p. 60.

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Low Countries	7-8	
British Isles	6-7	
Scandinavia	3	
Poland	5-6	
Hungary	5-6	
European Russia	3-4	
TOTAL EUROPE	5	

Source: For ranking nations or provinces by density scale group, see Ester Boserup, *Population and technological change: A study of long-term trends* (Chicago, 1981), p. 58. For Hupei, see Kong Sheng-sheng, *Ch'ing-tai Liang-bu nung-yeh ti-li*, p. 50; for other provinces, see Wang Yeh-chien and Huang Kuo-shih, p. 277; for Kwangtung province, see Robert B. Marks, *Tigers, rice, silk, and Silt*, p. 280.

The data in Table 3 suggest the way in which the population reached such high densities. Although population estimates for 1650 differ, we can agree that human and natural calamities following the Ch'ing conquest greatly reduced population. But how much population decline occurred between 1650 and 1700, and what population estimates for 1700 are reasonable? We adopted 1700 benchmark population estimates ranging between 150 and 200 million and conjecture that between 1700 and 1786, when the official census population was 291 million, population grew at an annual rate between 0.41 and 0.78 percent, enough to increase China's population by some 50 to 100 percent during that period. The higher estimate might be plausible because between 1779 and 1794, according to official population figures, the annual growth rate was 0.87 percent, suggesting growth acceleration in the last quarter of the century.<sup>15</sup>

Why did population growth accelerate in the eighteenth century? Preliminary findings from a historical demographic study of the Liaoning provincial village of Tao-i reveal that, when families experienced economic difficulties, they practiced female infanticide.<sup>16</sup> When families

<sup>15</sup> See *Studies on the population of China, 1368-953*, p. 270.

<sup>16</sup> James Z. Lee, Cameron D. Campbell, with contributions by Chris J. Myers and Yizhuang Ding, *Fate and fortune in rural China: Social organization and population behavior in Liaoning, 1774-1873* (Cambridge, 1997). See ch. 4 for positive checks to control population and ch. 5 for preventive checks. Other studies of Chinese lineage population change suggest that during prosperity, "mortality went down for both sexes in all ages, age at marriage for males went down, and the proportion of married males went up." Although lineage data are

began to prosper, as was the case in the eighteenth century, they stopped the practice, meaning that more females survived into adulthood and that more marriages occurred at earlier ages than in times of difficulty, such as the seventeenth century. In Tao-i village, between 1774 and 1804 the population grew at a rate of 1.1 percent a year.<sup>17</sup>

Table 3 Trend of Population, Cultivated Land, Silver Stocks, and Rice Prices in China, ca. 1650-1930

Year	Population		Cultivated Land		Silver Stocks		Rice Price	
	Total (million)	Annual Growth(%)	Cultivated Land(million <i>shi mou</i> )	Annual Growth(%)	Total (million silver <i>yüan</i> )	Annual Growth(%)	Price (tael per <i>shi</i> )	Annual Growth(%)
1600	200		670					
1650	120	-1.03			290-330			
1655							2.11	-3.24
1680					300-350	0.16	0.95	
1685			740	0.12				
1700	150	0.45						
1770			950	0.29				
1820	353	0.72					2.55	0.70
1830					1140-1330	0.89		
1850	380	0.25	1210	0.30	900-1100	-19.03		
1870								
1875	340	-0.44						
1880					1500-1600	1.69	1.91	-0.48
1893			1240	0.06				
1920							7.01	3.30
1930	500	0.70			3200	1.33		
1933			1534	0.53				

Source: Yeh-chien Wang, "Secular trends of rice prices in the Yangzi delta, 1638-1935," in Thomas G. Rawski and Lillian M. Li, eds., *Chinese history in economic perspective* (Berkeley, 1992), p. 57. Wang used 150 million population as the 1700 benchmark, but because of Martin Heijdra's new population estimates for the Ming period (inclusive of 1650), we have opted for benchmark estimates for 1700 of 150-200 million.

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not as reliable as the household registration data used by Lee and Campbell, they confirm the family strategies mapped by them.

<sup>17</sup> Lee and Campbell, *Fate and fortune in rural China*, p. 18.



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Life expectancy for Manchus also improved. In 1687 the K'ang-hsi emperor established a pediatric clinic for the imperial lineage. He ordered smallpox inoculations mandatory for all lineage children after their first birthdays. Moreover, by 1750 most Manchu children were receiving these inoculations, so that some scholars claim that "over one-half the registered population of Beijing were regularly inoculated through state clinics."<sup>18</sup>

The improved life expectancy and population growth probably began as early as the 1680s with the advent of favorable economic developments. (The fall in rice prices between the 1650s and 1680s reflects a severe economic depression caused in part by slow growth of money supply.) Epidemics had run their course and the market economy resumed its growth; the supply of grain stabilized and prices slowly rose. The imperial policies modulating the market economy enabled rice prices to continue their smooth, slow growth during the eighteenth century (see Table 3).

Late in the K'ang-hsi era, the emperor began asking provincial officials to report local grain prices, and by the 1730s an empirewide price-reporting system was in place. Every ten days, all county magistrates had to list the market prices of the principal grains and any change in price. They sent their reports to prefectural officials, who passed them on to provincial officials. After reviewing these reports, the provincial officials in turn submitted monthly reports to the throne, where they were reviewed for possible actions, such as instructing officials to inspect poor harvest areas, supervise granary distribution, divert grain tribute destined for Peking, or even import grain. This system worked so well that the empire did not suffer any long-term, acute grain shortages. (Such shortages would have been indicated by sudden, high grain prices sustained over several years.) Recent studies reveal only moderate rise in grain prices without severe, high fluctuations, and even declining price differences between markets, which indicated that grain markets were becoming more integrated.<sup>19</sup>

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<sup>18</sup> See James Z. Lee and Wang Peng, *One quarter of humanity: Malthusian mythology and Chinese realities* (Cambridge, Mass., 1999), p. 46.

<sup>19</sup> For grain market integration in Kwangtung province, see Ch'en Ch'ün-sheng, "Ch'ing-tai chung-yeh Ling-nan ch'u-yü shih-ch'ang ti cheng-ho: mi-chia tung-t'ai ti shu-li fen-hsi," *Chung-kuo ching-chi shih yen-chiu*, 2 (1993), pp. 99-106. See also Wu Ch'eng-ming, "Li-yung liang-chia pien-tung yen-chiu Ch'ing-tai ti shih-ch'ang cheng-ho" *Chung-kuo ching-chi shih yen-chiu* (1996), pp. 88-91. Grain price