

# Nourish the People

The State  
Civilian Granary  
System in China,  
1650–1850

Pierre-Étienne Will  
& R. Bin Wong

with  
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contributions by  
Jean Oi  
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# Preface

Books all have their beginnings. The idea for this one was born at the “Workshop on Food and Famine in Chinese History,” a three-week meeting held at Harvard University in 1980, organized by Lillian M. Li and sponsored by the American Council of Learned Societies and the Social Science Research Council. Five of the participants—James Lee, Jean C. Oi, Peter C. Perdue, Pierre-Étienne Will, and R. Bin Wong—naively agreed in the humid heat of a Cambridge August to co-author a short book about Qing-dynasty granaries. We even came up with a pseudonym, “W. Plow,” denoting a person of unknown gender whose name is an acronym comprising the first letter of the surname of each participant. Over the past few years, “W. Plow” has occasionally been cited in other works as the author of an “unpublished,” even a “forthcoming” piece. He (she) has disappeared in between, but at last his (her) work is completed.

In the first stages of the project, James Lee was our energetic organizer, setting out issues and devising a preliminary division of labor to prepare a modest volume. As it became clear that the book that would emerge from our efforts was destined to assume a form well beyond our initial expectations, Pierre-Étienne Will joined Lee as a co-editor of the project. Advancing further, we had to realize that a detailed institutional monograph could not be written by a committee, especially not one composed of younger scholars who were spread out between southern

California and Paris and who each had major, unavoidable commitments to other projects.

Final decisions on the basic structure of the book were made by Lee, Will and Wong in September 1984. The division of labor that evolved from this plan meant that Will and Wong would do most of the remaining research and writing and at the same time review, modify, and integrate material from the others' efforts. Thus, the final product turns out, for better or for worse, to be largely by the two undersigned.

While authorship is attributed for each chapter, ideas and material have circulated freely and extensively among the various participants. And, although Will and Wong principally share credit for the success or failure of each chapter, Lee's input—in addition to the chapter he has signed—was germane to every stage in the preparation of this volume. Finally, besides researching and writing the chapters, much time was devoted to the collection, transcription, and verification of numbers in the tables, a labor in which all five collaborators participated.

The finished work has taken longer than might have been the case if only one or two people had been working on it, but the result is, we hope, a better one for the efforts each has contributed to it. Our failure to write a simple, quick, and straightforward study allowed us the time to reevaluate evidence, air uncertainties and disagreements, and, ultimately, to reach conclusions that represent insights drawn from a number of perspectives.

Our aim has been to produce an institutional study that spans two centuries and examines our chosen subject in all Chinese provinces. The subject matter itself requires no elaborate defense. Subsistence concerns were a basic fact of life in late imperial China, as they were around the globe before this century and still are in large parts of the world. How the Qing state perceived the problems and addressed the issues tells us much about the nature of the state itself and about subsistence problems in general.

But why bother, you may reasonably ask, to read (let alone write) such a long and detailed study? Institutional analyses are not as popular now as they once were. For European history, many of the important institutional works were written in the late nineteenth and early twen-

tieth centuries. For Chinese history, studies of this sort were undertaken both before and after World War II; they in fact remain a popular and worthy subject up to the present time. Yet few would disagree, we believe, that these works all too often have a dry, lifeless tone that fails to excite the imagination. While probably a majority of us prefer our history to tell a story of peoples and cultures, address a particular problem, explain a process, or capture the “flavor” of a period or event, the institutional study’s primary task is to reconstruct the manner in which some set of procedures worked. If the analysis is limited to describing how things were supposed to have worked in theory, the institutions often emerge in much bolder and crisper outline than the evidence actually warrants, because rules prescribe practice in terms of ideals. If, on the other hand, a study focuses too narrowly on establishing what really happened, it risks losing the sharp lines of definition that due consideration of the rules alone can provide. Often complex and tedious, both types of accounts tend to try the patience—and lose the attention—of their readers. Thus, the major failing of many institutional studies, it seems to us, is that the really important ideas become mired in a sea of details, the purpose and significance of which are not always apparent. How, then, do we chart our way through such treacherous waters?

Our book is organized into four parts and opens with a chapter intended to provide a swift review of the long tradition of food supply intervention that preceded the development of Qing-dynasty granary operations. Part I is given over to a description of basic institutional practices—the mobilization and distribution of grain—in terms of the types of strategies and scale of operations that were common in different parts of the empire. Our primary goal is to show how the changes in these operations over time were the product of conscious choices among options shaped by larger patterns of political and economic change. The development of granary operations was predicated upon the government’s ever-evolving abilities and willingness to mobilize resources for grain reserves; their decline was initiated by changes in official evaluations of the utility of these operations and reinforced by increasingly tight fiscal and organizational constraints on government operations generally. Beneath the larger processes of political and

economic change, the importance of certain individuals, especially emperors, can be seen, as well as the impact of major events such as military campaigns.

With a sense of the dynamics of change that affected the civilian granary system, we move in Part II to an examination of the structure of granary operations, highlighting the myriad problems officials faced in the terms that they themselves used. Focusing on the difficulties sheds light on how seriously officials tackled problems and on the many constraints under which they had to operate. What emerges, we believe, is a sensibly balanced picture both of the basic structures and of the goals of Chinese bureaucratic activity. The capacities and commitments of the late imperial state must be understood in terms of what officials wanted and were able to achieve, as well as of what they in fact did not achieve.

In Part III we consider the system in spatial terms, in an effort to identify relationships among its parts and variations in operations throughout the empire. Our purpose here is twofold. First, we aim to put local studies in a broader spatial context in order to avoid the common practice of generalizing from case studies with little sense of what makes them “typical” or “representative” of the universe of possibilities. Second, we seek to demonstrate that the system was capable of operating effectively over large stretches of the empire: indeed, the very breadth of its coverage is arguably one of its major achievements and should prompt us to examine anew the means by which the Chinese state worked towards unifying and integrating an empire that was continuously expanding, territorially and demographically.

The question of how to assess the granary system more generally, and thereby to gauge its significance for our broader understanding of late imperial history, is the focus of Part IV. There we evaluate the system’s importance in terms of its likely social and economic impacts and of its costs to the state, before going on to consider the implications of granary operations for our more general evaluations of what the Chinese state was interested in doing and capable of achieving. We conclude by contrasting Chinese efforts with the food supply policies

of other states in order to highlight what is universal and what is unique about the Chinese experience with granaries.

This rehearsal of the book's logic should make clear why we have decided to reconstruct the Qing civilian granary system in such detail: without the specificity we have built into its study, its temporal, structural, and spatial dimensions would not emerge as clearly as is required to make a cogent case for its significance. More important, perhaps, our effort suggests how an institutional study can begin to address the larger issues of state-society and state-economy relations in late imperial Chinese history. We believe that institutions, large and small, are among the fundamental building blocks of any reconstruction of history. Understanding how each is formed, refined, and used, reveals dynamics of change and continuity that are basic to informed historical understanding. With which we now conclude and invite the reader to put our claim to the test.

P.-É. W.

R. B. W.



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Putting into shape and editing what must have looked like a rather monstrous manuscript at the time of its acceptance has mobilized an unusual amount of talent. Barbara Congelosi, former editor of Michigan's Center for Chinese Studies publications series, kindly accepted to devote spare time from her new job to that task. Showering us with "questions to author," mercilessly pointing out errors and inconsistencies, she made us aware that we were still far from having a "book" in the civilized sense of the term, and helped us tremendously in making up the gap. Barbara's successors at Ann Arbor, JoAnne Lehman and principally Walter Michener, successfully built on her work to produce the printed text that is now submitted to the reader's scrutiny and whose deficiencies remain, of course, our own responsibility.

A final word of acknowledgement is due to Catherine Zacharopoulou, of the Laboratoire de Graphique, École des Hautes Études en Sciences Sociales, Paris, for her efficient and elegant production of the four provincial maps in this volume.

# Abbreviations

See bibliography for full citations and Chinese characters.

## *Archives*

*CZCC: Caizheng cangchu*  
*GZD: Gongzhongdang*  
*HKSS: Huke shishu*  
*JJCD: Junjichu dang*  
*LF: lufu zouzhe*  
*NZBJ: Neizheng baojing*  
*TKGZ: Nongye tunken gengzuo*  
*ZP: zhupi zouzhe*

## *Books*

*HD: Da Qing huidian*  
*HDSL: Da Qing huidian shili*  
*HDZL: Da Qing huidian zeli*  
*HNSLCA: Hunan shengli cheng'an*  
*JSWB: Huangchao jingshi wenbian*  
*JSWBXB: Huangchao jingshi wenbian xubian*  
*QSLGZJ: Qing shilu Guizhou ziliao jiyao*

*Books, cont.*

QSLJJZL: *Qing shilu jingji ziliao jiyao*  
QSLYYSH: *Qing shilu youguan Yunnan shiliao huibian*  
WXTK: *Qingchao wenxian tongkao*  
ZPYZ: *Yongzheng zhupi yuzhi*  
ZZGS: *Zizhi guanshu*

*Gazetteers*

FZ: *fuzhi*  
TZ: *tongzhi*  
XZ: *xianzhi*  
ZZ: *zhouzhi*

*Qing Dynasty Reign Titles*

SZ: Shunzhi (1644–1661)  
KX: Kangxi (1662–1722)  
YZ: Yongzheng (1723–1735)  
QL: Qianlong (1736–1795)  
JQ: Jiaqing (1796–1820)  
DG: Daoguang (1821–1850)  
XF: Xianfeng (1851–1861)

Note: Dates are given by reign-title, year/month/day; intercalary months are indicated by an asterisk.

# Chinese Traditions of Grain Storage

R. Bin Wong

Granaries have a long history in China. The inspiration for them is found in classical texts, which placed political commitments to grain storage within a larger program of “nourishing the people” (*yang min*). The establishment of granaries was a recurrent phenomenon during the entire period of imperial rule. From classical precepts to late imperial practices, the storage of grain satisfied basic political ideals and urgent practical needs.

## GRANARIES AND THE CHALLENGES OF PREIMPERIAL RULE

Chinese ideas about storing grain emerged in a world of chronic food supply scarcities. Since food shortages were common in most other societies in human history, food storage was, not surprisingly, an activity common to most civilizations and cultures, even those

characterized by hunting and gathering.<sup>1</sup> But in the Chinese case, grain storage became an important political concern in early times and remained so for more than two millennia. To combat the instability of harvests, ancient rulers were counseled to create granaries. The *Book of Rites* warns that a country without stocks for nine years' requirements has insufficient reserves; with less than six years' reserves, the situation "becomes tense"; and with less than three years' stocks, the government will not survive.<sup>2</sup> While other preimperial texts did not set comparably large reserve requirements, the failure to store grain repeatedly attracted severe criticism. As Mencius, the fourth-century B.C. Confucian philosopher, put the case to King Hui of Liang, "There are people dying from famine on the roads, and you do not issue the stores of your granaries for them. When people die, you say, 'It is not owing to me; it is owing to the year.' In what does this differ from stabbing a man and killing him, and then saying 'It was not I; it was the weapon'?"<sup>3</sup>

A guaranteed level of subsistence was viewed as part of the basic material foundations people needed in order to understand morality. Mencius explained the general importance of a stable material existence to morality in this way: "As to the people, if they have not a certain livelihood, it follows that they will not have a fixed heart. And if they have not a fixed heart, there is nothing which they will not do, in the way of self-abandonment, of moral deflection, of depravity, and of wild license."<sup>4</sup> The *Guanzi*, a Han-dynasty collection of materials written over the preceding several centuries, cogently defines the close links between grain storage and popular morality: "When the granaries are full, [the people] will know propriety and moderation; when their clothing and food are adequate, they will know [the distinction between] honor and shame."<sup>5</sup> Social control is achieved through the

---

<sup>1</sup> Ingold, "Significance of Storage in Hunting Societies."

<sup>2</sup> Xu Guangqi, *Nongzheng quanshu jiaozhu*, 1: 2.

<sup>3</sup> Legge, *Chinese Classics*, 2: 132.

<sup>4</sup> *Ibid.*, 147.

<sup>5</sup> Rickett, *Guanzi*, 52. For an English-language discussion of the text, see Hsiao, *History of Chinese Political Thought*, chapter 6.

guaranteeing of material security. The same text also warns rulers what to expect if they permit shortages: "If the people lack sufficiency, [the prince's] orders will be scorned. If the people suffer hardships, his orders will not be carried out."<sup>6</sup> Thus, while grain storage was to be carried out for the benefit of the people, it was unmistakably understood that what served the people ultimately supported the state.<sup>7</sup> Grain storage was a practical matter of political self-interest, not a selfless act of charity.

Political preparations for harvest shortfalls were important in an agricultural society innocent of specialized production and trade. In a world where grain was also routinely bought and sold on the market, officials had additional worries. In the fifth century B.C., Fan Li and Li Kui both advanced the notion that state intervention was needed to stabilize prices. Fan Li, a statesman in Yue, advocated government purchases and sales; Li Kui, the legal thinker responsible for the *Classic of Law*, worked out the logic of state intervention, saying that rulers should buy and sell grain to inhibit price fluctuations since high prices harm consumers and low ones harm producers. Finally, the *Guanzi* discussed at length the idea that the state should purchase and sell goods to keep prices stable.<sup>8</sup> The emphasis on stabilizing prices represents an early Chinese awareness of the potential impact of markets and the belief that government should involve itself in supply and demand conditions.

While texts were preaching the importance of storing grain and government officials worrying about food supply conditions, the pressing political challenges of the Warring States Period (403–221 B.C.) were in reality centered around competition among political entities,

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<sup>6</sup> Ibid., 142.

<sup>7</sup> Not all early texts stress strongly the instrumental purpose of providing for the people to serve the state. It is quite clear, however, that all writers understood that both rulers and people benefited from material security.

<sup>8</sup> Maverick, *Economic Dialogues*, 163–212. Hu Jichuang, *Zhongguo jingji sixiang shi*, 1: 176–88, 265–78.

each trying to build up its military forces to defend and extend its territorial control. To build their military machines, Chinese states had to expand their revenue bases. Military demands on resources constrained granary possibilities in preimperial times and would continue to do so in imperial China.<sup>9</sup>

Classical ideas about grain storage defined a set of political ideals that were translated into concrete policy objectives and bureaucratic strategies in imperial times. Rulers developed a range of policy options and made choices about what forms of intervention they deemed most desirable. Civilian grain storage, the principal focus of our analysis of Qing-dynasty practices, was not always distinct from grain storage for other purposes in earlier dynasties. State distribution more generally served a diverse and changing set of political goals and needs. To understand the political logic that shaped the implementation of granaries for civilian use, we examine briefly the broader set of state efforts to store and distribute grain.

### THE POLITICAL CONTEXT OF GRANARY OPERATIONS

Granaries were major storehouses for tax revenues, especially during the first millennium of imperial rule, when taxes in kind greatly exceeded collections in money form; the other important form of tax collection, *corvée* labor, obviously required no storage. Much of the evidence about recurring granary operations documents the state's efforts to provision large segments of the population of the capital (principally officials and members of the imperial family) and the military. These two target populations alert us to two distinct dimensions of grain distribution. First, the stress on food supplies in the capital represents a specific and important example of concern for urban sufficiency. Second, the attention to military provisioning raises the question of what specific categories of people the state is obligated to feed.

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<sup>9</sup> See Hsu, *Ancient China in Transition*, on the preimperial situation.

The spatial and substantive aspects of target populations for grain distribution combine to form standards by which we can evaluate the scale and potential impact of granary operations. We can ask spatial questions about how widespread granaries were across the empire and the degree to which they reached beyond urban centers and penetrated into the countryside. We can further ask how often grain was used to feed special groups with specific entitlements and how often grain was distributed more generally to populations in need. Answers to these questions would provide a good sense of how civilian granary operations fit within the larger context of grain storage. Unfortunately, the sparseness and frequent ambiguity of the sources, especially for the first millennium of imperial rule, make conclusive statements difficult. Granaries may have been common in many parts of China, but there is little evidence of regular distribution to civilian populations.

During early imperial times, granary operations and state distribution more generally were influenced by the twin concerns of social welfare and state finances. The distribution policies championed by the eminent Han statesman and thinker Sang Hongyang (152–80 B.C.) raised revenues, much needed to finance military defense efforts, and stabilized supply and demand conditions across the empire, especially in urban areas. The state's decision to buy and sell was an outgrowth of its taxation efforts.<sup>10</sup> The Han dynasty's fiscal policies were consciously designed to avoid the fate of the short-lived Qin dynasty (221–206 B.C.), which traditional historiography tells us was brought down by its heavy extraction from the people. Raising revenues through market regulation meant that tax burdens placed on peasants could be held in check as the government mobilized resources through alternative means.

In Han times, regulating markets served both as a part of the state's overall revenue strategies and as an element in the larger enterprise of

---

<sup>10</sup> Sang Hongyang's policies are discussed in two recent works: Wu Hui's *Zhongguo gudai liu da jingji gaigejia*, 171–254, and Zhou Bodi's *Zhongguo caizheng sixiang shigao*, 133–57. The larger fiscal context for Sang's policies within the Han dynasties is presented in Ma Daying, *Handai caizheng shi*.

nourishing the people. But such harmony was not destined to last, as state finance and popular welfare became increasingly separate in the official logic of later centuries. The limited sources for the period between the Eastern Han's third-century demise and the seventh-century establishment of the Tang presently preclude discussion of a tension between the revenue-making and social welfare aspects of granary operations. The conflict does, however, become quite clear during the Song, in the debates over Wang Anshi's reforms. For salt, revenue collection became the dominant rationale of the government monopoly, which continued, of course, to provide people with a crucial commodity. For grain, the resolution of the tension between raising revenue and nourishing the people was resolved in favor of the latter at the expense of the legitimacy of revenue-making possibilities.<sup>11</sup> Among the "New Reforms" of Wang Anshi in the 1060s was a program of low-interest state loans ("green sprout loans," *qingmiao fa*) made available to peasants during the lean spring season. Wang's program was an alternative to state storage of grain and to private (and often usurious) loans from the wealthy. Wang reasoned that storage of grain was expensive and loans from the wealthy too dear. His program could save the peasants money, reduce government costs by dealing in money rather than grain, and pay for itself through the interest charged on peasant loans. One major criticism of this program was that the state was making money at the expense of the people and had no place competing with the people for profit.<sup>12</sup>

According to the political logic usually applied after the Tang dynasty, efforts to nourish the people should not enrich the state. But a policy intended to nourish the people could easily be subverted by

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<sup>11</sup> The distinction between government sales for public benefit and for fiscal reasons was already drawn in the *Zhou li*, but the tension between the two purposes did not become salient until a division between Confucian and Legalist thinking became established. The recurrent role of some type of salt monopoly in Chinese finances can be seen in Zhou Bodi, *Zhongguo caizheng shi*, 110–13, 173–75, 214–16, 269–73, 338–40, 382–85, 432–35, 483–86.

<sup>12</sup> For a detailed discussion of Wang Anshi's "green sprout loans," see Higashi Ichio, *Ō Anseki shimpō no kenkyū*, 553–98.

official profit-making. Upon their discovery of a discrepancy between intention and reality, officials had basically three options. First, they could labor to reduce the apparent contradiction between raising revenues and aiding the people; for instance, late imperial policies on land clearance increased revenues without raising tax rates, while late nineteenth-century discussions of a strong state and wealthy society envisioned a complementary relationship between social prosperity and political power.<sup>13</sup> A second response was to decry abuses and seek to make operations cleave more closely to ideals, a course routinely chosen in late imperial times. If efforts to control abuses failed, officials could turn to a third line of action, namely, putting a stop to those activities that caused the abuses: this is what happened, as we will see, to community granaries (*shecang*) at the beginning of the nineteenth century. Community granaries were themselves originally created as a response to official abuses after the rejection of Wang Anshi's "green sprout loans"; rather than have the state mismanage a program, officials relied on the people themselves to create a nongovernment alternative. The community granary, championed by no less a figure than the famous philosopher Zhu Xi (1130–1200), was formed outside the geographical centers of government and meant to be managed by local people instead of officials. Funded in principle by private contributions, these granaries provided a means for the educated and wealthy to nourish the people without direct state control.

Together, these three options represent a sequence of choices. The distinction between nourishing the people and raising state revenues could be either mutely acknowledged or loudly proclaimed. If strongly challenged, officials could either stop the practices that compromised efforts to nourish the people or stop the efforts themselves. The latter

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<sup>13</sup> There are several reasons the tension between the state's revenue needs and society's well-being was muted in the late nineteenth century. First, the new axis of tension was between China (both state and society) and the West. Second, efforts were focused more on increasing production than on the distribution of wealth between government and people. Chinese thinking was influenced by Western ideas of political economy, especially the general idea of enriching society and the state either as complementary goals or as separate and noncompetitive goals.

choice did not necessarily mean a total rejection of previous policy goals, because an elite existed which could, when willing, take on these responsibilities.

Thus, the development of state granaries to serve civilian needs depended upon several factors. First, official willingness to adopt a direct interventionist approach to subsistence management versus an implicit delegation of this social duty to properly Confucian local people shaped the amount of effort officials voluntarily put into granaries. Second, military needs of high priority often served to constrain supplies available for civilians. Third, and more generally, granaries fit within a larger fiscal context in which the state weighed its sources of revenues and competing expenditures. While we can readily separate and identify these factors, their relative impact on civilian granary developments in imperial China before the Qing dynasty cannot be pinpointed. Sparse source materials and a spotty secondary literature limit us to a very approximate evaluation of the antecedents to the Qing civilian granary system.

#### ANTECEDENTS OF QING CIVILIAN GRANARIES

The three basic granary types of the Qing period—ever-normal (*chang-pingcang*), charity (*yicang*), and community (*shecang*)—can each be traced back to early and mid-imperial times. The ever-normal granary label was first attached to Han-dynasty granaries that provisioned military troops stationed on the borders. Granaries bearing this name that helped to balance harvest fluctuations in the manner of the Qing were first established in the Jin dynasty (265–420); during the Northern and Southern dynasties (386–589), they fell under the control of magnate families in the south but remained under state control in the north. Early Tang (618–906) granary practices, like so many other policies, were tied to previous northern ones. Amid the major fiscal changes following the An Lushan Rebellion (755–763), which nearly ended the Tang dynasty, the principles of ever-normal granaries were reaffirmed. These granaries were managed by officials who bought and sold grain

to reduce supply fluctuations and scarcities, in ways to become more common in later centuries.<sup>14</sup>

The fate of the ever-normal granary in mid-imperial times was tied to that of the charity granary. In the Sui dynasty (589–618), the term “charity granary” (*yicang*) was employed in reference to granaries established to store special tax revenues for local famine relief purposes. The Tang followed the Sui practice of establishing charity granaries for civilian famine relief, but the demand for military supplies undermined the granaries’ intended function and led to the amalgamation of charity and ever-normal granaries. Since taxes were largely collected in kind and corvée, granaries certainly stored much grain, but whether or not much of it was regularly used to feed civilian populations is unclear. The Tang does appear, however, to have established granaries with names and functions resembling those of late imperial times on a scale larger than had been previously achieved. Expansion followed a decentralization of control after 740, but the continued survival of the system required central government participation. In general, the Tang state seems to have intervened principally during serious subsistence crises rather than on a more regularized basis.<sup>15</sup>

The Song state (960–1279) stored grain for a society dramatically changed by urbanization, cash cropping, and trade. Amidst these economic and social transformations, ever-normal granaries can be viewed as an adjunct to the private market; their disbursements and restocking were political reactions to price stimuli. They were joined first by charity granaries and then by community granaries, both of which made loans rather than selling at reduced prices. For a few decades, at least,

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<sup>14</sup> For ever-normal granary activities specifically and granary policies generally, see Feng Liutang, *Zhongguo lidai minshi zhengce shi*; Qu Zhisheng, *Zhongguo liangcang zhidu gailun*; Lang Qingxiao, *Zhongguo minshi shi*; and Deng Yunte, *Zhongguo jiuhuang shi*. For ever-normal granaries between the Han and Song dynasties, see Imahori Seiji, “Sōdai jōheisō kenkyū (jō).”

<sup>15</sup> Jin Zuxun, *Zhongguo gudai liangshi zhucang de sheshi yu jishu*, 12; and Zhang Gong, *Tangchao canglin zhidu chutan*, chapter 5. The latter is perhaps the best work on granaries in China before the late imperial period. See also Twitchett, *Financial Administration*, 62, 193; and Xu Yitang, “Tangdai zhi cangchu zhidu ji qita.”

granaries may well have been an active force in stabilizing food supply conditions, but they were soon undermined by the pressures for military supplies that pushed reserves into the hands of hungry soldiers.<sup>16</sup>

Ever-normal, charity, and community granaries differed in terms of how they mobilized and distributed grain and in terms of who managed them. Ever-normal and community granaries formed the two poles, the former being run by officials who bought and sold grain with the state's money, and the latter by local people who lent grain and relied on contributions. Other granary names were used in the Song and Ming (1368–1644) dynasties. The variety of names reflects the large number of local efforts mounted to meet subsistence problems in the absence of a strong and uniform state system. But it also obscures the limited set of options each granary had for grain mobilization (through contributions or taxes) and distributing grain (through loans, sales, or outright relief). The late imperial state consciously made the basic decision to distinguish civilian granary operations from revenue-making efforts and military provisioning. But since officials continued to face the challenges of extracting resources and feeding armies, civilian granary operations remained vulnerable both to military needs and to accusations that officials privately profited from the manipulation of granary reserves.

The difficulties of sustaining civilian granaries are demonstrated by Ming-dynasty experiences. Although we lack the archival record for the Ming that we have for the Qing, the outline of activities that emerges from the information available suggests a smaller overall effort than would take place in the first half of the Qing. The Hongwu emperor called in 1368 for the establishment of four “preparedness” granaries (*yubeicang*) in each county. It is not clear whether or not many of these granaries were in fact formed. In any case, by 1403 what granaries there were had reportedly few reserves. Clear evidence of efforts to renew preparedness granaries does not come until the 1440s, and quotas appear only in the 1490s. The larger quotas set in 1527 represent the final major signs of a broad effort by the central state to establish these

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<sup>16</sup> On Song granaries generally, see Wang Deyi, *Songdai zaihuang de jiuji zhengce*, 27–64.

granaries. Conceived as an adjunct of the land-tax payment system (*lijia*<sup>a</sup>), grain storage suffered from a lack of steady financing and the absence of official management.<sup>17</sup>

In contrast to the collapse of central state efforts to sustain preparedness granaries, charity and community granaries enjoyed at least a partial resurgence in the sixteenth century. Usually the products of local initiatives, charity granaries were established in both urban and rural areas and closely resembled the community granaries established in the countryside. There were also sixteenth-century efforts to revitalize ever-normal granaries, which became enmeshed with the remaining preparedness granaries. By the turn of the seventeenth century, the many granary names in use across the empire attest to the presence of granaries, but their viability hinged on local people maintaining the reserves. The variety of operations precludes all but one simple, yet important, generalization: the central bureaucracy did not assume a major role in creating, directing, or maintaining granary operations.<sup>18</sup>

Why did the Ming state choose not to stress government-run granaries and state control of food supplies? The late fourteenth-century state may initially have had less reason to form granaries, and fewer resources with which to do so, but emperors and officials could have adopted without great cost the Tang and Song precedent of charity granaries funded by special taxes. In his monumental work *Daxue yanyi bu* (Supplement to the Exposition on the Great Learning), Qiu Jun (1420–1495), a grand secretary who belonged to the Hanlin Academy for nearly a quarter of a century, offered a number of explanations as to why Ming emperors may have found state-run granaries unappealing. Presented to Zhu Youtang upon his accession in 1487, the work made a strong impression on the emperor, who ordered its publication and Qiu Jun's promotion to the post of minister of rites.<sup>19</sup> In this compen-

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<sup>17</sup> Liang Fangzhong, "Mingdai de yubeicang," and Hoshi Ayao, "Yobisō no fukkō ni tsuite."

<sup>18</sup> Hoshi Ayao, "Mindai no yobisō to shasō"; "Mindai no shinsai shi sō no sōgo kankei"; and *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 975.

<sup>19</sup> See Qiu Jun's biography in Goodrich and Fang, *Dictionary of Ming Biography*, 1: 249–52.

dium on public affairs, which interweaves a wide range of analyses and viewpoints, Qiu Jun's own commentaries make clear his positions toward state economic policies generally and toward granaries specifically and are worthy of a closer look.

#### LATE IMPERIAL GRANARY EFFORTS: MOTIVATIONS AND CONSTRAINTS

Qiu Jun's work was intended to be a guide for officials who sought to understand the policies of past leaders. That he labored so strenuously to cover such a broad range of topics and incorporate such a rich variety of sources only makes sense if he personally desired the state to be powerful and successful. Yet Qiu Jun clearly advocated limitations on state power over what is essentially seen as a private economy. His view of what made the state strong and stable was strongly colored by Confucian concerns for popular welfare. This paternalism helps explain his rejection of the types of state intervention associated with earlier Legalist policies. He thus criticized Sang Hongyang's policies of state buying and selling to balance supply and demand because he believed merchants did a much better job of redistributing resources over large areas than the state did. He also opposed all forms of salt monopoly, Song practices of official purchases and sales to stabilize grain prices, and government-run industries. Qiu Jun generally opposed state intervention in economic activities that were managed by merchants. He wanted a frugal government that extracted limited resources from the population and allowed the private commercial sector considerable autonomy.<sup>20</sup>

Given this general philosophy, the type of granary that Qiu Jun advocated was Zhu Xi's community granary, because it was a form of storage based among the people and did not directly engage official efforts.<sup>21</sup> Whereas Song-dynasty leaders had earlier reacted to commercial developments by establishing granaries designed to influence mar-

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<sup>20</sup> These themes are reviewed by Zhou Bodi, *Zhongguo caizheng sixiang shigao*, 278–305.

<sup>21</sup> Qiu Jun, *Daxue yanji bu*, 16.30–34.

ket conditions, Ming rulers, through the formation of community granaries, created reserves outside the commercial world at a time when the economy was once again becoming increasingly commercialized. Thus, there was no direct correspondence through the centuries between granary types and levels of commercial activity. Officials chose granary types according to different political perspectives and in response to a variety of economic conditions.

The limited granary efforts of the Ming fit comfortably within recent characterizations of the late imperial state, society, and economy. This popular perspective envisions economic development as a private-sector phenomenon entwined with momentous social changes—the emergence of the gentry, the breakdown of large land holdings, and the rise of new kinds of landlords. The general consensus has the state playing little role in any of these important transformations. Scholars often see the late imperial state as a weak and ineffectual bureaucratic machine plagued by corruption, malfeasance, and incompetence. Political ideals seem irrelevant because they had no real impact on society.<sup>22</sup> However comfortable the placement of Ming granaries within this larger consensus, the general arguments are debatable. It is certainly true that the efforts made by the early Ming state to organize and rule agrarian society were crumbling in the sixteenth century. Moreover, the late Ming state suffered from limited bureaucratic abilities and weak central leadership. Yet do these facts indicate that the late imperial state would prove consistently ineffectual in shaping or responding to social and economic change? Do they mean that political

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<sup>22</sup> The perceived irrelevance of the state to social and economic changes in late imperial times is implicit in Elvin's *Pattern of the Chinese Past*. Thomas Metzger uses an explicit Western perspective—in his case, a Parsonian view—to argue the insignificance of the Chinese state in "On the Historical Roots of Economic Modernization in China: The Increasing Differentiation of the Economy from the Polity during the Late Ming and Early Ch'ing Times." For many Chinese and Japanese scholars, the state does have a role of sorts in social and economic history, but it is not a positive one; on the contrary, the late imperial state is often viewed as only obstructing the "natural" unfolding of history along Marxist lines.

ideals would only marginally affect social realities? The Qing experience with civilian granaries suggests not.

A full explanation for what were apparently more circumscribed state attempts at granary formation in Ming times, relative to what came both before and after, remains to be developed. Modest state efforts in this area fit a broader political viewpoint that saw support for popular welfare as best achieved by minimizing government intervention in social affairs.<sup>23</sup> Apparently minimal central state efforts did not, however, necessarily mean a complete absence of civilian granaries. Local officials and leaders formed granaries in a number of areas. The paternalistic responsibility for the people was a Confucian obligation shared by all leaders, from the central bureaucracies to local worthies. The Ming state had no compelling incentive to shoulder welfare burdens largely by itself; it was quite willing to allow local leaders to take on those responsibilities.<sup>24</sup>

The Qing state had special reasons for promoting civilian granaries specifically and popular welfare more generally. As a conquest dynasty, the legitimation of rule in native Chinese terms meant a concern for properly Confucian signs of benevolent rule. The Kangxi emperor, the leader who laid the groundwork for the Qing granary system, underwent a considerable education in Confucian classics as edited and interpreted

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<sup>23</sup> For Confucius' ideas about minimal government as the way to help the people, see Hsiao, *History of Chinese Political Thought*, 109; in late imperial times, Qiu Jun's ideas about granaries are consistent with his attitudes toward minimizing official intervention in other economic affairs. With respect to granaries, a common way to express the virtues of nonintervention by the state was to propose "store wealth with the people" (*zang fu yu min*). Thus, the Kangxi emperor in 1679 used this phrase when speaking of the importance of agriculture and grain storage (Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 206, quoting the *Veritable Records*).

<sup>24</sup> The absence of a sharp distinction between what a proper government and proper local leaders should do with respect to the population is a sign of the common agenda that officials and local elites shared. This does not mean, however, that they were necessarily always in agreement on how to achieve this agenda, not to mention their more obvious differences. Indeed, gentry could wish to take on social welfare responsibilities and keep the state outside their efforts; see Mori Masao, "Jūroku-jūhachi seiki ni okeru kōsei to jinushi denko kankei."

by later scholars. Motivated by strong commitments to ideological principles, the early Qing emperors established an empirewide system of grain reserves that helped to determine the shape and substance of major social and economic changes.<sup>25</sup> This civilian granary system was created by and could only be maintained through sustained bureaucratic effort. An analysis of the system promises to improve our grasp of the state's capacities, priorities, and relationships to the agrarian society that stretched across an expanding empire.

The present study focuses on the state's formation, maintenance, and utilization of a granary system principally intended to serve the general population. This population lived in the myriad of villages clustered about the many market towns and in the smaller number of larger cities that together comprised China proper. The Qing state added vast stretches of territory, much of which remained sparsely settled and in which the granaries examined in this volume were not generally established. The system of grain reserves we study does not, in other words, literally cover the entire empire, but it does include all the settled agrarian regions in which most Chinese lived. Our focus is restricted in a second way, in that we look primarily at granaries that affected civilian food supply conditions. Separate and important food supply concerns, represented especially by the military and the grain tribute system, are examined only when they touch upon our principal subject matter. Thus, this book is not a study of all types of granaries in Qing China, let alone all state food supply policies. Its aims are less inclusive, though hardly modest. The book reconstructs and evaluates the structure of a major institutional system on the basis of archival and printed sources with the intention of identifying basic temporal changes over two centuries and of capturing important spatial variations across much of the empire.

Our framework for analysis has four basic dimensions: temporal, structural, spatial, and comparative, and each is given individual treatment in one of the book's four major sections. We begin in Part I by

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<sup>25</sup> For a useful survey of the Kangxi emperor's social and economic policies, see Meng Shaoxin, *Kangxi dadi quanzhuan*, chapters 8–10.

reconstructing the basic chronological rhythms of institutional development and decline that defined granary operations between 1650 and 1850. In Part II we probe more deeply the structural characteristics that defined the system's capacities. Part III is an analysis of the spatial organization of the granary system and variations among granary patterns found in different parts of the empire. And, finally, in Part IV we conclude by asking what Qing granaries can tell us about late imperial Chinese history in general and about the Chinese experience in comparative terms. We will discover how an agrarian empire successfully responded to the challenges of ruling a country undergoing rapid territorial, demographic, and economic expansion during the century before its transforming encounters with the modern world. The drama of China in this new global setting is too often rehearsed without a clear awareness of the triumphs and tragedies of Chinese rule before the nineteenth century. The chapters to follow strive to reduce in some small measure the historiographical isolation of recent Chinese history that has resulted from our relative ignorance of the earlier centuries.

**Part I**

**Development  
and Decline**



# Introduction

The early Qing state faced two basic challenges—to extend territorial control in order to achieve military security and to promote economic recovery in order to enhance social stability. The formation of granaries was one part of the much larger enterprise prescribed by the second challenge, a challenge conceived within the logic of political commitments to popular welfare mandated by Confucian ideology.

The first Qing emperor envisioned ever-normal granaries in county seats, charity granaries in major towns, and community granaries in the countryside.<sup>1</sup> Ever-normal granaries were to be managed by members of the magistrate's staff, who were directed to sell, lend, or give away grain in the spring and to make purchases, collect loans, and solicit contributions in the autumn. Community granaries, in contrast, were to be located outside the county seat to serve people who could not easily reach the ever-normal granary. Small in scale and scattered across the county, these granaries were in principle stocked by contributions of

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<sup>1</sup> *WXTK*, 32.5143. The typical pattern of having one ever-normal granary in each county was occasionally not observed. For instance, some Shaanxi counties clearly had multiple ever-normal granaries, related, it appears, to late Ming preparedness granaries (Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 31–35; Shaanxi governor Chen Hongmou, ZP, *CZCC*: QL 11/5/19).

local rich landowners and managed by local people. The interest payments on loans served to cover operating expenses and gradually to increase the stocks.<sup>2</sup> Thus, in theory, at least, ever-normal granaries and community granaries rested upon different principles of operation and served distinct needs. The early Qing ideal of a charity granary combined features of both ever-normal and community granaries. As with the community granary, grain was to be mobilized through contributions; like the ever-normal granary, distribution was to take the form of reduced-price sales and loans.

Previous assessments of Qing granaries have often stressed the divergence of political practices from administrative ideals. This perspective has usually produced evaluations skeptical of the real importance of granaries. Even when assessments have been more positive, the data have been too weak to support confidently the conclusions reached.<sup>3</sup> Our analysis of archival materials and printed sources leads us to conclusions different from the conventional ones.

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<sup>2</sup> The 10-percent interest rate charged by Qing-dynasty community granaries was low compared to earlier rates charged on loans. For the earlier periods, see Yang, *Money and Credit*, 76–77, 96–97.

<sup>3</sup> A standard negative assessment of the Qing granary system can be found in Hsiao's *Rural China*, 144–83, which provides a rich array of complaints and problems that lead to the obvious conclusion that the system never worked well and only got worse. Chuan and Kraus, in *Mid-Ch'ing Rice Markets and Trade*, 30–35, cite a few cases where large granary disbursements might have had a major impact on food supply conditions, but the authors recognize that their limited information and a widely shared disbelief in effective local government make a positive assessment impossible. Ts'ui-jung Liu moves several steps toward a positive assessment in a number of articles; her conclusions, however, are limited by dependence on isolated figures, the accuracy of which is often uncertain. David Buck's "Imperially Inspired Philanthropy in the Ch'ing: The Case of Granaries in the Eighteenth Century" proffers the example of Shandong community granaries as evidence of local initiative in the Yongzheng period that was subsumed under state control in the Qianlong reign, but neither the Shandong case nor community granaries can provide a sure guide to more general patterns. Yeh-chien Wang, in "Food Supply in Eighteenth-Century Fujian," suggests that part of the seasonal pattern of grain price behavior for the capital prefecture of Fuzhou between 1745 and 1756 was due to granary disbursements, a possibility we find very plausible. The most important study of Qing-dynasty granaries to date is Hoshi Ayao's *Chūgoku shakai shifuku seisatsu shi no kenkyū*. The author presents evidence, based principally on the *Veritable Records (Shilu)* and gazetteers, to explain the

We believe that, in spite of the multiple constraints and difficulties to be analyzed in Part II, the Qing state created a massive set of grain reserves that were utilized and replaced in sophisticated ways. Repeated bureaucratic efforts and considerable financial resources were expended to elaborate and sustain a major institution. The scale of the granary system is revealed by a quick look at the size of granary reserves recorded at the provincial level (table I.1). From the scattered figures on reserves recorded between 1720 and 1735, we see that very large amounts of grain were amassed in a number of provinces: at least twelve (Shandong, Henan, Zhili, Shanxi, Guangxi, Jiangxi, Shaanxi, Guangdong, Hunan, Sichuan, Jiangsu, and Gansu) each stored a minimum of one million bushels (350,000 hectoliters) of grain during the early eighteenth century. For six provinces, we can chart the growth of reserves to mid-century (table I.2). In each of the four provinces outside the southwest, total reserves reached between one and three million bushels. A more complete picture can be drawn after mid-century, when more data become available. Our figures on provincial reserves (see appendix tables A.1 and A.2) indicate that the national total of some thirty million *shi* at mid-century grew over the next several decades, finally reaching a recorded peak of more than forty-five million in the 1790s. Though the ambiguities of accounting conventions, reconstructed and analyzed in chapter 8, make it unlikely that reserves ever truly reached this volume, amounts approaching this total were undoubtedly achieved. A decline in the late eighteenth and the first half of the nineteenth centuries completes the changes in granary stocks during the two centuries covered in this volume.

The archival record of granary holdings attests to the massive scale of the granary system. In the three chapters of Part I we offer a chronology of granary operations, dividing the two centuries between

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eighteenth-century prominence of granaries and their nineteenth-century decline, especially after 1850. However, although our work broadly shares this general outline, his source materials impose limits on his interpretation: he cannot establish scales of reserves, their uses over time, or variations across the empire. Such a reconstruction, attempted in our work, is essential to establishing the importance of the granary system politically, socially, and economically.

Table I.1. Early Eighteenth Century Reserves (in *Shi*)

Year	Province	Amount
1721	Shandong	4,730,000
	Henan	1,347,000
	Zhili	1,605,000
	Shanxi	480,200
1723	Guangxi	1,600,000
1725	Guizhou	114,000
1726	Jiangxi	681,230
	Shanxi	850,000
1727	Guangdong	1,107,996
	Shaanxi	729,000
1728	Hunan	>600,000 <sup>a</sup>
1729	Shandong	1,932,226
1730	Guangxi	1,530,000
1731	Sichuan	420,000
	Jiangsu	600,000 <sup>b</sup>
	Huguang	1,143,000
	Zhili	2,150,000 <sup>c</sup>
1735	Shandong	1,360,000 <sup>d</sup>
	Gansu	750,000 <sup>e</sup>
	Guangdong	1,920,000

**Sources**

1721: *WXTK*, 34.5175; 1723: *ZPYZ*, 3.11b–12a; 1725: *ZPYZ*, 24.32b; 1726: *ZPYZ*, 53.56a–57b (Jiangxi), 13.85b–86a (Shanxi); 1727: *ZPYZ*, 13.47a–48a (Guangdong), 16.48a–b (Shaanxi); 1728: *WXTK*, 35.5183; 1729: *ZPYZ*, 31.104b–5a; 1730: *ZPYZ*, 95.57a; 1731: *ZPYZ*, 59.40a–41a (Sichuan), 35.2b–3b (Jiangsu), 54.50a–b (Huguang); 1733: *WXTK*, 35.5185; 1735: *ZPYZ*, 33.95b (Shandong), 53.44a–45b (Gansu), 51.6a–b (Guangdong).

**Notes**

<sup>a</sup> To this number must be added an unspecified amount of “contributed grain” (*juangu*).

<sup>b</sup> Converting 200,000 *shi* of husked rice at the official 1:2 rate.

<sup>c</sup> Including an unspecified quantity not yet repurchased.

<sup>d</sup> Converting 390,000 *shi* of husked rice at the official 1:2 rate.

<sup>e</sup> Including grain retained from the land tax, purchased, and already in ever-normal granaries.

Table I.2. Ever-Normal Reserves before 1750 (in *Shi*)

Province	Year	Amount
Hunan	Kangxi period	360,726
	Yongzheng period	702,133
	1747	1,534,402
Guizhou*	1721	440,000
	1735	508,000
	1748	780,000
Shaanxi	1725	1,212,722
	1735	2,061,741
	1748	2,477,003
Guangdong	1721	1,678,382
	1735	1,925,655
	1747	3,042,463
Yunnan	1735	508,699
	1738	701,500
Shanxi	1719	1,052,253
	1735	1,315,837
	1748	1,933,583

**Sources**

Hunan governor Yang Xifu, ZP, CZCC: QL 13/8/18; Yun-Gui governor-general Zhang Yunsui, ZP, CZCC: QL 13/9/19; Shaanxi governor Chen Hongmou, ZP, CZCC: QL 13/9/20; Guangdong governor Yue Jun, ZP, CZCC: QL 13/9/13; Yunnan governor Tuerbing'a, ZP, CZCC: QL 13/9/23; Shanxi governor Aligun, ZP, CZCC: QL 13/10/26.

\* Quota figures, respectively *ding'e*, *ezhu*, and *shiyincun*.

1650 and 1850 into three periods: 1650–1735; 1736–1780; and 1781–1850. Each period differs from the other two in terms of the scale of reserves, frequency and purpose of granary use, and the effectiveness of state control and management. By the early 1730s, the state had already committed several decades to mobilizing and sometimes distributing grain from large reserves in ever-normal granaries. In much of the empire, reserves became more frequently distributed in the late 1730s, and, until the 1780s, use of these reserves was routinely coordinated across provinces. During this period, loans made by community granaries augmented the disbursals of ever-normal granaries in many areas. Through the development of sophisticated and complex procedures, state control and management of urban and rural granaries reached their zenith between the 1740s and 1770s. From the late eighteenth through the mid-nineteenth century, by contrast, distribution of reserves for civilian populations within individual provinces became less frequent and coordination of granary operations across provinces declined. Even so, the reduced scale of granary activities still represents in absolute terms sizable, if not surprising, bureaucratic capacities and official commitments to stabilize food supply conditions.

## Foundations of Success, 1650–1735

R. Bin Wong

The decision to create a granary system was made as the Manchus reestablished the state's civilian government and achieved a final military reunification. Though the principles of granary storage were articulated by 1650, real efforts to build reserves only gathered momentum after 1680. The state's political energies during the first several decades of Qing rule were largely devoted to military campaigns. But as the Kangxi emperor spent time pondering military maneuvers, he also absorbed from his tutorials Neo-Confucian ideas about the ruler's duties to his people. In order to prepare for one major duty, famine relief, the emperor elaborated upon a Ming regulation that called for information on rainfall to create reports on grain prices, weather, and harvest conditions.<sup>1</sup> The routinization of these reports

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<sup>1</sup> See Wu, *Communication and Imperial Control*, 34–35; Liu Wei, “Qingdai liangjia zhezou zhidu qianyi”; and Chen Jinling, “Qingchao de liangjia zoubao yu qi shengshuai.”

across the empire in later decades complemented the development of the granary system.

Beyond finding immediate solutions to pressing food crises, the Kangxi emperor favored the generation of longer-range policies to develop agrarian production. He strongly advocated land reclamation because many fields had been abandoned during the unrest of the Ming-Qing transition. In addition to providing seeds and draft animals in some instances, the state offered tax incentives and promoted migration to areas with unclaimed lands. Officials also spent large sums on water control projects to facilitate irrigation and transportation. According to the Kangxi emperor's Neo-Confucian logic, a combination of expanding agricultural production and light taxation would bring prosperity to the people and stability to the state.<sup>2</sup>

In tandem with policies aimed at immediate, short-term challenges of famine and long-term goals of agricultural development, the state made efforts to build up granary reserves. Granary reserves could be used both as a first line of defense against famine and as a source of seed grain to help cultivate new lands. But granaries also had their own distinct purpose. They permitted officials to intervene, modestly or massively, according to supply and demand conditions. Granary disbursements would prove a particularly flexible instrument for shaping food supply conditions, independent of famines and agricultural development.

Only through repeated efforts were the broad foundations of a granary system that would eventually cover the empire's settled agrarian lands finally laid. The first problem officials faced was amassing reserves. After these stocks were in place, decisions on when, where, and how much to distribute became necessary. Once distributed, the question of how best to replace the grain (or whether to replace it at all)

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<sup>2</sup> See Zhong Anxi and Lou Yisheng, "Shilun Kangxi de jingji zhengce"; and Shang, "Process of Economic Recovery and Stabilization." Jiang Taixin has argued that opening new lands reduced landholding inequalities ("Qingchu kenhuang zhengce ji diquan fenpei qingkuang de kaocha"), while Xia Jiajun has stressed favorable policies toward merchants as part of Kangxi's economic recovery and development package ("Kangxi zai huifu fazhan Qingchu shehui jingji zhong de zuoyong").

confronted the bureaucracy. These problems absorbed most of the official energy devoted to granaries until the 1720s. As a consequence, few community and charity granary activities were pulled into the orbit of state initiatives before the Yongzheng reign.

#### GRAIN MOBILIZATION BY EVER-NORMAL GRANARIES

In 1650 there were many granaries of different names but few reserves. To start the process of building reserves, old granaries were renamed, new ones created, and their functions clarified. Where preparedness granaries remained from the Ming dynasty, they were usually renamed and used as ever-normal granaries.<sup>3</sup> Two years after promulgating the 1654 order to establish ever-normal and community granaries, which placed responsibility for both squarely on the shoulders of local officials, the Shunzhi emperor stated that grain stored in ever-normal granaries was to be used for famine relief. In 1660, he expanded the functions of the ever-normal granary to include sales and loans in the spring and summer; in years of very bad harvests, grain was to be freely distributed. In 1680, the Kangxi emperor further specified the function of ever-normal granaries by restricting distribution of their reserves to people within the county.<sup>4</sup>

Conceptual clarification appears to have preceded widespread mobilization of grain. In 1682, the emperor expressed his suspicion that ever-normal granaries had not really been established in many areas; he thereupon instituted a policy of rewarding officials who successfully solicited contributions for ever-normal granary reserves in exchange for degrees (*juanjian*). In 1690, he repeated his order to officials to

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<sup>3</sup> *HD* (1690 ed.), 29.33b. There were even cases of preparedness granaries being reestablished. The survival of preparedness granaries in the Qing was uneven. Some provinces had virtually none while others had considerable numbers. They clearly provided a basis for transition in some areas, but the importance Hoshi Ayao attaches to them is difficult to accept since preparedness granaries do not figure in granary regulations found in the standard compendia. See *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 9–92.

<sup>4</sup> *WXTK*, 34.5169.

establish granaries and vowed to continue issuing such orders until they were indeed carried out.<sup>5</sup>

Responding to these increasingly insistent commands, officials employed a variety of methods to build up ever-normal granary reserves. These methods can be classified according to the source of funds for granary stocking: (1) money or grain that was not part of the regular revenue system; (2) money or grain managed by the provincial government; and (3) money or grain usually forwarded to the central administration by provincial officials. The first category includes a variety of “contributions”; the second is made up of funds in provincial treasuries; and the third is represented primarily by the diversion of the grain tribute from the capital to ever-normal granaries.

### *Contributions*

Contributions played a large role in early Qing finances.<sup>6</sup> The early Qing military campaigns entailed extraordinary expenses for which regular revenues were insufficient. Since the Kangxi emperor cleaved to the ideal of light taxation, he repeatedly declined to raise regular rates of taxation to meet extraordinary expenses. Contributions proved an acceptable and often effective means of closing the gap between large, irregular expenditures and relatively low, regular taxation. The central government’s choice of this mobilization mechanism to initiate granary stocking suggests state recognition that the formation of granaries required extraordinary initiatives not unlike those needed to prosecute war.

An edict permitting contributions of grain to ever-normal granaries in exchange for “student of the imperial academy” (*jiansheng*) degrees was promulgated in 1681.<sup>7</sup> Targets for grain contributions were then set at the provincial level. For a few provinces it appears that large amounts were mobilized through contributions for degrees specifically

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<sup>5</sup> *WXTK*, 34.5170.

<sup>6</sup> On contributions generally in the early Qing, see Xu Daling, *Qingdai juanna zhidu*, 23–36.

<sup>7</sup> *Ibid.*, 26.

and contributions more generally. Between 1706 and 1713 the remarkable, indeed incredible, sum of 3,100,160 *shi* was reported as contributions in Shandong. A 1727 memorial from Fujian reported contributions of 1,824,222 *shi*. In this same year, Zhejiang had already reached its contribution goal of 700,000 *shi*, but the governor felt that this sum was inadequate because of frequent transfers to Fujian; he therefore proposed that the target be raised to 1,400,000 *shi*. Meanwhile, Shanxi appears to have collected almost 1,500,000 *shi*, while Yunnan raised 428,438 *shi* by 1732.<sup>8</sup> Figures from Shandong, Fujian, Zhejiang, Shanxi, and Yunnan may sometimes overstate the actual amounts of grain, but even deflated they total several hundred thousand tons. They represent successes larger than those recorded for other provinces.

For five provinces we can document the limited grain mobilization achieved through contributions for degrees. In Hubei a modest total of 90,000 *shi* was raised by 1734; in Hunan only 16,500 *shi* had filtered in by this same date. In Shaanxi, contributions over a twenty-year period averaged less than 40 *shi* per year! In Sichuan, the governor failed to provide a figure for contributions in 1731, stating simply that very few people had made contributions for degrees in the thirty-eight years this method had been employed in Sichuan. The Guangxi governor similarly reported in 1726 that contributions for degrees existed in name but not reality; to encourage contributions, a commutation rate of 1.1 taels per *shi* was set and a target purchase of 1,178,250 *shi* was announced. A total of 1,300,000 taels was collected, but more than three-fourths of this sum went to various expenses leaving only 300,000 taels for grain purchases.<sup>9</sup> In brief, the information we have shows that officials in five out of ten provinces effectively utilized contributions

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<sup>8</sup> Shandong, ZPYZ, 9.2a–3a (YZ 1/1/25); Fujian, ZPYZ, 15.12b–14a (YZ 5/4/16); Zhejiang, WXTK, 35.5180; Shanxi governor Kaerjishan, ZP, CZCC: QL 6/7/26; Yunnan, see chapter 12 below.

<sup>9</sup> Hubei and Hunan, ZPYZ, 54.50a–b (YZ 9/4/1); Shaanxi, ZPYZ, 16.88a–b (YZ 7/7/9); Sichuan, ZPYZ, 59.40a–41a (YZ 9/6/22); Guangxi, ZPYZ, 8.76a–b (YZ 4/1/10); ZPYZ, 8.58a (YZ 2/12/26).

to raise large amounts of grain, while those in the other five did not make contributions for degrees a major source of granary financing.

Voluntary contributions were joined, in name, to a type of “contribution grain” that was, in fact, a temporary surtax on cultivated land. During the 1690s these land surtaxes for granary stocking were ordered in at least five provinces—Shandong, Zhejiang, Shaanxi, Gansu, and Fujian.<sup>10</sup> We do not know how much grain was collected as a result in each case, but the above-mentioned figures from Shandong, Zhejiang, and Fujian suggest that the amounts could be quite large. Contributions were a way to raise money and grain without compromising fiscal resources already committed to other expenditures. The methods that produced revenues labeled “contributions” were especially attractive in the early stages of granary funding because the state’s regular resources were limited. By the 1720s, in contrast, provincial treasury funds were more commonly committed to granary purchases.

### *Provincial Treasury Funds*

Provincial treasury funds became an increasingly utilized alternative to contributions during the Yongzheng reign. The Qing turned to these new sources of funding in large part because the new emperor initiated strenuous efforts to improve the formal accounting of revenues and to increase the amount of money available for major initiatives, such as granary building. Whereas Kangxi-period officials would look to contributions to restock granaries depleted by famine relief, treasury funds became preferred in the Yongzheng reign because resources were more easily monitored and controlled when they came out of treasuries.<sup>11</sup>

Sometimes our sources do not reveal the category of treasury funds used for granary restocking, as in, for instance, the 1735 decision in

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<sup>10</sup> *HDZL*, 40.1b. A rate of four *ge* per *mu* was set in Shandong and Zhejiang and a rate of three *ge* per *mu* used in Shaanxi and Gansu.

<sup>11</sup> Zhili governor-general Zhao Hongxie, *ZP* (KX 45/10/29), *Kangxi chao Hanwen zhupi zouzhe huibian*, 1: 451–54; We thank James Lee for bringing this document to our attention. Guangxi governor Kong Yuxun, *ZP* (YZ 1/2/24), *Gongzhong dang Yongzheng chao zouzhe*, 1: 101.

Zhejiang to use treasury funds to buy 300,000 *shi* of rice. In other examples, the funds are labeled by their normal use or source, for example, 100,000 taels earmarked for military expenses used to purchase grain in Shaanxi in 1704, and the surplus funds from meltage fees used in 1730 for granary purchases in Shandong. Different funding methods could be used together, as in the 1733 Jiangsu purchase of 600,000 *shi* with treasury funds and contributions for degrees.<sup>12</sup> Provincial officials were free to employ a number of methods to gather funds for granary reserves. There were no hard and fast rules to confine practices within some simple ideal form.

Grain purchases were made within the province and, on occasion, in other provinces. For example, Shaanxi officials made all their purchases within provincial borders, while Guangdong officials purchased grain from Guangxi in 1726 and from Guangxi, Jiangxi, and Huguang in 1727.<sup>13</sup> These purchases, which tapped into the commercial circulation of grain, were complemented by diversions of the grain tribute.

#### *Grain Tribute Diversion*

The grain tribute, generally collected from counties in provinces along the Yangzi River and the Grand Canal, was meant to feed officials and military personnel stationed in the capital area. But provincial officials sometimes received permission to divert grain tribute to build up their granary stocks. Thus, in 1731, 300,000 *shi* of Jiangsu grain tribute and 200,000 *shi* of Anhui grain tribute were retained, sold, and replaced

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<sup>12</sup> Zhejiang, *HDZL*, 40.3a; Shaanxi, *HDZL*, 40.2a; Shandong, *ZPYZ*, 33.17b–20a (YZ 8/4/27); Jiangsu, *WXTK*, 35.5185. Other examples include Anhui using 56,550 taels of transit taxes (*guanshui*) in 1726; Guangdong used transit taxes in 1726 (*ZPYZ*, 37.68a [YZ 4/11/26], 4.67b, and 52.6a–b [YZ 10/4/1]). Sichuan officials planned purchases of 600,000 *shi* over a three-year period using transit, salt, and tea revenues in 1731 after the emperor had rejected soliciting new contributions in silver (*WXTK*, 35.5184).

<sup>13</sup> Shaanxi, *ZPYZ*, 51.82a–b (YZ 13/6/15); Guangdong, *ZPYZ*, 4.67b (YZ 4/2/12). Fujian used salt revenues in 1726 to purchase grain in Jiangxi, and purchases in the following year included some in Wenzhou, Zhejiang (*ZPYZ*, 45.108a–9a [YZ 4/11/28] and 40.77a–b [YZ 5/6/27]). Zhejiang purchased grain from both Huguang and Sichuan (*ZPYZ*, 40.73a–b [YZ 5/5/11] and 40.77a–79a [YZ 5/6/27]).

with unhusked rice for storage in each province, thereby increasing reserves by 600,000 and 400,000 *shi*, respectively (1.0 *shi* husked equals 2.0 *shi* unhusked). By 1733 Huguang had sent more than 45,000 *shi* of retained tribute to Shaanxi, where tribute grain from Henan was also sent. Diverted tribute was also used for immediate sales at reduced prices. This was done in Jiangxi, Jiangsu, and Zhejiang during the 1720s and 1730s.<sup>14</sup> Grain already in storage in tribute granaries along the Grand Canal and near the capital was used for relief operations in the capital area and sometimes sent to other provinces as well. Disbursements of grain tribute to relieve civilian populations complemented disbursements from ever-normal granaries.

Diverted grain tribute was also used to form special “tribute granaries” (*caogucang*) in Henan, the main purpose of which was to supply Shanxi and Shaanxi in times of need. In 1705 granaries were built in Luoyang and nine other counties to which a total of 1,055,900 *shi* was diverted during the Kangxi reign and an additional 357,500 *shi* during the Yongzheng reign. Stocks remained sizable in later decades: in 1748, there were 755,100 *shi*, and in 1766, a total of 641,090 *shi*.<sup>15</sup> These reserves gave Henan’s granary system greater flexibility in meeting food supply shortages within the province and across northern China. In later decades other special granaries would be established in some southern provinces to facilitate grain storage, transfer, and distribution.<sup>16</sup>

Thus, a combination of contributions, provincial treasury funds, and diverted grain tribute was used to increase ever-normal granary reserves during the Kangxi and Yongzheng periods. Contributions were

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<sup>14</sup> Jiangsu and Anhui, *ZPYZ*, 18.21a–b (undated); Huguang, *ZPYZ*, 54.68a–b (YZ 11/9/11); Shaanxi, *HDZL*, 40.3a; Jiangxi, Jiangsu, and Zhejiang sales and relief, *ZPYZ*, 15.98a–99a (YZ 7/5/24), 57.69b–70a (YZ 12/7/11), 1.12a–b (YZ 5/2/13), 8.5b (YZ 1/8/20), and 46.106a–b (YZ 11/11/6). For examples using tribute granary reserves for relief, see Will, *Bureaucracy and Famine*, 286–88.

<sup>15</sup> Henan governor Shuose, *ZP*, *CZCC*: QL 13/9/8; Will, *Bureaucracy and Famine*, 280; and Liu, “A Reappraisal,” 312.

<sup>16</sup> See chapter 3 below.

especially important in a number of provinces when grain was first mobilized for the ever-normal granaries. But as provincial treasuries began to store larger amounts of revenue and the grain tribute began to amass more rice than was needed in Beijing, contributions became relatively less important.

#### DISTRIBUTION, TRANSFERS, AND RESTOCKING BY EVER-NORMAL GRANARIES

Distribution practices were transformed from localized and infrequent actions, usually linked to famine relief, into a series of distribution streams, including interprovincial flows of reserves, to meet grain shortfalls across large areas. From the Kangxi-period format of independent and isolated parts, each vulnerable to reduced grain reserves because of spoilage or storage of silver instead of grain, granaries were gradually brought into an interconnected system in which the problems of spoilage, distribution, and restocking were aggressively addressed by officials. The storage of growing amounts of grain meant that decisions on how much and how often to sell or lend grain became increasingly important. As early as 1695, ever-normal granaries in the Jiangnan region were directed to sell 30 percent of their reserves, an order which was repeated in each of the next two years. These proportions became the most commonly applied, but they were by no means universal. Granaries in Henan, for instance, were directed to keep half their reserves for famine relief and annually lend the other half to the poor.<sup>17</sup>

Official fears of old reserves spoiling encouraged rules requiring annual distribution. Fear of spoilage was the reason cited in 1710 for Shaanxi and Gansu being ordered to distribute 50 percent of their reserves in years of high prices and 30 percent when prices were low. Evidently, Shaanxi did not follow this rule for very long, if at all, because in 1726 the province was once again ordered to sell 30 percent

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<sup>17</sup> *HDZL*, 40.14a–b.

each year after failing to sell grain for several years.<sup>18</sup> The spoilage problem was reduced in Shaanxi two years later by the move to store unhusked in place of husked grain, a shift that had begun in 1725 in Guangdong, Guangxi, Hubei, Hunan, Jiangxi, Sichuan, Yunnan, and Guizhou. Problems with spoilage prompted the change from husked to unhusked grain and the stress on minimum rates of turnover.<sup>19</sup>

In principle, spoilage could also be reduced by transferring grain from areas with surpluses to areas with greater needs. But during the Kangxi period, grain disbursal by ever-normal granaries appears to have been largely limited to reduced-price sales, loans, and famine relief *within* individual counties.<sup>20</sup> To meet large-scale shortages, grain tribute was diverted from Beijing or moved from storage in the metropolitan granaries. In the Yongzheng period, the larger amounts of grain stored in some areas facilitated the transfer of reserves from one province to another. These transfer practices, which became more common in later decades, reduced spoilage problems in some areas and met serious shortages in others.

We can reconstruct patterns of distribution, transfers, and restocking during the 1720s for a number of provinces. In Guangdong we see the granaries combine large disbursals and small restocking purchases without collapse. To help meet a deficit of 390,000 *shi* created by 1723, 30 percent of the contribution grain in Guangxi was sold in 1725, and the receipts from these sales were then used to buy grain for shipment to Guangdong. This effort notwithstanding, less than 70 percent of a previous total of 1,624,637 *shi* was stocked in 1726. The restocking situation only became more difficult the following year, when 150,000 *shi*, on top of the 480,000 *shi* distributed according to the 30-percent rule, were released. To restock ever larger amounts of grain, Guangdong officials were instructed to take money from the spring sales and go to Jiangxi, Hubei, Hunan, and Guangxi to purchase grain, but a

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<sup>18</sup> *HDZL*, 40.14b–15a.

<sup>19</sup> *WXTK*, 34.5171; *HDZL*, 40.12b. Spoilage will be examined in detail in chapter 5.

<sup>20</sup> *WXTK*, 34.5169.

report summarizing granary purchases in 1727 was not encouraging. Barely 20 percent of the nearly 772,000 *shi* still outstanding from disbursals made between 1725 and 1727 had been replaced. Hence, the transfer of 300,000 *shi* from Guangxi granaries was welcome indeed, because it cut in half the amount to be restocked. Without these transfers of grain from Guangxi, a Guangdong report from five years later that claimed granary reserves of more than 1,900,000 *shi* would be extremely difficult to believe. Though we lack the details, it seems likely that grain movements from Guangxi played a role in this subsequent build-up.<sup>21</sup> Guangdong granaries were the beneficiaries of resources the state could secure in other provinces. Their activities tell us how transfers could help sustain granaries that mounted large-scale distribution programs without commensurate restocking purchases.

Jiangxi presents a case in which transfers to another province (Fujian) and sales and loans within the province in 1725 totaled nearly 400,000 *shi*. As a result, reserves were reduced by more than 40 percent. Instead of tapping grain in some other province as Guangdong officials had, the governor of Jiangxi called for a temporary suspension of the 30-percent sales for the coming year in order to rebuild stocks. But little grain appears to have been purchased, since in the following year the governor complained about deficits in real reserves due to the retention of silver that should have been used for restocking purchases and about the habit of recording silver as if it were grain.<sup>22</sup>

The practice of storing silver was not limited to Jiangxi. In Fujian, 60 to 70 percent of what should have been stored as grain was held in money. Efforts in Fujian to restock were frustrated because the costs exceeded receipts from reduced-price sales. Of nearly 2,000,000 *shi* reportedly mobilized through contributions, less than 300,000 remained in the 1730s. Conditions were little better in Shandong, where silver to

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<sup>21</sup> Thirty percent of Guangxi contribution grain to Guangdong, *HDZL*, 40.8a; 1726 Guangdong stocks, *ZPYZ*, 13.47a–48a (YZ 5/4/12); 1727 disbursals, *ZPYZ*, 13.60b–61a (YZ 5/5/24); Guangdong restocking, *ZPYZ*, 13.49a–b (YZ 5/5/20), 4.50b (YZ 6/1/8), and 4.103a–b (YZ 6/3/2); 1733 reserves, *ZPYZ*, 52.6a–b (YZ 10/4/1).

<sup>22</sup> *ZPYZ*, 53.56a–57b (YZ 4/12/18) and 53.62a–63b (YZ 5/3/9).

purchase more than 900,000 *shi* had not yet been spent. If the absence of nearly 1,000,000 *shi* were not enough, there were more than 300,000 *shi* that had been lent out and not yet repaid.<sup>23</sup> Experiences in Jiangxi, Fujian, and Shandong suggest, not surprisingly, that it was generally easier to distribute reserves than to replace them.

Storing silver instead of grain offered officials a number of advantages. It obviously saved them the bother of purchasing, transporting, and storing the grain. Furthermore, silver, unlike grain, does not spoil. But storing silver also meant that officials were less able to affect food supplies directly; distributing the money or using it to buy grain for immediate distribution meant that they had to rely on markets and merchants. The trade-offs between grain and silver storage will be examined more closely in chapter 6.

From statutes and precedents of the early Qing, it appears that the preferred method of handling the spoilage problem was not to store silver but, as we have seen, to distribute annually 30 percent of the granary reserves. The 30-percent disbursal rate was honored, but often without prompt and complete restocking so that continued distribution to avoid spoilage was not consistently necessary. However, at the same time that some officials stored silver instead of grain, other officials objected to limiting distribution to a maximum of 30 percent, for fear that poor harvests might require greater amounts of grain.<sup>24</sup> Debates over the proper frequency and scale of distribution, as well as discussions about the best policies for restocking, would continue in later decades.

Variations among provinces mean that simple generalizations about granary operations cannot be drawn from individual cases. Ever-normal granaries in some provinces clearly distributed large amounts of grain and relied, in the cases of Fujian and Guangdong, on transfers from other provinces to keep their granaries stocked. We have data on the building up of reserves for other provinces but lack information on

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<sup>23</sup> ZPYZ, 31.104b–5a (YZ 7/1/19), 45.111a–12a (YZ 4/12/20), and 45.84a–85a (YZ 4/7/18); JSWB, 40.5a–6b; and ZPYZ, 47.90b–91a (undated).

<sup>24</sup> For example, a Jiangsu request in 1731 (*HDZL*, 40.15a).

distribution and transfers. Combined with what we know about the ever-present fear of spoilage, the absence of distribution figures suggests that frequent distribution may not have been a very common practice. These limitations do not, however, negate the achievement of having laid the foundations of ever-normal granary reserves across much of the empire. Officials had developed their abilities to use granaries to affect food supply conditions in a coordinated fashion, even across provincial boundaries. Although the bulk of our information pertains to operations in densely populated and economically active regions, we do know that peripheral provinces, such as Yunnan and Guizhou, all had granary-building efforts by the 1720s and early 1730s.<sup>25</sup> The scale and sophistication of operations created during the Yongzheng emperor's reign represent a clear improvement upon the practices of earlier decades. As we turn to community granaries, significant advances become even easier to identify.

#### COMMUNITY GRANARIES: 1650–1735

During the early Qing, communities across the empire were encouraged to start their own granaries, but there is little evidence of their having done so prior to the Yongzheng reign. On the contrary, a marked lack of success in establishing these granaries is what we have encountered. Zhili is the only province for which we have found a memorial on the provincial level that reports community granary figures from the Kangxi period. Community granaries were established in Zhili no later than 1702; by 1704, a provincial total of more than 76,000 *shi* was reported. An additional 18,500 *shi* were added by 1706 from new contributions, loan returns, and interest payments. With some 94,500 *shi* in reserves and only 1,000-odd *shi* in arrears, the community granaries in Zhili were already significant in the early eighteenth century.<sup>26</sup> Provincial community granary figures for other provinces

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<sup>25</sup> Yunnan acting judicial commissioner Dai Zhi, ZP, *GZD*: YZ 1/10/13, *Gongzhong dang Yongzheng chao zouzhe*, 1: 840–41; Guizhou acting governor Shiliha, ZP, *GZD*: YZ 4/1/10, *Gongzhong dang Yongzheng chao zouzhe*, 5: 517–20.

<sup>26</sup> Zhili governor-general Zhao Hongxie, ZP (KX 47/1/18), *Kangxi chao Hanwen zhupi zouzhe huibian*, 1: 804–7.

remain sparse until the late 1730s. That the government made continual exhortations to encourage their establishment, however, is clear from numerous sources.

Calls to develop community granaries were made in a number of provinces, including Shanxi (1701), Hubei and Hunan (1723), Sichuan (by 1724), and Shaanxi (1729).<sup>27</sup> But few county officials and local elites responded to these calls, as we learn from sampling gazetteers. For example, in Huizhou Prefecture in Anhui Province, only She County had community granaries before 1735. In 1724, 274 people had responded to the magistrate's call for contributions and gave a total of 6,621 *shi*.<sup>28</sup> Given highly variable local efforts, it is not surprising to learn that provincewide totals were usually small. For example, in rice-rich Sichuan only 21,000 *shi* were stored in 1736 in thirty-odd counties; roughly a hundred counties stored nothing.<sup>29</sup> The difficulties officials faced in many provinces may have been caused by the competing solicitations of contributions for degrees to fund ever-normal granaries and of monies to finance other pressing government projects.

Whatever the limits to community granary reserves in some provinces, successes were nevertheless recorded during the Yongzheng reign in other places. In part, the development of community granaries was the product of the emperor's decision to allow the use of official revenues to fund these granaries. In Shaanxi the legalized meltage fees were to be used in 1726 and 1727 to purchase 145,800 *shi* for storage in 150 community granaries, each of which was to have roughly 1,000 *shi*. Though the precise results of this initiative are not known, some granaries were certainly formed, since a later edict noted that Shaanxi

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<sup>27</sup> *WXTK*, 34.5176, 34.5177, and 34.5182; Sichuan, ZP, *CZCC*: QL 4/5/22.

<sup>28</sup> *Huizhou FZ* 3.C.6a–b. Other examples of both contributions and government funding are given in the Hunan case study.

<sup>29</sup> Sichuan, ZP, *CZCC*: QL 2/9/6.

community granaries were being managed by officials and that control should be turned over to the people.<sup>30</sup>

Although the Yongzheng emperor frequently supported the use of official funds to establish community granaries, he often opposed official management of these reserves. Generally speaking, he favored grain mobilization by community granaries through contributions untainted by official pressures. He realized that community granary development had not been very successful in the Kangxi reign, yet hoped officials could encourage community granary formation without directly controlling them.<sup>31</sup> Thus, the Yongzheng emperor's political activism with respect to community granaries was expressed more in fiscal terms than in organizational terms. He enlarged the state's role as an initial source of funding without advocating official management of the reserves.

One consequence of the emperor's desire to insulate community granaries from official meddling was the failure to develop systematic control and monitoring procedures. For their part, officials often opposed the development of community granaries precisely because they were difficult to monitor.<sup>32</sup> And if they were established, officials then lamented supervision problems. The consequences can be seen in Henan, where reserves of 144,284 *shi* were increased by contributions of 6,560 *shi* and by interest payments of 3,960 *shi* in 1726; four years

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<sup>30</sup> *WXTK*, 35.5182. Huang Pei, in *Autocracy at Work*, 267, suggests that the legalized meltage fee was an important source of funds for community granaries. In fact, his evidence is limited to Shaanxi and Henan, and his discussion fails to note the problems the Yongzheng emperor saw with implementation. Huang's assessment of widespread granary development during the Yongzheng reign fails to make a clear distinction between ever-normal and community granaries. The latter developed much more fully in the Qianlong reign. During the Yongzheng period, community granary development was still limited. Many officials believed community granaries to be of limited usefulness. For instance, Yun-Gui governor-general Eertai stressed the appropriateness of community granaries in fertile areas with good transportation when he contrasted Jiangxi with his own jurisdiction, where community granaries were not widespread (see *JSWB*, 39.39a–40b).

<sup>31</sup> *WXTK*, 35.5180–81.

<sup>32</sup> See Hunan case study in chapter 11 for examples.

later, Henan reserves had grown from 177,846 *shi* to 215,249, and by 1737 totaled 322,339. Official complaints about poor record-keeping by community granary managers, not unexpectedly, came in the following year.<sup>33</sup>

Thus, the very success of Henan community granaries in mobilizing and distributing grain independently of direct bureaucratic control became a problem. The absence of provincial totals for community granaries in most other provinces reinforces the impression that systematic monitoring of community granary reserves was limited at the county level and usually nonexistent at the provincial level during the 1720s and early 1730s. Local private efforts at rural grain storage undoubtedly took place independently of official efforts and operated outside the reach of official intervention. But as more community granaries were formed, officials were forced to respond to the challenges of success, if they wished to integrate community granaries into a larger system of granary management.

## CONCLUSIONS

Unlike the “preparedness granary” of the Ming dynasty, the reserves of the eighteenth-century ever-normal granary were to be used not solely for famine relief but also for remedying both large and small supply fluctuations. But the principal achievement of this first period was not the frequent use of reserves for purposes large or small. Rather, it was simply the successful creation of large ever-normal granary reserves. A combination of mobilization techniques was employed across the empire; grain was amassed first by utilizing contributions and then, increasingly, by relying on provincial treasury funds and diverted tribute. But the challenge of building up and maintaining granary reserves carried with it significant risks: because reserves were often

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<sup>33</sup> Hedong governor-general Tian Wenjing, *ZPYZ*, 31.64a–b (YZ 6/7/11) and 33.10a–b (YZ 8/4/13); Henan governor Yaertu, *ZP*, *CZCC*: QL 5/5/26 and QL 6/3/13.

not restocked promptly after distribution, the prospect of half-empty granaries was an ever-present danger;<sup>34</sup> losses due to insufficient distribution were also a perennial threat, since reserves spoiled within a few years. It was far easier for officials to store silver and intervene less frequently. Indeed, Kangxi-period officials appear to have commonly done just that, to a far greater extent than officials did in later decades. When the Yongzheng emperor pushed for more systematic granary development, officials began, under his watchful eye, to make granary operations a part of their routine government responsibilities.

Community granaries faced a different set of problems. Management was consciously kept outside of the reach of imperial officials. As a result, little evidence of community granary activities is available. In those cases in which it is clear that sizable reserves were mobilized, officials and official funds often played a more active role than that prescribed by ideal principles. The Yongzheng emperor promoted the formation of community granaries, but his desire to avoid bureaucratic meddling in their management left unresolved the problem of effective official supervision. Without this official oversight, broadly implemented and effectively utilized community granaries could not develop.

Both the achievements and limitations of the early Qing granary system were strongly influenced by the Yongzheng emperor's assessment of possibilities and needs. Much of the bureaucratic energy invested in granary operations seems a response to his emotional exhortations and keen personal surveillance. The Kangxi emperor certainly believed in the importance of popular welfare, but it was the Yongzheng emperor who more effectively translated a political commitment to food supply stability into a bureaucratic capacity for action. His personal impact is clear. Yet, the granary system was not the product of his actions alone. The story of activist intervention in food supply conditions by civilian granaries did not end with his death. In fact, during the next half-century, granary operations—the size of

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<sup>34</sup> Restocking problems continued to be faced in the next period, but more serious efforts were made to solve them. An examination of the structural difficulties of restocking can be found in chapter 6.

reserves, the frequency and scale of their distribution, and official efforts at monitoring and controlling them—took on greater complexity and attained even greater success.

## The Grand Structure, 1736–1780

R. Bin Wong

Beginning in the Qianlong reign (1736–1795), officials created an even more impressive system of granaries. The development of ever-normal granary operations and the expansion of community and charity granaries between 1736 and 1780 reveal a complex institution, the maintenance of which required sustained bureaucratic effort. In spite of all the difficulties encountered, official solutions to the problems of running a large-scale project such as the granary system demonstrate bureaucratic capacities and commitments surprising in an eighteenth-century setting.

### GRAIN MOBILIZATION BY EVER-NORMAL GRANARIES

Because large reserves had been built up during the Kangxi and Yongzheng reigns, methods for restocking received greater attention than

they had before.<sup>1</sup> Officials in the early Qianlong period accepted in fact, if not principle, their inability to restock consistently through purchases alone. Though the ever-normal granary was ideally envisioned to be a self-financing institution, bureaucrats continued to rely on alternative sources of grain to rebuild stocks. The evidence, which we will review below, of official abilities and willingness to sustain and even increase stocks between 1736 and 1780 is a useful empirical baseline against which to evaluate official concerns over state intervention. Fears of state activism, which we also recount below, included beliefs that government purchases caused rising grain prices, inconvenienced the people, and competed with merchants. These complaints, especially common in the 1740s and 1750s, did not stop the continued growth of reserves but did reduce the size and frequency of grain disbursals in some provinces.

### *Purchases*

Regular “restocking through purchase” (*maibu*) was performed every autumn within each province. When the autumn restocking cost less than the spring sales, the surplus silver was sometimes stored for some future year when the spring sales could not cover replacement costs. Alternatively, the money might be used immediately to buy additional grain.<sup>2</sup> When officials considered autumn harvests inadequate or market prices too high, restocking purchases could be postponed. A governor could divide his province, according to the relative quality of harvests, into areas that should completely restock their granaries and those that should only partially restock.<sup>3</sup>

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<sup>1</sup> One indication of increased concern about regular restocking is the growing number of regulations on this subject dating from the early Qianlong period. The detailed regulations were quite complicated, as we will see in chapter 6.

<sup>2</sup> For example, Jiangxi and Guangxi reported using surplus silver for restocking in 1780 (Jiangxi governor Hao Shuo, ZP, CZCC: QL 45/5/24; Guangxi governor Yao Chenglie, ZP, CZCC: QL 45/6/13). In the same year, Shandong and Shanxi reported applying the same principle of purchasing additional grain with surplus silver (Shandong governor Guotai, ZP, CZCC: QL 45/5/7; Shanxi governor Kaning’a, ZP, CZCC: QL 45/6/21).

<sup>3</sup> See Hunan case study in chapter 11 for examples.

The postponement of restocking was acceptable only as long as reserves were deemed adequate to meet anticipated future needs. Since delayed purchases could increase the urgency of restocking needs in a year when monies from reduced-price sales could not cover replacement costs, surplus monies from previous sales were often used, and if funds were still inadequate, supplements from the provincial treasury's reserves of land taxes or meltage fees could be used.<sup>4</sup> The alternative to these efforts was simply to accept silver storage in lieu of grain.

There were two methods for making restocking purchases. First, there were purchases made in markets at market prices. Second, there were "allotted purchases" (*paimai*), made directly from landowners, usually in proportion to their land-tax assessments. These purchases were often unpopular because the prices offered by the government were lower than market prices. Clerks did not always give the full amount of money when they made purchases, thereby exacerbating the difference between official prices and market prices. These "short prices" (*duanjia*) were routinely decried but difficult to prevent. "Allotted purchases" were bureaucratically organized in the same manner as tax collection and consequently were subject to the same problems. Thus, proposals to pay market prices for grain purchased directly from households, such as that made by Guizhou treasurer Liangqing in 1766, were laudable but likely had little, if any, effect.<sup>5</sup> To avoid the obvious difficulties of allotted purchase at short prices, the Yongzheng emperor permitted grain purchases from markets in neighboring counties beginning in 1735. Three years later, the Qianlong emperor permitted the purchase of grain in neighboring provinces for restocking.<sup>6</sup> Interprovincial purchases for granaries had already been made during the Yongzheng period, but no rules for this procedure as a routine practice had been laid down.

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<sup>4</sup> See chapter 6 for a fuller discussion.

<sup>5</sup> Liangqing, "Qing jin paimai canggu shu," in *JSWB*, 39.33a–34a; examples of the rich refusing to provide grain at "short prices" are included in the Hunan case study.

<sup>6</sup> *HDZL*, 40.16b; see also Hunan case study and *WXTK*, 36.5189.

In addition to buying back grain that had been previously sold at reduced prices, ever-normal granaries had to replace grain that had been transferred to other areas or distributed as famine relief. Failure to do so would naturally reduce the level of reserves. In the case of transfers, the province of origin could receive the receipts from reduced-price sales to pay for restocking. In cases where it did not, or when famine relief disbursals were replaced, additional funds from the provincial treasury were allocated.<sup>7</sup> These situations reinforced the granary system's continued reliance on outside sources for funding, and, as in earlier decades, the grain tribute remained an important source of grain.

### *Grain Tribute Diversion*

Once again, grain tribute diversion provided a source of food for much of northern China. We have already mentioned in chapter 2 the Henan "tribute granaries" (*caogucang*) that were used to supply grain to the north and northwest. The grain stored in the metropolitan granaries to feed officials and troops stationed in the capital area was also used to supplement ever-normal granary disbursals. Moreover, some of the grain tribute stored in Shandong's Linqing and Dezhou granaries along the Grand Canal entered Shandong's ever-normal granary system. Finally, grain tribute was diverted to provinces along the Yangzi River, southeast coast, and southern coast. For instance, Anhui in 1738 retained the equivalent of 138,000 *shi*. In 1743, Jiangsu, Zhejiang, Jiangxi, Hubei, Hunan, and Anhui each retained the equivalent of 200,000 *shi*; Jiangsu and Zhejiang sent portions to Fujian, while Jiangxi sent a large amount to Guangdong. Five years later, Jiangsu and Zhejiang sent another large shipment to Fujian.<sup>8</sup>

Grain tribute diversions could be linked in one of several ways to ever-normal granary operations. For example, in 1745, Jiangxi diverted

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<sup>7</sup> For example, Hubei reported in 1780 the use of treasury funds for restocking purchases, while Shandong used portions of the land tax (Huguang governor-general Fulehun and Hubei governor Zheng Dajin, ZP, CZCC: QL 45/5/21; Shandong governor Guotai, ZP, CZCC: QL 45/5/7).

<sup>8</sup> *QSLJJZL*, 925 (1743/11/19) and 981 (1748/12/13).

100,000 *shi* of tribute rice to Hunan, of which 40,000 *shi* were sent further on to Guangxi. The balance of 60,000 *shi* was sold in Hunan and the money used to buy grain for Hunan ever-normal granaries. When the direction of shipments was reversed six years later and 200,000 *shi* of Hunan granary reserves sent to Jiangxi, an equivalent amount of grain tribute was retained to restock ever-normal granaries. In certain years a province's grain tribute could be completely diverted. In 1757, for instance, none of Hunan's tribute was sent to the capital: two-thirds (100,000 *shi*) was sent to Hubei to restock granaries that had already transferred their reserves to Henan, while the other third (50,000 *shi*) was sent directly to Henan to relieve continuing shortages there. Finally, as an alternative to physically moving the grain tribute, the governor of Anhui requested in 1741 the sale of retained tribute and subsequent transfer of the receipts to the northern part of the province to pay for granary restocking.<sup>9</sup> Thus, grain tribute could directly restock granaries or be sold in order to purchase granary reserves, and these operations could take place within one province or across several.

Diverting the grain tribute created considerable bureaucratic headaches. Rerouting the tribute boats meant consulting officials in different counties and provinces to set up schedules for shipments, as well as monitoring movements not part of the routine grain tribute operations. But the idea of using the tribute to restock granaries had a powerful logic. Whatever its bureaucratic costs, it reduced dependence on alternatives considered even more costly in organizational and political terms. In part, these practices must have appealed simply because there was grain available. Pierre-Étienne Will has suggested that there was a margin of at least half a million *shi* between capital grain needs regularly met by the grain tribute and the maximum amounts levied in a given year.<sup>10</sup>

Eighteenth-century officials were clearly aware of tribute surpluses. Shaanxi circuit censor Zhu Lunhan, for instance, presented

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<sup>9</sup> *QSLJZL*, 926 (1745/10/30) and 928 (1757/9/26); Anhui governor Zhang Kai, ZP, CZCC: QL 6/11/24.

<sup>10</sup> See Will, *Bureaucracy and Famine*, 283, for an estimate of grain tribute surpluses.

arguments in favor of using the grain tribute to restock granaries in 1741. The problems of restocking through purchases would thereby be avoided without threatening granaries with declining reserves. Since grain tribute had already been used in earlier decades to provide relief, the extension to restocking appeared to Zhu a logical one.<sup>11</sup> Other officials recognized the attractive qualities of restocking with retained tribute but were anxious that this method not become a precedent. When officials in Jiangxi retained tribute to restock granaries in 1757, they were explicitly told not to allow this method to replace restocking through purchases.<sup>12</sup> Too great a reliance on retained tribute violated the principle of ever-normal granaries' pursuing self-sufficient sales and purchases. In practical terms, the tribute grain, already husked, also spoiled faster. There were both ideal and real reasons to avoid major reliance on the grain tribute for granary restocking.

Nevertheless, the aggregate amount of diverted grain tribute grew dramatically between 1660 and 1760 and served various purposes, including granary restocking as well as immediate consumption needs. During the sixty-year Kangxi reign, 2,400,000 *shi* were diverted from the capital area at an annual rate of 40,000 *shi*; in the thirteen-year period of the Yongzheng reign, 2,900,000 *shi* were similarly routed, raising the annual average to more than 233,000. This rate more than doubled between 1736 and 1758, when 13,200,000 *shi* were diverted at an annual rate of nearly 574,000, a figure close to that estimated by Will for available surpluses.<sup>13</sup> Using the grain tribute to restock ever-normal granaries no doubt contributed to the overall increase in the amount of tribute diverted from the capital. Concern over using the grain tribute to stock granaries may have subsequently reduced tribute diversion, but diversions certainly continued in later decades. The grain tribute primarily benefited provinces through which major routes to the capital

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<sup>11</sup> Shaanxi circuit censor Zhu Lunhan, ZP, CZCC: QL 6/7/20; see Zhu's essay "Jieliu caoliang yi chong jizhu zhazi," in JSWB, 39.26a-29a.

<sup>12</sup> HDSL (1818 ed.), 160.5.

<sup>13</sup> See Will, *Bureaucracy and Famine*, 287, notes 33 and 34.

passed, but could also be directed to those further afield.<sup>14</sup> The impact of the diversions on food supply conditions was felt in much of the empire through the first half of the Qing dynasty.

### *Contributions*

A second alternative to purchases was contributions for degrees. Hubei censor Wang Rou argued in 1733 or 1734 for contributions as a substitute for restocking purchases. General plans to this end were made a few years later.<sup>15</sup> In 1736, the amount to be paid for receiving a *jiansheng* degree was fixed at 108 taels, a sum lower than that used during the Kangxi and Yongzheng periods. The money was originally to be paid directly to the Board of Revenue, but, in 1738, contributions in kind were once again authorized, with provincial officials responsible for managing contributions collected at the county level. Contribution goals were set in a number of provinces in 1738 and 1739 in the hope that reserves could be increased without making large purchases. In general, contributions remained in the provinces in which they were collected.

Gansu, Guangdong, Sichuan, and Fujian recorded great successes with this program. Gansu reported more than 1,000,000 *shi* of contributions between 1741 and 1745. In Guangdong, better than 40 percent of the more than 3,000,000-*shi* reserves in 1747 came from contributions for degrees. In Sichuan, 1,360,000 *shi* of a 1,700,000-*shi* target had been collected by 1743; five years later, the total of 2,089,900 *shi* exceeded the target. Of this amount, 1,090,784 *shi* had been disbursed, leaving 999,120 *shi*, which represented more than 80 percent of the province's ever-normal granary reserves in 1749.<sup>16</sup>

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<sup>14</sup> For instance, Shaanxi received grain from the tribute granaries (*caogucang*) established in Henan; see Henan governor Shuose, ZP, CZCC: QL 13/9/8.

<sup>15</sup> Wang Rou, "Qing ge zhisheng xing changping juangu shu," in JSWB, 39.32a–b.

<sup>16</sup> Gansu governor Huang Tinggui, ZP, CZCC: QL 11/12/21; Guangdong provincial treasurer Shi Yiang, ZP, CZCC: QL 26/7/15; Sichuan governor Shuose, ZP, CZCC: QL 8/7/4; Sichuan governor-general Celeng, ZP, CZCC: QL 14/6/10.

The importance of contributions for degrees was even more striking in Fujian, where, as we have seen, this mobilization method had already been important in the 1720s. A new target of 2,000,000 *shi* was set, of which 1,793,630 *shi* were collected between 1739 and 1749. Over the next two years, an additional 300,000 *shi* were collected to raise the total above the target figure. Contributions accounted for 70 percent of total reserves in 1748 and more than 80 percent in 1751. Over the next three years, it appears that more than 2,500,000 *shi* of contributions were added.<sup>17</sup> The infusion of new grain supplies by this method helped to sustain Fujian's reserves during a period when large amounts of reduced-price sales and loans were not replaced through restocking purchases and loan repayments.

At the other end of the spectrum, some provinces collected amounts an order of magnitude smaller than those reported for Fujian. Shaanxi had collected 140,000 *shi* by 1746, while Hunan reported only 180,600 *shi* by 1756. Results in Henan fell between these two extremes. A target figure of 1,992,400 *shi* was set; but by the end of 1743, only 140,800 *shi* had been collected. No contributions were received in 1744, but an additional 176,200 *shi* were recorded for 1745.<sup>18</sup> Henan received roughly twice as much as Shaanxi and Hunan, but this figure was still only one-quarter to one-third of the amounts achieved in Guangdong, Sichuan, and Fujian by the same date.

In Jiangxi, a contribution target of 1,920,000 *shi* was set in 1738, with the goal of raising total reserves to 3,290,000 *shi*. Because contributions were very limited over the next four years, the target for total reserves was lowered by half, to 1,606,000 *shi*. At least 398,400 *shi* were contributed between 1742 and 1745 (160,000 *shi* in 1743, 172,800 *shi* in 1744, and 65,600 *shi* in 1745). These contributions would have raised total reserves above the target of 1,606,000 *shi* if restocking

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<sup>17</sup> Min-Zhe governor-general Kaerjishan and Fujian governor Pan Siju, ZP, CZCC: QL 16/5\*/3.

<sup>18</sup> Shaanxi governor Chen Hongmou, ZP, CZCC: QL 11/2/24; Hunan judicial commissioner Kuishu, ZP, GZD: QL 013103 (21/10/15); Henan provincial treasurer Zhao Cheng, ZP, CZCC: QL 10/10/6; Henan governor Shuose, ZP, CZCC: QL 11/2/14.

purchases had been made, but since these purchases fell short in 1742, 1743, and 1744, total reserves remained 73,000 *shi* short of the target level.<sup>19</sup> Once again, contributions partially replaced purchases to restock ever-normal granary reserves.

Contributions for degrees were sometimes permitted in silver rather than grain. Jiangxi, for example, continued to collect contributions between 1746 and 1749, but only 313 people contributed in kind, while 9,050 people paid in silver.<sup>20</sup> How much of the money collected as contributions for degrees was actually spent on grain is unclear, but it is unlikely that all the silver was spent. Indeed, the problems of purchasing grain with contributions of silver led the emperor in 1749 to order the collection of contributions in kind for Jiangnan, Fujian, Shandong, and Sichuan. But persuading people to contribute grain was no easy job, as the lack of success in Anhui during the previous two years suggests. The offer of discounts ranging from 25 to 40 percent made by Anhui officials to encourage contributions in kind (a method for taking into account price increases that made contributions in money cheaper than those in grain) raised only 4,548 and 10,218 *shi* in 1747 and 1748, respectively.<sup>21</sup>

By the 1740s, contributions were becoming less significant. Between 1750 and the early 1760s, in most areas they became, with a few possible exceptions, unimportant.<sup>22</sup> During the 1760s further calls for contributions were made in Fujian, Guangdong, and Sichuan, where contributions had constituted a significant source of grain, but they were halted after a brief period of little success. In Shaanxi and Gansu, where a distinctive system of reliance on merchants to contribute grain bought in frontier counties was supplemented by a plan to increase

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<sup>19</sup> Jiangxi governor Kaitai, ZP, CZCC: QL 13/9/4; Jiangxi governor Saileng'e, ZP, CZCC: QL 9/3/25 and QL 10/9/27; Jiangxi governor Kaitai, ZP, CZCC: QL 13/9/28.

<sup>20</sup> Jiangxi governor Asiha, ZP, CZCC: QL 15/1/26.

<sup>21</sup> Liang-Jiang governor-general Huang Tinggui, ZP, CZCC: QL 14/5/16.

<sup>22</sup> In Fujian, the decline in contributions to ever-normal granaries was tied to a 1756 decision to allow community granaries to receive contributions for degrees; see Fujian provincial treasurer Qian Qi, ZP, CZCC: QL 40/4/13.

reserves through contributions in kind and silver, efforts were halted in 1766 because money contributions were all too often embezzled by officials and because grain purchases caused difficulties for the local population.<sup>23</sup> Later that same year, contributions in kind were suspended in Zhili, Anhui, Shanxi, and Hunan. Silver contributions paid directly to the Board of Revenue were still allowed, thereby reversing the preference for contributions in kind expressed in 1763 by the board's vice-president, Ying Shutiao. Two years later, in 1768, campaigns for contributions were halted in Fujian, Guangdong, and Yunnan because few contributions had been reported.<sup>24</sup> Indeed, after this date, contributions do not appear to have been pushed very hard anywhere in the empire, except for the northwest, where a scandal was exposed in 1781.<sup>25</sup>

In summary, between 1736 and 1755, large amounts of grain were mobilized for ever-normal granaries through a combination of purchases, diverted tribute, and contributions for degrees. Compared to the previous period, restocking purchases became more regular and routinized, with the result that granary operations became partially self-sufficient. Continued reliance on nonpurchase mechanisms muted criticisms that granary operations were causing prices to rise at the same time that they made possible continued growth and use of granary reserves.<sup>26</sup> The relative importance of different mobilization techniques varied among provinces until the 1760s, when the range of mobilization mechanisms used by ever-normal granaries began to shrink. These changes had a clear impact in provinces where disbursements declined. Yet

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<sup>23</sup> Shaanxi governor Lu Zhuo, ZP, *GZD*: QL 013303 (21/11/10); *WXTK*, 37.5205.

<sup>24</sup> Hunan provincial treasurer Lai Chao, ZP, *GZD*: QL 016004 (28/10/7); *WXTK*, 37.5205.

<sup>25</sup> See chapter 7 for details of the Gansu scandal.

<sup>26</sup> Criticisms against purchases were not necessarily well founded. If the grain mobilized through contributions or tribute represented grain that would otherwise have been on the market or would itself need to be replaced by market purchases, then the net effect on prices of granary purchases and nonpurchase mechanisms would be the same. Of course, the kinds of official efforts entailed by each mechanism would remain different.

in other provinces, disbursals continued to be frequent and sometimes large.

#### DISTRIBUTION BY EVER-NORMAL GRANARIES

Distribution guidelines were aimed at minimizing spoilage and maximizing the impact of disbursals on food supply conditions. The concern about spoilage that had prompted minimum rates of turnover in the preceding period continued in the 1730s and 1740s. Prescribed rates of disbursement often deviated from the 30-percent norm in order to produce faster rates of turnover and prevent spoilage. In 1736, ever-normal granaries in Hunan were divided into three groups with annual disbursement rates of 30, 50, and 70 percent. In the same year, 50-percent disbursement rates replaced the more common 30-percent rate for ever-normal granaries in certain counties of Sichuan and Guangdong. A year later, Anhui was divided in the same manner, while other provinces set county disbursement rates according to climate variations a few years later: Shaanxi in 1742, Zhejiang in 1743, and Guangxi in 1744.<sup>27</sup> Officials encouraged minimum rates of turnover to avoid spoilage. They also continued to acknowledge the necessity of exceeding the 30-percent rule in times of extraordinary crises.<sup>28</sup> In general, they sought a range of disbursement rates to meet variable food supply conditions.

A wide-ranging examination of ever-normal granary distribution was conducted in 1738 by the governor-general of Liang-Jiang, Nasutu.<sup>29</sup> He distinguished three types of situations, each of which required a different scale of distribution: (1) In years of poor harvests, when prices rose sharply, both urban and rural populations needed grain. Officials were to set up distribution centers across the county, sell grain at reduced prices, and exceed the 30-percent disbursement rate, if necessary. (2) In years of adequate harvests, urban dwellers still

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<sup>27</sup> Hunan, *HDZL*, 40.15a; Guangdong and Sichuan, *HDZL*, 40.15b; Anhui, *HDZL*, 40.16a; Zhejiang, *HDZL*, 40.34a; Shaanxi, *HDZL*, 40.33b; Guangxi, *HDZL*, 40.34a.

<sup>28</sup> For example, Shandong, *QSLJZL*, 413 (1743/9/23).

<sup>29</sup> *WXTK*, 36.5189.

needed reduced-price sales during the lean spring period. Price reductions were to be limited in order to guarantee sufficient funds for restocking after the autumn harvests. (3) In years in which spring grain prices rose very little because of several good harvests in a row, officials were to decide how much grain to sell at reduced prices in order to ensure turnover and avoid spoilage. Only poor households were eligible for these sales and a maximum of 0.2 *shi* per household (enough to feed one adult for three weeks) was set.

Nasutu's report identified three different target populations for reduced-price sales according to the quality of the harvests and the level of grain prices. His suggested distribution procedures attempted to satisfy three goals: (1) relieve shortages caused by harvest fluctuations; (2) minimize seasonal price fluctuations through sales and purchases; and (3) ensure minimum levels of turnover to prevent spoilage. While it is uncertain to what degree Nasutu's program for granary distribution was followed in Liang-Jiang or other parts of China during the early Qianlong period, there is evidence of frequent and large-scale distribution in several provinces.

A pattern of fluctuating disbursements consistent with the program suggested by Nasutu is revealed by the data in table 3.1. Officials adjusted granary distribution according to the circumstances dictated by variable harvests and grain prices. The smaller distributions, such as those made in Jiangxi in 1745 and 1750 and in Guangxi in 1745, appear to have occurred in years of good harvest.<sup>30</sup> Although disbursement fluctuations were common in all provinces, average levels of distribution could vary widely. The average was highest in Fujian (more than 300,000 *shi*) and lowest in Zhejiang (less than 50,000), with Guangdong (200,000) and Jiangxi (175,000) close to Fujian's rate.<sup>31</sup> Significantly,

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<sup>30</sup> For example, to explain the small size of 1745 sales at reduced prices in Jiangxi, provincial treasurer Peng Jiaping noted that harvests had been good; moreover, much of the grain then in stock had recently been put into storage and was therefore unlikely to spoil within the next year. See Peng Jiaping, ZP, CZCC: QL 10/11/25.

<sup>31</sup> Since Guangxi data cover only two years, an average can easily misrepresent more general conditions.

Table 3.1. Examples of Ever-Normal Granary Disbursals, 1737–1751 (in *Shi*)

Year	Province	Sold	Lent
1737–1738	Fujian		527,000
1739–1740	Fujian	425,600	
1741	Fujian	136,400	
1742	Fujian	630,000	
1746	Fujian	470,000	
1747	Fujian	230,000	
1736	Guangdong	220,000	
1742	Guangdong	330,000	
1743	Guangdong	170,000	
1748	Guangdong	140,000	
1743	Jiangxi		546,482
1744	Jiangxi		200,000
1745	Jiangxi	9,700	
1746	Jiangxi	37,000	26,000
1748	Jiangxi	25,000	4,800
1750	Jiangxi	8,227	10,000
1751	Jiangxi	340,000	
1737–1739	Zhejiang	67,200	
1740	Zhejiang	121,000	
1742	Guangxi	270,000	
1745	Guangxi	16,851	

**Sources**

Fujian governor Wang Shiren, ZP, *CZCC*: QL 4/10/12; acting Fujian treasurer Qiao Xueyin, ZP, *CZCC*: QL 5/9/2; acting Min-Zhe governor-general Celeng, ZP, *CZCC*: QL 6/8/19; Min-Zhe governor-general Nasutu, ZP, *CZCC*: QL 7/12/12; Fujian governor Chen Dashou, ZP, *CZCC*: QL 12/12/12; Guangdong governor Wang Mo, ZP, *CZCC*: QL 2/9\*/26; Guangdong governor Wang Anguo, ZP, *CZCC*: QL 7/7/2; Guangdong provincial treasurer Tuoyong, ZP, *CZCC*: QL 8/9/24; Guangdong governor Yue Jun, ZP, *CZCC*: QL 13/9/13; Jiangxi governor Chen Hongmou, ZP, *CZCC*: QL 8/12/16; Jiangxi governor Asiha, ZP, *CZCC*: QL 15/12/6; Jiangxi governor Echang, ZP, *GZD*: QL 000490 (16/9/16); Zhejiang provincial treasurer Zhang Ruozhen, ZP, *CZCC*: QL 5/10/12; Guangxi governor Yang Xifu, ZP, *CZCC*: QL 8/3/13; acting Guangxi governor Tuoyong, ZP, *CZCC*: QL 10/11/3.

both Fujian and Guangdong were provinces in which large amounts of grain had been distributed in the previous decades; perhaps provincial traditions of granary activism established in the 1720s continued into the 1740s. Granaries in these two provinces continued to mobilize large amounts of grain through contributions; they also relied on grain transfers from ever-normal granaries in other provinces and on diverted grain tribute. Repeated distribution of large amounts of grain was only possible because contributions and transfers augmented purchases to replenish reserves. In few cases, however, did reduced-price sales and loans equal or exceed 30 percent of total reserves. More generally, the distributions shown in table 3.1, though frequent and sometimes large in size, did not meet the ideal norm set for the system. But a preoccupation with ideals should not blind us to what officials accomplished. Clearly, large amounts of grain were distributed and restocked.

Criticisms of annual disbursements of 30 percent were voiced soon after regular distribution began in a number of provinces. For instance, the provincial treasurer in Jiangxi opposed annual reduced-price sales in 1747 on two grounds: abuses were hard to control, and there was no need for sales in years of good harvests. In another memorial, he elaborated on his charge of abuses.<sup>32</sup> Local officials reported sale prices lower than those actually charged and restocking prices higher than those actually paid; they then pocketed the differences. This kind of criticism was taken most seriously when officials increased their reliance on purchases and reduced the relative importance of contributions and tribute diversions. Thus, in Jiangxi the size of ever-normal granary disbursements fell after 1765; the scale and frequency of disbursements made in the 1740s were rarely, if ever, achieved in the 1770s and 1780s.

This drop paralleled a trend in Hunan, where doubts about the utility of sales in plentiful harvest years were first voiced in the 1740s, but reduced disbursements did not go into effect until the 1760s.<sup>33</sup> The argument against frequent distribution was also articulated by Liang-

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<sup>32</sup> Jiangxi provincial treasurer Peng Jiaping, ZP, CZCC: QL 12/3/7 and QL 12/11/5.

<sup>33</sup> See chapter 11 for details.

Jiang governor-general Yinjishan, who objected in 1754 to the 30-percent distribution rule because of restocking burdens. Not only were there the problems of “short prices” and associated difficulties of allotted purchases, but there was also the frequent danger, even in years of abundant harvest, of raising grain prices through large restocking purchases. He preferred 30-percent distribution in years of dearth and, if distribution was to be continued on an annual basis, only 10- to 20-percent distribution in normal years.<sup>34</sup> In contrast to the reductions in civilian disbursals, allocations to the military became more regular in a number of provinces.<sup>35</sup>

#### DEFICITS AND RESTOCKING

Similar official complaints elsewhere confirm that frequent distribution had been, in fact, common. The desire to maintain a high (30–50 percent) rate of turnover and thereby avoid large amounts of spoilage competed with skepticism, if not denial, of the need for a very high rate of distribution in years of good harvest and with growing concern about the problems of restocking. In addition to the Jiangxi and Hunan cases mentioned above, Anhui and Fujian ever-normal granary disbursal rates fell in the 1760s. Fujian, which had previously distributed large amounts of ever-normal reserves, experienced spoilage problems in the 1760s. Ironically, reserves grew, but because they were less frequently distributed, much of the grain was ruined.<sup>36</sup>

The decreases in rates of disbursal were not necessarily a sign of reduced bureaucratic capacities to distribute grain. For instance, though the frequency of distribution by ever-normal granaries appears to have declined in Guangdong, the size of distributions in 1758 alone equaled the combined total for the years 1736, 1741, 1743, and 1748. Thus,

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<sup>34</sup> Liang-Jiang governor-general Yinjishan, ZP, GZD: QL 017505 (29/4/11).

<sup>35</sup> Provinces in which military disbursals increased in the 1760s include Henan and Shanxi. See Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 130–34.

<sup>36</sup> Spoilage problems in Fujian in the 1760s are discussed in chapter 5 as an example of the dangers of overstocking the granaries.

curtailing the frequency of distribution did not mean that large distributions could not be made. In this Guangdong example, replacing the more than one million *shi* distributed in 1758 required large transfers from Hunan and Guangxi, in addition to an ambitious program of purchases both in Guangdong and Hunan.<sup>37</sup> Officials could still make large disbursements and mount large restocking campaigns.

Perhaps disbursements decreased in frequency because they became less necessary. If harvests improved, there would have been less need for granary disbursements. It is difficult to know whether or not weather and harvest conditions improved in all those places where we find evidence of granary disbursement declines. Better weather and harvests appear possible, even likely, in Fujian, but the data we have for other provinces are more ambiguous.<sup>38</sup> Even if weather and harvest conditions did improve somewhat, the timing and degree of the changes in granary disbursements suggest conscious political decisions to alter granary operations.

In some provinces where disbursements dropped—for example, Hunan and Jiangxi—granaries never again operated with comparable frequency or at the same level of disbursements they had once attained. In others, by contrast, a period of reduced disbursements was sometimes followed by even larger efforts. In Anhui, the decade from 1753 to 1762 was spent rebuilding stocks, with apparently little distribution taking place. Coping with deficits created by earlier unreplaced disbursements, problems of spoilage must have been more common. Between 1772 and 1775, large amounts of grain were once again distributed without replacement. The grain was subsequently replaced, only to revive the threat of spoilage.<sup>39</sup>

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<sup>37</sup> Liang-Guang acting governor-general Li Shiyao, ZP, CZCC: QL 23/7/22; Guangdong governor Tuosiduo, ZP, CZCC: QL 25/1/26.

<sup>38</sup> At present the best source of historical information is the *Zhongguo qixiangju Zhongguo jin wubai nian hanlao fenbu tuji*. The maps in this book suggest that weather conditions improved in much of Fujian in the late 1750s and 1760s, but more work on harvests and local conditions will be required before confident evaluations can be made.

<sup>39</sup> Anhui governor Wei Zhezhi, ZP, GZD: QL005494 (18/12/22); Anhui governor Gaojin, ZP, CZCC: QL 22/2/28; Anhui governor Min Eyuan, ZP, CZCC: QL 41/5/15; Anhui

Other provinces also had cycles lasting several years in which granaries were first restocked and then depleted. What differed in each case were the specific years of restocking and disbursements, as well as the duration and scale of each increase and decrease in reserves. Guizhou officials, who in 1757 replaced about 84 percent of some 80,000 *shi* outstanding due to reduced-price sales made between 1752 and 1757, faced restocking demands again in the mid-1770s, when only 40 percent of the 1,600,000-*shi* target was stored.<sup>40</sup> In Shanxi, ever-normal reserves dropped from 1,900,000 *shi* in 1748 to 900,000 in 1759; over the next several years, large amounts of restocking were reported. Amidst alternating periods of growing and shrinking reserves, stocks continued, on average, to rise into the 1790s.<sup>41</sup> In Zhejiang, too, a sizable deficit of more than 677,000 *shi* in 1775 appears to have been erased by the early 1790s.<sup>42</sup>

A general pattern emerges from these examples of granary disbursements that were gradually and partially replaced by restocking purchases. These purchases were at times augmented by the infusion of new funds and transferred grain. This pattern represents an expansion of practices seen in a few provinces as early as the 1720s, when years of major distribution already alternated with years of significant restocking. In some cases, however, deficits were too large to have been made up easily or quickly. A Zhili memorial of 1763 reported “theoretical reserves” (*yingcun*) in all granaries (ever-normal, community, and charity) of 4,515,140 *shi*; since 3,147,117 *shi* had been disbursed over

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governor Zhu Gui, ZP, CZCC: QL 58/11/21; Anhui acting governor Zhang Chengji, ZP, CZCC: QL 60/10/8.

<sup>40</sup> Guizhou reserves were at only 30 to 40 percent of the theoretical level in early 1776; see Guizhou acting governor Zhou Renji, ZP, CZCC: QL 23/5/26; Guizhou provincial treasurer Zheng Dajin, ZP, CZCC: QL 41/3/26.

<sup>41</sup> Shanxi circuit censor Wu Longjian, ZP, CZCC: QL 24/4/13; Shanxi governor Ebi, ZP, CZCC: QL 24/12/15; Shanxi governor Yisang’a, ZP, CZCC: QL 50/11/9; Shanxi governor Lebao, ZP, CZCC: QL 51/11/27.

<sup>42</sup> Zhejiang governor Sanbao, ZP, CZCC: QL 40/12/2; Zhejiang governor Jiqing, ZP, CZCC: QL 58/11/28.

the years, only 1,368,023 *shi* were actually in storage.<sup>43</sup> But the difference between the theoretical reserves and real reserves is not necessarily the best measure of the granary system's performance. As we will see in chapter 8, "theoretical reserves" included all the grain that would have been present had all grain ever lent or sold been presently in stock and all money ever earmarked for purchases had bought the desired amounts of grain; officials did not really expect granaries to store all this grain.

What really mattered for the efficacy of the granary system was the officials' capacities and willingness to distribute and replace grain. When they were able to make new purchases or divert grain from other sources into the granaries, as they did in Zhili, the system continued to affect food supply conditions. Thus, the story of restocking can be told from two perspectives—we can stress the difference between real and ideal reserves to highlight the failure of the system to meet an ideal, or we can focus on the level of real reserves and disbursements to evaluate the system's demonstrated ability to accumulate and manage large reserves on a regular and institutionalized basis. The choice of perspectives matters to our evaluation of the system, as the following account of granary conditions in China's northwest makes clear.

Restocking problems appear to have been most severe in the northwest. Between 1736 and 1745, despite the ever-mounting deficits incurred by Shaanxi ever-normal granaries, frequent distribution remained the pattern. By 1757, outstanding loans made after 1745 totaled some 767,000 *shi*. This massive deficit notwithstanding, granaries lent an additional 495,000 *shi* that year. In the following year, planned purchases of 200,000 *shi* could not even begin to replace the 300,000 *shi* sold and lent in 1758 alone, not to mention the outstanding deficit from previous years. Through the 1760s and 1770s, efforts were made to increase granary reserves. By 1780, both the theoretical and the real levels of reserves had increased, but so had the difference between the

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<sup>43</sup> Zhili governor-general Fang Guancheng, ZP, GZD: QL 016564 (28/12/11); for further discussion of the general problem of large gaps between "theoretical reserves" and real reserves, see chapter 8.

two, reported to be more than 1,000,000 *shi*.<sup>44</sup> The expansion of real granary activity accompanied the statement of increasingly unrealistic stocking ideals.

The situation in Gansu was more problematic. After the transfer of 285,714 *shi* of Shaanxi granary stocks in 1759, which followed years of inadequate restocking, disbursements continued to lower Gansu reserves—an 880,000-*shi* disbursement in 1761 aggravated outstanding arrears of 520,000 accumulated between 1758 and 1760; in 1762, reserves dipped below 900,000 *shi* in the wake of loans and sales of 530,000 *shi* and payments to the military of 250,000 *shi*.<sup>45</sup> In 1763, stocks in Gansu reportedly jumped to 1,831,711 *shi*, still well below the quota figure of 3,280,000. The state continued to pump in additional resources. When contributions were halted in 1766, the central government decided to transfer some 3,000,000 taels to Gansu to take maximum advantage of good crops and low prices. In 1767 another 800,000 taels were obtained from the Board of Revenue. Although the massive sum of 2,317,000 *shi* was reportedly bought between 1766 and 1767, by late 1768 Gansu's granaries had distributed another 1,200,000 *shi* in loans for seed, food, and military pay. Over the next twenty years the state struggled to keep actual reserves above 2,000,000 *shi*, a large figure nevertheless dwarfed by theoretical reserves of 4,000,000 *shi*.<sup>46</sup>

The state repeatedly put money into the Shaanxi and Gansu granaries. Large grain disbursements may well have reached a considerable portion of both provinces' populations in many of the years for which we have data. If we evaluate the granary system not by its failure to

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<sup>44</sup> Shaanxi acting governor Shuai Nianzu, ZP, CZCC: QL 8/12/15; Chuan-Shaan governor-general Qing Fu, ZP, CZCC: QL 11/12/9; Shaanxi governor Chen Hongmou, ZP, CZCC: QL 15/12/15; Shaanxi governor Mingde, ZP, CZCC: QL 22/8/18; Shaanxi governor Zhongyin, ZP, CZCC: QL 23/7/25 and QL 24/1/28; Shaanxi acting governor Bi Yuan, ZP, CZCC: QL 45/11/27.

<sup>45</sup> Shaanxi governor Zhongyin, ZP, CZCC: QL 25/9/25; Gansu governor Mingde, ZP, CZCC: QL 26/7/12; Gansu governor Changjun, ZP, CZCC: QL 27/10/6.

<sup>46</sup> The 1763 quota and real figures are from Will, *Bureaucracy and Famine*, 193 and 196; Shaan-Gan governor-general Wudashan, ZP, GZD: QL 026106 (33/10/10); Gansu provincial treasurer Wang Danwang, ZP, CZCC: QL 40/6/15.

meet impossible ideal goals, but according to the scale of the bureaucratic and fiscal efforts taken to sustain the system, the northwestern granaries were at least sometimes successful, even if in some years, as will be shown in chapter 7, those in Gansu failed.

The provincial examples of disbursal and restocking practices together demonstrate the not surprising fact that ever-normal granary operations were by no means uniform throughout China. But certain patterns are clear. After ten to fifteen years of frequent and large disbursals, officials in a number of provinces began to question the wisdom of frequent disbursals. They both doubted the need for distribution in years of adequate harvest and worried about their ability to restock granaries without raising market prices. Officials in some provinces appear to have reduced the frequency and often the size of ever-normal disbursals, thereby increasing the risk of spoilage. In other provinces, including those in the north and northwest, large amounts of grain were disbursed and efforts to restock these granaries met with varying degrees of success. Deficits were a permanent feature of granary operations in provinces faced with consistently large demands on reserves.<sup>47</sup> In the 1760s and 1770s, arrears and deficits became the principal foci of restocking efforts. The presence of large deficits due to the inability of officials to purchase sufficient grain had become increasingly troubling as alternatives to purchase were less widely employed.

In the 1740s and 1750s, a different kind of problem associated with restocking had dominated official concerns—namely, the effects of government success in making purchases on grain prices. The desire to reduce the level of government purchases prompted reliance on contributions and diverted tribute and also reinforced sentiments against frequent and large-scale distribution. But distribution and grain transfers continued to take place in the 1750s; indeed, instead of shrinking, total reserves actually increased throughout the empire. Concern over government involvement did have an immediate effect, however. Ef-

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<sup>47</sup> See chapter 6 for further discussion of the structural basis for restocking problems and deficits.

forts were made in a number of provinces to develop complementary reserves in community granaries. These granaries, by design, avoided the bureaucratic problems inherent in the practice of restocking purchases, generally reduced direct official intervention, and yet extended the state's ability to affect food supply conditions.<sup>48</sup>

#### COMMUNITY GRANARIES: 1736–1780

The basic rationale behind community granaries made local people responsible for local grain reserves. Theoretically, the success of the community granary was premised upon the willingness of the local rich to contribute part of their surplus to succor their poorer neighbors. In practice, as we have already seen, the state during the Yongzheng reign helped to increase the number of community granaries and expand the size of their reserves. Official participation in community granary development became even more substantial after 1735.

One basic challenge faced by officials in a number of provinces during the 1730s was to build up reserves in rural areas. In Sichuan, for instance, community granary reserves in 1737 totaled 50,431 *shi*, and a campaign to encourage contributions helped to increase reserves to 87,629 *shi* in the following year; contributions were complemented by grain purchases made with surplus money from ever-normal granary sales. By 1740, community granary reserves in Sichuan had reached 104,885 *shi*, and another 10,000 *shi* were added a year later.<sup>49</sup> But Sichuan officials reported in 1754 that community granary reserves were often stored in county seats and infrequently lent because officials feared arrears and other irregularities. A similar situation existed in Jiangsu during the 1730s, when there were no community granaries outside the provincial capital. Jiangsu officials do not appear ever to have achieved effective monitoring of large reserves, but in Sichuan

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<sup>48</sup> See, for example, ZP, CZCC: QL 8/6/13, by a number of Board of Revenue officials reviewing the Hunan judicial commissioner Mingde's report on granaries in which he noted limited restocking purchases. The board officials stressed the development of community granaries to relieve pressures of ever-normal granary restocking.

<sup>49</sup> Sichuan governor Shuose, ZP, CZCC: QL 4/5/22, and QL 6/2/12.

efforts made to establish rural community granaries with contributions from the wealthy produced additional reserves of 98,780 *shi* in 1755; by 1761 community granary reserves reached 692,342 *shi*.<sup>50</sup>

Officials also successfully increased reserves in Fujian. To expand the community granary system in this province, the government decided in 1756 to allow contributions for degrees to be a source of community granary reserves. Together with interest on loans, contributions for degrees helped to raise community granary reserves from 210,000 *shi* in 1756 to 577,472 *shi* in 1775.<sup>51</sup> The shift of an important stocking technique, contributions for degrees, from ever-normal granaries to community granaries was accompanied, in the Fujian case, by a decline in ever-normal granary distribution during the 1760s, a decline that may have been compensated for by distribution from larger community granary reserves.

Large reserves were also recorded in community granaries of the middle Yangzi region. In Hubei, as in Fujian, contributions for degrees became a source of grain for community granaries, while in Hunan, ever-normal granary loans to start community granaries were made in 1755 so as to expand such networks in counties then having few such granaries. In both of these provinces, community granary reserves climbed above 700,000 *shi*, in Hubei by the 1760s and in Hunan after 1780; Jiangxi topped this figure in the 1770s.<sup>52</sup> In the Hunan case, as with Fujian, community granary reserves were expanded at a time when ever-normal granary operations were becoming less frequent. Hunan

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<sup>50</sup> Liang-Jiang governor-general Nasutu, ZP, CZCC: QL 2/11/29; Sichuan governor-general Kaitai, ZP, GZD: QL 011726 (21/4/19), and ZP, CZCC: QL 27/7/17. Though the state did not monitor Jiangsu reserves, there is evidence that local efforts without government coordination did proceed (Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 244).

<sup>51</sup> Fujian provincial treasurer Qian Qi, ZP, CZCC: QL 40/4/13.

<sup>52</sup> Yan Sisheng, "Shecang baojia xiang jingwei shu," in *JSWB*, 40.42a–44a; Hunan governor Chen Hongmou, ZP, GZD: QL 012806 (21/9/29). Hubei data for the 1760s appear in chapter 9; the Hunan figures are in chapter 11; and the Jiangxi figures come from a breakdown of the granary figures included in the reports, which show Jiangxi community granaries with more than 700,000 *shi* for much of the 1760s and 1770s.

officials clearly subscribed to the point of view expressed by Board of Revenue officials, who argued that community granaries should be expanded in order to reduce the burdens on ever-normal granaries.<sup>53</sup>

While explicit intent cannot be easily documented elsewhere, the drive to build community granaries in other provinces is clearly indicated by the frequent use of provincial funds and transfers from ever-normal granaries to expand community granary reserves. In Shanxi, where reserves grew from 140,000 *shi* in 1726 to 335,000 *shi* in 1742, it was decided in 1742 to use provincial funds to stock community granaries.<sup>54</sup> In Yunnan, grain transfers from ever-normal granaries increased community granary reserves in 1735. A similar procedure was employed in Guizhou in 1740, where provincewide community granary reserves then totaled only 12,200 *shi*; wherever county totals were less than 1,000 *shi*, 500 to 800 *shi* were to be transferred from the county ever-normal granaries.<sup>55</sup> Jiangxi community granaries received 200,000 *shi* through transfers from ever-normal granaries to augment their previous reserves of 140,000 *shi* in 1742. This procedure was similar to measures taken the previous year in neighboring Anhui, where it appears that officials at least briefly retained direct control over the transferred grain. Five years after transferring ever-normal granary stocks to community granaries, officials in Anhui hoped that these community granaries could be run according to the principles articulated by Zhu Xi.<sup>56</sup> The government frequently participated in stocking community granaries, but officials remained reluctant to assume direct management for more than short periods of time.

In Shaanxi and Gansu, there were two types of community granaries. One was of the Zhu Xi variety, run by local people and supplied

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<sup>53</sup> ZP, CZCC: QL 8/6/13 (a discussion memorial by Board of Revenue officials about a memorial by Hunan judicial commissioner Mingde).

<sup>54</sup> ZPYZ, 13.85b–86a; Shanxi acting governor Yan Ruilong, ZP, CZCC: QL 8/3/6.

<sup>55</sup> Chen Hongmou, *Peiyuantang oucun gao*, 48.29a–30b; Yunnan acting governor-general Zhang Yunsui, ZP, CZCC: QL 5/11/20.

<sup>56</sup> Jiangxi governor Chen Hongmou, ZP, CZCC: QL 7/6/18; Anhui governor Chen Dashou, ZP, CZCC: QL 6/4/25; Anhui governor Wei Dingguo, ZP, CZCC: QL 11/3/19.

through contributions. The second type was run by local officials according to the same rules applied to ever-normal granaries. In addition to making sales and loans for consumption, both types of granaries provided seed loans to peasants.<sup>57</sup> The official's managerial role is reflected in the extraction of loan repayments to make up large deficits. Nine years after the 1729 call to begin community granaries in Shaanxi, deficits of 400,000 *shi* were reported; real reserves totaled only 270,000 *shi*. Officials were able to secure enough repayments so that a year later reported reserves totaled 663,053 *shi*.<sup>58</sup> At considerable expense of bureaucratic effort and in violation of the principle of encouraging local people to manage their own affairs, direct official management of community granaries in Shaanxi and Gansu enabled the state to avoid the problems of inadequate oversight encountered in other parts of China.

By the 1740s, officials had proved that they could help to mobilize reserves for community granaries, but they still faced the problem of ensuring that these stocks were used according to the guidelines established for them. We noted above that community granaries had to be located in areas outside the county seat in order to help people who could not easily reach the ever-normal granary. But provincial-level monitoring of the collection and distribution of grain by each small-scale rural granary was difficult to implement; as granary reserves grew, management problems became ever more acute. A number of strategies were adopted to meet these problems. First, *baojia* registers were commonly used to keep track of households needing loans, failing to repay previous loans, and so on.<sup>59</sup> Second, the reserves held in every five to ten granaries in Hunan, and later in Hubei and Jiangxi as well, were consolidated into one granary, alleviating the problem of inade-

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<sup>57</sup> *HDZL*, 40.44a; Chen Hongmou, *Peiyuantang oucun gao*, 20.34a–35b.

<sup>58</sup> Chuan-Shaan governor-general Emida and Shaanxi Governor Zhang Kai, *ZP*, *CZCC*: QL 5/3/22.

<sup>59</sup> Yue Jun, “Yi shecang yu gu yitong shu,” in *JWSB*, 40.26a–29b; Yan Sisheng, “Shecang baojia xiang jingwei shu,” in *JWSB*, 40.42a–44a; Yunnan governor Zhang Yunsui, *ZP*, *CZCC*: QL 5/6\*/22.

quate supervision that had cropped up in the records as early as the 1720s.<sup>60</sup>

If better supervision permitted more grain to be mobilized, larger reserves created greater fears with respect to spoilage. Some 300,000 *shi* of interest grain collected in Guangxi between 1723 and 1756, for example, was a major headache for the governor, who considered the resulting reserves too large. To solve this problem, he suggested selling the interest grain at reduced prices.<sup>61</sup> In Yunnan, reserves of 260,000 *shi* in 1747 had grown to 300,000 *shi* two years later. By 1758, community granary reserves totaled 500,000 *shi*, an amount considered unwieldy. Because spoilage was so strongly feared, people were forced to accept loans, which in Yunnan were made only for seed grain. The governor's proposal to distribute annually 30 percent of the stocks was successful; quantities in excess of this amount were to be lent without interest in order to avoid an unmanageable growth of stocks. Total reserves of 594,027 *shi* in early 1775 suggest that this strategy successfully moderated the growth of community granary stocks.<sup>62</sup> In short, officials in Guangxi and Yunnan made efforts to control the size of granaries in order to maintain successful supervision over their operations.

The concerns of these officials were shared by others. A brief review of operations in Anhui over this entire period illustrates well the development of the spoilage issue in the context of growing reserves. A government transfer to community granaries of 153,000 *shi* in 1736 brought stocks up to 186,030 *shi*. Reserves grew steadily over the next thirty-six years, reaching 753,450 *shi* in 1772. Much of this growth was

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<sup>60</sup> Hunan governor Yang Xifu, ZP, CZCC: QL 12/3/17; Hubei governor Peng Shukui, ZP, CZCC: QL 13/11/26; see chapter 11 for more details. For the Jiangxi application, see Mori Masao, "Jūhachi seiki-nijū seiki no Kōsei shō nōson ni okeru shasō gisō ni tsuite no ichi kentō," 614.

<sup>61</sup> Assuming that the interest rate was the standard 10 percent, 3,000,000 *shi* were lent out over a thirty-three-year period at an annual rate of more than 90,000 *shi*, not a negligible sum; see Guangxi governor Ebao, ZP, CZCC: QL 24/8/21.

<sup>62</sup> Yunnan governor Liu Zao<sup>b</sup>, ZP, CZCC: QL 14/4/25; WXTK, 37.5200.

attributed to interest payments on loans; 460,000 *shi* of interest grain was collected between 1737 and 1760. An average of 191,667 *shi* had to be lent at 10-percent interest during these years to produce this amount. The balance of the increase after 1760 can be explained by an average annual distribution of 82,631 *shi* at 10-percent interest. Apparently, this level of reserves was considered too large to be properly managed, for the governor decided in 1772 to leave only 400,000 *shi* in community granaries and sell the balance at reduced prices when harvests were bad. The money from these sales went to the provincial treasurer, who allocated the funds for public works, such as canals and dikes. Whenever interest grain approached the 100,000-*shi* mark, the same procedure was to be followed. Thus, after community granaries in Anhui had achieved and maintained large reserves, they then provided revenue for alternative uses.<sup>63</sup>

Following Anhui's lead, the Fujian provincial treasurer requested in 1775 that 220,472 *shi* of community granary reserves be sold at reduced prices, leaving a balance of 357,000 *shi* as the operating stock. In Shanxi a similar request was made in 1775 to keep 100,000 *shi* and sell a balance of more than 350,000 *shi* of interest grain in community and charity granaries. Hunan adopted the same basic practice in 1781.<sup>64</sup> Across the empire, strategies to limit the size of community granary reserves followed decades of effort to build them up. The very need to limit growth in some provinces points out the success of officials in persuading local people to give grain and to manage grain reserves.

Of course, not all provinces enjoyed comparable successes. In many parts of Shandong, community granary reserves were moved into the county seats during the 1760s, a change that defeated the basic purpose of dispersing community granaries throughout the county in order to reach people for whom the ever-normal granary was too distant.

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<sup>63</sup> Anhui governor Pei Zongxi, ZP, GZD: QL 027948 (39/1/26).

<sup>64</sup> Fujian provincial treasurer Qian Qi, ZP, CZCC: QL 40/4/13; Shanxi provincial treasurer Huang Jian, ZP, CZCC: QL 40/8/25; for Hunan, see chapter 11. Jiangxi may also have adopted this procedure during this period; such a policy change would help to explain the decline in reserves at this time.

But Shandong ever-normal granaries at least made loans as well as sales, thereby substituting to some degree for community granaries. In Jiangsu, where the governor had stated in 1770 that officials still failed to monitor community granaries closely, we know that granaries remained poorly managed. Almost 200,000 *shi* of the more than 375,000 *shi* supposedly in community granaries were in fact in arrears.<sup>65</sup> Together, these two examples remind us that effectively monitoring the operations of community granaries without vitiating their basic *raison d'être* was not easy.

In general, a higher degree of official supervision over community granaries was achieved in the Qianlong period. This success moved officials to look upon community granaries as the first line of defense against food supply instabilities. Community granary distribution was both a substitute for and a complement to ever-normal granary operations.

#### CHARITY GRANARIES: 1736–1780

The mid-century search for methods to reduce pressures on ever-normal granaries also prompted efforts to form other rural grain reserves in a number of northern provinces. Although called “charity granaries,” this type of grain storage in fact bore little resemblance to other granaries with the same name. The late seventeenth-century idea of a charity granary was essentially an urban repository financed by private contributions and offering reduced-price sales and loans. During the eighteenth century, salt merchants were among the principal supporters of charity granaries. The Jiangnan salt merchants, for instance, gave 240,000 taels in 1726 to fund charity granaries. In the following year the Liang-Huai salt merchants established thirteen charity granaries. The reserves of the Liang-Huai granaries totaled 172,300 *shi* in 1747 and grew to the sizable sum of 456,300 *shi* in 1759.<sup>66</sup> In Jiujiang and Hankou, salt merchants in the mid-1720s also established urban charity

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<sup>65</sup> For Shandong, see chapter 10. For Jiangsu, see Li Hu, “Zhuoding shezhang zhangcheng shu,” in *JSWB*, 40.30a–32a; Jiangsu governor Li Hu, *ZP, CZCC*: QL 35/12/14.

<sup>66</sup> Liang-Huai acting salt administrator Jiqing, *ZP, CZCC*: QL 12/10/22; Liang-Huai salt administrator Gaoheng, *ZP, CZCC*: QL 25/3/28. See also Liu, “A Reappraisal,” 314.

granaries. Merchants in other lines of business also contributed money and grain to charity granaries. In 1745, Governor Yan Sisheng of Hubei solicited contributions from merchants in the salt, rice, wood, cloth, and medicine trades to build charity granaries in the Wuhan area. Twenty-five years later, the two charity granaries established there each reported reserves of 12,000 *shi*.<sup>67</sup> Another example comes from Anhui, where the famous Huizhou merchants established a charity granary in their native prefecture with contributions totaling 30,000 *shi* by 1773.<sup>68</sup>

Quite different from these efforts was the approach used by Nasutu, the governor-general of Zhili, and Fang Guancheng, provincial treasurer, to promote charity granaries. In the years following a major subsistence crisis in the southern part of the province, these two distinguished officials diligently searched for methods to increase the amount of grain stored in rural areas of Zhili. In 1746 Nasutu suggested taking part of the grain tribute and distributing it to areas without adequate reserves.<sup>69</sup> In the following year he noted that 70 to 80 percent of the community granaries in Zhili were located near ever-normal granaries; far too few were dispersed throughout the countryside where they were really needed. He thereupon suggested creating more charity granaries in the countryside to collect contributions and make loans. These charity granaries were generally to be operated along the same lines as community granaries, with the important difference that, unlike community granaries, the former were to give out famine relief, which rendered them more vulnerable to rapid depletion of reserves.<sup>70</sup>

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<sup>67</sup> Hubei governor Yan Sisheng, ZP, CZCC: QL 10/3/30; Hubei governor Chen Huizu, ZP, GZD: QL 027722 (38/12/30), QL 033042 (42/11/2), and QL 036872 (43/11/22): all list 12,000 *shi* for each granary; this repetition of figures suggests that they represent the original deposit, not the real operations.

<sup>68</sup> Anhui governor Pei Zongxi, ZP, CZCC: QL 38/5/20.

<sup>69</sup> Muramatsu Yūji, in "Shindai no gisō," gives a chronology of this effort; *Gaozong shilu*, 276.17a–18b, quoted by Muramatsu.

<sup>70</sup> Zhili governor-general Nasutu, ZP, CZCC: QL 12/1/2.

Fang Guancheng, who became governor-general of Zhili in 1749, outlined the dimensions of the Zhili charity granary system in set of maps with explanations entitled *Jifu yicang tu* (Maps of Zhili Charity Granaries). A total of 1,005 granaries were to be established to serve 39,687 villages. In the vast majority of Zhili counties, charity granaries were to be no more than fifteen to twenty *li* from each village.<sup>71</sup> We do not know how many of these charity granaries were in fact established. Gazetteer data from four counties in the metropolitan prefecture of Shuntian, which indicate that the counties had only twenty charity granaries between them, suggest less than complete success. Although Fang Guancheng's plan may well have exceeded his accomplishments, total reserves in charity granaries certainly increased, perhaps even doubling from 200,000 *shi* in 1749 to roughly 400,000 *shi* in the 1770s and 1780s. Charity granaries thus became an important component of the Zhili civilian granary system in the second half of the eighteenth century.<sup>72</sup> The success of charity granaries in Zhili can be explained by the activism of two outstanding officials and, more generally, by the central government's concern for the administration of the capital province.

The implementation of rural charity granaries in Zhili quickly inspired comparable efforts in other provinces but with far less spectacular results. The governor of Shandong, Zhuntai, confessed in the autumn of 1748 that efforts made since the previous year to implement charity granaries along the lines suggested by Fang Guancheng had produced only meager reserves, the amounts of which he did not even bother to report.<sup>73</sup> Nevertheless, in 1749, the emperor issued an edict

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<sup>71</sup> The above description is based on Fang Guancheng, *Jifu yicang tu*, "Yicang guitiao" (Charity Granary Rules), 1.9a–15b.

<sup>72</sup> The gazetteer data are cited in Sato Shunichi and Sugehara Isao, "Kenryū shoki no Junten fu no gisō ni tsuite." See chapter 9, table 9.11, for figures on Zhili charity granary reserves. Since the final balance figures for Zhili charity granaries include accumulated arrears, the levels of real reserves are always lower, though how much lower is never clear. See chapter 8 for an analysis of the accounting system.

<sup>73</sup> Shandong governor Zhuntai, ZP, CZCC: QL 13/10/26; see also chapter 10.

extolling the advantages of charity granaries.<sup>74</sup> He also ordered the governors of Henan, Shaanxi, Gansu, and Shanxi to consider copying the charity granary idea.<sup>75</sup>

The governor of Henan, Shuose, argued that in his province community granaries had already mobilized as many contributions as the people would give; the adoption of charity granaries would add another name but would not produce larger reserves. The governor of Shaanxi, Xu Qi, declared that his province had no need for charity granaries, because community granaries in Shaanxi, unlike those in other provinces, provided famine relief as well as loans and were therefore similar to the charity granaries in Zhili; moreover, since community granaries were presently undersupplied, charity granaries were unlikely to receive many grain contributions. The governor of Gansu, Huang Tinggui, reported that previous appeals for contributions had produced only 43,900 *shi*. Fearing that an effort to promote charity granaries would only cause trouble and not produce positive results, he favored continued development of community granaries. Of the northern provincial governors instructed to consider charity granaries, only the governor of Shanxi, Aibida, supported the idea.<sup>76</sup>

## CONCLUSIONS

Between 1736 and 1780, the Qing granary system expanded in size and its operations became more routinized. In tandem with the growth in ever-normal granary reserves came some general changes in the mobilization and disbursal of reserves. During the 1730s and 1740s, frequent disbursals of grain by ever-normal granaries were supported by a complex network of grain mobilization and transfer techniques. Official fears regarding spoilage were assuaged by frequent distribu-

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<sup>74</sup> Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 118.

<sup>75</sup> *Gaozong shilu*, 283.3a.

<sup>76</sup> Shaanxi governor Xu Qi, ZP, CZCC: QL 12/3/7; Henan governor Shuose, ZP, CZCC: QL 12/3/10; Gansu governor Huang Tinggui, ZP, CZCC: QL 12/4/11; Shanxi governor Aibida, ZP, CZCC: QL 12/2/7.

tion, and restocking problems were less serious than they would become. In some provinces, community and rural charity granaries began to complement ever-normal granary operations by the 1740s or 1750s. However, the official activism necessary to sustain the scale and scope of granary operations achieved in the 1740s and 1750s met with increasing opposition. Some officials questioned the need for regular distribution by ever-normal granaries while others worried about the effects of restocking purchases on food supply conditions.

Less frequent distribution by ever-normal granaries became more attractive as the range of mobilization techniques began to contract in the 1760s. The reduction of ever-normal granary activities was balanced by community granary expansion, which required the development of official abilities. The bureaucratic monitoring of private actions partially replaced direct public operations. The contraction of mobilization techniques in the 1760s enhanced the importance of restocking through purchase, which in turn reinforced the desirability of reducing distribution but at the same time increased the potential for spoilage. Alternatively, officials could continue to make granary disbursals and amass silver instead, but then would have to confront the problem of burgeoning deficits. In either case, community and charity granaries presented important alternatives to ever-normal granary disbursals.

By the 1780s, the granary system was simultaneously suffering from rotting reserves in some areas and from official failure promptly to replace disbursed grain in others. After guiding as much as half a century of large-scale and frequent activity in many parts of the empire, officials were becoming less willing to make the increasingly arduous efforts required to sustain the granary system.



## **Decline and Its Opposition, 1781–1850**

R. Bin Wong

That the eighteenth-century granary system's operations could not be sustained indefinitely comes as no surprise. Our general ideas about dynastic decline prepare us at this juncture for evidence of impaired abilities to stabilize food supply conditions. The bureaucratic burden of continuously maintaining a complex set of large-scale activities had never been easy, and it got even harder. Major political and social changes external to the system placed new constraints upon granary policies. Yet, even with growing problems the granary system continued to make an impact on civilian food supply conditions during the first half of the nineteenth century.

### **EVER-NORMAL GRANARIES: BUREAUCRATIC CORRUPTION AND FISCAL CONSTRAINTS**

Officials had previously taken granary efforts seriously for two reasons. First, some of them genuinely believed in the importance of granaries.

For others, a second reason was probably more compelling—systemic pressures to intervene, coupled with the threat of punishment for failure to do so. In the 1720s and 1730s, the Yongzheng emperor personally scrutinized granary operations, as he did all other bureaucratic behavior; his intense interest in official efforts and his readiness to berate officials for what he considered failures partially explain the development of granary operations beyond the levels achieved in the late Kangxi period. The principles of bureaucratic oversight introduced by the Yongzheng emperor became the basis of accounting and control procedures that were widely adopted for granary management in the Qianlong period. Our treatment of these procedures will come in Part II. For the moment we simply note that officials recognized that performance in subsistence matters played a significant role in evaluations of their work and overall career possibilities.

However, there are clear signs that the capacities of the granary system and the commitments of officials to state food supply intervention were both in decline by the 1780s and 1790s. Criticism of regular intervention had been made since mid-century, and some reductions in granary operations had already taken place by the 1760s and early 1770s. The 1770s and 1780s brought other reasons to take granary efforts less seriously. Working hard at granary operations specifically, and governmental matters more generally, likely made less sense as Heshen's control over factionalized bureaucratic politics became more encompassing during the late eighteenth century. Though more empirical work on appointments and factionalism remains to be done, it seems reasonable to conjecture that career possibilities during Heshen's period of dominance were shaped more strongly by factional ties than by relatively objective evaluations of performance. Some officials of the period certainly believed that a decline in morale and the spread of a self-interested cynicism were taking place.<sup>1</sup>

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<sup>1</sup> Wang Huizu, for example, perceived a decline in morale from the perspective of the private secretary's profession. After remarking on how well private secretaries used to behave, he complained, "When I reached the age of thirty-seven or thirty-eight (i.e., 1767–1768) it was still like this; but shortly thereafter, people became slightly more flexible and compromising. A few years later, a man who remained personally upright was

But did a decline in morale lead inevitably to diminished bureaucratic capacities? To some degree, yes. The question is to what degree. With respect to granaries, we can still find examples of interprovincial transfers as well as distribution within counties. But they are less common than those found in the archival record of previous decades. In 1787, for instance, military demands for grain caused by disturbances in Taiwan coupled with disbursals to civilians caught in a serious subsistence crisis in Fujian to prompt orders in Sichuan, Hubei, Hunan, and Jiangxi for shipments of granary reserves. Several fleets of boats were organized, each comprising several hundred private vessels. Total shipments reached several hundred thousand *shi*. Decisions on where to mobilize grain, where to transship, and how to apportion the transportation costs involved many provincial and county officials.<sup>2</sup> The state was clearly still capable of organizing movements of large amounts of grain over long distances.

Such extraordinary efforts notwithstanding, the decline of evidence on the size and frequency of granary operations suggests a contraction of granary operations themselves. Many of the statistics related to reserves for this period are suspect; the divergence of figures and reality that will be examined closely in chapter 8 leads us to question how carefully the system was being maintained. In formulating a preliminary answer, we can look to some of the more reliable data on late eighteenth-century granary reserves, disbursals, and deficits.

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regarded as unrealistic and impractical. It is difficult to swim against the current. Finally it became so bad that they made a trade of their influence and business was arranged by bribery, and men formed cliques and alliances to protect one another. Not even two or three out of ten behaved uprightly. New men entering this profession would usually pick up these evil ways from their mentors and would not know any better" (Balazs, *Political Theory and Administrative Reality*, 68–69).

<sup>2</sup> Huguang acting governor-general Bi Yuan and Hunan governor Jiang Sheng, ZP, GZD: QL 051397 (52/7/22); Liang-Jiang governor-general Li Shijie, ZP, GZD: QL 051401 (52/7/24); Jiangxi governor He Yucheng, ZP, GZD: QL 051432 (52/7/28) and QL 051545 (52/8/13); Hunan governor Pu Lin, ZP, GZD: QL 051557 (52/8/16) and QL 051596 (52/8/22); Jiangxi governor He Yucheng, ZP, GZD: QL 051748 (52/9/12) and QL 051749 (52/9/12); Hunan governor Pu Lin, ZP, GZD: QL 051775 (52/9/16).

When we focus on deficits, the gaps between ideal and real reserves already seen in earlier decades are now larger and more widespread. But if we consider the size of real reserves, the state's continued commitment and ability to raise new reserves well into the nineteenth century is also clear. Once again, our choice of measures determines the character of our evaluation.

Our research on the status of reserves in Hubei and Gansu in the 1780s indicates that the deficits were large and that officials made major restocking efforts and considerable disbursements. In Hubei, a deficit of nearly 1,000,000 *shi* was discovered in the mid-1780s. Restocking purchases made in 1787 were quickly used for flood relief provided in 1788. It is unclear how much grain was actually in stock by the 1790s.<sup>3</sup> In Gansu, a major scandal uncovered in 1781 that concerned false contributions was followed by allocations of official funds for grain purchases in 1783, 1784, 1785, and 1787. In 1784, for instance, 967,000 *shi* were purchased to raise total reserves to 2,497,000 *shi*. Disbursements of 590,000 *shi* in 1785 once again dropped reserves to less than 2,000,000 *shi*, the level at which they again stood in the autumn of 1789, when actual stocks totaled 1,900,000 *shi* and deficits exceeded 2,200,000 *shi*.<sup>4</sup> These cases from the 1780s recall similar examples from the previous two decades; official efforts to reduce deficits and to make disbursements continued.

When the Jiaqing emperor took the throne in 1799, he called for a careful review of granary accounts across the empire. In subsequent years he learned just how serious the impact of the White Lotus Rebellion had been on granary reserves in the provinces affected by the fighting. In Shaanxi at the end of 1805, 2,459,930 *shi* needed to be replaced; 600,000 *shi* of wheat were to be bought in 1807 and another 800,000 *shi* in 1808. We do not know how much grain was actually purchased, but judging from Hubei's limited success in replacing

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<sup>3</sup> Huguang governor-general Bi Yuan and Hubei governor Huiling, ZP, GZD: QL 057997 (54/8/5).

<sup>4</sup> Shaan-Gan governor-general Lebao, ZP, GZD: QL 058243 (54/9/13); Shaan-Gan governor-general Fukang'an, ZP, CZCC: QL 50/9/13. See chapter 7 on the Gansu scandal.

smaller amounts, it is not easy to believe that Shaanxi officials actually achieved their aims.<sup>5</sup>

In 1801 the governor of Hubei stated that it was impossible to know exactly how much grain was available because the war had put the granary accounts into such disorder.<sup>6</sup> At the close of the rebellion in 1804, officials were facing a deficit in excess of 1,000,000 *shi*. It was decided to recoup this deficit within three years, but floods and droughts in several prefectures made this an impossible goal. Although 227,000 *shi* were bought in 1806, an outstanding deficit of 1,180,600 *shi* was recorded at the end of 1807, when it was decided to discard the triennial plan for restocking and to purchase only 150,000 *shi*, despite favorable harvest reports.<sup>7</sup> Nine years later, reserves were reported to be roughly 900,000 *shi*, about the same as was noted in 1804 and more than 1,000,000 *shi* below the theoretical quota of 1,919,000 *shi*. By late 1814 the much lower figure of 455,520 *shi* was reported by Governor Zhang Yinghan. Thus, ten years after the White Lotus Rebellion, not only had restocking in Hubei failed to raise reserves, but additional sales and relief disbursements had actually lowered them.<sup>8</sup> From the vantage point of available reserves, the situation appears to have improved by 1822, when the deficit was reported to be only 533,029 *shi*, but by 1842 it had risen again to 804,037 *shi*. Nothing had been purchased since 1838, and the expected restocking for 1842 was only 40,000 *shi*. By 1844 the deficit had swollen to 1,278,000 *shi*, and a year later it was even larger. The purchase of 99,000 *shi* in 1845 and a projected purchase of 30,000 *shi* in 1846 could hardly dent a deficit of more than 1,000,000 *shi*.<sup>9</sup> Real reserves remained small because continued civilian loans and sales, the

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<sup>5</sup> Shaanxi governor Fang Weidian, ZP, *GZD*: JQ 011069 (13/5\*/20).

<sup>6</sup> Hubei governor Quanbao, ZP, *GZD*: JQ 009099 (7/10/26).

<sup>7</sup> Huguang governor-general Wang Zhiyi and Hubei governor Changming, ZP, *GZD*: JQ 012121 (13/10/2).

<sup>8</sup> Huguang circuit censor Kuichang, ZP, *GZD*: JQ 017392 (19/8/28); Hubei governor Zhang Yinghan, ZP, *GZD*: JQ 017466 (20/1/6).

<sup>9</sup> Hubei governor Zhao Bingyan, ZP, *GZD*: DG 007093 (22/11/12) and DG 009751 (26/11/24).

diversion of grain to the military, and grain shortages uncovered during special inquiries or post-transfer audits could not be fully replenished. In spite of the restocking efforts made after the major disbursals associated with the White Lotus Rebellion, the net result was a gradually growing deficit.

This case can be read as an example of government failure. But at the same time, officials were still drawing on granary reserves for civilian disbursals. If we judge the granaries by their capacity to influence food supply conditions, those in Hubei still showed modest signs of effectiveness. If, however, we stress deficits, the Hubei granaries tumbled ever deeper into crisis. The realities of granary management can best be understood by an evaluation that takes in both perspectives.

It would be easy to generalize from the experiences of Shaanxi and Hubei. But to declare that granaries were fatally plagued by ever-growing deficits would be an overdramatization of the problems facing the Qing granary system in the late eighteenth and early nineteenth centuries. The difficulties seen in Hubei and Shaanxi arose from a combination of new military demands and continued civilian demands on the system. In other provinces, officials succeeded in rebuilding reserves during the Jiaqing and Daoguang reigns. For instance, we know that by 1798 Guangxi had accumulated a deficit of 721,566 *shi*. In 1799 and 1800, 481,044 *shi* were mobilized, and an additional 173,620 were collected in 1801. In 1816, a deficit of 564,800 *shi* was targeted for restocking over the next four years, and to this end 422,000 *shi* had been purchased by 1820. Restocking was completed with purchases of 64,600 and 78,090 *shi* in 1820 and 1821, respectively.<sup>10</sup> The repeated growth and contraction of the Guangxi deficit suggest both continued commitment of resources to the purchase of grain and continued willingness to distribute these reserves in times of need. Large amounts of grain were mobilized, even if some deficits were not recouped. For example, according to an investigation which took place in 1795,

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<sup>10</sup> Guangxi governor Xie Qikun, ZP, CZCC: JQ 5/10/16; Guangxi governor Ye Shaokui, ZP, CZCC: JQ 23/11/10; Guangxi governor Zhao Shenzhen, ZP, CZCC: JQ 25/11/28.

deficits in Fujian amounted to 2,146,500 *shi*. Between 1796 and 1799, 880,000 *shi* were purchased. By 1810 a total of 1,250,000 *shi* had been bought. By 1822 total purchases reached 1,780,000 *shi*; six years later the total was 1,840,000 *shi*.<sup>11</sup> These efforts helped to rebuild granary reserves that had sunk as low as 200,000 *shi* in 1795. Purchases were not made every year and the deficit was never cancelled, but the Fujian experience shows that officials could still mount large-scale restocking efforts, with results as positive as those achieved in the mid-eighteenth century when the system was extremely active in Fujian.

The size of reserves also often reached levels comparable to those attained in the eighteenth century. In Guangdong, for example, deficits of 2,446,539 *shi* were reduced by half over a seventeen-year period. The purchase of 1,240,050 *shi* by 1812 had produced reserves equivalent to those the province had maintained in the second half of the eighteenth century.<sup>12</sup> In Anhui, restocking purchases ranging from 78,000 to almost 200,000 *shi* were made in 1811, 1813, 1818, and 1819. In 1828 a decision was made to purchase 680,000 *shi* over the following several years, but only small amounts were collected: 54,480 *shi* in 1829, 25,510 *shi* in 1830, nothing from 1831 to 1833, and 63,105 *shi* in 1834.<sup>13</sup> Despite unfavorable weather conditions that restricted grain availability, the fact remains that purchases were made. Moreover, as in Guangdong, total reserves remained at the same average levels as those common in the second half of the eighteenth century. The restocking of granaries was neither smooth nor swift. But officials continued to make the effort. The same basic theme comes through in Shandong

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<sup>11</sup> Min-Zhe governor-general Yude, ZP, CZCC: JQ 5/11/5; Min-Zhe governor-general Jin Jiaozeng, ZP, CZCC: JQ 24/11/11; Min-Zhe governor-general Sun Erzhun and Fujian governor Han Kejun, ZP, CZCC: DG 8/11/16 and DG 9/10/29.

<sup>12</sup> Liang-Guang governor-general Ruan Yuan and Guangdong governor Kang Shaoyong, ZP, CZCC: DG 1/3/13; Liang-Guang governor-general Li Hongbin and Guangdong governor Chengge, ZP, CZCC: DG 8/2/17; Liang-Guang governor-general Songjun and Guangdong governor Han Feng, ZP, CZCC: JQ 16/8/10.

<sup>13</sup> Anhui governor Kang Shaoyong, ZP, CZCC: JQ 24/5/28; Anhui governor Deng Tingzhen, ZP, CZCC: DG 8/9/17, DG 10/4\*/27, and DG 15/6/24; Anhui acting governor Seboxing'e, ZP, CZCC: DG 16/10/10.

memorials written between 1801 and 1816, when a steady restocking program cut the deficit by one-third, from 1,874,000 to 1,273,698 *shi*. Between 1816 and 1828, this amount was further reduced by half, leaving only 628,186 *shi* outstanding by the latter date.<sup>14</sup>

In short, the Shandong case, along with the examples of Anhui, Guangdong, Fujian, and Guangxi, demonstrates continued official ability and willingness to maintain granary reserves. Once again, we see a pattern of years of disbursals followed by years of effort to replenish the granaries. In the nineteenth century, restocking programs often may have taken longer and been less successful than had been the case in preceding years, but the same basic alternation between disbursals and restocking remained the pattern in at least a few provinces. The indisputable evidence of efforts to maintain and utilize granaries is more surprising than their increasingly limited success, since our general expectations of dynastic decline tend to induce us to focus more on obvious failures than on substantial efforts and modest accomplishments.

For a look at what was happening below the provincial level, we turn to a manuscript register of county-level granary figures for Henan, which records for each county the amounts of grain purchased from and returned to ever-normal granaries during the Daoguang reign. Other sources report that a deficit of 1,116,000 *shi* in the mid-1820s was almost entirely overcome by 1838 through annual purchases totaling 905,000 *shi*.<sup>15</sup> In the 79 of 103 counties for which the register provides reserve levels during the Qianlong-Jiaqing period, those for the Daoguang period are always greater. This strongly suggests that the process of restocking, begun in the Jiaqing period, continued through

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<sup>14</sup> Shandong governor Huiling, ZP, CZCC: JQ 5/10/15; Shandong acting governor Yang Zhixin, ZP, CZCC: JQ 12/9/16; Shandong governor He Shunwu, ZP, CZCC: JQ 23/10/18; Shandong governor Qian Zhen, ZP, CZCC: JQ 25/8/2; Shandong governor Qishan, ZP, CZCC: DG 8/9/28.

<sup>15</sup> Henan governor Yang Guozhen, ZP, CZCC: DG 9/2/8, DG 9/10/2, DG 10/2/19, and DG 12/3/7; Henan governor Guiliang, ZP, CZCC: DG 16/4/23; Henan governor Niu Jian, ZP, CZCC: DG 20/4/21.

much of the Daoguang reign and affected most counties. Of those 24 counties for which there are no figures from the Qianlong-Jiaqing period, only one has a total greater than the simple sum of the restocking efforts; in other words, 23 counties may have had empty granaries at the beginning of the Daoguang reign. Looking at the 79 counties for which both Qianlong-Jiaqing figures and totals for restocking during the Daoguang reign are available, we find only one exception to the uniform reporting of current totals that are the simple sums of stocks from the previous period plus restocking efforts.<sup>16</sup>

Henan's general pattern of substantial restocking with few apparent disbursements and the Hubei/Shaanxi program of combined restocking and disbursements represent two of the three basic patterns of ever-normal granary activity. The third, disbursements with few restocking efforts, will be examined in chapter 11, our case study of Hunan. None of these patterns was new in the nineteenth century. What had changed from eighteenth-century practices were the provincial levels and frequency of granary activity, which fell, and rates of spoilage, which rose. The decline cannot be traced in detail because there are fewer nineteenth-century memorials in the archives that describe granary operations. Moreover, the dubious reliability of the annually reported final-balance figures for the early nineteenth century precludes confident assertions about absolute levels of reserves. We can, however, indirectly estimate the relative levels of provincial granary activity by assuming that standard deviations from a ten-year moving average of final-balance reserves reflect, to some extent at least, levels of granary activity, correcting for the impact of trends.<sup>17</sup> In other words, changes in final-balance figures were largely generated by differences between

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<sup>16</sup> See *Henan geshu changpingcang Daoguang nianjian zhenghuan maibu gushu caoce*, held by the Beijing National Library.

<sup>17</sup> Since deviations from a ten-year moving average minimize the impact of trends on the measures, we can more easily compare levels of use through years of growth, stability, and decline and among provinces in which final-balance reserves have different trends. Other reasons for using deviations include discovery of arrears and hidden deficits. Peter Perdue kindly performed the calculations.

mobilization and distribution from one year to the next. High levels of both mobilization and distribution recorded for the same year would not engender much change between final-balance figures, but since granaries rarely matched distribution and restocking within the same year, some granary activity is captured by changes in final balances.

In table 4.1 we see that standard deviations from ten-year moving averages are smaller in each province in our third period. The very small difference in reserves from year to year in the nineteenth century suggests that reserves were infrequently distributed or restocked. Alternatively, whatever distribution and restocking might have taken place was not entered into these final-balance figures.<sup>18</sup> To the extent that changes in annual reserves give us information about both disbursements and restocking—which they do when disbursements and restocking took place in different years—the standard deviation measure suggests, in general, that provinces which in the eighteenth century were demonstrating higher degrees of granary activity had begun, by the nineteenth century, to experience reductions larger than those faced by provinces in which granaries had been relatively less active. For instance, the rates of granary activity in the upper and middle Yangzi provinces shift from the bottom third of all provinces to the top half; while Hubei stays in fourth place, Hunan moves from twelfth to third, Sichuan from fifteenth to fifth, and Jiangxi from sixteenth to tenth. Two provinces experience rather drastic declines: Zhili moving from third to eleventh place and Fujian from eighth to twenty-first. No other provinces experienced such dramatic shifts. Thus, it appears that granaries in those parts of the empire with the greatest surpluses of grain were being increasingly utilized, in relative terms, even as the level of granary activities declined in absolute terms.

Amidst these changes, the choices officials faced with respect to tolerating spoilage, pushing distribution, or storing silver instead of grain were basically the same as they had been in previous decades. Censor Yang Zhao argued in 1802 that the frequency of reduced-price

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<sup>18</sup> For instance, the Henan final-balance figures do not appear to include consistently the restocking recorded in the register cited in note 16 above.

Table 4.1. Variations of Final Balance Figures from Ten-Year Moving Averages

Province	1740–1856			1740–1795			1812–1856		
	SD	Mean (million <i>shi</i> )	Rank	SD	Mean (million <i>shi</i> )	Rank	SD	Mean (million <i>shi</i> )	Rank
Henan	0.397	3.177	1	0.542	3.722	1	0.208	2.726	1
Gansu	0.301	1.634	2	0.400	2.166	2	0.170	1.169	6
Hubei	0.255	1.181	3	0.307	1.348	4	0.187	1.011	4
Zhili	0.246	1.512	4	0.343	2.339	3	0.087	0.745	11
Shandong	0.244	1.463	5	0.302	1.774	5	0.170	1.160	7
Fujian	0.243	2.166	6	0.253	2.225	8		1.455	21
Zhejiang	0.242	1.979	7	0.279	2.009	6	0.206	1.954	2
Hunan	0.211	1.584	8	0.216	1.664	12	0.205	1.502	3
Anhui	0.211	1.605	9	0.254	1.385	7	0.153	1.830	8
Guangdong	0.190	3.246	10	0.225	3.091	11	0.138	3.425	9
Sichuan	0.189	3.428	11	0.202	2.852	15	0.175	4.047	5
Shaanxi	0.180	1.778	12	0.252	2.074	9	0.078	1.524	13
Shanxi	0.180	1.858	13	0.244	1.980	10	0.074	1.735	14
Guizhou	0.159	1.759	14	0.211	1.574	13	0.068	1.957	15
Jiangsu	0.158	0.882	15	0.211	1.191	14	0.054	0.541	16
Jiangxi	0.150	1.615	16	0.191	1.712	16	0.102	1.534	10
Fengtian	0.115	0.374	17	0.164	0.630	17	0.050	0.168	17
Guangxi	0.102	1.666	18	0.150	1.565	18	0.027	1.745	18
Wulumuqi	0.073	0.737	19		0.796	21	0.080	0.700	12
Yunnan	0.025	1.350	20	0.030	1.483	19	0.017	1.228	19
Jilin	0.004	0.025	21		0.007	20	0.005	0.029	20
Total	2.271	33.296		2.735	36.142		1.790	30.635	
Average SD:	0.185			0.251			0.113		
Rank Correlation:						0.944			0.845

**Sources**

Provinces: *Minshu gushu* memorials (see sources for appendix tables A.1 and A.2); Total: values for national grain reserves as given in the *Veritable Records (Shilu)* at the end of each year.

**Notes**

SD = Standard deviation of the difference between annual data and the ten-year running average, for the indicated range of years. Higher values indicate greater amounts of year-to-year variation.

Average SD = Average of provincial variations.

A blank space means fewer than twenty values available.

The following modifications have been made to the original data files: Guizhou, 1855: data excluded as far out of line; Henan, 1823, 1824 values of 0.329, 0.324 interpreted as clerical errors for 3.29, 3.24 million *shi*. Zhili, 1846 value of 0.071 interpreted as clerical error for 0.71 million *shi*.

sales should be directly related to storage conditions (once again, the fear of spoilage), but instead of advocating annual distribution, he suggested that reduced-price sales be made once every three to six years. His suggestion was a compromise between previous regulations and the new rule in 1799 that limited disbursements to years of natural disasters and had led to problems of grain spoilage in Henan and Shaanxi in 1806 and 1808, respectively.<sup>19</sup> The Jiaqing emperor was well aware of the difficult policy choices he faced. He noted in 1806 that the decision to limit distribution to years of disaster reduced opportunities for official mismanagement but raised rates of spoilage. He therefore reiterated the desirability of effective and flexible management of granaries. Unfortunately, clarity about the problems was not the same as having the capacity to solve them.<sup>20</sup> In general, granaries were less engaged in routine interventions and increasingly depleted through extraordinary uses, so that restocking could not be financed by receipts from sales.

We might have expected this reorientation of the system—in the direction of ameliorating extraordinary crises and responding to substantial military demands, such as those generated by the White Lotus and Vietnam campaigns—to have spelled the end of effective granary maintenance. But this was not the case. The state continued to allocate some resources to the granary system. Granaries were still capable of making an impact on civilian food supply conditions, even if official influence was no longer as broad and deep as it once had been.

#### COMMUNITY AND CHARITY GRANARIES

Another important sign of the narrowed scope of state activism was the gradual cessation of regular official monitoring of community and charity granary accounts. The eighteenth-century success of commu-

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<sup>19</sup> Yang Zhao, “Changpingcang gu zhangcheng shu,” in *JSWB*, 40.1a–4a; Shaanxi governor Fang Weidian, ZP, *GZD*: JQ 012367 (13/11/4). On the 1799 rule, see chapter 6.

<sup>20</sup> Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 147, quoting from the *Veritable Records*.

nity and charity granaries was delicately built upon a foundation that included official encouragement and monitoring. Without official interest and effort, community granaries would never have been built up and incorporated into the larger granary system. As we have seen, officials were actively promoting community granary growth in a number of provinces as late as the 1770s. Indeed, some of the largest provincial-level reserves were achieved at this time. But these successes were not without elements of frustration and signs of future failure.

By the 1780s, community granary reserves had become vulnerable to collapse for two reasons. First, the state's success in increasing the size of reserves in community granaries was not matched by an ability to monitor such large reserves. Second, provincial officials found community granaries an attractive source of funds for government projects. The initial decisions by several provinces to allocate receipts from sales of community granary reserves to public works were made before the central government felt the pressures of scarce resources. By the 1790s, however, fiscal surpluses were shrinking swiftly as community granary reserves in at least some provinces were being diverted to military use. In 1799 the dangers of official misuse outweighed the advantages of official oversight, at least in the eyes of the Jiaqing emperor.<sup>21</sup> His decision to free community granaries from official monitoring did not mean that officials never took self-interested advantage of community and charity granaries after 1799, but the decision did mean that only those granaries supported by people who were able and willing to fund and manage them were likely to survive.

In the Daoguang era, officials looked anxiously to community and charity granaries as substitutes for the increasingly ineffective evernormal granaries.<sup>22</sup> While officials repeatedly exhorted the people to form granaries, they generally took on little direct responsibility for securing

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<sup>21</sup> *Renzhong shilu*, 50.24b–26a.

<sup>22</sup> Officials played direct roles beyond those envisioned by the Jiaqing emperor but without the success of eighteenth-century officials. See Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 297–98.

the initial funds or managing the accounts. For instance, in 1823, Tao Zhu, then serving as governor of Anhui, promoted the establishment of charity granaries. His proposal called for each and every village to form a granary funded by contributions, to be used solely to support local villagers through years of poor harvests. He explicitly excluded officials from any role in the operation of these granaries because he believed that official involvement would only bring abuses.<sup>23</sup> Gazetteers with information on fifteen Anhui counties, dating from 1826 and later, fail to mention any such charity granaries. Tao Zhu's proposal does not seem to have met with much response. In one county, however, there were fourteen charity granaries, akin to those called for by Tao, funded and managed by local people. Each was endowed with land, the rental income from which supplied grain.<sup>24</sup> This suggests that the implementation of provincial-level directives such as Tao's was entirely dependent upon the good will and activism of district magistrates.

Donations of land to granaries in Anhui are one example of local initiatives that did produce granary reserves. Some efforts involved local officials; others did not. The general situation of local elites acting on their own initiative or together with local officials also characterized the nineteenth-century rural granary situation in rural Jiangxi. Local gazetteers from this period include few references to functioning community granaries. But in several counties charity granaries were established to take the place of defunct community granaries.<sup>25</sup> Similarly, the combination of local elite and local official efforts, at times in response to provincial exhortations, did produce some rural reserves in Hunan. Yunnan appears to be an unusual case in that rural granaries were established across the province.<sup>26</sup> Provincial officials were probably not well informed about rural granary development in most provinces. The absence of nineteenth-century memorials similar to

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<sup>23</sup> Tao Zhu, "Quan she yi cang zhangcheng shu," in *JSWB*, 40.56a–59a.

<sup>24</sup> For other examples, see the Hunan case study in chapter 11.

<sup>25</sup> Mori Masao, "Jūroku-jūhachi seiki ni okeru kōsei ni jinushi denko kankei," 73–76.

<sup>26</sup> See chapters 11 (Hunan) and 12 (southwest).

eighteenth-century reports of provincial-level rural reserves suggests that officials rarely collected data on rural reserves, which were generally smaller and less widespread than they had been in earlier decades.

In urban areas, there was a similar range of official initiatives and private action that produced stores of grain outside the ever-normal granaries. These granaries were often established by officials working together with merchants and gentry, as was the case in Suzhou, where in 1835 Lin Zexu promoted the founding of a charity granary. Other granaries relied entirely on merchant contributions, for example, the Tianjin “merchant granary” (*shangcang*), the proposed operations of which were to follow charity granary guidelines. Finally, some urban granaries, like those implemented by the governor of Hubei, Hu Linyi, were funded and managed by officials.<sup>27</sup>

The formation and maintenance of new urban and rural grain reserves in the first half of the nineteenth century suggest a diminished role for the state. But even if ever-normal granaries were no longer considered adequate, they nonetheless remained the single largest source of grain reserves. As we have seen, ongoing official efforts to manage ever-normal granaries in the nineteenth century demonstrate that a system of smaller size and reduced importance nevertheless continued to be maintained despite the increasingly urgent domestic and foreign problems confronting the bureaucracy.

The year 1850 is a convenient point at which to end our account of the granary system, since it is in the following decade that this institution specifically, and the state more generally, was jolted by devastating civil unrest. The granary system never recovered; the state, only partially. What reserves remained at this time were generally diverted to military use or distributed as relief during the 1850s and 1860s.<sup>28</sup> The growing fiscal crisis of the nineteenth century generally precluded the rebuilding of granary reserves, official energies being diverted to other

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<sup>27</sup> On Suzhou, see Muramatsu Yūji, “Shindai no gisō,” 171–77; and Yamana Hirobumi, “Shimmatsu Kōso shō no gisō.” The Tianjin case is described in *JSWBXB*, 43.4a–5b, the Hubei case in *JSWBXB*, 43.34a–35a.

<sup>28</sup> See materials in the *Huangchao shihuo zhi*.

problems. Just how limited official granary efforts became after 1850 is shown by an example from Fuzhou, where an 1859 memorial by the governor-general tells of a charity granary with very modest aims indeed. Apparently established in the 1820s under the control of the provincial treasurer with contributions made by gentry and officials, the granary now had little money to spend because of large military and militia expenses. The governor-general could only hope to purchase, at most, 40,000 *shi*.<sup>29</sup>

The profound difficulties confronting the Chinese state in the middle of the nineteenth century have formed the major focal point of historical analysis of domestic affairs; the issues of rebellion, in turn, have provided the vantage point from which historians have usually viewed important dynamics of nineteenth-century history. Studies of the late eighteenth and early nineteenth centuries often look for the antecedents of mid-century crises, while analyses of postrebellion China repeatedly stress the political resilience of the officials and elites who continued to rule the country. Our analysis of the granary system in this chapter suggests a double qualification with regard to the evaluation of prerebellion governmental capacities. First, the system's decline was initiated less by the crush of external circumstances than by the force of bureaucratic dynamics. Second, once begun, the granary system's steady deterioration did not preclude the mobilization and distribution of large amounts of grain; the state's capacities were not as completely compromised as we might be tempted to infer.<sup>30</sup> In postrebellion China, the absence of any national granary system signals

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<sup>29</sup> Min-Zhe governor-general Qingduan, ZP, *GZD*: XF 011358 (9/11/5).

<sup>30</sup> We do not mean to suggest the absurd idea that there was no dynastic decline, only that most accounts of the increasingly troubled nineteenth-century state stress the constraints on state actions to the exclusion of examining the choices and options open to officials. The reduction in active, coordinated use of granaries across provincial borders in the late eighteenth century is likely a part of the "turning point" in Qing history identified by Jones and Kuhn in "Dynastic Decline and the Roots of Rebellion," 161. Based on the writings of early nineteenth-century officials and scholars, they argue that the years from 1775 to 1780 mark an inflection point along the curve of state strength and power.

a significant departure from earlier decades, the survival of the imperial system and elites notwithstanding.

The initial contraction of granary activities can be explained largely as the result of an official decision that was based on a distinctly Chinese realization: that the tremendous bureaucratic efforts required to maintain the system could never foster the “ideal” system, and that this inevitable reality pointed to the moral failure of those responsible for carrying out technically and organizationally complex tasks. Rather than do a large job poorly, it was better to do a small one well. By stressing the bureaucratic dynamics of granary operations, we do not mean to suggest that the environment within which this complex set of institutions functioned did not change over time. Structural difficulties in maintaining the granary system were exacerbated by a more general set of problems related to demographic expansion, monetary inflation, and social instability. But the picture of dynastic decline painted in bold strokes in many “textbook” views of late imperial history may be overdrawn. Certainly, early nineteenth-century official efforts to rebuild granary reserves point to continuing viability of the financial and organizational capacities so essential to a complex bureaucratic system. The “decline” in granary management was not simply an unavoidable consequence of difficulties imposed on the system from outside; it was equally the result of a series of policy decisions intended to reduce state intervention in food supply management, decisions made and implemented for reasons quite apart from and temporally preceding the larger, and certainly more visible, political problems repeatedly discussed by historians of nineteenth-century China. Ultimately, benevolent methods of promoting social welfare to ensure social stability lost some of their appeal in the face of the dramatic political challenges posed by the mid-century rebellions.<sup>31</sup> The food supply priorities of the state shifted to provisioning large numbers of troops. Feeding the military had always been an important part of the state’s overall food

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<sup>31</sup> For a sample of gazetteer evidence on the disappearance of granaries after the Taiping Rebellion, see Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 177–95 and the table on 289.

supply concerns. But not until the mid-century rebellions did Qing military needs eclipse state efforts across the empire to manage the civilian food supply.

After the defeat of the rebel armies, the imperial restoration included no rebuilding of an empirewide system of grain reserves. At best, a smattering of provincial-level campaigns to build up reserves achieved modest success in a few provinces late in the nineteenth century. More commonly, the people were simply left to their own initiatives. Reliance on private efforts, which had earlier characterized community granaries, became a more general principle in the second half of the nineteenth century. Short of major subsistence crises, officials rarely responded to food supply problems, and granaries were never again an important element of food supply policy.

## Conclusion: A Cycle of Granary Operations

The development and decline of the Qing granary system suggest a cycle of activity, the apogee of which was the coordinated use of a variety of mobilization, transfer, and distribution techniques across much of the empire. The notion of a “cycle” is certainly useful, but the term should not suggest an organic process that naturally unfolds. The Qing civilian granary system was created by massive efforts consciously undertaken to promote popular welfare. The effectiveness of granaries was determined by policy choices made among competing alternatives and by the conditions under which policies were implemented. Their development and decline were determined by political decision making and its larger social and economic contexts. The Qing granary system was never a necessary feature of late imperial government. It was neither a carbon copy of earlier practices nor the mold within which practices after 1850 were cast.

During the late seventeenth and early eighteenth centuries, the mobilization of grain for ever-normal granaries was most often undertaken in northern provinces near the capital, while the clearest evidence of frequent disbursements comes from the southern provinces of Guangdong and Fujian. With increased coordination of grain transfers and distribution between provinces in the eighteenth century, reserves grew

all over the empire. Generally, the practice of disbursing reserves and replacing them created alternating phases of build-up and decline. Throughout the first two centuries of Qing rule, we can find firm evidence of the state's capacities and commitments to first creating and then maintaining the granary system.

Within the overall cycle of granary activity, there were a variety of provincial and local rhythms and particularities. Mid-eighteenth-century efforts to increase reserves across the empire were followed by different provincial responses to the difficulties of spoilage and deficits. There were also dramatic differences among provinces in the relative importance of different mobilization, transfer, and distribution techniques. Official activism at the local and provincial levels can explain much of the variation within the broad cycle: where officials displayed both interest and competence, granary operations were more likely to be successful. At the county level, the attitudes and resources of local elites might also become decisive factors in the success or failure of granary operations. Finally, granaries faced opportunities and demands created by specific economic conditions.

Yet the general tempo of change was dictated by central government abilities to arouse activism: the Yongzheng emperor personally encouraged and monitored official efforts, while control procedures elaborated most fully in the Qianlong reign influenced official behavior through much of the eighteenth century. By the late eighteenth century, incentives and constraints on official action no longer produced the same degree of activist behavior. The cycle of granary activity that we have reconstructed is therefore largely a political one, within which economic and social variations played subordinate roles.

Throughout these two centuries, management problems were common. Complaints about official abuses in the management of ever-normal granaries and about irregularities among community granary heads might easily, by themselves, lead us (as others before us) to conclude that granaries never really worked very effectively at all. We believe we have shown that this is simply not true. The complaints must be understood in broader perspective. They obviously call our attention to structural weaknesses in the system. But they were also the staples of

lively policy debates in which choices were made among alternative strategies for mobilization, transfer, and distribution of reserves. Official disagreement about how to maximize the benefits of granary distribution and minimize the problems of restocking and spoilage was expressed through criticism of policies. Ironically, perhaps, the types of complaints commonly encountered can also be taken as signs of success. The sophisticated challenges and inherent problems of coordinating the parts of an integrated system in the middle decades of the eighteenth century were as much the proof of success as they were indicators of imposing problems dooming the system to failure. Finally, what may be most significant about the charges of corruption and mismanagement is not their sheer number within the written record, but rather how the state reacted to the bureaucratic problems that gave rise to the charges. Viewing the situation from this perspective, we can distinguish several approaches to granary management taken by the state.

When the Yongzheng emperor came to the throne and embarked on his investigation of granaries, he discovered many half-empty buildings and, on occasion, no buildings at all. He repeatedly initiated efforts to restock and expand reserves to levels well exceeding those achieved in the previous decades. Upon his passing from the scene, his activist policies were at first built upon by the Qianlong emperor. But the latter soon became uncertain about the proper sphere of government activity, and in 1748 he expressed anxiety over rising grain prices across the empire. Many of the officials who responded to the emperor's call for explanations of this situation argued that excessive state purchases of grain, especially for ever-normal granaries, raised prices. Despite the subsequent reduction of quotas, however, real granary stocks did not in fact decrease. State purchases in particular may have been reduced somewhat for a brief time, but stocks in general continued to grow. The state, as we have seen, championed alternative methods, among them, diverted tribute and contributions, as well as the additional formation of, and increased reliance upon, community and charity granaries. Thus, concern over a particular state activity—in this instance,

purchases—resulted, not in a reduction of activity, but in a substitution of method.<sup>1</sup>

In the late eighteenth century there developed a greater degree of skepticism toward state activism generally. Officials distrusted the rules and regulations that had failed to prevent scandals in granary management in the northwest. Regulations could not guarantee good government, as proper Confucians had always known. In fact, too many rules and regulations might well make good government more difficult, because decision making would then become inordinately cumbersome. The late eighteenth-century solution to problems in granary management was to reduce the frequency, complexity, and size of disbursals by ever-normal granaries and to discourage regular and close official supervision of community and charity granaries. Routinized granary management (reinforced by scheduled and surprise audits) was replaced by extraordinary restocking and disbursal.

Unlike his grandfather's granary reforms, which basically meant expanded implementation of ever-normal and community granaries, the Jiaqing emperor's reform efforts meant diminished roles for officials, who became less involved on a routine basis with local food supply conditions. This change is exemplified by the charity granaries promoted by Tao Zhu. Some charity granaries, especially urban ones, did enjoy a modicum of official participation, but state support rarely played a singularly important role in their formation. The relatively

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<sup>1</sup> The subject of state reactions to high grain prices is larger than the specific issue of granary restocking. See Wong, "Political Economy of Food Supplies," 124–36, for a somewhat broader treatment of the subject. See also Dunstan, "High Grain Prices of 1748," who suggests that the Chinese state was experimenting in the 1740s and 1750s with "grain liberalism," that is, allowing the market freer rein in determining food supply conditions. The granary restocking strategies of the state qualify her picture of a shift to grain liberalism. The state did not, in fact, forsake efforts to influence market conditions so much as it broadened strategies to achieve supply stability. The late eighteenth-century decision to reduce granary operations at first glance seems a more likely example of the grain liberalism logic, but the reasons cited for reduced intervention stressed bureaucratic limitations and incompetence rather than the superiority of the market. Further discussion of these issues appears in chapter 9.

limited role of officials in Tao Zhu's charity granary scheme doesn't quite fit our usual expectations of early nineteenth-century reform efforts led by officials whose practical solutions to difficult administrative problems formed the "statecraft" (*jingshi*<sup>3</sup>) approach to government. When we think of Tao Zhu's salt monopoly reforms or Wei Yuan's work on the grain tribute system, we see an energetic dedication to attacking and resolving thorny organizational problems. We think of official penetration of complex problems, not of withdrawal from arenas of action previously regarded as important. But Tao Zhu's ideas about food supply management by the state, at least as reflected in his stress on charity granaries, show precisely such a withdrawal when compared to the types of official activism we see in the eighteenth-century development of community granaries. Nineteenth-century "statecraft" activism did not always address, let alone succeed in, the same areas in which eighteenth-century officials excelled.

There were two distinct dimensions to the late eighteenth- and early nineteenth-century decisions that led to the decline of the granary system. First, officials found more reasons to store money in place of grain. Second, officials found reasons to allow local elites a freer hand in managing local granary affairs. From a stress on government granaries during the high Qing, we witness a shift to increased reliance on private granary efforts and the use of money rather than grain as the overall amount of food supply intervention is reduced.

The decline of rural granaries exemplifies the tremendous difficulties the Qing state faced in building permanent public institutions that penetrated below the county level of government. The success of community granaries was certainly tied to the common interests of local officials and local elites in maintaining grain reserves, but it was the heat of provincial pressure that forged more durable links across larger areas. When this pressure was removed, linkages became brittle and sometimes broke. These changes in the organization and integration of granary operations were the result of conscious choices made in the midst of rapidly changing circumstances.

The nineteenth-century decline of granary operations should not blind us to the continuing capacity and willingness of officials to

intervene, albeit at reduced levels, in the management of the civilian food supply. Laboring under increasingly difficult circumstances, officials could still make granaries work. The structure created during the early and mid-Qing was shaken, but it did not collapse until after 1850.

## **Part II**

# **Structural Problems**



# Introduction

The institutional and historical overview given in the previous chapters both draws an impressive picture of the Qing civilian granaries and suggests the numerous problems with which the system was beset. The mid-Qing grain storage system was much more ambitious than any comparable storage program in Chinese history, not to mention that of other premodern civilizations. However, smooth management of reserves, once amassed, was hampered by all manner of difficulties, particularly with respect to ensuring a regular turnover of the stocks in order to avoid either excessive accumulation or gradual depletion.

As we have seen, while the problem of overstocking was characteristic of the 1740s and the 1750s, that of insufficient stores predominated (at least in bureaucratic discourse) from the 1760s on. By the late eighteenth and early nineteenth centuries, a number of new, exogenous factors had begun to compound the growing problems of rising prices, increasing population, and an indisputable decline in the reliability of the bureaucratic apparatus. First among these factors were various military campaigns, which not only led to the gradual exhaustion of the dynasty's financial surpluses but also caused large deficits in the civilian granary reserves of many provinces. To this must be added the heightened impact—in terms of demands for relief—of natural disasters, especially floods, due to the long-term deterioration of hydraulic conditions in the major basins. In spite of apparent efforts to rebuild

stocks during the first half of the nineteenth century, deficits were far from being erased completely, and, as has been noted in chapter 4, there is much evidence that the performance of the state storage system by this time was far below what it had been during the eighteenth century.

The object of the four chapters that constitute Part II, however, is to examine some of the structural, built-in constraints and difficulties with which granary management as organized in Qing times had to cope. Most troublesome, perhaps, were the physical problems of grain preservation and turnover. But there were also more managerial issues, such as recovering loans and replacing grain that had been sold to the population, given as free relief, or transferred to other areas. One important consequence of such problems was a basic dissatisfaction among magistrates with the whole process of granary management, and a growing propensity to avoid or limit, as far as possible, actual storage of grain; we will analyze and evaluate the complex and multilayered system of controls designed to ensure genuine compliance with the regulations and to prevent officials from neglecting their granary duties. Finally, a word will have to be said on the problems of accounting revealed through a careful examination of archival evidence.

As the reader will see, the tempo of the book slows significantly as we now embark on a thorough investigation of the daily routines of bureaucratic management—or, more accurately, of what is revealed of them in the sources to which we have access. If what follows at times appears rather complex, realize that it only reflects the intricacies of a massive bureaucratic operation and of the paperwork it entailed.

# Grain Preservation

Pierre-Étienne Will

In every latitude, storage of grain staples over extended periods entails a whole series of technological and organizational problems that demand resolution if massive losses, both qualitative and quantitative, are to be avoided.<sup>1</sup>

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<sup>1</sup> On the distinction between qualitative and quantitative losses, see, for example, Board of Science and Technology, *Postharvest Food Losses*, 13. Losses per se are defined as a “reduction in weight in the amount of food available for consumption.” Such weight losses are to be distinguished from what the same source calls “damage,” or qualitative loss, defined as “physical spoilage, often a partial deterioration or one subjectively judged and very difficult to measure,” which is “usually reported as a percentage of the food sample.” See also Hall, *Manutention et emmagasinage*, 18ff. and 29, for the notion of “quality,” which is defined in terms of appearance (uniformity of size and color of the seeds, consistency, amount of extraneous matter mixed with the grain), smell, taste, and so on. As we shall see, the qualitative/quantitative distinction must be borne in mind when examining spoilage in Qing granaries. We are indebted to François Sigaut of the École des Hautes Études en Sciences Sociales, Paris, for access to these two sources and for several ideas in the present chapter. We also wish to thank Florence Dunkel of the Stored Grain Insect Laboratory, University of Minnesota, for her comments on an earlier draft.

The immediate causes of losses include a number of chemical processes and biological agents, among them, the “respiration” and fermentation of grain; the multiplication of fungi and microorganisms; infestation by insects, birds, and rodents; and the secretion of unpalatable or even toxic substances by fungi and insects.

The basic factors affecting such destructive developments are heat and humidity, both of the atmosphere and generated by the mass of grain itself. Temperatures ranging from ten to forty-two degrees Celsius are readily conducive to the proliferation of insects that bore into the kernels to feed and to lay eggs. These eggs, in turn, develop into larvae that feed on the grain during maturation.<sup>2</sup> Peak rates of reproduction among the insect population are attained when the temperature reaches the thirties.<sup>3</sup> This activity of itself generates heat, thereby accelerating its own pace and creating ever more favorable conditions for the development of fungi. Humidity is circulated through the mass of grain by convection, induced either by the temperature differential between the outer atmosphere and the enclosed grain or by the creation of a biologically engendered “hot spot” inside the mass. Besides accelerating all kinds of biological activity, increasing the respiration of molds in the grain, inducing fermentation, and generating heat, the spread of moisture also has the important effect of softening the external envelope of the seed, making it more vulnerable to insects. The combined effects of heat and moisture are why “deterioration is minimal in cool, dry areas, more marked in hot, dry ones, high in cool and damp conditions, and very high in hot, damp climates.”<sup>4</sup> The last of these descriptions (hot and damp) applies to much of central and south China,

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<sup>2</sup> See, for example, the description of the rice weevil’s (*Sitophilus oryzae* L.) life cycle in Hall, *Manutention et emmagasinage*, 97.

<sup>3</sup> See Board of Science and Technology, *Postharvest Food Losses*, 52. At a temperature of 32C insects theoretically multiply fiftyfold each month. Thus, an initial population of fifty insects in a stock of grain could increase to 312 million in four months!

<sup>4</sup> Ibid.

while the first (cool and dry) and the second (hot and dry) are, generally speaking, characteristic of northwest and north China.

As a consequence of the factors just outlined, a whole range of precautions and special techniques is required if large amounts of grain are to be stored over long periods without sustaining heavy losses. Thorough and quick drying of the grain is essential to lower its moisture content to an acceptable maximum of 13 or 14 percent.<sup>5</sup> Threshing and shelling must be carefully executed in order to avoid damage to the outer envelope that protects the kernels against insects and fungi. The grain must be cooled before it is placed in storage bins and carefully inspected for quality, moisture content, and cleanliness. Thorough cleaning of the granary buildings and furnishings, inspection of old stocks, and separation of old and new stocks are essential to avoid insect infestation. Ventilation of the grain, critical to its maintenance, requires certain conditions of temperature and humidity. The reserves must be regularly checked to remove any spoiled sections and to ascertain whether additional drying is necessary. Precautions must be taken against birds and rats. And last, but not least, storage buildings must be waterproof, made of the best available isothermic materials, and equipped with proper ventilation devices.

#### CONTROLLING SPOILAGE: TECHNICAL IDEALS AND REGULATIONS

Yet despite these difficulties, it seems that the civilian granaries of late imperial China—without mechanical ventilation, chemical pesticides, concrete, plastic, and so forth—were enough, in theory at least, to keep grain spoilage at a rate of no more than a few percent per year.

To begin with, the texts documenting the construction of the large, rectangular structures called *cang* that were used for state grain storage suggest a remarkably perfectionist attitude toward the building of

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<sup>5</sup> At the time of harvest this content can reach more than 30 percent. Inability to dry the grain expeditiously renders it impossible to store “for any length of time” (*ibid.*, 68). On the risks of excessive sun-drying and of too-rapid drying of very moist grain, see *ibid.*, 50. See also Hall, *Manutention et emmagasinage*, 74ff.

granaries.<sup>6</sup> Although Qing administrative regulations do not provide much detail on this topic,<sup>7</sup> late Ming sources may be used as an indicator of the best technology available in premodern China—a technology that, in fact, seems to have been rather fully developed as early as the Han period.<sup>8</sup> The granaries described in these texts were sturdy structures occupying spacious grounds and erected on solid foundations. Walls were made of brick reinforced with iron fastening and an inner coating of plaster, planks, and mats (the latter incorporated for their

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<sup>6</sup> It may be noted here that another technology, namely, pit storage, perfectly adapted to the preservation of millet and wheat in the climate and soil conditions of north China, seems to have disappeared almost entirely (at least for large stocks) from the Mongol period on. Storage pits, which in China date from Neolithic times, were widely utilized for keeping very large quantities of grain up to the Tang dynasty. The imperial granaries at Luoyang, the later Tang capital, which had a reported total capacity of six million *shi*, consisted of large pits; more than 250 of these have been excavated so far. See Bray, *Agriculture*, 399–401. We would like to thank the author for allowing us to read her manuscript prior to publication. On the various storage techniques in ancient China, see also the text and plates in Jin Zuxun, *Zhongguo gudai liangshi zhucang*, passim.

<sup>7</sup> Except, perhaps, for the metropolitan granaries at Tongzhou and Beijing, which, although much larger than the local ever-normal granaries, were certainly built on the same principles. See *HDSL* (1899 ed.), 871, *gongbu* (Board of Works), *cang'ao* (Granary Buildings), *yingjian* (Construction) and *xiuqi* (Repairs) sections, passim.

<sup>8</sup> See Bray, *Agriculture*, section on “square granaries” (404–12), which is essentially based on the imperially commissioned agricultural encyclopedia *Shoushi tongkao* (see 57.3a–9b). This source reproduces two texts on *cang* building, both by late Ming officials: “Cang’ao yi,” by Zhang Chaorui (fl. ca. 1570), and “Jizhu tiaotian,” by Lü Kun (1536–1618). The former is, in fact, the section on buildings from a longer proposal on *changpingcang* which, according to the author’s suggestion, would be erected in the countryside and run by nonofficial managers, rather like community granaries. This proposal constitutes the larger part of chapter 45 in Xu Guangqi’s *Nongzheng quanshu* and is entitled “Jianyi changpingcang ao.” Lü’s text is reproduced in the same chapter. Zhang Chaorui’s section on buildings also appears as chapter 8 of the *Huangzheng congshu*, comp. Yu Sen, and is freely translated in Lu, *Les greniers publics de prévoyance*, 61–69. It is interesting to note that the tenor of the *Shoushi tongkao* descriptions (plus some personal observation) was made available to European agronomists in the 1770s through a “mémoire envoyé de Péking,” entitled “Sur la conservation et la police des grains à la Chine,” probably of Jesuit authorship and inserted in Bégouillet, *Traité général*, vol. 2, 534–674; see especially 583–611 and the attached plates.

moisture-absorbing properties).<sup>9</sup> A floor of sophisticated design, resting on stone slabs or tamped earth and made of successive layers of coal ash, wheat chaff, bricks, planks, and matting, inhibited the absorption of moisture from below. Also multilayered, the roof consisted of beams covered with planks, a bamboo frame supporting a layer of earth for insulation, and closely fitted tiles on the outside. All materials were supposed to be of superior quality and carefully selected (the texts give the prescribed dimensions and quality specifications for each kind of brick, tile, plank, and beam); bricks and tiles were specially ground for a tight fit and coated with water-resistant substances. If well maintained, such granaries were no doubt a splendid tool for protecting grain from both external moisture and diurnal and seasonal variations of temperature.

Ventilation in Chinese granaries was largely achieved through convection of the warmer air generated by the grain through roof “lanterns” called *qilou*.<sup>10</sup> Although the Ming texts just cited do not, curiously, mention this technique, we know from other evidence that *qilou* were a standard feature of granary design during Qing times.<sup>11</sup> Inserting a long cylinder of woven bamboo vertically in the mass of grain improved their efficacy by siphoning off the humid vapors produced by the grain.<sup>12</sup> The Qing regulations on metropolitan granaries describe these “air pipes” (*qitong*) as consisting of three sections, each

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<sup>9</sup> In Chinese sources, granary matting appears under the term *pudian*.

<sup>10</sup> See Bray, *Agriculture*, 383, to the effect that such devices already appear in Han representations of granaries.

<sup>11</sup> See, for example, Béguellet, *Traité général*, loc. cit.; and HDSL (1899 ed.), 871, *gongbu, cang'ao, yingjian*, entry of 1644, on the metropolitan granaries (obviously carrying over the Ming regulations.) See also Lu, *Les greniers publics de prévoyance*, 72, plate representing the ever-normal granary at Daxing County, Hebei (source and date not specified).

<sup>12</sup> See Bray, *Agriculture*, 383; see also the figure and explanation in *Shoushi tongkao*, 57.29b-30a. This device was called “grain cup” (*guzhong*) or “ventilation basket” (*qilong*).

measuring 7.5 feet; three *qitong* were to be set in every building to facilitate air circulation.<sup>13</sup>

In certain cases ventilation was also effected through a direct (and controllable) inflow of cool air from outside. A description written by Lü Kun alludes to “ventilation windows” (*fengchuang*), finely latticed to prevent birds from entering the granary.<sup>14</sup> In the 1644 regulations on metropolitan granaries as recorded in the *Collected Statutes and Precedents*, we find mention of openings (*douxue*) at the bases of doors and walls “to allow the outflow of ground vapors.”<sup>15</sup> Moreover, when fresh grain was put in store, the rule was to maintain an open space of several feet at the top of the granary door to allow for circulation of “steamy air” (*zhengqi*). The door was to be completely closed in late autumn.<sup>16</sup>

Numerous edicts and regulations prescribed that the magistrates, as well as the authorities in charge of the metropolitan granaries, ensure that only dry, clean, high-quality grain be stored in the granaries. Mixing grain from different years was prohibited, and, as has been discussed in Part I, turnover rates were calculated so as to ensure complete renewal of the stocks every two or three years. The buildings were divided into three, five, seven, or more bays (*jian*), which were separated by wooden partitions. Lü Kun’s text recommends that at least one bay be kept empty and that the grain be rotated regularly among the bays to allow it to cool and air. We do not know whether this was a routine practice in Qing granaries.<sup>17</sup> Spoiled stocks were to be dried in the sun, the grain spread on the paved areas outside the buildings and

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<sup>13</sup> See *HDSL* (1899 ed.), 184, *hubu* (Board of Finances), *cang’ao* (Granary Buildings), *Jing Tong cang’ao* (Beijing and Tongzhou Granaries), entry of 1824; and 871, *gongbu*, *cang’ao*, *xiuqi*, entry of 1761.

<sup>14</sup> Curiously enough, it was only in 1742 that the metropolitan granary authorities noticed that birds had gained access to the buildings through the roof lanterns and ordered that the latter be latticed, at least according to *HDSL* (1899 ed.), 184, *hubu*, *cang’ao*, *Jing Tong cang’ao*.

<sup>15</sup> *HDSL* (1899 ed.), 871, *gongbu*, *cang’ao*, *yingjian*, entry of 1644.

<sup>16</sup> *HDSL* (1899 ed.), 184, *hubu*, *cang’ao*, *jicha cangchu* (Investigation of Stocks), entry of 1751.

<sup>17</sup> Regular rotation of stocks from one silo to another is considered an ancient and commendable method for reducing storage damage: see Hall, *Manutention et emmagasinage*, 82.

possibly given a preliminary washing and steaming.<sup>18</sup> Another precaution was the application of *Artemisia* species as an insect repellent, either mixed with the grain in dried form or woven into baskets and other granary accoutrements. This may well have been effective, although, once again, we do not find explicit references to this practice in the sources on Qing granaries.<sup>19</sup>

Finally, an important factor favoring long-term storage was the preference (converted into an obligation in 1725) for stocking unhusked grain (*gu*) instead of hulled and polished grain (*mi*), even if that meant a large increase—theoretically, a doubling—of the physical volume of reserves and necessitated the construction of larger granaries.<sup>20</sup> If properly dried and protected, the husks afford a powerful defense against insects and fungi, while poorly milled grain, characterized by a high proportion of broken seeds, creates all sorts of storage problems.

On the whole, then, the technical and statutory conditions prevailing in Qing China should have permitted long-term storage of grain

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<sup>18</sup> This is at least suggested by entry 461 in Sun, *Ch'ing Administrative Terms*. The washing would serve to eliminate surface mildew from the seeds. Hall, in *Manutention et emmagasinage*, 210, mentions regular exposure to the sun as a traditional method of eliminating insects: some of the adult insects simply fly away. Spreading grain outside the building for drying and inspection was called *panliang*. Spoiled parts of the stock detected in the process were termed *panliang zhehao*.

<sup>19</sup> See Bray, *Agriculture*, 385–86, who stresses that “every culture has developed its own complex of insect repellents,” most of which are characterized by their strong scent. Board of Science and Technology, *Postharvest Food Losses*, 55–56, is rather positive on the use of such traditional methods, usually well attuned to the local ecologies and both safer and more effective than modern chemical pesticides.

<sup>20</sup> See *HDSL* (1899 ed.), 189, *hubu, jichu* (Grain Stocks), *changping jichu* (Ever-Normal Stocks), edict and deliberation of 1725. According to this text, up to that year Anhui was the only province in central or south China to store unhusked rice (*daogu*) exclusively. In other areas, such as Fujian and Zhejiang, it seems that a large part of the stocks were already in *gu*. Remaining stocks in husked rice were to be exchanged for *gu* within one or two years, depending on their size, or even three or four years in the cases of Yunnan and Guizhou, which had the largest reserves in *mi*.

without excessive losses. Yet the reality of the situation was, as we shall see, all too often quite different.

#### REAL STORAGE CONDITIONS DURING THE QING

In actuality, a number of factors intervened to disrupt the maintenance of optimal storage conditions. Among them were the difficulties inherent to any large-scale, centralized, and bureaucratic system of storage: poor control of the procedures to be followed prior to actual storage; inadequate staff supervision; a lack of flexibility in carrying out the regulations; the cost and technical difficulty of maintaining the physical structures; the difficulty, in some cases, of collecting the grains best suited for long-term storage; and, finally, various obstacles to regular and rapid turnover.

Modern observations, at least in developing countries, suggest that spoilage and losses are generally less frequent and severe on small-scale farms than is the case with large-scale commercial or state-run storage. The reasons have to do with both scale and commitment. The biological transformations of a small mass of grain are much easier to monitor and to correct than those occurring within very large stocks. In addition, grain reserves intended for private use or sale are likely to be better tended than those entrusted to anonymous agents of a bureaucracy, whose personal interests are only marginally involved. Such human factors are as important, if not more so, as the technological means available. In fact, both technical skill and personal commitment are fundamental to effective monitoring of the condition of the grain and to the ability to take quick action if excessive moisture, pest infestation, or overheating is detected. We do not know much about the quality of the service delivered by the clerks, yamen staff, and personal servants who were in charge of ever-normal stocks. We do know that the magistrate was the only individual explicitly bound to keep reserves in good condition, since any losses had to be recouped from his own pocket. The performance of the men on the spot was thus entirely a matter of tight control and personal authority, which, of course, fluctuated from one magistrate to another as a function of professional commitment and the quality of their private staffs.

A built-in difficulty of any state system of storage, especially one dependent upon fiscal contributions or compulsory purchases, is that the producers will have a natural tendency to retain the best of their yields for themselves and offer the state second-rate grain. In the Qing context, this tendency was all the more pronounced since, in many cases, the price offered by the state was well below market prices.<sup>21</sup> Moreover, even when quality controls were strictly applied, the transportation and handling process, from the first collection of grain to its final deposition in government bins, was a potential source of spoilage through contamination from unclean tools, bags, and vehicles, exposure to open-air humidity, damage to the seeds, and so on.

### *Types of Grain Stored*

A related problem has to do with the *nature* of the grain to be stored. We have seen that the overall rule was to stock state granaries with unhulled millet (*sugu*) in the north and unhusked paddy rice (*daogu*) in the south—with, in other words, the main local staples, and those that were easiest to preserve. There were, however, a number of local exceptions,<sup>22</sup> while conditions in some areas corresponded neither to

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<sup>21</sup> More on this problem below. A concrete example of inferior grain being delivered to ever-normal granaries is found in a memorial of 1767 written by Mailaxun, an imperial commissioner who made a series of thorough investigations of the granaries in various Hubei and Hunan counties. In a granary bin at Huangmei (Hubei), he found losses due to the presence of “hairy grain” (*maogu*)—probably coated with fungus—and a high proportion of broken seeds (literally, “not round and full”). This grain, which did not yield the required 50 percent of *mi* when husked and which deteriorated easily, had been delivered by gentry charged by the preceding magistrate with buying grain for the ever-normal granary. A similar case was found in nearby Guangji County. See Mailaxun, ZP, GZD: QL 022892 (32/9/9).

<sup>22</sup> For example, in some areas of Anhui that produced millet but no paddy, restocking in millet was authorized in 1733 (*HDSL* [1899 ed.], 189, *hubu, jichu, changping jichu*). In the Hanzhong area of southern Shaanxi, the situation was reversed: paddy rice was stored (*HDSL* [1899 ed.], 192, *hubu, jichu, cangchu haozhe* (Spoilage of Reserves), entry of 1742). In addition, “secondary grains” (*zaliang*)—that is, different kinds of beans, *gaoliang*, *qingke* barley, unhusked millet, and wheat—were allowed in Gansu (*HDSL* [1899 ed.], 189, *hubu, jichu, changping jichu*, entry of 1776, giving the official conversion rates between the different grains; see also chap. 8 below). We can see in the same entry

the northern or to the southern patterns.<sup>23</sup> In many regions of north and central China, for example, wheat was a basic food crop (or, in some instances, a commercial crop)<sup>24</sup> and, as such, was more easily purchased by the government at low prices or recovered from borrowers to restock granaries than millet or rice.<sup>25</sup> Yet, except in the far northwest, wheat was far more easily damaged and difficult to store over long periods: two years is frequently given as the maximum. This is primarily because in the monsoon climate of China, wheat is reaped at the beginning of the rainy season, while rice and millet are harvested when the dry season sets in.<sup>26</sup> Consequently, officials usually had to obtain special permission from their superiors if they planned to buy

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that in a number of provinces some exceptions to the general rule of storing millet or rice *gu* were allowed: not only wheat, as will be seen shortly, but also various sorts of beans (in Shandong, Henan, Jiangsu, and Anhui), *zaliang* (in Shandong), buckwheat (in Shandong, Sichuan, and Guizhou), *gaoliang* (in Henan), barley (in Jiangsu and Anhui), glutinous millet (*shu*, in Anhui), and *qingke* barley (in Sichuan).

<sup>23</sup> The northern part of Hubei was such an area; the choice between rice or millet was made according to market prices at the time of buying back government grain. When available, millet was to be preferred, because it had a better yield in the husking mill and could be preserved for a longer time. See Huguang governor-general Kaitai, ZP, GZD: QL 007371 (19/8/4).

<sup>24</sup> An example is Hubei, where people were reported to eat rice but sowed large amounts of wheat intended either for the distillery or for exportation: see Hubei governor Zhang Ruozhen, ZP, GZD: QL 006120 (19/3/27) and QL 006444 (19/4/12). For other examples, see Will, *Bureaucracy and Famine*, 180–81.

<sup>25</sup> We have several examples of recovering loans in wheat in Shaanxi, where the high rate of granary turnover, especially through spring loans, may explain why wheat restocking was quite common and did not apparently pose special problems. Another example is Zhili, in 1753: a memorial concerning three counties located in an area where 80 to 90 percent of the arable was sowed with wheat, and in a year when the summer crop promised to be exceptional, argues that recovering loans would be much easier if peasants were, for once, allowed to reimburse their loans of millet *gu* with wheat, using the official exchange rate of 0.6 *shi* of wheat for 1.0 *shi* of *gu*; then, “when the new *gu* appears on the market, the peasants will be willing to take back their wheat and deliver *gu* at a time of the year when the latter is cheap and the former difficult to find on the market.” See Zhili governor-general Fang Guancheng, ZP, GZD: QL 003764 (18/5/8).

<sup>26</sup> See Sigaut, “La Chine, l’Europe et les techniques agricoles,” 210.

wheat or, more typically, had to be persuaded by them to buy wheat. The arguments usually advanced in favor of such purchases were that very low prices due to bumper crops hurt the peasants and encouraged merchant speculation;<sup>27</sup> that it was a waste for so much of the wheat harvest to be sent straight away to distilleries;<sup>28</sup> and that there were large granary deficits that the officials had to make good.<sup>29</sup> If wheat was bought in spite of the disadvantages, local officials had to ensure a rapid turnover by issuing this portion of the stocks first and then, if possible, replacing it with unhusked millet or rice; or they had to promise to exchange the wheat for unhusked millet or rice right after the next autumn harvest.<sup>30</sup> Although we do not know exactly how such exchanges were made (the wholesale market was a likely venue), it is clear that they were a source of trouble for the responsible officials and that success depended on an abundant autumn crop of rice or millet, ensuring low prices.

In some highly commercialized areas of the southeast, husked rice might be thought of as an attractive alternative to the prescribed *daogu*.

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<sup>27</sup> Bumper crops inundating the market and causing prices to fall are very often cited as an argument for forceful government purchase, especially in the northwest, Zhili, Shandong, and Henan. The cases from 1735, 1738, and 1739 referred to in *HDSL* (1899 ed.), 191, *hubu, jichu, fengnian beichu* (Building Stocks in Abundant Years), are but a few examples. The problem arose also in Hubei and in the lower Yangzi. In the summer of 1739, there was a large wheat crop in Jiangsu, and, rather than allow merchants to take advantage of the low prices to speculate, local authorities were instructed to use *pingtiao* monies and provincial funds to buy as much wheat as they saw fit; after the autumn harvest this wheat was either to be exchanged against paddy rice or to be disbursed to fulfill current needs. See *WXTK*, 36.5190.

<sup>28</sup> There are interesting examples of the diversion of food grains for distilling alcohol, as well as speculative storage by merchants, in the *yanjin tunji zaogu* (Prohibition against Hoarding and Yeast-making) section of *HDSL* (1899 ed.), 191, *hubu, jichu*.

<sup>29</sup> In 1735, for example, when wheat prices were low in Shaanxi, it was deemed that doing part of the restocking after the wheat harvest would avoid excessive demands on the autumn crop, which might induce prices to rise. See *WXTK*, 35.5186.

<sup>30</sup> See, for example, an entry of 1735 in *WXTK*, 35.5186, concerning Zhili Province: "The counties will buy [wheat] and keep it in their granaries, each year exchanging it against *gu* for storage."

Although easier to obtain, husked rice was not an authorized granary stock and was difficult to preserve.<sup>31</sup> Soybeans are also mentioned as a choice in some contexts. In 1740, Shandong had more than a million *shi* to restock, and, as the price of millet was rather high and there had been a plentiful soybean crop in late autumn, it was proposed to restock with both grain and beans. It was also proposed that borrowers be permitted to repay their loans with beans instead of millet, which allowed them to clear their debts on time without losing money in the process; this plan had the additional advantage of saving some money for the administration, since fewer defaulters would have to be pressed for repayment. The government would then replace beans with millet the following year, once grain prices had stabilized.<sup>32</sup> The text in which these options are elaborated goes on to say that beans, which can be fed to horses as well as humans, are “solid and can keep for a long time,” even though it is generally held that legumes are particularly vulnerable both to insect and micro-organism infestation and sustain greater damage during storage than cereal grains.<sup>33</sup> Perhaps in the present example, a particularly resistant strain of soybeans was involved (the variety of Chinese terms is considerable); moreover, the climate conditions of Shandong are rather dry. Nonetheless, it is a fact that state storage of beans, in many places a readily available and inexpensive crop, is rather rarely mentioned in the sources.<sup>34</sup>

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<sup>31</sup> For example, a text of 1737 noted that ever-normal granaries in the Hangzhou-Jiaxing-Huzhou region of Zhejiang had large quantities of *mi* in store because it was easier to purchase there (the region was a heavy importer of food grains). Because *mi* spoils much more rapidly than unhusked paddy, however, the governor and provincial treasurer ordered its gradual replacement with dry, high-quality *gu*. See Zhejiang governor Xiong Xuepeng, ZP, GZD: QL 022977 (32/9/24). In Fujian, during the same period, it was similarly reported that local markets did not offer large quantities of grain, having mainly husked rice. See Min-Zhe governor-general Suchang, ZP, GZD: QL 021693 (30/10/24).

<sup>32</sup> See WXTK, 36.5191. After 1754, peasants were authorized to reimburse loans in *zaliang*; see “The Lending Process” and note 103 in chapter 10.

<sup>33</sup> See Board of Science and Technology, *Postharvest Food Losses*, 90–94.

<sup>34</sup> One exception was the reserves of black beans (*heidou*) for horses in the metropolitan granaries.

In all the examples above, the officials in charge of storage had to choose between grains that were easily obtainable on the market yet difficult to keep over long periods and others that were more suitable for storage but difficult to procure on inexpensive terms. In other words, practicability in such cases often worked against both storage efficiency and conformity to regulations. As we shall see, this was but one of many factors that tended to deter magistrates from maintaining large grain stocks.

### *Spoilage Rates: Real and Theoretical*

Concern about spoilage rates higher than those authorized is expressed in numerous texts and is by no means limited to wheat or husked rice. For example, an edict of 1741 admitted that “the authorities of counties where [granaries] are full are often nervous lest the grain spoil (*meibian*) and they have to replace it: they contemplate the storage of large amounts of grain with misgivings.”<sup>35</sup> When large loan arrears were discovered in Shandong in 1755—magistrates had lent grain without bothering to press for its prompt repayment—the explanation was, again, that “when magistrates keep grain in their granaries they fear losses by moisture and fermentation (*yizheng*) and hasten to get rid of it.”<sup>36</sup> This attitude was all the more common when magistrates were obliged to accept grain totally unfit for long-term storage. Such was the case, according to an early Qianlong official, with tribute rice diverted for storage in civilian granaries. The soldiers in charge of the transport (*yunding*) would mix water into the grain to increase its weight and volume, causing massive spoilage almost immediately after it went into the granaries. Anxious to avert such catastrophe, officials would lend the grain immediately, without taking proper precautions, resulting in a number of ill-advised loans to people who had no intention of

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<sup>35</sup> See *WXTK*, 36.5191. An edict of the preceding year, although it did not explicitly mention spoilage, similarly rebuked magistrates for “fearing that their stocks were too large and difficult to take care of” (see *HDSL* [1899 ed.], 189, *hubu*, *jichu*, *changping guben* (Ever-normal Reserves).

<sup>36</sup> See Shandong governor Guo Yiyu, *ZP*, *GZD*: QL 008864 (20/3/3).

repaying them (the source mentions the usual cohort of “wicked gentry, vagabonds, yamen runners, village heads, and local bullies”).<sup>37</sup> Thus, what started out basically as a technical problem in the system (the diversion of husked tribute grain to civilian granaries) resulted in a social distortion of its aims (the diversion of public aid to dubious types).

The magistrates’ anxiety over spoilage is easy to understand given the extremely low spoilage rates authorized for ever-normal reserves. Moreover, these rates applied only to damaged but still usable grain, not to outright losses. It is in this connection, it may be noted, that we find the distinction between qualitative and quantitative loss mentioned earlier.

One of the rare allusions to accepted outright losses in ever-normal granaries appears in a memorial submitted in 1735 by Grand Secretary Fang Bao and apparently approved by the emperor. In this case, rodent damage (*shuhao*) and wastage detected during the regular inspections of the grain (*panliang zhejian*) were recorded as part of a series of “costs” (*fei*) that included, among other items, both transport costs and staff fees incurred by the purchase or sale of grain. Fang proposed that these various costs be covered by the small profits generated by the spring sales.<sup>38</sup> But he did not address the question of what was to be done if these receipts were inadequate.

In fact, we do not find in the regulations officially allowed rates of wastage (at least, not those of the definitive, “quantitative,” sort) for ever-normal granaries. Such rates are mentioned only for granaries that stored grain collected from the population as taxes or contributions, and they are always very low. For example, the monthly wastage (*jianhao*) allowed by the *Collected Statutes* for the metropolitan granaries at Beijing and Tongzhou, where tribute grain was stored, amount to from 1.0 to 1.66 percent per year, according to type of grain, up to

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<sup>37</sup> See Xu Dong, *Mulingshu jiyao*, 5.32b-33a, quoting from Huang Kerun, a mid-eighteenth-century prefect of Hejian (Zhili).

<sup>38</sup> See *WXTK*, 35.5186.

a maximum of thirty-six months.<sup>39</sup> The section on spoilage in the *Collected Statutes and Precedents* mentions various types of reserves (not, however, ever-normal reserves) from which annual losses could be written off (*baoxiao*). Thus, in 1739, the Yongji granary in Hangzhou, which provisioned the local garrison, was allowed an annual loss from reserves of husked rice of 1 percent after the first year of storage and 0.5 percent in subsequent years.<sup>40</sup> The same entry states that in Yunnan a 3 percent surcharge to compensate for “rodent wastage” was added to the in-kind land tax; the same applied to grain levied in Yan’an Prefecture, Shaanxi (presumably as rations for the military). In Shaanxi and Gansu, annual spoilage amounting to 1 percent of reserves could be deducted from grain “contributed” to the various counties and from husked grain (*liang*) stored in the ever-normal granaries, but not in the first year and, subsequently, for only three years.<sup>41</sup> There are many comparable cases of surcharges to recoup wastage losses added to grain levied from the population as taxes: for example, added to the grain portion of the land tax in Fengtian was a 10 percent wastage grain (*haomi*) surcharge for storage losses and granary maintenance, while banner granaries (*qicang*) serving the military population of south Manchuria collected a 3 percent wastage grain surcharge. Similar surcharges existed in Shanxi (with various rates), Fujian (for *tunliang*,

<sup>39</sup> For details, see *HD* (1899 ed.), *juan* 25, entry on spoilage rates. See also *HD* (1690 ed.), 28.4b, according to which the allowed wastage was for “rodent damage” and amounted to some 4 percent in three years. This permitted wastage was compensated for by a special surcharge called *jianmi* (literally, “heaped grain”). Various other surcharges applied in Tongzhou and Beijing—for unloading and handling, sun drying, food for crews returning south, and so forth—but, out of a total *zhenghao* of 0.25 *shi* per *shi* (at Beijing) and 0.17 *shi* per *shi* (at Tongzhou), the approximately 0.04 *shi* of *jianmi* was the only item earmarked for storage losses. For details, see *HDSL* (1899 ed.), 186, *hubu, cang’ao, jincang shouhao* (Surcharges Levied at the Time of Delivery).

<sup>40</sup> On this granary, see *HDSL* (1899 ed.), 192, *hubu, jichu, yubei cangchu* (Preparedness Reserves), entry of 1730.

<sup>41</sup> For all these examples, see the 1739 entry in *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu haozhe*. When the “first year” (*bennian*) is referred to, it is not, we think, a twelve-month period but rather the period from storage (usually in autumn) to the end of the same calendar year.

military rations), Hubei (3 percent for *nanliang*, that is, tribute grain for local garrisons), and so forth.<sup>42</sup> In the Northern Granary at Tianjin, which stored tribute grain in transit to the capital or intended for the population and granaries of Zhili, annual wastage of about 1.4 percent of damaged but still usable grain (*qitou aodi*,) was allowed for three years, increasing thereafter to some 2 percent.<sup>43</sup>

This concept of *qitou aodi*, literally “top-and-bottom-damaged grain,” which does not appear in ever-normal granary regulations before the early Qianlong period, is best explained in the regulations governing tribute grain storage in the metropolitan granaries at Tongzhou and Beijing. *Qitou* refers to fermented grain at the top of the stock, *aodi* to damaged grain on the bottom. Top and bottom are indeed where spoilage caused by humidity first occurs when grain is stored in bulk. This is due to the transfer of moisture within the mass of grain that results from air convection, itself a consequence of the temperature differential between the grain and the external atmosphere. When the temperature of the grain is lower than that of the outer air, moisture tends to concentrate at the bottom of the mass; if the reverse is true, it concentrates at the top. In addition, any “point of heat” due to insect activity within the mass sends moisture upwards and thereby increases spoilage on the top.<sup>44</sup>

In the Qing regulations, *qitou aodi* grain was not considered a total loss:<sup>45</sup> it was called “adulterated grain” (variously termed *bianse*, *chengse*, or *jianse*) and still could be delivered to consumers, allowing

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<sup>42</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu haozhe*.

<sup>43</sup> See *ibid.*, entry of 1776.

<sup>44</sup> See Hall, *Manutention et emmagasinage*, 68, and pls., 69. Concentration of moisture at ground level is also favored by insufficient isolation and waterproofing at the bottom of the building. In a memorial of 1725, Guangxi governor Li Fu attributed *aodi* to faulty matting of the ground. See *Mutang chuji*, 39A.12a.

<sup>45</sup> Absolute, or definitive, loss was designated by such terms as *meibian*. The distinction appears in one memorial concerning an inspection of granaries in Fengtian, which referred to old grain having incurred some “top damage” (*qitou*) but still not exhibiting “rotten places” (*meibian zhi chu*). See Fuchashan and Mingtong, *ZP, GZD*: QL 034815 (43/5/1).

for a deterioration rate calculated in *cheng* on a scale of one to ten (“ten-*cheng*” grain being entirely sound). Although the texts are not completely clear on this point, our impression is that the *cheng* rates were calculated on the basis of yields reported from the husking mill (that is, the proportion of usable seeds), with reductions in price made accordingly when the grain was sold.<sup>46</sup> Such, at least, was the regular procedure with the tribute grain kept in Tongzhou and Beijing: when a granary building (*ao*) was emptied of its stocks, the supervising officials had to measure the quantity of *qitou aodi* grain it contained and assess the rate of deterioration of that grain; if both estimates fell within the authorized limits (which were a function of when the grain had been stored), the adulterated grain was to be stored separately before being sold to the population, either in Tongzhou or at special rice stations (*michang*) managed by government officials in and around Beijing.<sup>47</sup>

The authorized proportions of spoiled reserves that could be ascribed to *qitou aodi* damage appear quite low: if the grain was less than two “years” old, nothing at all;<sup>48</sup> if more than two years old, 100 *shi* of *qitou* and 20 *shi* of *aodi* out of a total of 10,000 *shi* per building; if more than three years old, 150 and 30 *shi*, respectively; and, if the grain was more than four years old, a maximum of 250 *shi*. The allowed maximum, then, was a mere 2.5 percent after four years.<sup>49</sup>

As has been noted, when spoilage of ever-normal grain was permitted—by no means a universal practice—it was always consumable *qitou aodi* grain that could be disposed of at discount prices. Moreover,

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<sup>46</sup> See, for example, *WXTK*, 36.5187–88, entry of 1737, on the sales of *jianse* grain in Beijing. In *HDSL* (1899 ed.), 188, *hubu, cang’ao, tiaomai cangchu* (Sales of Granary Stores), an entry of 1731 specifies that “unadulterated old grain” (*shicheng laomi*) was to be sold at 1.0 taels per *shi* and that a 0.05-tael discount had to be allowed for each *cheng* below this maximum. This is why we do not translate *cheng* as “10 percent.”

<sup>47</sup> See *HDSL* (1899 ed.), 185, *hubu, cang’ao, shouliang shangcang* (Receiving the Grain), entry of 1734, and 188, *hubu, cang’ao, tiaomai cangchu*, passim. See also *HD* (1899 ed.), 25, entry on sales of adulterated grain in Beijing.

<sup>48</sup> See the remark in note 41 above.

<sup>49</sup> See *HDSL* (1899 ed.), 188, *hubu, cang’ao, tiaomai cangchu*, entry of 1823.

there was no precedent for this allowance prior to 1741, when the Qianlong emperor remarked in an edict that magistrates were wary of keeping too much grain and having to replace losses at their own expense. In response to this edict, the Board of Revenue formally distinguished “high and dry” areas, or areas where annual turnover was easily accomplished because of small stocks, from damp regions where the size of reserves made it difficult to ensure long-term storage. In the latter locales, the governors and governors-general would be permitted to take into account the age of the granary buildings and the different ages of the stocks in reporting and selling *qitou aodi* grain; the authorized rates would be those already applied in the metropolitan granaries.<sup>50</sup> We do find in the *Collected Statutes and Precedents* some local applications of this decision in later years. In Shaanxi, for example, only the Hanzhong and Xing’an areas in the south, where paddy rice was produced and stored and where regular disbursement was difficult because the population was sparse, were allowed to invoke *qitou aodi*; in the central and northern prefectures, which were of higher elevation and enjoyed a dry climate, “there has been no spoilage” and so “there is no point in reporting *qitou aodi*.”<sup>51</sup> In most of Zhejiang, *qitou aodi* rates of 0.4 percent in the first year of storage and 0.8 percent in the second year were set.<sup>52</sup> Similar rules were made for Guangxi in 1744 and Jiangsu in 1746;<sup>53</sup> the Jiangsu entry recalled that, in line with the

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<sup>50</sup> See *WXTK*, 36.5191.

<sup>51</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu haozhe*, entry of 1742.

<sup>52</sup> See *ibid.*, entry of 1743. The rates were divided into three-quarters of *qitou* and one-quarter of *aodi*. If grain was put in store in year A, no deduction was allowed from the fraction disbursed in year B; from the remaining fraction, 0.4 percent of adulterated grain could be deducted at the time of the inspection (*pancha*), at the end of calendar year B; the 0.8-percent rate applied to the fraction of the remainder not yet disbursed in year C. From what remained and must be disbursed in year D, no deduction was allowed.

<sup>53</sup> *Ibid.* In Guangxi, fifteen counties were classified as “high and dry” and accordingly excluded from the measure. In the remainder, only grain more than three years old could be subjected to a 1.4-percent rate of *qitou aodi*, and that only for one-third of the stock. In Jiangsu, twenty-three counties were excluded from the measure. In the remainder, there was a distinction between “very humid” areas (1.0 percent per year) and “humid” areas

precedent set in Zhejiang, the adulterated grain would be sold off at prices discounted according to the *cheng* standard.<sup>54</sup> Later on, we find the very low rate of 1 percent obtaining in Fengtian for unhusked grain more than ten years old and for husked grain more than five years old. Even such low rates as these were applicable only when total stocks exceeded 40,000 *shi*, and the granary building was more than five years old.<sup>55</sup> The same entry set rates for Jiangxi, Fujian, Hubei, Hunan, and Guangdong.<sup>56</sup>

All of these rates seem incredibly low, indeed, unrealistic; moreover, we have seen that outright losses in ever-normal granaries were automatically considered a consequence of official mishandling. And so we find ourselves squarely before our next question, namely, did conditions prevailing in Qing granaries actually allow for such limited spoilage losses, and, if not, what were the consequences?

#### OFFICIAL RESPONSES TO SPOILAGE

##### *Repayments and Sanctions*

To be sure, some sources report actual rates of spoilage that are indisputably very low. For instance, a memorial concerning the provincial granary (*shengcang*) in Guangzhou mentions 1 percent as the approximate total (annual?) wastage. More interesting, we find that shortages investigated in some Hubei counties by Imperial Commissioner Mailaxun were usually quite modest, as this aggressively

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(0.5 percent per year); no deduction was allowed for grain less than one year or more than three years old.

<sup>54</sup> Namely, a reduction of 0.07 taels per *shi* for eight- or nine-*cheng* grain, 0.1 taels per *shi* for six- or seven-*cheng* grain, 0.14 taels per *shi* for five-*cheng* grain.

<sup>55</sup> *Ibid*, entry of 1776.

<sup>56</sup> Jiangxi: 0.5 percent for grain more than three years old in forty-six counties, 0.72 percent in fifteen other counties. Fujian: 1.0 percent for grain more than three years old, provided that the stock was greater than 20,000 *shi*. Hubei: 0.5 percent for grain more than three years old. Hunan: same as Hubei in thirty-two counties; 0.72 percent in four others. Guangdong: 1.4 percent for one-third of the stocks more than two years old in twenty "very humid" counties, or more than three years old in ten "less humid" counties.

inquisitive official was himself obliged to admit.<sup>57</sup> In one of the granary bins, the contents of which he had measured from top to bottom, Mailaxun found a loss of 3.3 percent, which was attributed to spoilage of inferior-quality “hairy grain” (that is, contaminated by fungi); in another bin the missing quantity was estimated to be only 2 percent; and yet another presented a negligible shortage of 0.5 percent. In each case, the commissioner ordered that the missing grain be immediately replaced, presumably at the magistrate’s own expense.

This was, indeed, the normal procedure for recouping any deficit exceeding the authorized, and very low, “adulterated grain” rates: since virtually no amount of spoilage was sanctioned by the regulations, the officials invested with the responsibility of the granaries, usually county magistrates, were automatically held accountable for any shortage brought to light in the course of granary inspections<sup>58</sup> and were expected personally to bear the costs of replacing the missing grain. This meant, on the positive side, that magistrates were motivated to employ all means to avoid spoilage, exhorting their staffs to care meticulously for the stocks and to keep the granary buildings in perfect condition. If in spite of such diligence spoilage nonetheless occurred, they would be disposed to make good on the deficits quickly, in order to be able to present, when faced with an investigation, an account that unambiguously showed compliance with the prescribed regulations. On the other hand—and this was the negative side—the prospect of ruinously large grain payments in the event of spoilage<sup>59</sup> induced many

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<sup>57</sup> See note 21 above.

<sup>58</sup> Namely, the regular year-end controls (*pancha*) effected by the provincial hierarchy, the audits performed when a post was changing hands (*jiaodai*), and, finally, the extraordinary investigations, of which Mailaxun’s are one example. The entire system of granary controls will be addressed in chapter 7. There are many examples showing that the government was quick to denounce the carelessness of officials who had problems with the ever-normal grain under their control. In one example, a magistrate who declared a certain quantity of loss due to the accidental flooding of the granary was immediately suspected by the emperor of having taken advantage of the event to excuse himself of a previous shortage due to some other reason.

<sup>59</sup> Which was sometimes unavoidable, if only because of weather conditions that rendered control of the humidity impossible.

officials to maintain actual stocks at very low levels. For example, the magistrate would use every possible pretext to postpone restocking; he might keep sizable quantities of grain dispersed among the population in the form of outstanding loans;<sup>60</sup> and more generally, he would attempt to conceal shortages from his superiors, by coming to some “arrangement” with the inspecting officials or by taking advantage of the latter’s frequent perfunctoriness, or even, on occasion, by “borrowing” the necessary quantities from local gentry or merchants until the inspecting officials had departed. Another common way of coping with spoilage was to oblige local people to accept damaged grain at price levels normally obtaining for high-quality grain, which allowed the spoiled stocks to be entered in the “sales” column of the accounts.<sup>61</sup> In sum, the very low, or even nonexistent, prescribed rates of spoilage, together with the severity of the punishments meted out if they were exceeded, might very well have acted as obstacles to the smooth and efficient operation of the state granary system. While there is plenty of qualitative and circumstantial evidence to support this contention, it still remains for us to balance this evidence against the positive effects just described.

Before we turn to this question, let us look briefly at the sanctions. According to a decision of 1702, a county magistrate who failed to replace spoiled grain was to be impeached by the provincial authorities, deprived of his official rank (though not his post, *gezhi liuren*), and given one year to make good the deficit. If he succeeded, his rank was restored and he was exempted from further punishment; if he did not,

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<sup>60</sup> For an outstanding example of “overlending” explained by the fear of spoilage losses, see the Shandong case of 1755 below, chapter 10, section on “The Lending Process”.

<sup>61</sup> See, for example, the memorial by Fang Bao quoted in *WXTK*, 35.5186 and dated 1735: Fang spoke of “allotting [sales of already damaged grain] to rural households and forcibly delivering it to the rich” (*yipai xianghu, qiangshou fumin*). Similarly, a 1736 edict from the Qianlong emperor stated that people might be forced to accept rotten grain that was claimed (by the authorities) to be dry and of good quality: “Small peasants,” he said, “are overawed and do not dare to refuse, and they are obliged to endure the abuse silently.” See *WXTK*, 36.5187.

he would then be deprived of his post; and if at the end of two years the deficit was still not cleared, he would be subject to additional punishment, and liens would be put on his property.<sup>62</sup> In an edict of 1726, the Yongzheng emperor bitterly criticized officials who did not replace missing stocks immediately, grain shortages being, in his view, far more condemnable (in terms of the people's general welfare) than tax shortages.<sup>63</sup> The nine ministers accordingly proposed that, instead of the rather mild penalties just described, punishments for grain shortages be the same as those established for tax shortages (with one *shi* of granary deficit corresponding to one tael of tax shortage). Two different kinds of shortage were distinguished: those due to embezzlement, for which the heaviest penalties were reserved; and those due to "misappropriation" (*nuoyi*), which were perceived as less serious and for which there was the possibility of reduction or even cancellation of the penalties if repayment was effected within the prescribed period of time. As for shortages incurred by spoilage, they would be treated the same as "misappropriation," except that the earlier rule permitting the magistrate to retain his post without rank would apply only if the deficit was less than three thousand *shi*.

These harsher measures were not yet enough for the emperor, however. In his view, spoilage losses were clearly linked to official carelessness with respect to granary upkeep, and he consequently commanded that magistrates be punished according to the precedent for embezzlement (with no possibility of a pardon) if full repayment was not effected within the prescribed time limit.<sup>64</sup> The distinction is important, and it probably provoked further debates which eventually led to a milder posture than the Yongzheng emperor's. Thus, the texts found in the *Collected Statutes and Precedents* imply that shortages

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<sup>62</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang* (Inspection of the Reserves).

<sup>63</sup> This is why, in principle, missing grain (when discovered) had to be bought back with government money as soon as the next autumn harvest; meanwhile, the responsible official was pressed to reimburse the corresponding sum within the prescribed period. See *ibid.*, entry of 1725.

<sup>64</sup> For details of this discussion and of the penalties, see *ibid.*, and *WXTK*, 35.5178–79.

due to grain spoilage continued to be equated with the less serious charge of “misappropriation.” This, incidentally, entailed as a consequence that the superior officials were not to be involved in the repayment, as they were in cases of embezzlement.<sup>65</sup> Be that as it may, losses caused by spoilage remained a major problem for the magistrates in charge of the civilian granaries, one that might cost them sizable sums of money, their careers, or both.

### *The Granary Building*

One important means of minimizing the potential for massive spoilage was, as we have seen, ensuring that there were enough granary buildings and that these buildings were kept in perfect condition. This is stressed in a number of decisions and new regulations issued in the early Yongzheng years, apparently the first period in which ever-normal granary structural and maintenance problems were ever seriously considered by an emperor.

We have just seen that, in the course of the 1726 discussion on penalizing spoilage losses, the Yongzheng emperor claimed that such losses were essentially due to poor granary maintenance. The secretaries and ministers accordingly decided that

in the case of [granaries] that are poorly built and allow water to leak in, when the cost [of the repair] is modest local officials must have the repairs (*buqi*) done immediately. In the case of old, rotten, crumbling buildings, provincial funds must be allocated (*dong xiang*) to rebuild them (*xiugai*). When grain stocks are lodged in other buildings [than the regular state granaries] (*jizhu*), or when

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<sup>65</sup> See *HD* (1899 ed.), 19, *zui qi kuiquezhe* (Punishments for Shortages). Much later, we find yet another example of the government’s unwillingness to admit the difficulty of avoiding spoilage under the climate conditions of much of China. In 1827, the Hubei governor, announcing that controls applied in the counties had brought to light a total shortage of 22,974 *shi* due to spoilage, argued that there was a high risk of damage in the flat and damp areas bordering rivers and lakes and consequently asked that the magistrates be exempted from punishment. But the emperor refused, saying that the regions in the empire where such a pretext might be invoked to excuse the magistrates’ negligence were numerous! See *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*.

they are kept in the open air, [the officials] shall memorialize and request that additional granaries be constructed; thereafter, if magistrates are remiss and neglect to erect and repair [the proper buildings], resulting in spoiled grain, [they will be punished as indicated above].<sup>66</sup>

This new attention to the physical aspects of granaries, coming at a time when the government was actively engaged in building up ever-normal and community stocks, probably did mean an overall improvement in the quality of storage and a corresponding reduction of spoilage losses. It may be added that, at the same time, the “legalization” of the meltage fees levied alongside the regular tax, and their centralized handling by the provincial authorities, produced considerable funds for various government projects, including the construction of granaries.<sup>67</sup> During the ensuing decades, and into the nineteenth

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<sup>66</sup> See *WXTK*, 35.5179. Related texts specify that the rehabilitation of “old and crumbling” granaries would be effected with provincial funds after an evaluation of the cost had been made by a commissioned official (*weiyuan*) sent down by the provincial authorities. “Entrusted” storage, when the government lacked proper granaries, was often undertaken in temples and monasteries. Here, too, the provincial governors had to make a proper investigation before memorializing. It was the duty of a magistrate to report on all cases of damaged or insufficient granaries. See *HDSL* (1899 ed.), 189, *hubu, jichu, sheli changpingcang* (Establishment of Ever-Normal Granaries); and 871, *gongbu, cang’ao, gesheng cang’ao* (Granary Buildings in the Various Provinces). An edict of 1727 again stated that in remote counties there was sometimes a complete lack of granary buildings, with grain being stored in temples or on the estates of the gentry and rich—hence, heavy spoilage and numerous complications. See *WXTK*, 35.5182.

<sup>67</sup> According to sources cited by Huang, *Autocracy at Work*, 258 and 267, the legalized meltage fee financed the construction of more than 400 community granaries in Shaanxi (and of many more in other provinces), while in Henan it helped build 7,127 storerooms (bays) to keep public grain. As is shown by Zelin in *The Magistrate’s Tael* (130ff.), Henan under Governor Tian Wenjing was the most successful province in accumulating meltage fee (*huohao*) surpluses that could be used for various public expenditures. New granaries were needed because of the steady increase of grain stocks, also a consequence of Tian’s energetic policies. The source quoted by Zelin (see p. 333, note 19) mentioned the construction of 826 bays (not “granaries”) in 1725 and estimated current needs (in 1726) at 1,251 bays. The corresponding budgets were 12,382 taels and 18,765 taels, respectively—that is, a modest proportion of the 600,000-tael surplus accumulated in 1725. In 1729, another 6,750 taels were spent to “modernize” the granaries of Henan by

century, the construction of new granaries—in remote areas, in regions where existing ones were insufficient, or when quota increases were mandated—is frequently mentioned in the relevant sections of the *Collected Statutes and Precedents*.<sup>68</sup>

However, the standards of granary construction described above certainly did not obtain everywhere. Although evidence is comparatively scarce, the data assembled in table 5.1 provide a description of the granaries of Yizhou Prefecture in Shandong as they existed by 1760. As can be seen, the roofs of a large number of buildings were thatched, not tiled. The granaries of Tancheng County are an interesting case. The fifty-one bays of the Tancheng ever-normal granary, built in 1713 with mud walls and thatched roofs, required repairs year after year and had insufficient capacity.<sup>69</sup> In 1748 the magistrate requested the construction of durable granaries at the county seat and at the local wharf (*shuici*), which would have tiled roofs and would be equipped with “protecting boards” (*huban*), “roof windows” (*tianchuang*), and latticed ventilation openings in the basement. Such granaries, the magistrate claimed, would “last forever.” But the authorization to build them was not granted, and the project was abandoned.<sup>70</sup>

The *maintenance* of existing granaries is yet another question. The evidence we have encountered to date does not permit a definitive exploration of this topic. In theory, the condition of granaries could be monitored through the recurring operations of *jiaodai* (post transfer) audits, since in 1728 granaries had been placed on the list of items to be controlled by the incoming magistrate and, if necessary, cleared by the outgoing one. The new official was instructed to report leaky

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“replacing buildings made of straw and mud with new facilities constructed of brick” (*The Magistrate’s Tael*, 181.) The use of *huohao* funds to repair or to build ever-normal granaries is mentioned in several documents of the Qianlong and Jiaqing periods.

<sup>68</sup> See *HDSL* (1899 ed.), 871, *gongbu, cang’ao, gesheng cang’ao*.

<sup>69</sup> The standard capacity of one granary bay was about 500 *shi* and the target of Tancheng was 14,000 *shi*: some thirty bays should have been sufficient. Possibly, the mud-walled and thatched buildings of Tancheng had a lesser capacity.

<sup>70</sup> See *Tancheng XZ* (1763), 5.32b.

Table 5.1. Granary Buildings in Yizhou Prefecture, Shandong Province, ca. 1760

County	Type of granary*	Bays		Remarks
		thatched	tiled	
Lanshan	ever-normal	30		type of roof not specified
	student grain	6		
	salt charity	12		
Tancheng	ever-normal	51		built in 1713; mud walls
	student grain		10	built in 1738
	salt charity		5	built in 1743, repaired in 1748
Bi	ever-normal	23	3	located in three districts outside the county seat
	ever-normal	24		
	salt charity		3	
Juzhou	ever-normal	100	15	
	charity		8	
Yishui	ever-normal	39		type of roof not specified
	student grain	10		
	salt charity	12		
Mengyin	ever-normal		22	built in 1715
	student grain		8	built in 1740
	<i>Dayou cang</i>	4	21	built in 1718
	salt charity		3	
	community	3		built in the 1720s; rebuilt in 1730

Table 5.1, cont.

County	Type of granary*	Bays		Remarks
		thatched	tiled	
Rizhao	<i>Dongsi cang</i>	30		type of roof unspecified; official building converted into granary in 1713
	ever-normal	15		type of roof unspecified; built in 1656
	student grain	18		civilian buildings converted into granaries in 1739; thatched and tiled
	salt charity	14		civilian buildings converted into granaries in 1742; thatched and tiled

**Source**

*Yizhou FZ*, 5.11bff.

\* On the types of granaries, see chapter 10 below.

buildings, rotten beams, structural damage, and the like.<sup>71</sup> We also know that, at least for such critical repairs as patching the roof or replacing parts of the framework, funding was to come from the reserves kept by the provincial government (*cungong*),<sup>72</sup> which meant

<sup>71</sup> See *HDSL* (1899 ed.), 189, *hubu, jichu, sheli changpingcang*.

<sup>72</sup> This is certain for the construction of new granaries (*xingjian*). The provincial reserves in question were the so-called *gongfei* generated by the legalized meltage fee; see Zelin, *The Magistrate's Tael*, 174ff. and passim. A decision of 1739 fixed the price of work and materials (*gongliao*) for each bay (*jian*) containing 500 *shi* at twenty taels—a sum that seems rather low (see *HDSL* [1899 ed.], 871, *gongbu, cang'ao, gesheng cang'ao*; and 189, *hubu, jichu, sheli changpingcang*.)

that the magistrate would not have to make do with his own tightly calculated local budget or dig into his own pocket, as was the case with spoilage losses. Some regulations quoted in memorials (but not contained in the *Collected Statutes and Precedents*) specify that memorializing the central government was required for any construction or rehabilitation project whose cost exceeded 1,000 taels<sup>73</sup> or, according to a later text, 500 taels.<sup>74</sup> Another precedent, cited in a memorial of 1815, stated that funds for reconstructing “collapsed” (*tanta*) granaries could be obtained from the provincial government, provided that more than ten years had elapsed since the last repairs.<sup>75</sup>

The limit of 1,000 (or even 500) taels noted above meant that most of the routine aspects of granary maintenance would not be mentioned in the documents sent to the central government—hence, the difficulty of articulating any detailed description of overall operations. However, based on the few memorials we have found on the subject, it appears that some granaries did go without repair for decades, until their roofs leaked, their plaster cracked, their framework totally rotted, and they had become altogether unfit for storing grain. At some point, it was decided either to restore them or to tear them down and build anew (*chexiu*). Yet the question remains—why wait so long? A document of 1786 concerning Shidai County, Anhui, suggests that the most common reason may simply have been a lack of funds in the provincial budget.<sup>76</sup>

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<sup>73</sup> This might concern more than one granary or even more than one county. See, for example, Huguang governor-general Sanbao, ZP, GZD: QL 034099 (43/2/3), regarding the construction of new storage buildings in several counties of Hubei following an intraprovincial transfer of reserves. The one thousand-tael rule is also mentioned in 1786: see Anhui governor Shulin, ZP, GZD: QL 048338 (51/6/8).

<sup>74</sup> See Jiangxi governor Xianfu, ZP, GZD: JQ 013527 (14/3/6), concerning repairs to be effected on the ever-normal granary of Taihe, Jiangxi.

<sup>75</sup> See Zhili governor-general Nayancheng, ZP, GZD: JQ 019596 (20/8/17).

<sup>76</sup> See Anhui governor Shulin, ZP, GZD: QL 048338 (51/6/8). Of the fifty-two bays of the Shidai ever-normal granary, nine dated back to 1734, eight to 1737, and thirty-five to 1741; as none had been subjected to any repair since their construction, all were in a deplorable state. A former provincial treasurer had petitioned for their rehabilitation, citing an estimated cost of 1,224 taels (23.5 taels per bay), but as there were no funds available

Another example of very old and damaged, but still functional, granaries is provided by Yi County, the leading county of Laizhou Prefecture, Shandong. In 1777 this county had sixty-one bays of “tiled or thatched granaries” (*wacao aofang*), so old that there were no documents extant on their construction and so damaged that the intendant and prefect ordered their demolition. It was proposed to transfer the grain to the newer bays of the prefectural granary (*fucang*), some of which were vacant since part of the prefectural stocks had been transferred to other counties.<sup>77</sup> Yet another example comes from Liaoyang Department in Fengtian Province, about which a report of 1782 stated that no granary repairs had been made over the past twenty years. The buildings’ roofs, beams, and walls were consequently in very bad condition. While twenty years crops up in several documents as the maximum acceptable interval between repairs, the same report indicates that the granaries in Ninghai County, in the same province, had gone without repairs since their construction—that is, since before 1734 for one-third of the granaries and since 1757 for the remainder. By 1782, half a century later, the roofs were collapsing, the foundations were caving in, and the walls were full of cracks.<sup>78</sup> Worse yet, in Taihe

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it had been ordered to “find some solution to prop up the framework.” Two years later, the new treasurer reported that the situation was even worse and asked the governor to memorialize again. This time funds were found, allocated from assets confiscated in the wake of the 1781 Gansu scandal. *Juste retour des choses* . . . On the Gansu affair, see below, chapter 7.

<sup>77</sup> See Shandong acting governor Guotai, ZP, GZD: QL032359 (42/8/22). It may be noted, incidentally, that, according to this document, the *jian* of the prefectural granary had a capacity double that of the *jian* of the county ever-normal granary.

<sup>78</sup> See Quankui, ZP, GZD: QL 041375 (47/4/24). Boxing, ZP, GZD: QL 044017 (48/2/7), from the following year, gave similar information for two other counties of Fengtian, Tieling and Kaiyuan. It may be noted that the proposed prices per bay ran much higher in Fengtian than in the other places mentioned in our documents, being in the eighty- to ninety-tael range as opposed to the twenty to forty taels obtaining elsewhere. It should be noted, too, that in 1778 Fengtian had been subjected to a thorough investigation of its granaries, performed by two Manchu subchancellors of the grand secretariat; the latter had reported very satisfactory storage conditions and had found stocks so large, when extra-quota quantities were taken into account, that they suggested reductions. For each county, they enumerated the number of bays in good repair, to be repaired, or to be

County, Jiangxi, we find rehabilitation of the local ever-normal granary, of which six bays dated back to 1746 and another thirty-one to an unspecified antiquity, being proposed for the first time in 1809, by which time all were on the verge of collapse. The cost of repairs to these structures would have been much higher than the estimated cost of 25.8 taels per bay for brand new facilities.<sup>79</sup> Despite so many reports of dire defects in granary buildings, it should not be thought that these problems went unremarked by the central authorities. To the contrary, we know that in 1803 an inquiry into the physical conditions of aging and deteriorating public buildings throughout the empire was ordered, the purpose being to allocate funds for repairs and new construction. It is indeed unfortunate that we have been unable to track down any indication of the results of the survey.<sup>80</sup>

Nevertheless, these and other examples do point to the possibility of a rather careless attitude toward granary maintenance during the late eighteenth and early nineteenth centuries. The reasons for such negligence are not altogether clear, particularly when one recalls that magistrates were explicitly held responsible for spoilage losses due to inadequately maintained facilities.<sup>81</sup> We might mention, as a case in point, the example of a Guangxi magistrate who, in the fifth month of 1812, lost 6,428 *shi* of ever-normal grain when heavy rains seeped into the granary. He did not report these losses, "in order to avoid punish-

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dismantled (in the many cases where there was an overcapacity). But Quankui's and Boxing's memorials, which date from only four or five years later, suggest that the investigators had been rather conservative in their evaluation of granaries "to be repaired." See Fuchashan and Mingtong, ZP, GZD: QL 034815 (43/5/1).

<sup>79</sup> See Jiangxi governor Xianfu, ZP, GZD: JQ 013527 (14/3/6). Here, too, funding was to come from the proceeds of the Gansu scandal confiscations, now nearly thirty years old, along with money from the tax on iron (*tieshui*).

<sup>80</sup> Quoted in Zhili governor-general Nayancheng, ZP, GZD: JQ 019596 (20/8/17). Nayancheng's 1815 memorial concerned a granary in Qingyuan, Zhili, that had only been repaired twice, in 1768 and 1781.

<sup>81</sup> Interestingly, in none of the above-mentioned cases of very old, cracked, and leaking granaries were the magistrates (or their predecessors) considered responsible and impeached.

ment.”<sup>82</sup> In the same year, another Guangxi magistrate lost 2,834 *shi* of ever-normal grain in the same way, “excessive” rains having caused the granary to crumble. He was obliged to “misappropriate” (*nuoyong*) 570 taels for repairs,<sup>83</sup> suggesting that the loss would have been considered his personal responsibility, perhaps because he had not reported the need for repairs.

In conclusion, we should also note that the central government itself was sometimes derelict in maintaining the granaries that sheltered its own fiscal revenue. As early as 1754, twenty-eight of the forty-eight buildings which formed the critical Northern Granary (Beicang) in Tianjin were found to be unfit for storing grain because of leaking roofs and missing planks.<sup>84</sup> In 1801 the situation had become much worse: a memorial stated that if nothing was done, the Northern Granary would be in ruins (*quan cheng feiwu*) within two or three years.<sup>85</sup> The necessary refurbishment, for which a budget of 8,000 taels was proposed, was probably carried out, since in 1808 the Northern Granary was reported to be in almost satisfactory condition.<sup>86</sup> We also know that in 1807 repairs underwritten by merchant funds were made, but they must not have been very well done since, in 1809, rainwater again leaked through the roofs—actually accumulating in some buildings—and

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<sup>82</sup> See Guangxi provincial treasurer Ye Shaokui, ZP, GZD: JQ 018335 (20/4/10), reporting on an investigation of this and another magistrate of Gui County, whose irregularities had been discovered when a third magistrate had refused to accept the “transmission of post” proposed by his predecessor because of significant shortages of grain. When the magistrate so charged was cashiered for another affair, he had not yet bought back his missing grain.

<sup>83</sup> See same author, ZP, GZD: JQ 018337 (20/4/10), concerning an investigation into the irregularities found in Rong County.

<sup>84</sup> See Zhili governor-general Fang Guancheng, ZP, GZD: QL 007038 (19/6/20). The totality of the Beicang had been in full service since 1763. The twenty other buildings had been “recently” repaired.

<sup>85</sup> See governor-general of grain tribute Tiebao, ZP, GZD: JQ 006041 (6/9/2).

<sup>86</sup> Court letter, GZD: JQ 011649 (quoting from an edict of JQ 13/7/13).

spoiled the tribute grain. New repairs were accordingly decided upon, again financed by merchant funds.<sup>87</sup>

Special regulations existed for the maintenance of the metropolitan granaries, and much rehabilitation seems to have taken place in the mid-1770s and later.<sup>88</sup> Nevertheless, it was reported in 1809 that many were quite dilapidated and in urgent need of repair. Two had been completely flooded by several days of heavy rainfall, and a new investigation of the “white rice” granaries revealed that not one of them was waterproof; some bays were, in fact, full of water, and in some instances the rice had been “transformed into a solid mass.” Provisional measures were proposed to save what could be saved of the old stocks and to provide adequate storage for the new tribute grain that was just arriving.<sup>89</sup> Whatever the immediate effect of these repairs, their long-term impact is in doubt. In 1821, a memorial reported that water, sometimes to a depth of several feet, had been stagnating for months in some granary compounds because the ground had caved in and drainage was impossible. Attempting to explain the source of such “caving in,” the author suggested, rather remarkably, that granary personnel, apparently in an effort to conceal shortages, might have dug up the earth to mix with the grain!<sup>90</sup>

Whatever the limitations of the evidence just adduced, the difficulty of maintaining high-quality storage facilities very likely constituted yet another significant stumbling block in the overall system. The probable consequences of neglect were either massive spoilage, often unreported, or the already noted tendency of officials to limit actual storage, insofar as was possible, rather than risk substantial losses.

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<sup>87</sup> See Elebu, ZP, GZD: JQ 014786 (14/7/12).

<sup>88</sup> See HDSL (1899 ed.), 871, *gongbu, cang'ao, xiuqi*.

<sup>89</sup> See GZD: JQ 014657 (undated fragment).

<sup>90</sup> See censor Qiu Jiawei, ZP, GZD: DG 000060 (1/4/28).

*Problems of Turnover*

Failure to adhere to the prescribed rates of turnover also increased the probability of spoilage. As we saw in chapter 3, actual turnover rates were often less than the recommended 30 to 50 percent per year, and this became increasingly the case as the system matured. It will suffice to recall here that demand for government grain tended to be very unevenly distributed over time and in many provinces was quite low in years when local stocks were sufficient and markets had plenty of high-quality, inexpensive grain. In such circumstances, officials had three options: (1) compulsory sales, often denounced but probably not very easy to do, and which, in any case, deprived the ever-normal system of much of its appeal and usefulness to the people;<sup>91</sup> (2) the sale of poor-quality government stocks at low prices, which put the financial autonomy of the system in jeopardy; or (3) continued storage of old grain, with all the risks and costs such a course entailed. By way of concluding this chapter, let us look at some cases, admittedly extreme, that illustrate the last option.

The most striking example of overstocking we have encountered occurred in Fujian in the mid-eighteenth century. Landlocked by mountains on its continental borders and subject to restrictions on maritime transportation of food grains,<sup>92</sup> Fujian was densely inhabited and had a highly commercialized agriculture that normally did not produce enough food to sustain the local population. We have seen in Part I that the province's ever-normal granaries frequently distributed large amounts of grain in the 1720s, 1730s, and 1740s. There is evidence that,

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<sup>91</sup> See, for example, an "accepted memorial" of 1799 concerning the accumulation of abuses in the ever-normal system. The author denounced forced selling in years of adequate harvest at prices lower than reported (the difference being pocketed by the officials and underlings) and proposed that sales and loans be forbidden in years devoid of disasters in order to "avoid harassment of the people" (*HDSL* [1899 ed.], 189, *hubu, jichu, changpingcang cuntiao dingli* [Rules on Keeping and Selling Ever-Normal Stores]).

<sup>92</sup> As far as the ban on maritime transportation of food grains was enforced, of course: on that problem, see Will, *Bureaucracy and Famine*, 216–25. Note that grain transportation between Taiwan and Fujian was not included in the ban—in fact, Taiwan was a major exporter of rice to mainland Fujian during the eighteenth century.

at least up through the early 1750s, these operations worked very smoothly, regularly yielding “surplus silver” (*yingyu yin*) through the routine selling and buying back of grain. By 1763, however, the situation, as described by Governor Dingchang, had evidently become one of underutilization.<sup>93</sup> Not only were granaries filled practically to their quotas,<sup>94</sup> but, as crops had been consistently good for years, officials were unable to effect sufficient turnover. Stale grain was piling up; nearly one-quarter of the reserves was more than ten years old. To dispose of the old grain, the governor proposed that it be distributed to the military as wages (by which means some 420,000 *shi* had, in 1761, been gotten rid of, though this could not be done on a regular basis) or lent to the poorest inhabitants (in spite of the local regulation against the lending of ever-normal grain). He anticipated that close supervision would be necessary to ensure that the officials and clerks in charge would not allow fresher (i.e., more easily disposed of) grain to be distributed first. Unfortunately, we do not know if appropriate action was taken or the desired results achieved.

Other examples of overstocking that increased spoilage risks are documented for Guangxi in 1765,<sup>95</sup> and Fengtian in 1788. In the latter case, two officials of the grand secretariat charged with investigating the granaries found that there was too much government grain in Fengtian, especially if extra-quota reserves and grain collected as tax in kind were taken into account. As both civilian and military demands were low, turnover was difficult, and although outright losses from spoilage had reportedly not yet occurred, the risk remained high. Thus, it was decided there must be some reduction of the reserves, accompanied by a corresponding decrease in storage capacity. Prime examples of how this policy translated into practice are provided by the two

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<sup>93</sup> See Fujian governor Dingchang, ZP, GZD: QL 014240 (28/2/15).

<sup>94</sup> Fujian had one of the highest “targets” in the empire: according to the same author, 3,300,000 *shi* (including 650,000 *shi* in Taiwan).

<sup>95</sup> See Guangxi governor Song Bangsui, ZP, GZD: QL 020862 (30/6/27). This author attributed the local accumulation of stale grain and the ensuing losses to the lack of a coherent set of turnover regulations in Guangxi.

coastal counties of Jin and Ningyuan, where for several years particularly large quantities of grain had been amassed to meet demands from outside the province but had not yet been used; a 50-percent cut in these reserves (originally, 100,000 *shi* each) was strongly urged. In 1799, we find Fengtian yet again beset by the very same problem, with old grain reportedly “piling up” (*chenchen xiangyin*) all over the place. By way of ameliorating the situation, annual sales of 20 percent of reserves and the cessation of purchases in excess of quota were recommended.<sup>96</sup>

### CONCLUSIONS

Ironically, to the extent that they resulted from the government’s skill at mobilizing large quantities of grain for long-term storage, situations such as those just described might well have been no more nor less than the price of success. The problem with any system of long-term storage is that the economic costs of such storage may easily outweigh its benefits as an insurance scheme. It freezes assets that lose value over time, due primarily—and, of course, unavoidably—to spoilage. The Qing answer to this challenge was to invest in a single institution—the ever-normal granary—three quite different functions: (1) the provision of relief grain in times of disaster; (2) the stabilization of prices, by means of annual sales and purchases; and (3) the distribution of *soudure* loans in the spring, before the first crops of the year came in. In addition to the benefits the local people were to derive from them, sales and loans were fundamental to the all-important rotation of stocks—they were, in short, what made it possible to maintain large emergency reserves *and* to reduce the rate of loss due to spoilage.

In ideal terms, not only could the loss of value associated with long-term storage be minimized by the application of proper precautions against grain spoilage; to a certain extent, it might also be balanced by the small profits that accrued from the selling and purchasing process, equivalent to a sort of government-sponsored speculation on season price differentials, and by the small interest earned on loans,

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<sup>96</sup> See *HDSL* (1899 ed.), 189, *hubu, jichu, changpingcang cuntiao dingli*.

which, as far as the population was concerned, fulfilled more or less the same function as private loans, only on much more benevolent terms.

Yet, as we have just seen, any number of variables—a succession of plentiful harvests, for example, or the existence of well-stocked markets—could hinder the turnover of reserves or even make it nearly impossible. The examples adduced above are extreme cases: the unfortunate coincidence of large government reserves and exceptionally favorable climatic conditions stretching over a number of years, to the point where the reserves became useless to the population, was not, to be sure, a usual one. Yet even under more “normal” circumstances, preventing stocks from languishing in the granaries longer than was healthy was a weighty and complex burden for administrators. The evidence of decreasing turnover rates from the mid-eighteenth century on is proof of these difficulties. As a result, the problem of spoilage assumed increasing importance. Is it possible to assess its impact?

Even a crude quantification of the losses occasioned by spoilage in Qing granaries is impossible to propose. Our inability to provide accurate measurements, and the consequent impressionistic nature of much of what we suggest, persist through the succeeding chapters as well. Needless to say, they are as irritating for us as they probably are for the reader.

The very strict—indeed, unrealistic—authorized rates of spoilage for ever-normal granaries and the penalties (most notably, the financial ones) with which officials were threatened in the event of unauthorized losses elicited, as we have seen, a variety of approaches to the task of stock management. For one, magistrates might be motivated to a high degree of vigilance and do everything within their means to limit spoilage; to this end, they had at their disposal the excellent technology and procedures described at length above. When such precautions were not sufficient, or were not fully implemented, a second alternative was to replace losses at their own expense, as was stipulated in the regulations. A third course was to pretend to replace losses with personal funds while actually drawing on other public funds (the so-called *nuoyi* method), or to extract the necessary grain from the population on illegal terms. The numerous methods by which this might be accomplished

will be examined in detail in the next chapter. Yet another approach—the fourth option—was to conceal the shortages resulting from grain spoilage—or from any other cause—using various accounting sleights-of-hand or less artful tricks such as borrowing grain from local merchants when there was an inspection. And last, but not least, magistrates could limit the risk of losses simply by limiting the size of the reserves actually in store. This might be done by such quasi-legal means as postponing, under every kind of pretext, the replacement of sold or loaned grain.

The impact of any one of these five options on the system is easy to assess. In the case of the first and second alternatives, spoilage would have a negligible impact on civilian reserves. With the third, reserves would be maintained at or near their theoretical levels but at greater cost to the state and/or the population; this option might most appropriately be seen as having an indirect, albeit potentially significant, impact on the system. In the fourth and fifth scenarios, the actual level of usable reserves would be diminished as a direct or indirect result of spoilage. It is most probable that, at any given time, all of these options were being used within the system to varying degrees. In other words, the overall impact on the system of what is basically a technical constraint—the difficulty of controlling spoilage—depended upon a number of variables, to which climatic conditions should, of course, be added.

The evidence available is much too diffuse for us to speculate about the magnitude of actual grain losses. We have encountered (and will mention later) examples of both very low and very high reported rates of spoilage. These reveal no discernible temporal trend, except, perhaps, an overall increase in the late eighteenth century. As in so many bureaucratically controlled institutions, a sort of cyclical pattern seems to have prevailed, with periods of diligent attention to the overhauling of the storage building and other infrastructures alternating with periods of *laisser-aller*.

Given the excellent preservation techniques available throughout the Qing, we do not believe that the “physical” (or technical) variable per se was predominant. It was, rather, only indirectly significant: despite its potentially catastrophic effects, spoilage can only be categorized as

a *risk*, as a potential source of extra costs, and as a stumbling block that administrators, working within the context of a bureaucratic system characterized by a preference for minimal funding and an inclination toward enforcing conformity through sanctions, might want to bypass by any available means. Most important for our purposes is the extent to which the administrative hierarchy was able to (1) monitor spoilage losses in each of the scattered units of the granary network; (2) prevent local officials from concealing or replacing such losses in ways that were disruptive to the system; and (3) mobilize, if need be, the necessary funds to keep the institution from losing its “reality” (as opposed to “name”)—simply put, another set of variables altogether.

By nature both systemic and historical, this new group of variables was at once dependent upon factors that were built into the institutions we are describing *and* responsive to changing historical circumstances. Our next two chapters offer an analysis of the systemic (or structural) aspects. We will, however, make it a priority to keep track of the articulation between structure and history and will return to it in the concluding remarks to each chapter.

# Management

Pierre-Étienne Will

The difficulties encountered by the government as a purchaser of grain—whether for the purpose of restocking granaries or of building up new reserves—may be viewed as a product of two basic contradictions, one economic, the other organizational. First, while active build-up of reserves, as well as systematic and fast restocking, enabled state granaries to work at maximum capacity and successfully weather severe crises, to be weighed against these benefits were the adverse effect of price increases, if not grain scarcities, both very possible consequences from an overly active program of market purchases by the government. Second, despite its conception at the very highest levels as an important duty of local magistrates and as a significant criterion in evaluating their performance, granary management nevertheless tended to be viewed by its executors as a source of considerable trouble, or even personal financial loss. These fears often resulted in a preference for limiting as much as possible the storage of actual grain. One notable advantage of this approach (from the magistrates' point of view) was that it diminished the difficult task of disposing of old grain and ensuring turnover

when market prices were low. Both of these tensions worked against the smooth operation of the system: in particular, they were the catalyst for the development of such illegal practices as compulsory buying and selling at unauthorized rates, concealment of deficits, and accumulation of silver in lieu of grain.

Along similar lines, the difficulties involved in the proper management of grain loans distributed among a multiplicity of borrowers also tended to discourage magistrates from ensuring the necessary turnover of loans and repayments. As a result, a sizable part of the statutory reserves might be converted into IOUs that no one tried seriously to recover.

This and the following chapters are given over to an analysis of these difficulties and the risk they represented in terms of numerous “irregularities” associated with the purchasing, selling and lending processes in Qing civilian granaries, as well as to an examination of the policies that anticipated them. It should be stressed from the start that neither the difficulties nor the irregularities resulted simply from a deficient bureaucracy or an ill-designed system. Rather, they derived in part from the very ambitious goals of the system and from the zeal with which some officials approached the tasks of making it work. Thus, at least in this sense, the problems to be analyzed below are a by-product of activity and commitment.

## PURCHASING PROBLEMS

### *Market Purchases*

The impact on food prices of a policy of government purchases that was both successful and active was first identified as a major problem during the mid-1740s and early 1750s. As early as 1743, an edict of the Qianlong emperor noted the consistently upward trend in grain prices despite policies that had been carefully designed to ensure that the people’s provisioning be plentiful and their tax burden kept to a minimum. The cause of this continued inflation, according to the emperor, was the strong competition engendered by government buyers on the market, and he proposed to halt temporarily both interprovincial buying

and private contributions in grain.<sup>1</sup> In 1748, the establishment of provincial targets which, in the majority of cases, represented a return to Yongzheng reserve levels and a significant cut in contemporary levels, was also based on the assumption that government restocking was the main cause of the inexorable escalation of prices that so worried the court.<sup>2</sup>

Similar concerns were regularly expressed during the next few years. In 1750, for example, when the governor of Shandong proposed to take advantage of an exceptional wheat harvest to buy 150,000 *shi* along the Grand Canal and to store the grain at Linqing and Dezhou, the Qianlong emperor expressed the fear, "The people will only suffer from consequent high wheat prices" (although no drought had occurred), and stated, "When the situation is not one of 'low prices injuring the peasants' (*gu jian shang nong*), one should not lightly advocate grain purchases (*caimai*)."<sup>3</sup> Then, in the seventh month of 1752, an imperial edict suggested that, in line with the proposals of various high officials, the replenishing of granaries be stopped or postponed whenever they had amassed 30 to 40 percent of the targets.<sup>4</sup>

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<sup>1</sup> Quoted in *Huangchao shihuo*, *shihuo* 5, *jizhu* 15. The governors' answers, recorded in the same source, were not very enthusiastic about the halt.

<sup>2</sup> See *WXTK*, 36.5194–95.

<sup>3</sup> See *WXTK*, 37.5197. A situation of "low prices injuring the peasants" would more typically occur in poorly commercialized areas. There, active government buying for the sake of the civilian granaries could be a benediction in years of unusually plentiful harvests, when prices tended to sink. Such was the case with the abundant wheat harvest of 1754 in Shaanxi, whose ill effects were compounded by an equally large autumn crop later in the year: see Zhongyin, *ZP*, *GZD*: QL 007601 (19/9/9); the author had just completed a military inspection tour of the province and seen the peasants bringing carts and mules laden with wheat to the marketplace in the morning, only to return home in the evening with baskets still full. In another memorial (*GZD*: QL 008874 [20/3/7]), Zhongyin advocated a rigorous program of government purchases to help the people earn the necessary currency to pay their taxes and other expenses.

<sup>4</sup> See *Gaozong shilu*, 418.13b–18a; interestingly, the source includes abstracts of the answers sent back by the governors, some agreeing, others insisting on going on with the restocking. Examples of the original answers include a memorial of Erongan, the governor of Shandong. Erongan noted that reserves in Shandong were already about 40 percent of

Such a policy, which at the time may have been thought of as definitive but was rather soon abandoned, contrasts sharply with the central government's customary approach, both before the 1740s and during the ensuing decades, of maximizing purchases.

Later that same year, the grand councillors stressed in a memorial the interprovincial scale of the problems generated by the incessant demands of the lower Yangzi granaries. According to this text,<sup>5</sup> the authorities of Jiangsu and Zhejiang used to send officials with sizable amounts of silver to every river port where rice was marketed on a significant scale.<sup>6</sup> As soon as their arrival became known, local broker (*yahang*) and dealers (*jingji*) raised prices, regardless of the quantities of grain the officials eventually bought. To avoid such merchant speculation, it had been suggested by one high official (cited in the memorial) that, in all areas that had river access to the surpluses marketed in Huguang and Jiangxi (this would include Zhili, Henan, Shandong, Hunan, Hubei, Jiangxi, Anhui, Jiangsu, and Zhejiang provinces), grain transfers be left to merchants. Official purchases beyond the purely local ones would be stopped, except in extraordinary circumstances and, as a result, merchants would no longer be tempted to speculate.

This proposal did not meet with much support from the various provincial governors. The governor-general of Huguang and the pro

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the provincial target and that loan repayments would increase this amount later in the year (the memorial was from the seventh month). Instead of halting purchases, however, he proposed keeping them to relatively low levels and limiting them to counties where actual reserves were dangerously low. In other words, he called the emperor's attention to the necessity of thinking in terms of local, not just provincial, conditions. See Erongan, ZF GZD: QL 002177 (17/7/28).

<sup>5</sup> Quoted in Huguang governor-general Yongchang and Hubei governor Hengwen, ZF GZD: QL 003068 (17/12/5).

<sup>6</sup> Indeed, they had been encouraged to do so: according to an entry in *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu* (Restocking Granaries), it had been decided in 1742 that when harvests seemed promising in Jiangxi and Huguang, the prices obtaining in riverine counties would be circulated among the various provinces in order to facilitate purchase (*caimai*). If the officials sent by the buying provinces found prices too high, then the local ever-normal granaries would transfer some of their grain instead, keeping the money for later restocking.

vincial governor of Hubei, for example, argued that many people depended on the granaries of the province (which, at that time, were about 50 percent shy of their quotas), and that such a move would only further deplete the stocks. Accordingly, they reiterated the standard recommendations of the day: invest the authority to decide on and execute purchases in the provincial rather than local authorities; the provincial authorities would then choose carefully areas where crops had been abundant and prices were low, avoiding buying too much grain at one time or in one place, and so forth.<sup>7</sup> Of course, the problem in Hubei was complicated by the fact that granaries convenient to water routes were required to send grain downriver whenever the lower Yangzi provinces suffered food shortages.

During the fourth month of 1753, stocks still were quite low in Hubei, amounting to about 200,000 *shi* out of a quota (itself rather low) of 520,900 *shi*. Huguang officials, however, hoped for transfers from the better-stocked Sichuan granaries.<sup>8</sup> By the seventh month, the deficit in grain to be bought back reportedly had been reduced to 132,000 *shi*. Purchases were contemplated, to take advantage of a plentiful wheat harvest, but the problem of brokers conspiring to keep prices high was again raised, and the governor of Hubei consequently decided to restrict buying for the moment and to spread it out over time. Later that same year, new purchases were again planned, this time for 400,000 *shi* above quota (called *jiazhu*, later included in the main quota), which were intended to satisfy the demands of neighboring provinces. Although the autumn harvest had been plentiful, counties easily reached by water in case of need were once again ordered to stop buying as soon as prices began to rise.<sup>9</sup>

The authorities of Shaanxi, also in 1753, referred to similar problems as they contemplated buying grain for the ever-normal granaries:

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<sup>7</sup> See note 5 above.

<sup>8</sup> See Hubei governor Hengwen, ZP, *GZD*: QL 003546 (18/4/4).

<sup>9</sup> See Hengwen, ZP, *GZD*: QL 004818 (18/20/21). In between, the projected transfer of Sichuan ever-normal grain had been abandoned because of transport costs.

they feared that government buyers might compete with the local people and, therefore, recommended that the setting of fixed time periods and fixed quantities for government purchases be avoided, as doing so would give merchants an opportunity to raise prices.<sup>10</sup> In Shaanxi, the main area in which stockpiling, speculation, and competition did pose a problem was the highly productive Wei River valley. This part of the province was often solicited by external markets such as Shanxi and Gansu, and in this way it was not unlike Hunan or Hubei, albeit on a smaller scale.<sup>11</sup>

Obviously, official competition with merchants and the risk of straining markets was a structural hazard in a commercial system where a few marketplaces controlled the supply of many counties and, possibly, provinces. Official attitudes toward this problem varied. Zhongyin, the governor of Shaanxi, who sounded rather hostile toward the merchants, proposed a ban on exports (he cited precedents of 1748 and 1749) and also suggested that stockpilers be forced to sell their grain at a profit of no more than 0.2 or 0.3 taels per *shi*.<sup>12</sup> But the role of merchants was not always seen in such a negative light. Not a few officials, in fact, conceded that wholesalers and brokers were well positioned to act as regulators of the market in a positive way, provided they were licensed by the government, put into competition, and properly controlled.<sup>13</sup> And it even happened (although this, of course, was illegal) that purchase funds were sometimes entrusted to brokers

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<sup>10</sup> See Shaanxi governor Zhongyin, ZP, GZD: QL 004054 (18/6/16).

<sup>11</sup> See Shaan-Gan governor-general Yang Yingju, ZP, GZD: QL 015160 (28/6/11); and, ten years earlier, Shaanxi governor Zhongyin, ZP, GZD: QL 002246 (17/8/10) and QL 002309 (17/8/21).

<sup>12</sup> See Zhongyin, memorials referred to in the preceding note.

<sup>13</sup> See, for instance, Zhili governor-general Fang Guancheng, ZP, GZD: QL 014929 (28/5/14); and Shaan-Gan governor-general Yang Yingju, ZP, GZD: QL 015160 (28/6/11). Both were answering an edict of 1763 that inquired about the responsibility of brokers in the rise of prices.

(*hanghu*), who were granted generous deadlines for bringing the grain back to the granaries.<sup>14</sup>

In any case, it is important to stress that the imperial policy decided upon in 1752, which drastically limited official purchases and ordered that reserves be levelled off at no more than 30 to 40 percent of their targets, was only a temporary one.<sup>15</sup> On the other hand, caution in buying government grain continued to be recommended during the following decades. In fact, certain policies to that effect tended to be counterproductive. So did, for example, the decision made at the turn of the nineteenth century to oblige county officials to purchase grain *outside* their jurisdictions: in Hubei, at least, it was claimed that this would mean that government buyers could be sent to only the three main provincial markets (at Hankou in Hanyang County, Shashi in Jiangling County, and Yuekou in Tianmen County) and would consequently induce wholesalers to push prices upwards.<sup>16</sup> Many other examples along these lines could be cited.

*Purchase Postponement.* To be sure, there is some evidence that, in not a few cases, the “fear of endangering the people’s subsistence” (*kong fang minshi*) was employed merely as a pretext to postpone buying. This was, of course, in line with the magistrates’ own interest in limiting reserves in real grain and evading the technical difficulties

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<sup>14</sup> See acting Huguang governor-general Kaitai, ZP, GZD: QL 004215 (18/7/12); the memorial also criticized the practice of sending down funds in advance to local officials, who then enjoyed comfortable delays before having to decide on purchases.

<sup>15</sup> The latest mention we have encountered of the 1752 edict appears in a memorial by Shandong governor Yang Yingju dated 1754 (ZP, GZD: QL 005752 [19/1/26]). Yang reported on recent restocking in Shandong and stated that, since actual reserves now exceeded the 40-percent mark (his figures indicate some 47 percent), there was no pressing need to continue purchases. By contrast, an edict of 1757, although claiming that the decision on reduced provincial targets in 1748 had slowed price increases, nevertheless stressed that this was no excuse for neglecting to make up the deficits and that the quotas must be duly met—a requirement that was to be regularly reiterated during the ensuing years. See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>16</sup> See Hubei provincial treasurer Sun Yuting, ZP, GZD: JQ 006089 (6/9/7). On the temporary obligation of magistrates to buy outside their counties, see below.

of purchase and storage: the same reasons led many an administrator to simply report “high prices” at the time of restocking in order to justify delays. Leaving aside such cases of self-interested policy making, the fact remains that the principles upon which the ever-normal system rested did entail real price problems. For this reason, the regulations of necessity allowed for some postponement.

It is important here to recall that, in theory, two different sets of price regulations applied to government grain purchases: first, in the case of buying back grain that had been sold to the people, the authorized amount to be expended was determined by the price that had been obtained at the time of the sales so that, in principle, no money would be lost in the operation; and second, when purchases did not correspond to previous sales—that is, when grain that had been transferred elsewhere or distributed as free relief had to be replaced or when new reserves were being built up—a maximum price was fixed in each province by administrative precedent and, in theory, was considered immutable.<sup>17</sup>

Let us begin by looking at the problems engendered by the first sort of regulation. In line with the general principles outlined in Part I, officials expected that the difference between spring and autumn market prices would be large enough to finance granary operations—knowing, of course, that in most cases the spring sales were transacted at below-market prices. Was this expectation generally met? We do find examples of the selling and buying cycle generating profits, at least through the 1780s.<sup>18</sup> But it is clear that in other cases the seasonal curve

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<sup>17</sup> This distinction is clearly set forth, for example, by Liang-Jiang governor-general Yinjishan, ZP, GZD: QL 017505 (29/4/11).

<sup>18</sup> In other words, the system was able to produce “grain above theoretical reserves” (*yi’e gu*) or “surplus silver” (*yingyu yin*). Examples include Fujian during the 1750s, where, according to Governor Zhongyin (ZP, GZD: QL 012856 [21/9/7]), benefits were typical of years with second-rate crops and sizable sales of ever-normal grain; Hubei, where in the same period 100,000 *shi* of “grain above theoretical reserves” had been available to help build up a new reserve (*jiazhu gu*) of 400,000 *shi* (see Hubei governor Zhang Ruozhen, ZP, GZD: QL 011692 [21/4/15]); Hunan, which by 1780 had “surplus silver” totalling 68,001 taels (see Hunan governor Liu Yong, ZP, GZD: QL 040339 [46/12/16]); and Shaanxi in 1753 (see Shaanxi governor Zhongyin, ZP, GZD: QL 005154 [18/11/22]) and

of local prices did not allow the magistrates to buy back as much grain as they had sold during the lean period. This created a situation which was routinely summarized by the phrase “the original price is insufficient” (*yuanjia bu fu*).

The regulations acknowledged, to a certain extent, the reality of this problem. A decision of 1735 allowed that, when prices were too high at the time of restocking, the operation could be postponed until the following autumn, with the money earmarked for restocking to be temporarily deposited in the prefectural treasury. Another decision, of 1736, ordered that the money available within one province for buying back *pingtiao* grain be redistributed among counties with local prices being taken into account. In other words, surpluses generated in one county might be used to buy grain in another; such a “temporary arrangement to replenish [counties having difficulties in restocking]” (*tongrong bobu*) was meant to prevent deficits from accumulating and to dissuade officials eager to restock at any cost from indulging in illegal methods.<sup>19</sup> The same principle was reiterated in 1742: postponement was allowed only when a county retained enough reserves to face potential emergencies; if reserves were insufficient for this purpose, county officials were to request a transfer of surplus silver from other counties.<sup>20</sup> Yet another decision, dating to 1737, explicitly limited the possibility of postponement to one year: if crop failures had induced a general price increase over a larger area—thus rendering transfers of surpluses or purchases between neighboring counties impossible—the money would be deposited with the provincial treasurer until the next

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then in 1782, when surplus reserves in both grain and silver were held (see acting Shaanxi governor Bi Yuan, ZP, *GZD*: QL 042071 [47/7/12]). In most cases, these profits do not appear very important compared with the aggregate level of government storage.

<sup>19</sup> See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>20</sup> As stressed in the edict, this was a departure from the former rule of “replenishing the reserves of one county with its own surpluses” (*yi benyi zhi yingyu wei benyi zhi bobu*) and “forbidding transfers from other counties” (*qita zhouxian bu de tongrong*), which had been established during the Kangxi reign and entailed that postponements be officially authorized in the case of local high prices. See *WXTK*, 36.5191.

autumn, at which time, it was firmly stated, purchases would have to be effected at all cost, either through intraprovincial transfers of surpluses, if need be, or even by drawing on special funds from the provincial treasury. Further postponement would be punished in accordance with the offense of “carelessness in handling granary reserves” (*wanshi cangchu*).<sup>21</sup> Responding to a general edict of 1737 concerning the abuses that were crippling the restocking process, the Shandong governor mentioned a “new precedent” that allowed the assignment of provincial funds (*cungong yinliang*, i.e., funds of *huohao* origin) to supplement insufficient purchase funds (*yuanjia bu fu*).<sup>22</sup> A regulation of the following year still made use of the *tongrong bobu* notion, accepting the notion of delaying purchases until the following wheat or even autumn harvest and mentioning the possibility of buying grain in neighboring provinces graced by low prices.<sup>23</sup>

It is clear that these various regulations were not enough to prevent restocking delays from accumulating. In particular, it is doubtful that the state ever strictly enforced the principle that limited authorized postponement to one year. On the contrary, there are countless cases of restocking arrears dating back several years. For example, in the restocking section of the *Collected Statutes and Precedents*<sup>24</sup> we find that, as early as 1740, grain from 1739 and 1738 remained to be restocked in Zhejiang; further postponement was even authorized for some calamity-stricken counties. That same year, the governor of Anhui reported that

many granaries in different counties have deficits. According to precedent, the money from sales at reduced prices should be used to replenish granaries after the autumn harvest, but selling prices are low and buying prices are high. Each year a number of magistrates, afraid of incurring liabilities, postpone [the buying]. In some

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<sup>21</sup> *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>22</sup> See *Huangchao shihuozi, jizhu*, 10.

<sup>23</sup> See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>24</sup> *Ibid.*

cases the restocking has still not been completed even several years after the grain was sold.<sup>25</sup>

Other decisions indicate that, in fact, accumulating the proceeds from sales done over several years was both unavoidable and tolerated. To give but one example, an edict of 1746 recommended that, in the event of exceptionally plentiful harvests of both spring wheat and autumn cereals, “the income from grain sales kept in store year after year” be used to make purchases in various places.<sup>26</sup> Some subsequent memorials suggest that it was common for magistrates to place their hopes in the possibility of very good harvests, which would enable them to replenish their granaries after deferring purchases for a number of years.<sup>27</sup> In 1772, a decision reporting on the purchase of grain in arrears apparently took it for granted that the arrears had been accumulated over more than a few years, a point that is confirmed, implicitly and explicitly, by many other memorials. By the nineteenth century, arrears of long standing had become the rule.<sup>28</sup>

There were many reasons for this more or less universal shift from short-term to long-term restocking delays. We have already mentioned the risk that buying prices would exceed selling prices, a situation which could easily last for more than one year. During the early Qianlong period, as we have seen, the government tried to forestall the resulting accumulations of arrears by authorizing intraprovincial transfers of

<sup>25</sup> See *Gaozong shilu*, 110.16a–17a.

<sup>26</sup> Of course, due attention had to be paid to the risk of inducing price increases: the text is from the same period as the various edicts against excessive purchases referred to above. See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>27</sup> See, for example, Hubei provincial governor Shen Shifeng, ZP, *GZD*: QL 008243 (19/12/8).

<sup>28</sup> One additional reason may have been that, at the provincial level, postponement of purchases appears to have been all the easier since a simple communication (*zi*) to the board—which could give its approval without referring to the emperor—was enough. This is implied in a memorial by Huguang Circuit investigating censor Kuichang (ZP, *GZD*: JQ 017392 [19/8/28]), who asked that the harvest situation be exposed in a memorial sent to the emperor for rescript. In fact, such reports were quite common in earlier decades.

*gujia* (proceeds from *pingtiao* sales) surpluses and even by allocating special funds from the provincial coffers. But available surpluses, when present at all, seem to have been rather modest in the majority of cases. And if the use of special funds was at times reiterated as a possibility,<sup>29</sup> archival sources suggest that it was not routinely resorted to: where price stabilization was concerned, the government preferred to maintain existing reserves in an autarkic way and to keep external funding to a minimum.

This, of course, did not preclude external intervention to enlarge the statutory reserves or rebuild them when grain had been disbursed free of charge, and the postponement of purchases per se did not undermine the system as long as it was kept within reasonable limits. That in the end—at different times, according to locality, but overall during the very last decades of the eighteenth century—these limits were consistently exceeded can be traced to a combination of the various structural constraints examined in these chapters and of causes external to the institution that made it impossible to cope effectively with them.

*Regulated prices.* Systemic limitations and a lack of the sort of flexibility just described can be observed in the programs of purchases undertaken to replace grain loaned to the military, given as famine relief, or transferred to other provinces (as opposed to replacing *pingtiao* grain). In such situations, the prices used were the province-specific “fixed prices” (*dingjia*), also called “prices set by precedent” (*lijia*<sup>b</sup>) or “quota prices” (*ejia*).<sup>30</sup> These prices also appear, at least in

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<sup>29</sup> For example, an edict of 1766 cited in *HDSL* ([1899 ed.], 191, *hubu, jichu, maibu canggu*) specified that when provincial funds were insufficient the emperor might be memorialized and would perhaps decide upon a transfer of funds (*bo gei*).

<sup>30</sup> The following examples of provincial “fixed prices” have been culled from various memorials: Shaanxi, 1.2 taels per *jingshi*<sup>b</sup> of wheat (on the nature of the *jingshi*<sup>b</sup>, see below, chapter 8) and 0.6 taels per *jingshi*<sup>b</sup> of unhusked grain (*gu*); Hubei, 0.5 taels per *shi* of unhusked grain; and Jiangsu, 1.2 taels per *shi* of husked grain (*mi*). One text on Gansu Province gives a range of 1.2 (for inferior grain) to 2.0 taels (superior grain) per *jingshi*<sup>b</sup> in “highway areas” (*dalü*), the corresponding figures in “secluded areas” (*pilu*) being 1.1 and 1.7 taels, respectively. In Sichuan in 1808, 0.55 taels per *shi* is mentioned as the fixed price; and in Fujian in 1839, the rate was 0.78 taels per *shi*. A text devoted to

actual practice, to have been the basic rate used to calculate the amounts due from magistrates having to repay shortages (or worse, having to repay “missing” grain to their successor at the time of the post-transfer operation, while this grain in fact had oftentimes been sold at the market for better than the basic rate).<sup>31</sup> We shall see in chapter 7 that the accumulation of such “silver-grain” from magistrate to magistrate became particularly significant during the late eighteenth century, and that it posed serious problems when an actual purchase of grain was attempted or ordered.

These difficulties, which the sources reveal as significant obstacles to effective restocking of the ever-normal granaries, were largely a consequence of the secular rise of prices that took place throughout the eighteenth and early nineteenth centuries,<sup>32</sup> combined with the reluctance of the Board of Revenue to adjust officially set prices which, apparently, had been fixed in the 1730s and 1740s.<sup>33</sup>

The examples that we have encountered are much too scattered to allow generalization, but it seems that the board’s conservative adherence to “precedent”—a structural weakness in the Chinese administrative mentality—and the resulting immutability of the provincial “fixed

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the problems of restocking in Shaanxi Province suggests that the *lijia*<sup>b</sup> could also be set as the maximum authorized price for restocking *pingtiao* grain when “surplus silver” or provincial money was used to supplement the proceeds of previous sales (see Shaanxi governor Mingshan, ZP, GZD: QL 022325 [32/7/11]).

<sup>31</sup> This accusation was leveled against magistrates in an edict of 1798. See *Huangchao shihuozi, cangchu*, 21.

<sup>32</sup> See Wang, “Secular Trend of Prices,” 347–71.

<sup>33</sup> On the resistance of the board to any revision of the “fixed prices,” see, for example, Shaanxi governor Fang Weidian, ZP, GZD: JQ 012529 (13/11/24). Fang had asked for an exceptional hike in the official price (here called the “board price,” *bujia*), from the customary 0.6 taels per *shi* of unhusked grain to 0.91 taels in the Hanzhong area of Shaanxi, but had been twice refused by the *hubu* and was apparently refused once more. The following year, a new proposal of 0.81 taels was made (same author, ZP, GZD: JQ 013647 [14/3/22]) and met with a similar response. The same thing happened in 1810, when Governor Chengning asked for an increase of the authorized price in northern Shaanxi (see Shaanxi governor Zhu Xun, ZP, GZD: JQ 017394 [19/12/28]).

prices” had by the 1780s, at the latest, become a permanent problem. While cases of market prices exceeding the *lijia*<sup>b</sup> had no doubt occurred earlier, they seem to have been sufficiently offset during years when prices were low that they did not pose a threat to the overall system. During the early and mid-Qianlong reign, actually, there are documented cases of fixed-price grain purchases working smoothly, for example, in Shaanxi from 1753 to 1782.<sup>34</sup> In a memorial of 1764 that addressed restocking problems, the governor-general of Liang-Jiang, Yinjishan, simply stated that the *lijia*<sup>b</sup> fixed “a long time ago” should be retained—that is, one supposes, did not raise particular difficulties—and that insufficient funds could be supplemented with the surplus silver resulting from the routine transaction of annual sales and purchases.<sup>35</sup> Earlier still, in 1752, Shandong governor Erongan had remarked on the difficulty of restocking granaries while staying within *lijia*<sup>b</sup> prices in years when grain was expensive: interestingly, he noted that in such years magistrates were not even able to advance funds (*peidian*) from the local treasury to supplement insufficient purchasing funds, from which we may infer that this was one of the methods used to solve the problem. Nevertheless, he estimated that a permanent increase of the “official price,” although called for by some, “was difficult to propose lightly” (*zi nan qingyi*) and he therefore declined to support the suggestion.<sup>36</sup>

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<sup>34</sup> According to Shaanxi governor Zhongyin, ZP, *GZD*: QL 18/11/22 [1753], the price of 1.0 taels per *jingshi*<sup>b</sup> of husked grain, plus 0.1 taels for transport costs, specially set for the provincial granary at Xi’an, allowed for restocking within a radius of about a hundred *li*. At the end of the period, in two memorials sent by Governor Bi Yuan (ZP, *GZD*: QL 036041 [43/8/16] and QL 042071 [47/7/12]), we do not find mention of any particular difficulty with the official price of 1.2 taels per *shi* of wheat: simply, the purchases had to be stopped as soon as local prices began to rise.

<sup>35</sup> Yinjishan, ZP, *GZD*: QL 017505 (29/4/11).

<sup>36</sup> See Erongan, ZP, *GZD*: QL 001711 (17/5/11). Another source from Shandong also mentions “advances” (*peiyong*) made in 1754 by magistrates to supplement insufficient purchase funds; see *HKSS*, QL 20/12, *ce* 1, quoting from Governor Bai Zhongshan. The figures quoted reveal that the buying funds sent down by the provincial treasurer corresponded to the “fixed price” of 0.5 taels per *shi*, while the grain was actually bought at 0.67 taels per *shi*. The terms *peidian* and *peizhi* (or, here, *peiyong*) refer to advances for

On the other hand, the problems with fixed prices and the pressures to adjust them became more intense during the last quarter of the eighteenth century, as is attested by examples from Hubei from the years 1774, 1788, and 1801. According to a memorial submitted by Governor Chen Huizu in 1774,<sup>37</sup> the provincial fixed price of 0.5 taels per *shi* of unhusked rice was too low to permit the replacement of 480,000 *shi* that had been distributed as famine relief. The provincial treasury of Hubei was nonetheless forbidden to pay more than this, and so a rather complicated system, which included an obligation to generate profits in regular turnover operations, came into being in an effort to produce money surpluses for grain purchases. Given the usual narrowness of the seasonal price variation, this obligation to generate profit had the unavoidable effect of jeopardizing the turnover operations.<sup>38</sup> Similar problems were noted in 1788.<sup>39</sup> Finally, in 1801, Provincial Treasurer Sun Yuting simply stated that, while the Hubei *lijia*<sup>b</sup> had been correctly estimated at the time it had been established (probably in the early Qianlong period), it had over time become inadequate due to inflation. Even in a year of plentiful crops in Hubei, such as 1801, a *shi* of husked grain sold throughout the province for more than the authorized 1.0-tael price.<sup>40</sup> Clearly, outdated “fixed prices” had by then become a major difficulty, and, according to Sun Yuting, some alternative solution was required if chronic shortages were to be avoided.

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urgent public business made from reserve funds of “meltage fee” (*huohao*) origin; see Zelin, *The Magistrate's Tael*, 95, 176.

<sup>37</sup> Chen Huizu, ZP, GZD: QL 028001 (39/1/28).

<sup>38</sup> The magistrates were required to produce a 0.1-tael “supplement” (*yingyu yin*) per *shi* of grain sold and bought back. In order to do this, they had to wait for a market price of at least 0.8 taels per *shi* before selling grain in spring. Current prices in Hubei by then seem to have turned around 0.6 taels per *shi* (unhusked).

<sup>39</sup> See Huguang governor-general Bi Yuan and Hubei governor Huiling, ZP, GZD: QL 056143 (53/12/27).

<sup>40</sup> Sun Yuting, ZP, GZD: JQ 006081 (6/5/7). Quite probably, the White Lotus Rebellion had an impact of its own on prices during these years.

That officials were aware of and concerned about the deleterious effects of insufficient fixed prices is reflected yet again in the unsuccessful attempts of the governors of Shaanxi during the first decade of the nineteenth century to secure from the Board of Revenue a revision of the fixed buying prices in both the Hanzhong and northern areas of their province, which efforts we have already noted above.<sup>41</sup> In 1813, it was again reported that, in spite of comparatively plentiful harvests in Yan'an Prefecture, the fixed price was far too low for adequate restocking to be done.

These examples from both Hubei and Shaanxi help to highlight the articulation between structural (or built-in) constraints and exogenous, political factors. In several cases in the late eighteenth century, political-military events only aggravated the contradiction between the rigidity of the regulations and precedents, on the one hand, and the inexorable rise of prices on the other. The White Lotus Rebellion of 1796–1804 is the most obvious example: in addition to disrupting agricultural production in vast areas of Sichuan, Hubei, and Shaanxi, thereby increasing food prices and demands for relief, it also gave rise to hefty new military demands for grain that severely strained the local granary system and contributed to larger and larger deficits that had to be filled while respecting the “fixed prices.” Obviously, the combination of endogenous and exogenous, secular and military, played a decisive role in the difficulties we see developing in the civilian granary system in many provinces from the late eighteenth century on.

Returning to the period before that particular conjuncture, it is interesting to note that, as early as the middle of his long reign, the Qianlong emperor was aware, at least to some extent, of this contradiction between rising market prices and immutable fixed prices. In an edict of 1772 he reasoned, “When the population has been continually increasing for many years, [the demand for] products is enlarged and the prices naturally rise: there is an unavoidable logic here (*nai yiding zhi li*), which one can recognize from the fact that the provinces are

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<sup>41</sup> See above, note 33.

repeatedly asking for price increases when restocking granaries.”<sup>42</sup> Doubtless, the prices that the provincial governors wished to “increase” were the officially set “fixed prices”; remarkably, the emperor did not even allude to the possibility of changing them. This said, the topic of the edict was not restocking but price reporting: the emperor was deploring the attitude of the authorities of Shandong, who, in their monthly reports, invariably characterized market prices as being “on the rise” (*ang*), simply because they continued to compare them with the prices of thirty-five years before! Well aware of the difference between secular and short-term variation and between their causes, the emperor consequently recommended that in the reports short-term price fluctuations—those induced by harvest results—be evaluated relative to the average level of prices over a period not to exceed the preceding three to five years.

The example of Shandong propels us toward the more general question of how much confidence to invest in the monthly price reports. Our discussion to this point has dealt with restocking difficulties due to *real* price variations. Yet there is certainly the possibility that, in perhaps a significant number of instances, agitation over “high prices” was simply a convenient pretext for justifying the failure to carry out mandatory government purchases. Several edicts and memorials, especially from the 1770s and 1780s, question the sincerity of the arguments presented by local administrators petitioning for the postponement of scheduled restocking purchases. For example, in a memorial of 1782 concerning delays in ever-normal granary restocking, the provincial treasurer of Zhejiang expressed his suspicion that county magistrates who reported high prices and asked for temporary postponement due to “insufficient funds” (*yuanjia bu fu*) were, in fact, playing for time and trying to conceal shortages resulting from the spoilage of grain that had never actually been sold. To smoke out such deceit, he recommended

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<sup>42</sup> *WXTK*, 37.5207. The emperor added that when the price of foodstuffs—a necessary commodity for everybody—increases, all prices and wages increase proportionately. It may be noted that in this edict government purchases were no longer considered the main cause of the general upward trend of prices, as they had been some twenty years earlier.

stepping up vigilance on the prefectural level and, to spur initiative in this quarter, that prefects be held accountable for inaccurate or distorted reports on price conditions.<sup>43</sup>

Moving into the 1790s, we continue to find evidence of this skeptical view of the monthly price reports. Criticism of governors and governors-general who perfunctorily transmitted them without attempting to verify their contents was forcefully developed in several edicts of this time. Thus, in 1792, the emperor claimed that reports of high prices, particularly in plentiful years, could not in every case be explained as the natural (and true) result of maneuvering by grain wholesalers, and suggested that they might well be an intentional misrepresentation of reality on the part of local magistrates seeking personal profit from the purchase of government grain.<sup>44</sup> A similar accusation against local officials was made two years later in reaction to the apparent contradiction posed by, on the one hand, a memorial from Jiangxi Province reporting plentiful crops *and* low prices and, on the other, those of adjacent provinces testifying to rising prices irrespective of crop results.<sup>45</sup> In 1795, reports of the latter variety from Sichuan aroused the suspicion that magistrates were inflating observed market prices in order to establish “expenses in excess [of authorized levels]” (*fuxiao*). “Irregularities” were also suspected in Shandong and other provinces.<sup>46</sup> Toward the end of that same year, a proposal by the

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<sup>43</sup> See *Jiangnan Jiangning dengchu chengxuan buzhengshisi zaocheng hubu ziqu Huidian an nei zi Qianlong si yi nian qi zhi Jiaqing liu nian zhi jizhu qingce* (hereafter *Huidian an: jizhu qingce*), communication from the Board of Revenue received on QL 47/8/9.

<sup>44</sup> This points to another possible consequence of high prices (real or fictitious): actual purchasing, but on illegal terms, a point to be developed below. The same edict also alluded to the opposite risk, of governors reporting low prices in order to please the emperor (*Huidian an: jizhu qingce*, communication from the Board of Revenue received on QL 57/11/16). The edict was prompted by reports from Yunnan and Fengtian.

<sup>45</sup> See *Huidian an: jizhu qingce*, communication from the Board of Revenue received by the board’s Jiangnan office on QL 59/11/5.

<sup>46</sup> See *Huidian an: jizhu qingce*, court letter received on QL 60/9/24 (edict of QL 60/9/24). See also the following entry, of the same year and month. The year 1795 was a generally plentiful one, and several provinces proposed sizable purchases.

Shandong governor to continue purchases beyond the quotas to take advantage of stable prices was turned down on the grounds that this would send prices upward; the emperor's answer also implied that if magistrates were in favor of continuing to buy grain, it was probably with an eye to personal gain through imposing compulsory purchases on the population.<sup>47</sup>

There is, to be sure, something pathetic about these *fin de règne* edicts in which the aging Qianlong emperor, by then largely cut off from reality by Heshen and his associates, repeatedly asserted that, despite officials' efforts to deceive him, not the slightest detail actually escaped his mind. Nevertheless, these writings do highlight a real problem, namely, an apparently serious dysfunction in the sophisticated price-reporting and price-controlling apparatus set up by the Qing, the indications of which begin to turn up during the last quarter of the eighteenth century. Although we are not yet in a position to decide whether the anxieties expressed in the documents just cited are evidence of a profound and widespread decay of that apparatus, it is clear that whenever and wherever price reports were distorted (or had been reduced to an empty ritual), for local officials it meant expanded opportunities both to evade the difficulties associated with restocking and to convert the process into a means of serving their own private ends.<sup>48</sup>

In reality, such evasion and abuse were no more than exacerbated consequences of the problems already detailed that resulted from market prices that were often higher than what the administration was supposed to pay: namely, the accumulation of arrears due to postponement of purchases and, when grain was actually purchased, irregular practices that were usually detrimental to the population. The former

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<sup>47</sup> See *Huidian an: jizhu qingce*, court letter received on JQ 1/2/30 (edict of JQ 1/1/29).

<sup>48</sup> It may be noted that, in the edict quoted above in note 47, the emperor doubted the possibility of "low prices injuring the peasants" in Shandong in terms similar to those used in another edict on Shandong of forty-five years earlier (*WXTK*, 37.5197). But, while in the first case market-induced price increases were the only risk mentioned, in 1796 attention had shifted to the question of corrupt manipulations by the bureaucracy.

we have just been discussing, and at this juncture we will turn our attention to one of its most critical facets, the storage of silver in lieu of grain. The latter consequence, which for the sake of convenience we broadly define in terms of the practices of “allotted” and “compulsory” purchases, will receive due consideration further on.

*The Problem of Silver-Grain.* Keeping the silver-equivalent of grain—or “silver-grain” (literally, the “price of grain” [*gujia*])—instead of actual grain (*cungu*) appears to have been a perennial problem and, what is more, one that was complicated by the sometimes blurred boundaries that distinguished illegal, tolerated, and authorized practices from one another. Nevertheless, we can make a general and fairly well-defined distinction between cases in which silver was kept locally in lieu of grain without the knowledge of higher officials and contrasting examples that presented a clear accounting of both real grain and silver-equivalent, with the latter duly deposited in various treasuries within the administrative hierarchy of the province.

Although “reporting commuted reserves as real ones” (*yi zhese zuben*) was clearly irregular, the practices that led to such false reporting were of varying illegality. Most condemnable of all was the “private” selling of ever-normal grain by the magistrate or his underlings strictly for personal gain. Thus, we find a decision of 1724 alluding to the risk of “intendants, prefects, department and district magistrates taking advantage of high prices to sell grain from the granaries privately [*si*, that is, on their own account and without having received an authorization, *feng wen*], or else transferring it for sale to localities where prices were high in hopes of getting a large profit and fattening themselves.”<sup>49</sup> Such cases were not outright embezzlement,<sup>50</sup> since the grain would eventually be bought back when market prices were lower. They were rather viewed as a kind of commercial speculation of government grain by officials who traded on their own margins and saw to it that any temporary shortages resulting therefrom remained concealed

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<sup>49</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*.

<sup>50</sup> Although we do find the phrase *sixing daomai* in a regulation of 1786 (see *HDSL* [1899 ed.], 192, *hubu, jichu, cangchu jiaodai*), where “robbery” (*dao*) is implied.

from higher officials. The money accruing from such sales could be used for private ends or transferred to other budgetary items without proper authorization (*nuoyi*).

The risk of manipulation was equally present when magistrates retained restocking funds in the county treasuries and did not buy grain. The degree of illegality here is rather difficult to assess. Keeping unused restocking funds seems to have been more or less tolerated in a number of cases or, at least, not punished as severely as actual shortages. In theory, local magistrates were not allowed to store “income from grain sales” in their own treasury: they were either to use it for immediate purchase or to deposit it with higher officials, although at which level is often left unclear.<sup>51</sup> But some texts suggest that keeping purchase funds at the county level was possible when delays (probably short-term) had been duly authorized (*chimai you an*).<sup>52</sup> In any case, it seems clear that many magistrates did not hesitate to postpone purchases on their own authority and did not report (or, at least, not accurately) on these quantities of “grain not yet bought” (*weimai gu*).

Assuming there was no embezzlement, the silver either was kept in the county treasury, sometimes for years (and was transferred one magistrate to another),<sup>53</sup> or was entrusted to various intermediaries who were supposed to take charge of buying the grain. Thus, according to a

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<sup>51</sup> Where sales proceeds (*gujia*) were best deposited is discussed in many documents. Depending on the province and the period, we find regulations specifying that they be kept in the prefectural treasury (*fuku*), or in the intendant’s treasury (*daoku*), or in the provincial treasury (*fanku*). The situation was sometimes rather complicated. For example, a text of 1822 on Guizhou Province complained that, previously, some of the funds had been deposited with the provincial treasurer, others with the intendants and prefects, while still others were kept in the counties. Confused accounts resulted. Funneling all funds into the provincial treasury was recommended, and was similarly endorsed in Hunan in 1824. See *Huangchao shihuozi, cangchu*, 23B. Conversely, we shall also find that transferring funds from the provincial treasury to the counties at the time of grain purchases was in its turn a source of complications and irregularities.

<sup>52</sup> See, for example, *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu jiaodai*, decision of 1775 on post-transfer controls.

<sup>53</sup> This is what the *jiaodai* (post-transfer) procedure was supposed to prevent; see chapter 7.

memorial written in 1763 by the governor-general of Huguang, a former prefect of Wuchang, Hubei, had camouflaged a 10,000 *shi* deficit of grain in the prefectural ever-normal granary by claiming that it was “actually in store,” while in reality he had failed to buy it. And he had made the same claim regarding sizable quantities of grain that he had commissioned different magistrates to buy for him (*daimai*), though, in fact, nothing had been delivered to Wuchang. As some of these magistrates were no longer in office because of unspecified “problems,” the quantities they had been instructed to purchase could be considered as lost. If such was the case in the provincial capital, the governor-general concluded, one could not put much stock in the reports of actual reserve levels from other prefectures and counties within the province.<sup>54</sup>

Four years later, we find in Hubei a similar case of “entrusted purchases,” this time at the county level, and resulting in more or less the same situation in terms of actual storage. In the course of his investigation of this province,<sup>55</sup> Imperial Commissioner Mailaxun found that several magistrates, past and present, had entrusted members of the gentry or grain brokers (*hanghu*) to buy back ever-normal grain, a clearly illegal practice. Even though county funds had long ago been disbursed, it was taking a great deal of time to deliver the grain, which, when actually delivered, was generally of a low-quality or unauthorized sort. And then, of course, oftentimes no grain at all was delivered. This particular case of “grain bought but not delivered” (*yi mai wei jiao*) did not appear in the registers sent to higher officials. Thus, this would qualify as the “worst-case” scenario in terms of in-kind deficits, compounded, as it was, by the absence of the corresponding silver from the

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<sup>54</sup> See Huguang governor-general Li Shiyao, ZP, *GZD*: QL 015369 (28/7/3). This type of difficulty with prefectural granaries (*fucang*) explains why, in 1765, it was decided to return their management to the leading county magistrates (*fucang gaigui shouyi jingli*); see *WXTK*, 37.5105. See also the relevant section in chapter 10 on Shandong Province.

<sup>55</sup> As we have already seen in chapter 5, Mailaxun was on his way back from some unspecified assignment and took advantage of the opportunity to inspect the granaries of several places in Hubei and Henan.

county treasury.<sup>56</sup> At times, the missing money was indeed rather difficult to trace.

Other significant causes of restocking delays included loans of grain to the local garrisons, which were repaid in silver according to the provincial “fixed prices,”<sup>57</sup> and shortages due to spoiled grain that the officials in charge had replaced with money, also taking the “fixed price” as an index. In both cases the money should rapidly have been expended on grain, but quite frequently long periods elapsed before any buying was attempted. Shortages due to spoilage, in particular, apparently affected large quantities of grain from the late eighteenth century on. As will be seen in chapter 7, the “post-transfer” (*jiaodai*) procedure, designed to prevent the transmission of such deficits, was by this time no longer working satisfactorily, and the real situation of the stocks almost never came to appear in the transfer documents sent up the administrative hierarchy.

With respect to most of the situations just outlined, long-term storage of silver-grain in the county coffers was against regulations and, when this was the case, had accordingly to be concealed from higher-level officials. On the other hand, deficits in kind that were regularly declared, with the money deposited at the prefect’s or the provincial treasurer’s office, made for a more ambiguous situation. According to the general rules governing granary turnover, the proportion of the stocks that might be held in silver was not to exceed 30 or 50 percent (depending on the province) and the silver had to be used to buy back grain within two years at most. We have seen that, in fact, restocking arrears extending over several years were quasi-routine and could result in real reserves that were far below the theoretical levels (*yingcun*),

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<sup>56</sup> A situation that was probably rather similar was described by the phrase, “The official has already paid the price of grain, but the people are in arrears and have not yet delivered it” (*benyuan jing fang gujia, min qian wei wan*), found in an edict of 1824 concerning Hunan; see *Huangchao shihuozi, cangchu*, 23B.

<sup>57</sup> According to a regulation of 1786, magistrates had to buy back grain with the money and were forbidden to extend new loans to the military until the restocking had been done; see *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*.

even after the purchasing operations of the year had been completed. This was not, strictly speaking, an illegal situation if postponement of purchases had been duly authorized and if the corresponding amount of silver was stored in the proper place. But the central government—most often at the instigation of some censor or newly appointed governor—could at some point decide that restocking had not been sufficiently promoted by the provincial authorities and would then try to impose strict time limits within which to make good deficits in kind. These decisions sent down from the capital were sometimes accompanied by an explanation of the penalties to be applied to local officials whose accounts reflected too great a proportion of silver-grain. Thus, in 1797, when the authorities of Guangxi reported on the results of a provincewide granary investigation ordered by the emperor, they routinely stated that there were no deficits since the grain plus the income from grain sales were all there. The emperor, however, rejected this memorial, ordered that the memorialists be punished for carelessness, and insisted on a new investigation to ascertain the percentage of actual grain stored in each county and to expose and punish magistrates whose real stocks fell to less than 80 percent of their theoretical levels.<sup>58</sup>

Indeed, concern over the intensifying rate at which silver-grain, at the expense of real reserves, was being accumulated seems to have become particularly widespread and urgent during the last years of the eighteenth century, and again during the Daoguang period (1821–1850). Numerous edicts denounced provincial reports of reserves as false and warned of the dire consequences that would ensue should

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<sup>58</sup> See Liang-Guang governor-general Jiqing and acting Guangxi governor Taibu, ZP, *GZD*: JQ 003615 (3/1/15). This memorial presents the results of the final investigation and quotes from the edicts criticizing the earlier one. It was found that, while the theoretical holdings amounted to 1,528,166 *shi*, only 533,254 were actually stored. Reportedly, this large deficit was due to aid given by civilian granaries to feed the troops fighting the Vietnam campaign—that is, some ten years before! See [Jiqing], ZP, *GZD*: JQ 004922 (undated fragment). Only eleven counties in the province had stocks up to their theoretical levels, one had more than 90 percent, eight had more than 80 percent, three were “within the 80-percent mark,” and forty-eight had 20–30 or 50–60 percent (the breakdown may seem queer, but we reproduce it faithfully). These last forty-eight were to be punished severely.

granaries be found empty when there was an urgent need for relief. An example to this effect, an edict promulgated by the Jiaqing emperor in 1799, his first year of actual rule after his formal ascension to the throne in 1796, warrants more than a cursory look, as the text provides a rather comprehensive account of the structural causes and consequences of the accumulation of silver-grain.

According to the emperor (or, rather, the memorialist he was quoting) the deficits that had accumulated in recent years were due to such causes as, among others, failure to restock ever-normal grain disbursed (*dongyong*) for various public uses, and the replacement of grain lost through malfeasance or incompetence with sums of money calculated according to the “board price” (that is, the provincial “fixed price”) and transferred from magistrate to magistrate without being reconverted into actual grain. As a consequence, less than 20 or 30 percent of the empire’s granaries were thought to hold stocks equal to their theoretical levels. The emperor commented that ever-normal granaries were meant to answer emergency needs among the people (*bei minjian huanji zhi xu*); if silver was held in lieu of grain, however, of what use were the granaries when such needs arose?

An interesting technical point to be noted here is a hint in the text that the restocking cycle could be jeopardized by the very system of entrusting the upper layers of the provincial hierarchy with the storage of purchase funds; this system, which was rooted in a lack of confidence in the local magistrates’ (and even prefects’) financial integrity, amounted to depriving them of any autonomy in the management of grain stocks:

Whenever the autumn harvest is plentiful, the higher officials press [the magistrates] to accept funds for restocking their granaries. But most magistrates allege that since local grain is in short supply they fear that [purchases] might endanger the people’s subsistence. The reality is that, when drawing the money [from the provincial treasurer’s office], the clerks in the higher officials’ yamen cut into the sums and charge various expenses, so that the income from grain sales no longer suffices [to replace the stocks]. For this

reason, [local officials] consider buying back grain a dreadful operation (*shi maibu wei weitu*).<sup>59</sup>

In other words, the “loss” of funds sustained en route from provincial treasurer to county magistrate prevented the latter from purchasing grain at the very time harvest conditions would have been at their most favorable for this operation.

The phrase *shi wei weitu* had already been seen in an edict of 1757,<sup>60</sup> and we have mentioned an earlier text on Anhui that also stressed the local magistrates’ “fear” of restocking, although in this case “difficulties with prices” was the only cause given.<sup>61</sup> It is, of course, impossible to assess how widespread such anxieties about grain purchases were: all that can be said is that the rhetoric in these sources reflects the very narrow margins within which the magistrates operating the system were confined. As the 1799 edict just quoted suggests, the problems of insufficient differentials between spring and autumn prices, or of insufficient “fixed prices” vis-à-vis market value, were closely intertwined with the financial and organizational costs associated with the workings of the administrative hierarchy. In the sources, at least, this connection emerges quite clearly at the turn of the nineteenth century, when the newly enthroned Jiaqing emperor tried to put the system back in order.

The vexing practices of provincial treasury clerks, mentioned also in other sources,<sup>62</sup> were an inevitable component of the very complicated process of grain mobilization and distribution. In theory, author-

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<sup>59</sup> See *Renzong shilu*, 50.10b–12a (the edict is quoted in several other sources). The emperor was quoting approvingly from a memorial sent by one Dai Junyuan, who held the title of “subdirector of the banqueting court” (*Guanglusi shaoqing*). He ritually concluded by ordering the governors-general and governors to investigate thoroughly the actual reserves of local granaries and to impose strict deadlines for restocking.

<sup>60</sup> See *WXTK*, 37.5199, quoting from a memorial by Jiqing.

<sup>61</sup> See above, note 25.

<sup>62</sup> See, for example, Kuichang’s memorial on Hubei cited above, note 28. According to this author, the clerks who weighed the silver destined for local purchases managed to divert part of the funds.

ity to sell as well as buy had to be requested from and granted by the higher-level officials—that is, prefect, intendant, provincial treasurer, and governor or governor-general. After the sales, the money would be sent to the provincial treasurer (sometimes to the prefect) for safekeeping. When it was time for grain to be bought back, the attendants and clerks (*dingshu*) who went from the county seat to the provincial capital to take delivery of the funds were subject to intense pressures all along the way, including threats of extortion, demands of customary gifts, and other abuses. Troublesome demands were routinely made on them by the clerks of the different government offices—and even, possibly, by the responsible officials themselves, although this is only rarely hinted in the sources.<sup>63</sup>

In addition to the resultant financial losses, which do not, it should be noted, take *local* squeezing and assorted malpractices into account, the whole process was time-consuming. Because it took so long, local prices might well rise before purchases were actually made, due perhaps to maneuvering by local merchants or perhaps simply to competition among the buyers. Instances in which money was sent down beforehand at the provincial government's initiative, with instructions to seize every opportunity to restock at low market prices, seem to have been comparatively rare, at least when turnover funds were being used to restock. When provincial funds were to be used, however, money was sometimes sent down well in advance so as to avoid delays and interference by the intermediate government offices. Although the intendants and prefects should ideally have activated the whole process, many texts suggest that, more often than not, the prefects failed to urge the magistrates to restock and thereby to counter at all effectively their

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<sup>63</sup> See, for example, Huguang governor-general Wang Zhiyi and Hubei governor Changming, ZP, GZD: JQ 012121 (13/10/2). There is a general and theoretical description of the selling and buying process in Ch'ü, *Local Government in China*, 157, quoting from such sources as the *Hubu zeli* and the *Liubu chufen zeli*. The operations were sometimes further complicated by the fact that, during spring sales, people paid in cash, which had then to be exchanged against silver by the county administration before being remitted to the provincial treasurer; there was a consequent risk of loss due to short-term exchange variations. See Zhejiang governor Xiong Xuepeng, ZP, GZD: QL 019064 (29/11/11).

tendency to postpone purchases.<sup>64</sup> In other words, the complex vertical organization of the buying and selling process, which resulted from lack of confidence in local-level management, tended to work against efficiency and to add to the “hidden” costs of operating the system.

As has been shown in chapter 4 and mentioned many times in the present chapter, historically speaking, all evidence points to a decisive aggravation of granary problems from the late Qianlong period on, an ever-mounting trend that was due, among other causes, to larger deficits in some provinces, to the price problems described above, and to the declining efficacy of controls, which widened the range of opportunities for carelessness, misappropriation, and graft. The consequence of all of these difficulties, of which the central government was well aware, was a quite noticeable diminution of the capabilities of civilian granaries to face high prices and subsistence crises, as well as to feed troops, a point taken most seriously since the late eighteenth century.

#### *Allotted Purchases*

Another consequence of the structural and historical constraints outlined thus far was the loss of popular support for civilian granaries, due to the exactions that officials all too often imposed upon the people in their name. As we have already seen in chapter 3, an alternative to delaying market purchases and creating deficits in the face of price and other organizational problems was “allotted purchase” (*paimai*), transacted directly with the population, at rates often lower than the market prices.<sup>65</sup> Though allotted purchase was, in principle, an acceptable and even workable restocking technique, in actual practice it often placed intolerable burdens on the people.

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<sup>64</sup> See especially *Huidian an: jizhu qingce*, communication from the Board of Revenue received on QL 47/8/9, concerning Zhejiang.

<sup>65</sup> The two practices, delaying purchases and allotting purchases, were in some sense related. One frequent complaint was that the punishments facing magistrates who postponed purchases might prompt them to restock at all costs—that is to say, at all costs for the population—and engage in compulsory allotted purchases (*lepai*). See, for example *Huidian an: jizhu qingce*, communication from the Board of Revenue received on Q 47/8/9; the text concerns Zhejiang and makes reference to discussions of 1739 and 1771.

Indeed, we find that “compulsory purchase” (*ledi*)—as well as the corresponding practice of compulsory selling to ensure turnover—existed already in the 1730s. A general description of these twin abuses, from an edict dating from 1736, explains how magistrates would allot certificates (*paidan*) to the peasants when grain had to be sold from ever-normal granary reserves, ordering them to bring silver in exchange for the grain. When it came time to restock, the procedure was applied exactly in reverse. When people paid silver, excessive surcharges (called “supplements,” *yingyu*) were assessed. When they delivered grain, all sorts of pressures were brought to bear on them by the granary clerks. As has already been mentioned,<sup>66</sup> peasants could be forced to accept rotten grain as if it were dry and of good quality. In general, harassment by clerks and runners was pervasive and relentless. More specifically, no heed was paid to the often wide disparities of economic circumstances and geographic location which obtained within a given population. As a result, people living far away from the county seat, in particular, tended to suffer much greater losses in the process than other local residents. Indeed, far from the notion of levies weighted to compensate for such inequalities, the formula most commonly used to determine the amount of grain due from each individual was based solely on the amount of property involved (*an tian pai gu*), which information was obtained from the land registers kept in the yamen, suggesting a quasi-fiscal levy.<sup>67</sup>

The quasi-fiscal nature of such operations may explain how some county officials managed to “force” the local population to sell (or accept) grain on unfavorable terms and in violation of regulations that stipulated voluntary selling. Violations were particularly likely when grain and silver were collected for turnover purposes in a decentralized fashion, that is to say, directly from the local peasants. Rather intense

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<sup>66</sup> See chapter 5, section on spoilage.

<sup>67</sup> See the edict in *WXTK*, 36.5187. Other texts speak of “harassing small peasants” (*pailei xiaomin*), of paying them a “short price” (*duanjia*), of using measures designed to “transform the large into small and the heavy into light,” and so forth. See, for example, a decision of 1738 in *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

pressure could be brought to bear upon villagers within the familiar framework of subcounty quasi-bureaucrats (such as the so-called “local constables,” *xiangbao*), village community leaders, and yamen personnel, who joined forces in order to extract from the local taxpayers (*huahu*) the regular taxes as well as various customary and/or illegal surcharges.<sup>68</sup> The effects of such cooperative efforts are suggested by the observation in the edict of 1736 mentioned above, that when forced to accept rotten grain “small peasants, being overawed, do not dare to refuse and are obliged to endure silently the abuse.” A memorial on Shandong Province, dating from nearly a century later (1830), described a comparable situation: when harvests were good, officials would assign to each neighborhood (*xiangli*), by means of a calculation based on its tax quota, a quantity of grain to be sold to the government. The runners sent down to speed up the “sales” are reported to have perpetrated all kinds of abuses and victimized the “stupid folk.”<sup>69</sup>

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<sup>68</sup> Buying grain from individual producers through the agency of rural administrators was probably resorted to in poorly commercialized areas with a majority of small landowners. A text of 1789 concerning Anyang County in Henan explained that the “price” was transmitted to each “local constable” (*dibao*), who was entrusted with buying the grain. In this instance, after excessive rains had caused the price of wheat to rise, the *dibao* asked to return the silver and be exempted from delivering grain. The magistrate refused and sent runners to press the *dibao*, an action that “stirred trouble” and led to the magistrate’s impeachment. See *Huangchao shihuo zhi, cangchu*, 20. On the nature of the *xiangbao* in north China, see the interesting remarks by Huang in “County Archives,” 137–40. The *xiangbao* were caught between the local leaders, who had nominated them, and the county authorities, to whom they were accountable, and were thus motivated to exert maximum pressure upon the common people. We have come across similar evidence concerning the central place of the *xiangbao* (or *xiangdi*) who were in charge of various stages of the famine relief operations in eighteenth-century Zhili (see Will, *Bureaucracy and Famine*, 88 and passim). The structure might be somewhat different in other areas, but we think that the overall pattern and effect were similar.

<sup>69</sup> See *Huangchao shihuo zhi, cangchu*, 24. The same memorial, by Censor Wang Weiqing, recommended the establishment of storehouses (*liangtun*) in the market towns all across the country. Local people agreeing to sell grain to the government at a mutually acceptable price would bring their grain there and receive money in exchange. “Paying in advance” and “compulsory allotted purchase” (*qiangxing paimai*) were forbidden.

To be sure, much more research is needed for a confident understanding of the inner workings of the subcounty power machine and the means by which the local peasantry was compelled to accept such practices in the name of the granary system—a paradoxical situation which, as can be seen in numerous edicts, sorely tried the emperor. Another such document, this one dating from the early Jiaqing reign, reveals a strong concern, characteristic of the period, about paying “short prices” (*duanjia*)—that is, below market value—to local residents selling grain to the government. The memorial that prompted this edict<sup>70</sup> enumerated a wide variety of exactions that were allegedly being perpetrated under the cover of buying back ever-normal grain; in particular, the memorialist claimed, magistrates were content, irrespective of the actual market prices, to pay a low 0.4 or 0.5 taels per *shi*, yet brazenly gave the market price as the rate of record on the receipts (*piao*) given to the people. Taking into account the various fees charged by the runners, “sellers” ultimately preferred, when they could afford to do this, to return twice the “price” they had been paid rather than deliver grain under such disadvantageous conditions!<sup>71</sup>

In general, the various abuses ensuing from the difficulties related to turnover operations may be separated into two categories: (1) those equivalent to giving the people less grain than they had paid for (*duanfa*); and (2) those that exacted more grain than had been paid for (*fushou*). From the point of view of the population, such practices largely deprived the system of its appeal and even of its *raison d'être*, at least when the costs that had to be supported were no longer compensated for by a genuine capacity to intervene efficiently in major food crises.

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<sup>70</sup> Sent in by one Liu Quanzhi, who had been appointed senior president of the censorate at the beginning of 1799.

<sup>71</sup> See *Renzong shilu*, 50.24b–26a. The text added that, since officials were only interested in converting grain stocks into money in order to line their pockets (*zhe jia ru ji*, akin to the “private selling” alluded to above), when sales to the population were decided upon granaries tended to be empty, and, when interprovincial transfers were ordered, grain was hastily bought from merchants, who suffered similar harassment.

We have seen in chapter 3 that concerns over the disbursal rules were already being voiced during the 1760s and even earlier, but, as is suggested by the edict just mentioned, the problem appears to have really come to a head in the 1790s. Some drastic changes in the regulations governing ever-normal granary turnover were attempted at the turn of the century, but not without problems. In 1799, the provincial treasurer of Fujian, Li Diantu, suggested that disbursals thenceforth be forbidden in years without natural disasters, so as to avoid compulsory selling (or loaning) and other abuses that led to “official granaries [being] subject to shortages without law-abiding people having gotten any benefit.” The memorial was accepted, but later texts show that overstocking and spoilage of old grain were sometimes the consequence of Li’s plan. Thus, we know that in 1806 the Henan governor petitioned the throne to make an exception for the oldest stocks (with which, incidentally, the potential for abusive selling was greatest); the emperor admitted that the situation was comparable to “wasting food because one is afraid of choking” (*yin yi fei shi*), in other words, that problems of turnover and mismanagement by local personnel had led to rules that strained the technical limits of storage. Already in 1803, the Shaanxi governor had been permitted to lend stocks of wheat in Xi’an and Tongzhou that were difficult to store over a long period; in 1808, his successor gave a detailed account of the risks of spoilage in the different parts of the province and with different kinds of grain. The emperor accepted his proposal that irrespective of harvest results, loans be permitted for wheat and yellow millet (*xiaomi*) that were three years old, unhusked rice (*daogu*) that was six years old, and unhusked millet (*sugu*) that was ten years old—in other words, the loans could be made when the maximum feasible storage period had been reached.<sup>72</sup>

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<sup>72</sup> See *HDSL* (1899 ed.), 189, *hubu, jichu, changpingcang cuntiao dingli*; and Shaanxi governor Fang Weidian, ZP, *GZD*: JQ 012367 (13/11/4), which identifies Li Diantu, the Fujian provincial treasurer in 1799, as the original memorialist and quotes the material concerning Henan. Fang stressed that only loaning was affected by this exception to the rule, while sales continued to be forbidden in years of adequate harvests, on account of the numerous opportunities for abuse the buying and selling process afforded.

Another early Jiaqing decision that was intended to curb the abuses inherent in local restocking might have created even greater problems than Li Diantu's proposal. In 1799, magistrates were forbidden to buy back grain within their own counties and ordered to look for well-stocked markets in neighboring areas where they would buy at market prices (but still conforming to the "price set by precedent"! ). It was hoped that they would be unable, or at least afraid, to harass people living outside their own jurisdictions. But the measure was quietly cancelled, or, at least, deprived of most of its significance, as counties without easy access to water transport and external markets were again authorized to restock within their frontiers in order to avoid prohibitive transport costs.<sup>73</sup>

Returning now to the "allotted purchases" exacted from taxpayers in proportion to their property, this practice in fact had the potential to relieve the pressure exerted on the local population by ever-normal restocking, as long as clear rules were laid down. By the mid-1730s, for example, it was considered acceptable to single out the more well-to-do inhabitants of a county and compel them to sell grain to the state at rates often lower than those on the open market. In the same vein, we find in the *Collected Statutes and Precedents* an entry of 1743 stating that

in granary restocking, when there is a temporary difficulty in buying the required quantities (*yishi mai nan zushu*), a price should be set to pay those local grain-rich families (*you gu zhi jia*) who are disposed to sell grain to the government; the silver will be

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<sup>73</sup> For negative reactions to this measure, see, for example, Guangxi governor Xie Qikun, ZP, *GZD*: JQ 005387 (5/3/1), who argued that Guangxi was remote and under-commercialized; *Renzong shilu*, 62.5b–6b, edict of the third month of 1800, where the emperor mentioned unfavorable answers by various governors, in particular, Hu Jitang, governor-general of Zhili, whose objections were accepted; and Hubei provincial treasurer Sun Yuting, ZP, *GZD*: JQ 006089 (6/9/7). Sun stated that, because of the new regulations sent down in the wake of Liu Quanzhi's memorial (cited above, note 70), a whole program of local purchases in Hubei had been dropped in the autumn of 1799; he alluded to Hu Jitang's comments and expressed satisfaction at the board's recent decision to allow magistrates to buy either inside or outside their counties, whichever was more convenient.

remitted [to them] when the grain is presented, and the officials will be in charge of the transport. It is forbidden to pay the price in advance and to impose allotted purchases by force (*qiangxing paimai*). It is also prohibited to oblige sellers to come to the granary and deliver the grain themselves, which makes for delays, false reporting, and harassment toward the people.<sup>74</sup>

The points to be stressed here are: (1) this plan of allotted purchase was intended only as a temporary measure; (2) only households with surpluses were to be involved; (3) agreement on the part of the seller was necessary; (4) advance payment was forbidden, which may be seen as a provision against both embezzlement of government money by the rich and forced purchase; and, finally, (5) the government was in charge of transportation. As will be seen in the provincial case study offered in chapter 11, these principles appear to have been only partially followed in mid-eighteenth-century Hunan, since the methods in use there included the systematic buying of grain from households that exceeded a certain level of property or income, as well as advance payments to peasants in some parts of the province.<sup>75</sup> Similar practices must have existed elsewhere.<sup>76</sup> However, whether in Hunan or in other places, the rich were not always enthusiastic about selling their grain at prices lower than the market rate. They had therefore to be persuaded

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<sup>74</sup> See *HDSL* (1899 ed.), 191, *hubu, jizhu, maibu cangchu*; also cited in *Huangchao shihuozi, jizhu*, 15.

<sup>75</sup> It may also be noted that, in Hunan, delivery to the granary by the producers themselves was apparently considered an improvement over the alternative formula, which was seen as opening the door to greater “clerk and runner” malfeasance.

<sup>76</sup> We will mention here the case of one magistrate of Xugou County, Shanxi, who in 1763 was accused of having “allotted purchases to the landowners of his county and paid them in cash according to their property” (*pailing xianshu you tian zhi hu, an mu chu qian*). He was due to receive punishment for what had been branded “illegal private allotting” (*wei li si pai*), but was later excused, after it had been ascertained that his actions had been ordered by the preceding governor and that he had neither embezzled grain nor “caused unrest through allotted purchase” (*paimai rao min*). This is an apt example of the ambiguous status of *paimai*. (It was not said whether the price paid to the landowners was lower than the market price, which was probably the case.) See *Gaozong shilu*, 693.81a–b.

to sell grain, or at least the central government had to be persuaded that they were selling it voluntarily, if magistrates were to avoid accusations of compulsory purchase.

A fine line separated voluntary and forced purchases. In Hubei, for example, some early nineteenth-century texts suggest a kind of customary and tolerated compromise in effect between the local authorities and the more affluent taxpayers. According to a memorial of 1800 (a time when the need to devise methods of restocking at less than market prices, but also to avoid the label of “oppressive,” was particularly acute), Hubei provincial treasurer Sun Yuting claimed that “short prices” would not prevent the rich from “happily bringing [grain]” (*leshu*). Well aware of the importance of granary storage, they were ready (he said) to continue selling at the provincial set price of 0.5 taels per *shi*. This was all the more to be encouraged since Hubei’s ever-normal granaries by then had a very large deficit. Although the formal answer to Sun’s request that this method of purchase be authorized during a restocking program extending over several years is not recorded,<sup>77</sup> we do know from the same memorial that the Board of Revenue refused to resume the “old system” targeting the local rich<sup>78</sup> on the grounds that it was “near coercion” (*jin yile*) and might well degenerate into allotting sales (*fenpai*) to the rich and persecuting (*leiji*) the poor.

In fact, we have one very well-informed memorial dating from a later year, ascribed to a certain Kuichang, which does confirm the board’s fears.<sup>79</sup> Its author was not averse to the principle of selecting “grain-rich big families” (*dahu you gu zhi jia*) to be “equitably assessed” (*junyun tanpai*) according to property—the “surtax” thereby

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<sup>77</sup> The edict in response, dated JQ 6/9/28 and quoted in a court letter (*GZD*: JQ 006287), only called for further discussions with the Hubei governor and Huguang governor-general in an effort to find a satisfactory solution.

<sup>78</sup> That is, after the ban against restocking in one’s own country had been raised.

<sup>79</sup> See Huguang circuit investigating censor Kuichang, ZP, *GZD*: JQ 017392 (19/8/28). The author had formerly served in the Huguang office of the Board of Revenue and apparently had a rather close knowledge of the situation in Hubei.

suggested being the difference between official and actual market prices. In his view—and this certainly represented a new perspective on ever-normal granary operations—restocking could be effected through a “fifty-fifty combination of imperial grace [that is, government financing] and efforts by the people” (*maibu yi shi, ban chu guoen, ban zi minli*); in addition, secure in the knowledge that this was not a levy for the officials to enrich themselves (*fei qu min yi zi feng*) but was rather for the specific purpose of ensuring adequate storage to nourish the people, sellers would no longer be reluctant to accept payment at less than market levels. However, the memorial continued, for the people to deliver grain enthusiastically and to consider these sales to be in their own interest,<sup>80</sup> officials must not make any unauthorized exactions: they must be of irreproachable impartiality and conduct themselves as models of integrity and compassion.

Here, precisely, was the problem. As Kuichang explained, such practices as allotting purchases according to property were often distorted by the officials because they displayed partiality for “rich people and big families.” Rather than “lose face” with people with whom they were in the habit of mixing socially and who treated them “warmly” (*wenrun*), officials preferred to turn against middle and small taxpayers, who were all the more discontented since they had to suffer from the exactions of clerks and runners as well. As a consequence, popular response to the government’s efforts to encourage selling grain to granaries was anything but enthusiastic, and the magistrates, not knowing what to do, “forged pretexts” (*nie ci*) to justify their inability to buy reserves. Higher-level officials generally took these pretexts at face value, not bothering to ascertain the truth behind the excuses, and so

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<sup>80</sup> This phrasing is typical of granary rhetoric (especially when community and charity granaries are concerned): people should be eager to contribute to reserves that they will themselves rely on in lean years. In fact, what was actually attempted was a kind of transfer from the rich (the primary target when contributions were being solicited) to the poor (the primary target when help was being distributed by institutions of social welfare). Hence, the mixed reactions of the rich, who had to choose between their immediate interests and less palpable rewards such as prestige, a reputation for altruism, or even salvation in the afterlife.

restocking continued to be postponed. The memorial concluded by saying that the situation described for Hubei probably prevailed in other provinces as well.

Some other interesting attempts to evade the problem of having to set prices below market level without being labelled oppressive are mentioned in the sources. We learn from a memorial by the governor of Guangxi, Xie Qikun, that in order to reduce the vast deficits discovered in 1797 the government had accepted a formula proposed by his predecessor, Taibu: the money for the costs of the year's project purchases was distributed among the big landowners (*yinshi you tian zhi jia*) in spring, with the corresponding amount of grain (calculated on the fixed price of 0.5 taels per *shi*) to be delivered to the granaries after the autumn harvest; in between, the landowners were free to use the money to "produce interest" (*yingyun shengxi*). In other words, the rich were invited to compensate for losses sustained by their selling at no profit to the granaries by practicing usury during the lean period. This was an ingenious proposal, and it proved to be productive, but it somewhat contradicted the idea of ever-normal granaries as an institution dedicated to social relief. We are told that, out of a deficit of 721,566 *shi* in 1798, 481,044 *shi* had been bought in this way by 1799, reportedly to everyone's satisfaction and without any abuses. Xie's memorial urged that the method continue to be employed for the year or two necessary to complete the restocking (in between, the aforementioned prohibition against buying back grain within one's own locality had been decreed), and permission was probably granted. But this plan was only a stopgap measure, to be discontinued after the current program of purchases was over.<sup>81</sup>

A similar system was proposed in a different context, but in this case the idea was to distribute the money in advance to ordinary peasants, the difference between "fixed prices" (which determined the quantity of grain to be delivered to the granaries) and market prices assuming the guise of a kind of interest paid to the state. Under this system, which may be dubbed "restocking loans" and which was

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<sup>81</sup> See Guangxi governor Xie Qikun, ZP, GZD: JQ 005387 (5/3/21).

requested for both the northern prefectures and the southern Hanzhong area of Shaanxi, peasants would not have had to resort to private borrowing. Interestingly, the memorialist who suggested this method remarked that, in the northern prefectures, merchants (*keshang*) from nearby Shanxi were already making loans in this manner, offering 0.5 taels for one *shi* of grain to be paid back in autumn. The provincial authorities of Shaanxi proposed the rate of 0.6 taels per *shi*, the “fixed price” in Shaanxi, with the additional inducement of postponing repayment for one year in case of crop failure. To be sure, there also existed some local precedents from other provinces,<sup>82</sup> but in this case the Board of Revenue apparently rejected what it called an “innovation” (*chuang-ju*), even though this proposed plan was certainly closer to the rationale of ever-normal granary storage than the Guangxi system described above.<sup>83</sup>

#### PROBLEMS IN GRAIN LENDING

Lending grain allowed the Qing civilian granaries to supplement and to compete with private lenders by offering grain on favorable terms to the poorest segments of the population. While the previous sections of this chapter have dwelt on the difficulties encountered by the state as a buyer and seller of food grains, the present section will investigate similar problems with respect to grain loans, both by the state and by local communities in the case of community and charity granaries.

#### *Ever-Normal Granaries*

Just as in the case of sales and free relief, restocking was the major difficulty. In several provinces loan arrears were responsible for a considerable portion of local granary deficits. This was particularly true in poor and undercommercialized provinces, such as Shaanxi and Gansu in the northwest, which were often said to have “few rich

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<sup>82</sup> See chapter 11, section on the mountainous areas of Hunan.

<sup>83</sup> On the northern prefectures of Shaanxi, see Shaanxi governor Fang Weidian, ZP, GZD: JQ 013442 (14/2/30) and Shaanxi governor Zhu Xun, ZP, GZD: JQ 017394 (19/12/28); on the Hanzhong area, see Fang Weidian, ZP, GZD: JQ 013647 (14/3/22).

households”—hence, little private lending. We learn from a lengthy analysis of food and storage problems in the various parts of Shaanxi, sent to the throne by Governor Mingde in 1764, that out of a provincial target of 2.7 million *shi*, several hundred thousands—at times, more than a million—*shi* were lent annually during the lean spring period to the inhabitants of the northern frontier prefectures of Yan’an and Yulin and the departments of Suide and Fu, either as seeds for spring sowing or as food loans (*kouliang*).<sup>84</sup> In the prefectures of the Wei valley, especially in the densely populated Xi’an area, loans of government grain were also very common. A few years earlier, in 1756, Acting Governor Lu Zhuo had even estimated that loans represented 80 to 90 percent of disbursements by ever-normal granaries in Shaanxi.<sup>85</sup> But these loans were not always repaid within the year, indeed, far from it. In Shaanxi, as well as in several other provinces, the problem of loan arrears was perennial. In 1764, for example, loan arrears amounted to 400,000 *shi*.<sup>86</sup> Official efforts to secure repayment “after the autumn harvest” were ritually announced, but the “population and grain memorials” (*minshu gushu zouzhe*) show that as much as fifteen years’ worth of loan arrears (literally, “due from the people,” *minqian*) might be included in the “disbursements” figures that were deducted from the “theoretical reserves” (*ezhu*).<sup>87</sup>

The accounts of other provinces reveal similar situations.<sup>88</sup> Here we shall limit ourselves to the annual accounts of registers of Zhili, a large number of which distinguished arrears “due from the people” from current disbursements (see table 6.1). Although the large loan arrears shown in this table may not have been typical of all provinces, the technical difficulties involved in managing loans and repayments were enough to discourage many magistrates from carrying out the

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<sup>84</sup> See Mingde, ZP, GZD: QL 018291 (29/7/12).

<sup>85</sup> See Lu Zhuo, ZP, GZD: QL 012692 (21/9/9).

<sup>86</sup> See Mingde, ZP, GZD: QL 017421 (29/3/28).

<sup>87</sup> On the accounting format in the *minshu gushu* memorials, see chapter 8.

<sup>88</sup> See, for example, the section in chapter 10 on the lending process in Shandong Province.

Table 6.1. Loan Arrears in Ever-Normal Granaries, Zhili Province, 1765–1792

Year	Theoretical reserves	Disbursements ( <i>dongyong</i> )	Loan arrears ( <i>minqian</i> )	Actual reserves
1765	3,120,374	none	905,404	2,214,970
1767	3,202,272	none	569,831	2,549,566
1768	3,171,376	186,059	708,903	2,276,414
1773	2,572,163	42,097	797,724	1,732,342
1777	2,648,821	105,776	651,004	1,892,031
1778	2,795,255	333,350	753,084	1,708,821
1779	2,839,768	194,902	815,733	1,829,133
1781	3,784,762	181,602	784,855	2,818,305
1782	2,348,941	214,163	807,586	1,327,192
1783	2,461,776	210,568	837,318	1,413,890
1784	2,328,501	72,368	381,923	1,874,210
1785	2,266,621	183,662	474,079	1,608,880
1786	2,728,046	466,842	452,369	1,808,884
1787	2,530,369	263,640	473,422	1,793,309
1792	2,096,070	208,779	711,147	1,176,143

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Note**

Before 1765 the memorials only give one sole figure of “disbursements and arrears due by the people for the different years” (*dongyong ji jienian minqian*). For 1767, 1777, and 1786, figures do not exactly add up, due probably to scribal errors.

regulations faithfully. In theory, each borrower had to come personally to the county seat, where the granary was located. The magistrate was supposed to verify each applicant’s identity from preexisting rolls and then determine if the applicant was entitled to a loan (in other words, sufficiently poor). These loans, each of which required separate documentation, could be no more than one *shi* per household and were often much less. After granting a loan, the major difficulty, of course, came when repayment was due,<sup>89</sup> assuming that the emperor granted no

<sup>89</sup> That is, theoretically, before the end of the tenth month: see the decision of 1727 in *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*.

exemption or postponement because of poor harvests. Collecting repayments entailed individual “pressing” (*cui*) of the borrowers and thus of necessity brought the whole subadministrative machine into play.

It is easy to imagine that the actual practices tolerated by magistrates were, more often than not, quite different. In a manner typical of the everyday workings of local Chinese administration, intermediaries of every kind proliferated and many did indeed profit from the loans intended for the peasants. In the long run, a great many of these “loans” turned out to be impossible to recover. Some county administrators allowed local chiefs (the *dibao*, *shenshi*, *xianglao*, etc.) to receive group loans on behalf of others—a classic example of *baolan*, one of the most common fiscal “abuses” in late imperial China. Of course, there was no guarantee that the persons so “represented” would either receive or repay any of the grain.

The problem of *baolan* in government loans was given detailed attention by one Hunan governor as early as the Kangxi reign.<sup>90</sup> Another example of such “centralization” of loans and of the abuses it entailed is found in the investigation reports sent to the throne in 1767 by Imperial Commissioner Mailaxun. When Mailaxun visited Wuyang County, Henan, he found that only 2,083 of 3,459 *shi* of ever-normal granary loans had been repaid within the prescribed time period, leaving some 1,383 *shi* (*sic*) in arrears. Then, as he toured the countryside to inspect community granaries, Mailaxun came upon “taxpayers who had borrowed [ever-normal] grain” (*jie gu huahu*), discovering that, instead of making the peasants come to the granary to receive their loans, the magistrate would allow the *dibao* (“local constables”) to receive on their behalf a group loan to be redistributed among the people. Needless to say, the *dibao* seized this opportunity to line their own pockets, and in an effort to cover their tracks, might even go so far as to identify as debtors peasants who had in fact repaid their loans. In addition, the loans made by the *dibao*, which seem to have been more

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<sup>90</sup> See chapter 11, section on ever-normal granary distribution.

or less forced onto the peasants, were distributed illegally in cash and at a grossly underestimated rate (the rate at the time of repayment being, of course, grossly overestimated).<sup>91</sup>

A more extensive, and possibly exceptional, case of carelessness in handling ever-normal loans, one which can truly be seen as a complete perversion of the system, was revealed in 1755 by the governor of Shandong, Guo Yiyu. According to Guo's memorial, magistrates in Shandong had been lending ever-normal grain at random, that is to say, without taking into consideration either the harvest results or the borrowers' real needs. As a consequence, a quantity of "loaned" grain had fallen into the hands of "local bullies and ruffians" (*tuhao digun*) who were in cahoots with "corrupt underlings and rapacious runners" (*jianxu duyì*). These bullies and ruffians would borrow several tens of *shi* under fictitious names, and when grain had to be returned, the fictitious borrowers were reported to have died or disappeared (*taowang*), transforming their debts into outright deficits. Thus, arrears classified as "impossible to recover" piled up year after year until finally, in late 1754, the total came to as much as 922,000 *shi*, nearly one-third of the provincial target.<sup>92</sup> Although Guo's report is couched in stock phraseology, the situation he describes fits all too well with the more general denunciations of granary and famine relief corruption: exploitation of official carelessness, misplaced trust, and a limited capacity to control the local power structure, whose members were thus able to divert a part of the state's provisions for social relief to their own profit.

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<sup>91</sup> See Mailaxun, ZP, GZD: QL 023074 (32/10/7). Some time before, the same commissioner had discovered similar practices in Jiangxia County (the leading county of Wuchang prefecture, Hubei): there, more than 42,000 *shi* of arrears had piled up over the years due to the negligence of a preceding magistrate. It was found that a considerable portion of these arrears had been recorded, not under the names of *huahu* debtors, but under those of chiefs of *bao* (*baozheng*) who centralized loans (Mailaxun, ZP, GZD: QL 022892 [32/9/9]).

<sup>92</sup> See Guo Yiyu, ZP, GZD: QL 008864 (20/3/3). The problem of grain loans in Shandong had already been reported a few years before; action had been taken but apparently without enduring consequences. See chapter 10 for more details.

Significantly, this sort of wild “overlending” (*lanjie*) was described as being only one means among many—albeit worse than others—employed by magistrates to alleviate the problem of grain spoilage. Reportedly, the reason Shandong magistrates indulged in such practices was their nervousness about losses incurred during storage and the consequences this entailed for them personally. Storing the money-equivalent of grain and/or notes on outstanding loans was thus seen as an attractive alternative to warehousing large quantities of real grain. IOUs, which we may term “paper-grain,” had an additional advantage in that they permitted magistrates to claim that the grain was circulating when, in fact, it was not.

Loan renewals were a common accounting trick, often mentioned in the sources. For example, an edict of 1758, quoting from a memorial by one Liu Zao<sup>a, 93</sup> stated that when the magistrates were unable to obtain repayment of ever-normal loans during the autumn harvest season, they falsely reported that the grain had been brought back to the granary and, the following spring, asked permission to loan it again. What they actually did, however, was to order the debtor households to accept new loan contracts. This practice of “transforming an old debt into a new contract” (*yi jiuqian zuo xinling*) corresponds more or less with what modern bankers call “rolling over” or, according to one definition, “extending highly questionable debts from doubtful borrowers, thereby avoiding writing them off as a loss.” The edict added that clerks and runners took advantage of the practice to enrich themselves (presumably by charging for the “renewal” of the debt), that some debtors disappeared in the long run, and that the practice prevented new loans to households genuinely in need, thereby depriving the whole system of its usefulness to the local population.

It also happened that grain reportedly owed by the population and not recovered due to poor harvests, “exhaustion of the people,” the disappearance of borrowers, and so forth, had been embezzled or misappropriated by officials. A report of 1786, which told of large

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<sup>93</sup> See *WXTK*, 37.5199; the text concerns Shanxi Province, but its author claimed that a similar situation existed in other provinces.

deficits recently uncovered in Hubei,<sup>94</sup> stated that among the more than 1,000,000 *shi* of grain missing from the granaries were about 320,000 *shi* of unrepaid loans, some dating back twenty years, and added that it was difficult to distinguish between actual debts owed by borrowers and grain simply misappropriated (*nuoyi*) or embezzled (*qinshi*) by officials. This is but one example of how fictitious sales and loans served to conceal shortages and “mend holes” (*mi feng*) so that rectified accounts could be presented.<sup>95</sup> Indeed, extending false loans, or “rolling over,” was in a sense more convenient than fictitious sales, since no money-equivalent had to be produced.

To put things back in order, drastic measures were needed and, at least during the eighteenth century, were from time to time implemented. In a way typical of the Chinese traditional bureaucracy, exception came to the rescue of routine, creating, as it were, local cycles of decadence and revitalization. Such moves included investigating debtors one by one and “pressing” them, as was the practice with tax delinquency. When debtors were found insolvent or had disappeared, guarantors or officials would be held liable, as occurred in Shandong Province in the wake of the 1755 “over-lending” scandal mentioned above. Everybody was made to pay: the clerks who had acted as intermediaries, the magistrates who had allowed irregular practices, and the prefects who had failed to detect wrongdoing. In just five months, the new governor, Guo Yiyu, was able to recover 536,000 of the 922,000 missing *shi*.

Another, more frequent solution was simply to write off part or all of the outstanding loan arrears. In the eighteenth century, loan write-offs were often granted in the wake of famine and were considered a

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<sup>94</sup> Acting Huguang governor-general Li Shiyao and Hubei governor Li Feng, ZP, GZD: QL 048720 (51/7\*/24).

<sup>95</sup> An edict of 1726, devoted to the numerous irregularities that, reportedly, plagued the granary system in Zhili, contained the phrase “cunningly pretending that the granary stocks have been lent out” (*qiaocheng canggu chujie*; see WXTK, 35.5179). A decision of 1796, recorded in HDSL (1899 ed.), 192, *hubu, jichu, pancha cangliang*, indicted in the same way magistrates who were “covering their deficits with fictitious sales and loans” (*yi tiaojie wei ming, yanshi kuikong*).

kind of additional relief.<sup>96</sup> Similar measures seem to have been widespread in the nineteenth century, as we find loan write-offs rather regularly appearing as an item in the list of reserves to be replaced. No longer owed by the people, loans exempted from repayment became plain deficits and fell into the category of grain to be purchased with external funds.

### *Community and Charity Granaries*

The sources suggest a mixed picture of community and charity granaries, which were, let it be recalled, basically lending institutions. As was recounted in chapter 3, a number of provinces reported burgeoning reserves and accumulating interest grain during various periods of the Qianlong reign. We have also seen that it was sometimes feared that if reserves in community granaries grew too large they might exceed either the physical storage or management capacities of the institution, which was both very decentralized and inadequately staffed.

Indeed, there is no shortage of eighteenth-century texts lamenting the generally poor performance of granary directors (*shezhang*). Two main reasons for their deficiencies were identified: first, their lack of authority to press local borrowers for repayment;<sup>97</sup> and second, their generally low level of personal integrity. On the whole, the “upright and well-to-do” took every precaution to avoid this job, while those who volunteered were likely to be “dishonest folk and ruffians.”<sup>98</sup> The results were embezzlement, the use of extortionary practices to obtain contributions, difficulties with loan repayments, meddling in granary

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<sup>96</sup> See Will, *Bureaucracy and Famine*, 206–8, on loans made at the end of the 1743–1744 famine in Zhili.

<sup>97</sup> See, for example, an entry of 1721 in *WXTK*, 34.5175–76, concerning Zhili Province, where community granaries had been established as early as 1703, as an experiment to be implemented in other provinces.

<sup>98</sup> Among many examples of such complaints, see Anhui governor Pei Zongxi, *ZP*, *GZD*: QL 027948 (39/1/26). See also the opinions aired by specialists of local government, notably, Wang Huizu, as cited in Will, *Bureaucracy and Famine*, 203–4.

affairs by local bullies,<sup>99</sup> and overall managerial negligence, not to mention the proverbial interference by yamen clerks and runners. As a consequence, government intervention in the administration of community granaries generally increased during the eighteenth century, ultimately rendering them just another sort of “public” reserve from which officials could draw at will.<sup>100</sup> Thus, an edict of 1799 stated, “Recently, community granary management has been taken over by the government administration, with the result that the larger part of community stocks has been diverted to other uses under various pretexts and not replaced for a long time.”<sup>101</sup> A kind of “debureaucratization” of community granaries was called for, and this may well have occurred because the basic structures of control and monitoring that had been developed during the Qianlong reign were not, apparently, being similarly maintained in the nineteenth century.<sup>102</sup> Nevertheless, complaints

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<sup>99</sup> One author writing during the Daoguang period stated that the community granary in his village (in Jianning County, Fujian) had been ruined by the thievery of “evil youths” (*e shaonian*) and by the ensuing litigation. He also indicted (in a general way) official interference in community granaries that were “abandoned to rapacious underlings.” When a new village granary was established by a local gentry after a period of famine during the years 1823–1834, it was decided that it should be called a “charity granary” in order to differentiate it from the ill-reputed community granary of old. See Zhang Jiliang, *Zhang Xiangfu wenji*, 2.30b–31b. According to *Jianning XZ*, 4.24a–25b, by 1759 Jianning had twenty-one community granaries storing a total of 5,538 *shi* of grain. The granary in the village in question had 247 *shi* in store.

<sup>100</sup> This was particularly the case during the late Qianlong and early Jiaqing military campaigns. According to Lebao, *ZP*, *GZD*: JQ 011495 (13/7/12), the community granaries of Sichuan had to contribute a total of about 360,000 *shi* to feed troops engaged in the White Lotus war which, in 1808, had yet to be bought back. Similar evidence exists for Shaanxi. See also chapter 4 above.

<sup>101</sup> See *Renzong shilu*, 50.24b–26a.

<sup>102</sup> There were other suggestions in the same vein at the turn of the century. For example, an interesting memorial of the Board of Revenue, approved on JQ 5/7/4 (in *Huidian an: jizhu qingce*), cited remarks sent by the governors of Shaanxi and Anhui and ended by acknowledging the need for a more flexible system, along the lines of the Yongzheng precedents. While *shecang* directors were supposed to send annual accounts of disbursements and repayments to the yamen, which would compile registers and send them up the hierarchy, community reserves, according to the board, should not be included in the

of official misuse of community granary reserves, although less frequently encountered, do continue to crop up in the records of later periods. In 1821, for example, we are told that county magistrates were in the habit of drawing from community and charity reserves to meet public expenses and to make good the illegal deficits of ever-normal granaries.<sup>103</sup> Because of such encroachments, potential contributors were becoming reluctant to give grain to an institution that was no longer private and dedicated to local needs, and which “honest gentry” adamantly refused to take charge of for fear of becoming entangled in the collective malfeasance of clerks and local ruffians.

It is not easy to strike a balance between all this pessimistic writing on community granaries and the opposing examples of apparently efficient operations mentioned above. Should the statistics on community and charity stocks be taken at face value (which, during the eighteenth century, would imply considerable reserves in many provinces), or are we to suspect sizable quantities of undeclared arrears and grain shortfalls due to illegal diversions? Obviously, any generalizations are problematic. The treatment of figures offered in chapter 9 suggests a possible shift around 1780, when such malpractices seem to have generalized. Yet even prior to this date, the *risk* of abuse was present everywhere. Mailaxun’s oft-cited investigation of Henan granaries, which included rural community granaries, suggests that the latter were far more likely to experience shortages than ever-normal

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year-end and post-transfer “guarantees” (see chapter 7). Moreover, the former rule of replacing the *shezhang* every three years (or even each year as in Jiangsu) was to be discontinued: as the meddling of the bureaucracy in the regular operations of community granaries and in the nomination of directors would henceforth be forbidden, the job of *shezhang* had no longer to be regarded as a dreadful one, and good directors should be willing, and allowed, to remain in their posts as long as was deemed desirable by the community.

<sup>103</sup> See Shaanxi provincial censor Chen Jiye, ZP, GZD: DG 000016 (1/2/3), describing the general decadence of the institution over the years. See also Zhejiang circuit investigating censor Liang Zhongjing, ZP, GZD: DG 000116 (1/11/19).

granaries.<sup>104</sup> Mailaxun also found that, on the average, granary directors reported to magistrates less than half the quantities actually loaned and lent the remainder on their own account (*sixia*), presumably at a higher rate of interest than the authorized 10 percent.<sup>105</sup> Another example, reported in Shaanxi in late 1762, makes clear the linkage between the problems community granaries were confronting and the fact of insufficient official control. According to Ebi, the newly arrived governor, arrears of both ever-normal and community granaries were found to date back eight or nine years and amounted to more than 1 million *shi*. During the winter of 1762–1763, investigating officials visited debtors one by one and inquired into granary management. Their efforts revealed that magistrates and higher officials took little interest in community granaries, considering community stocks to be “reserves of the people” (*minjian jichu*);<sup>106</sup> moreover, they neglected to supervise community granary managers and assistant managers, let alone perform the routine inspections prescribed by regulation. As a result, misappropriation and embezzlement by granary staffs were “ten times greater” than similar malpractices in ever-normal granaries, where most of the missing grain corresponded, at least on paper, to quantities actually owed by the people. Ebi proposed a detailed plan for repayment, with magistrates to be made financially responsible.<sup>107</sup>

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<sup>104</sup> See, for example, ZP, *GZD*: QL023006 (32/9/26), on Wuyang County. The total hidden shortage (*kuique*) was 267 *shi* for the ever-normal granary, out of a quota of 14,216 *shi*. On the other hand, the community granary located in Wuyang City showed a shortage (*duanshao*) of 745 *shi* (including some spoiled grain). The commissioner also discovered that the clerks and directors in charge of the various granaries took grain in excess from contributors or debtors by means of oversized measures.

<sup>105</sup> It may be noted, incidentally, that the way Mailaxun spoke of community granaries is a good example of the “bureaucratization” alluded to above: for him, community grain was “government grain” (*guangu*), and he deemed it illegal to let the directors freely open and close the doors of the granaries—or even, indeed, to have the keys with them (see ZP, *GZD*: QL 023074 [32/10/7]). Officials were expected to exercise constant control.

<sup>106</sup> Note the contrast with Mailaxun’s speech, as recorded in the preceding note.

<sup>107</sup> See Ebi, ZP, *GZD*: QL 014472 (28/3/16). The most serious case of *shecang* mismanagement was found in Chang’an County, where “several thousand” *shi* had been embezzled by managers without its being reported for years. One cause of official lack of

The evidence given above, albeit fragmentary, is enough to suggest how Qing granaries might have developed grain shortages through their “lending” function. The problem has been defined as “structural,” not because granaries are inherently doomed to such difficulties as soon as they lend grain, but because the technical and organizational means indispensable to proper management were lacking. In addition, the very texture of the social fabric, which in many cases had little to do with the bureaucratic ideal of a free peasantry directly in touch with the government, encouraged the self-serving intervention of various intermediaries who, in effect, formed a screen between the bureaucracy and its target population—an absorbent screen that was able to soak up and retain grain and/or money flowing through it from either direction.

#### CONCLUSIONS

The nature and significance of what have been called “structural” weaknesses of the granary system throughout these pages need further elaboration before we bring this chapter to a close. Perhaps the best way to start is by emphasizing that the various problems detailed above did *not* systematically inhibit the civilian granary network from fulfilling its functions—price control, famine relief, and lending. Rather, as ever-present *potential* sources of disruption, they severely restricted the range of conditions wherein the granary system could work efficiently, that is to say, without accruing an insurmountable backlog of arrears and shortages and without having to resort to practices detrimental to the people in order to ensure restocking or, conversely, to dispose of old reserves. Yet, even when they did not work smoothly, granaries were not necessarily a failure. They continued to maintain themselves, often held sizable quantities of grain, and, when these were deemed

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concern about *shecang* arrears may have been a precedent according to which magistrates were authorized, in their year-end report (*zouxiao an*), to ask for the exemption of community loans for which debtors could not be traced (*wu ke zhuozhui*). One Shandong governor who cited this precedent noted that this was a convenient pretext under which community granary administrators might accumulate “irregularities.” See Shandong governor Guotai, ZP, *GZD*: QL 054182 (53/6/2).

insufficient, they could be restocked with resources from outside the system. Given a more favorable economic and political environment, there was clearly the potential for growth and for reform: although in many ways it did not come close to its imperially defined ideals, the system was still an important tool in mitigating major food crises and, as such, retained its legitimacy in the eyes of both the population and the bureaucracy.

In our view, this must have been close to how it was generally perceived during most of the eighteenth century: despite the fact that, when observed at the local level, the granary system seems to have functioned in fits and starts, there is no question that, in the larger context, the negative features detailed in these pages did not prevent it from maintaining a relatively high degree of efficiency, thanks to the confluence of such favorable elements as generally mild climatic conditions, the bureaucracy's skill at organizing purchasing campaigns without creating major market imbalances, the state's financial ability to intervene on an *ad hoc* basis, and the central government's capacity to mobilize local officialdom when necessary.

On the other hand, as economic difficulties were compounded throughout the country and discipline within the bureaucracy began to erode, the problems analyzed above became crippling. Speaking very generally, this is what occurred during the last years of the Qianlong reign and again, on a larger scale, after the Jiaqing attempts at reform had failed. Such generalizations should not, of course, obscure the variety of local situations.

The problems we are dealing with can be characterized as "structural" in two ways. First, some of them were built into the system and its regulatory apparatus: for example, the strict regulations on purchase prices often made restocking difficult or even impossible without the extraordinary stratagems that have been described in detail above. The secular rise of prices only served to compound this already dangerous situation. As a consequence, more and more officials and taxpayers came to see the ever-normal granary system as a rather burdensome institution. This is not to say, however, that it was considered *unnecessary*, or at least not during the period covered in this book. Other rigidities, or unrealistic stipulations of administrative law, such as the

personal liability of magistrates in almost all cases of spoilage, tended to reinforce this already negative attitude and often resulted in a little or no effort being made to store the required quantities of grain.

Second, there was, in certain contexts, a kind of structural contradiction between the “ever-normal” concept of price-stabilization (essential to ensuring turnover and thus making it feasible to maintain large emergency reserves over long periods) and the socioeconomic environment. The same might be said of annual grain loans. While the system was well designed for undercommercialized areas, or for exporting areas in which surpluses risked being swallowed by long-distance commerce, granaries had only a limited impact on food supplies and food prices in importing areas such as the lower Yangzi region and the southeast coast.<sup>108</sup> In these regions, granaries held only limited appeal for the people, and the difficulties of turnover were made even more burdensome. Significantly, one of the earliest and most energetic critiques of the 30-percent annual turnover (*tiaosan*) rule came from the governor-general of Liang-Jiang. In 1764, after a discussion of “allotted” and “forced” buying, Yinjishan proposed what amounted to a virtual abandonment of the rule of 30 percent: namely, that 30 percent or more of the granary stocks be sold only in really lean years, with sales in normal years staying within the range of 10 to 20 percent (which, to be sure, was already often the case) or even, preferably, nothing. Although Yinjishan’s rationale for so limiting disbursements was that annual purchases of hundreds of thousands of *shi* were best avoided, he was probably additionally concerned about the burgeoning development of grain markets in the lower Yangzi area, where large imports of high-quality rice rendered granary disbursements problematic, if not completely superfluous, in most years. Indeed, in defending his

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<sup>108</sup> It is interesting at this point to mention a memorial of 1763 by Shaan-Gan governor-general Yang Yingju, in which he compared Gansu, a poor and landlocked province, with Guangdong and Zhejiang, where he had formerly been posted. While granary reserves were all-important in Gansu, said Yang, in Guangdong and Zhejiang their impact on prices (in one or the other direction) was not very great because reserves were so limited compared with what the merchants were able to keep in store, buy, or sell. See Yang Yingju, ZP, GZD: QL 015160 (28/6/11).

proposal, Yinjishan made use of an aphorism that appears to question the very utility of granaries as a means of stabilizing prices: “In spring, one less *shi* sold is one more *shi* in the granary; in autumn, one less *shi* bought is one more *shi* among the population; this should be advantageous for both granaries and people.”<sup>109</sup>

In 1799, as we have seen, the rule of annual disbursal and restocking was simply discontinued because of the proliferation of abuses in restocking operations: this move, in fact, only systematized Yinjishan’s proposal, made years before. There is also the possibility, yet to be seriously researched, that it was a consequence not only of the increasingly serious structural problems within the system, but also of an enlarged capacity for grain mobilization through commercial channels, especially in areas which enjoyed the benefits of easy access to transport routes.

At this point, let us jump ahead nearly a century to consider briefly the opinion of a much later official, one Ruan Benyan, who in 1884 was appointed magistrate of Funing in northern Jiangsu. Although the ever-normal granary system was a venerable and admirable one, said Ruan, his predecessors had abandoned it because they believed it held nothing but disadvantages: grain had to be inspected and sun-dried to avoid spoilage, granary buildings were costly, and spoilage losses between distributions were unavoidable, especially in a low-lying and humid area such as Funing. He therefore advocated the holding of stocks in money-equivalent: whereas stocks in grain regularly decreased in value because of spoilage, a sum of money entrusted to pawnshops could more than double after ten years. As for the danger posed by empty granaries in the event of famine, Ruan asserted that, at least for a county like Funing, which enjoyed easy access to water

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<sup>109</sup> See Yinjishan, ZP, *GZD*: QL 017505 (29/4/11). Although the *Gaozong shilu*, (712.14a–b) reproduces only the Board of Revenue’s comments on the first part of the memorial (which was devoted to the problem of “short prices”), an entry of 1764 in *HDSL* ([1899 ed.], 189, *hubu, jichu, changpingcang cuntiao dingli*) suggests that the second part, devoted to the question of *tiaosan*, was approved.

transportation and external markets, there was, in fact, no danger at all.<sup>110</sup>

So frank a statement as Ruan's would have been impossible for an eighteenth- or early nineteenth-century official addressing, as was Ruan in this case, his provincial treasurer. Yet this radical plan for circumventing the inconveniences of granary management appears, in a way, a rather logical consequence of the numerous contradictions that were built into the ambitious ever-normal granary system established during the early and mid-eighteenth century; it may also be seen as an extreme expression of the actual attitudes toward grain storage of many earlier magistrates. In the same way, Ruan's advocating complete reliance on markets and commerce to provision a famine-stricken area, and totally rejecting the notion of depending on government grain stocks, may be interpreted as the culmination of a tendency that had been building since the late eighteenth century, when the bureaucracy gradually began to back away from handling large quantities of grain for famine relief, turning instead to financial measures as a way to ameliorate such crises.<sup>111</sup> Commercial capabilities in handling grain storage and long-distance trade came increasingly to be seen as more effective than the state's ability to manage large reserves. Whether they had indeed progressed, and to what extent, remains to be demonstrated, but it is clear that the state's organizational capacities and energies, not to mention financial resources, were on the decline by the turn of the nineteenth century and that by the 1880s running so ambitious and costly an institution of social security as the granary system of the early Qing emperors might well have appeared a utopian ideal.

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<sup>110</sup> See Ruan Benyan, *Qiumu chuyan*, 2.13b–15b.

<sup>111</sup> See Will, *Bureaucracy and Famine*, 295, 313–14.



## The Control Structure

Pierre-Étienne Will

As we have seen in the preceding chapters, the potential and, in an unknown proportion of cases, actual consequences of the technical and managerial problems encountered by the granary system included the reluctance of magistrates to restock, excessive lending, the accumulation of silver-equivalent and IOUs in lieu of grain, failure to replace spoiled reserves, forced buying and/or selling, and the self-enrichment of officials and their underlings through illegal practices such as the imposition of “short prices,” private sales of government grain, the diversion of funds earmarked for grain purchases to other uses, and outright embezzlement. As might be expected, officials guilty of such irregularities or even malfeasance became equally adept at concealing them from their superiors, and so the state had perforce to develop a whole array of control procedures designed to ensure “sincere” application of the rules and to detect irregularities and shortages.

These procedures can be assigned to one of two broad categories. The first we define as “routine” procedures, meaning regularly performed and anticipated by the officials to whom they affected. The

second includes those measures that were clearly outside the scope of normal activity, which we have termed “special,” or irregular, and which appear to have played a key role in the state’s efforts to monitor the management of civilian granaries during the first half of the Qing.

#### ROUTINE AUDITS

The Qing institutionalized two major types of routine controls. First was the annual *pancha* (“investigation”) audits, which attempted to verify the contents of the year-end financial reports (*zouxiao*) sent by each administrative office up the bureaucratic hierarchy to the central government. The second was the reckoning of accounts that was carried out as part of the “post-transfer” (*jiaodai*) formalities, which allowed the new official the opportunity to scrutinize thoroughly his predecessor’s accounts and to ensure that all errors or deficits uncovered therein were repaid by the departing official so that the newcomer might start off with an accurate and balanced set of accounts.<sup>1</sup>

#### *Annual Audits*

The year-end audits, performed at every level of the administrative pyramid, were apparently instituted in 1689. In each case, the auditor-in-charge was the leading official of the office immediately superior to the one under scrutiny; thus, it was the governor who audited the provincial treasurer, the latter who audited the circuit intendants, and the intendants who audited the prefects, who, in turn, were in charge of local magistrates.<sup>2</sup> The controlling official was supposed to call on the yamen concerned and personally verify both that the quantities of silver and grain kept in the treasury and granary corresponded with the accounts and that the accounts themselves were regular and consistent.

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<sup>1</sup> It goes without saying that the whole financial activity of the investigated yamen, not just granaries, was concerned.

<sup>2</sup> See *HDSL* (1899 ed.), 174, *hubu*, *tianfu* (Land Tax), *pancha cangku* (Investigating Granaries and Treasuries). The principle of “sending annual accounts of paid and unpaid taxes to the board” dates back to 1652. The practice of annual accounting (*zouxiao*) was an innovation of the Qing. See Zelin, *The Magistrate’s Tael*, 13–15.

Upon satisfactory completion of these tasks, he would then “guarantee” (*baojie*, or *chujie*) the accounts and forward them up the hierarchy, each superior official in turn adding his guarantee after having checked the documents for accuracy and internal consistency. Of course, the controlling officials would be held responsible in the event that irregularities or deficits were at some point discovered and would incur punishment for “favoritism” (*xunsi*) or “protection” (*xunbi*).<sup>3</sup>

The institution of annual reports and audits during the first decades of the Qing certainly was a major effort to equip the empire with a rational financial administration and to oblige the field bureaucracy to maintain clear accounts. Nevertheless, a close reading of the regulations that continued to be promulgated, in conjunction with other evidence, makes it clear that, right from the start, the routine audits could only detect abuses in a limited way. Most of the checks were simply paperwork: the controllers, especially at higher levels, seem to have limited their efforts to verifying the internal consistency of the present year’s figures and overall consistency from one year to the next. The same, of course, was true at the highest level, the Board of Revenue, where provincial accounts were received. A board evaluation of Shandong’s year-end granary accounts for 1754 clearly indicates that the Board’s personnel cross-checked the aggregate figures presented in the governor’s memorial against the original reports (*yuanbao*) on disbursement and restocking operations sent over the course of the year so as to verify consistency.<sup>4</sup>

While the written materials seem generally to have been well vetted on their way up the bureaucracy, the other primary task associated with

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<sup>3</sup> Such discoveries might be the result of a special investigation; they sometimes also came about through “denunciation by an outsider” (*bei pangren shougao*), as suggested in an edict of 1724 (*HDSL* [1899 ed.], 192, *hubu*, *jichu*, *pancha cangliang*). On the other hand, a prefect conducting an unscheduled investigation (*bushi pancha*) and finding irregularities that had escaped him in the course of regular control procedures would be exempted from punishment if he reported them without delay (see *HDSL* [1899 ed.], 174, *hubu*, *tianfu*, *pancha cangku*, regulation of 1705).

<sup>4</sup> Reproduced in *HKSS*, QL 20/2, *ce* 1; the figures are analyzed below in the Shandong provincial study (chapter 10).

annual audits—the actual investigation of granary buildings and of the day-by-day registers and documents by ranking officials—seems only occasionally to have been carried out. One reason for this was clearly structural, namely, the dearth of responsible officials relative to the volume of administrative business to be processed. Another may have been the prevalence of unofficial, “customary” payments from the bottom to the top of the provincial hierarchy of administrative offices and the related practices of protection and gift-giving, which the Yongzheng reforms eliminated only incompletely and for a limited period of time, and which made any attempt to have accomplices controlling each other meaningless.<sup>5</sup> Indeed, we find evidence that in some cases the prefects did not even bother to visit the counties in their jurisdiction, leaving it to the county magistrates to audit each other.<sup>6</sup> In the event that they did venture out in person to investigate, magistrates more often than not received word of their arrival beforehand and so had time to conceal what had to be concealed, thereby depriving the visit of its primary aim.<sup>7</sup> Finally, it is highly probable that in many cases the last word was left to the granary clerks (*cangshu*) and the officials’ personal attendants (*jiading*) who were the de facto managers of the reserves and in some cases seem to have had quite a free hand in the direction of granary operations. As is related in the account of Mailaxun’s 1767

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<sup>5</sup> See Zelin, *The Magistrate’s Tael*, and note 11 below.

<sup>6</sup> Similar “mutual control” among intendants and prefects is suggested by a memorial of 1801 concerning Hubei Province, the authors of which imply a rather relaxed approach in current practice: “[Given the present circumstances], it would not do to conform to the old habit of simply entrusting the intendants and prefects with mutual control and guarantee (*hupan jiebao*) and then hastily and carelessly memorializing (*juxing maowei juzou*).” See Huguang governor-general Wu Xiongguang and Hubei governor Quanbao, ZP, GZD: JQ 005660 (6/7/25).

<sup>7</sup> Such, at least, were the accusations laid down in a memorial submitted in 1766 by the provincial judge of Shaanxi, as quoted in an edict (*Gaozong shilu*, 775.13b–14a) that instructed the governors-general and governors to commission special investigators in the counties that had been treated in this way by the prefects. The latter would, in the best case (when no shortage was found), be punished for “neglect of public affairs” (*bu ying zhonggong*). See also HDSL (1899 ed.), 174, *hubu, tianfu, pancha cangkai*, entry of 1766.

investigation, the clerks of one granary in Wuyang County (Henan), in responding to a question about shortages they had attributed to misappropriation by the magistrate, boldly stated, “Whenever there is a routine audit (*pancha*), we compile fictitious registers and present muddled records (*dou shi xukai cezi, menghun zaobao*). That is why there are grain shortages (*suoyi guzi duanshaole*).”<sup>8</sup> Clearly, the documents generated in the course of these routine audits were not always a reliable indicator of the system’s overall condition.

In fact, the multiplication of “severe investigations of the real situation” (*yanjia heshi*) and the requirement that guarantees be issued at each level, from prefects up to governors-general, seem to have been aimed more toward establishing mutual liability in the event of unreported frauds than toward enhancing the reliability of the results obtained through a succession of audits up the administrative hierarchy.<sup>9</sup> What was feared above all was the “protection” (*xunbi*) of potential culprits by their superiors, each of whom (including governors-general) was at some point threatened in imperial edicts with punishment if such behavior was exposed or if reports of observed irregularities failed to make their way to the proper authorities. It goes without saying that corruption here was not just a risk but a pervasive reality. A regulation of 1723 that expressly forbade the giving of gifts to prefects who conducted the routine investigations<sup>10</sup> points to the authorities’ clear awareness that if officials could bribe their superiors, then the whole system of hierarchical controls was in jeopardy. Fear of systemic disintegration is the obvious explanation for the continual expansion

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<sup>8</sup> See Mailaxun, ZP, *GZD*: QL 022928 (32/9/13).

<sup>9</sup> Controlling and memorializing by governors-general and governors were added in 1723, as the audits performed by prefects, intendants, and provincial treasurers were by then considered insufficient to prevent cronyism from flourishing (*HDSL* [1899 ed.], 174, *hubu, tianfu, pancha cangku*).

<sup>10</sup> See *ibid.* The 1764 edition of *HDZL* (16.10a) gives the date as 1720; it specifies that both persons (the prefect and the magistrate) were to be punished.

and increasing intricacy of the control structure.<sup>11</sup> A good example of such expansion is the institution of the “no-deficit” (*cha wu kuikong*) audit, which was added in 1767 to an already very crowded set of control and guarantee regulations. According to an edict received during the first month of that year,<sup>12</sup> provincial governors were to see to it that each level of the subprovincial administration, from the provincial treasurer to the prefects, undertake a thorough investigation (*pancha*) of the annual accounts of treasuries and granaries in every county and recoup any deficits. When this had been done and the provincial treasurer had compiled a register and assumed responsibility for the whole operation, the governor would send in a memorial, giving no specific figures of reserves in silver or grain, but simply announcing that the “no-deficit” audit had been carried out and indicating the location of any remaining shortages.

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<sup>11</sup> The phenomenon of pervasive corruption before the Yongzheng reforms has been analyzed in detail by Madeleine Zelin: see *The Magistrate's Tael*, chapter 2, esp. 71, where she states that, because of the necessary reliance of governors upon the informal aid of funds received from their subordinates, “a symbiotic relation developed that was based on bribery from below and coverups and favoritism from above.” The new “controls” introduced during the Qianlong reign testify to the continuation (or revival) of such practices. It may be added that the Board of Revenue was also part of the “conspiracy,” since it had the last word in the auditing process and its officials and especially clerks would normally (if unofficially) suspend approval of the accounts until the proper “fees” had been received. It is important to note that, properly speaking, the Qing had no auditing institution in the modern sense of the term—that is, an institution distinct from and independent of the accounting divisions it audited. One such auditing office, the *huikao fu* (Department of Examination of Accounts), was instituted by the Yongzheng emperor in the first year of his reign but was disbanded soon thereafter, in 1725, “when the emperor was satisfied that the corruption in local and central finances had been brought under control” (see *The Magistrate's Tael*, 79; although Zelin calls the *huikao fu* an “accounting office,” its task was auditing, not accounting). It should be emphasized, moreover, that in the Chinese case “auditing” was aimed at discovering fraud and irregularities, while the task of modern Western auditors has generally been to examine financial statements and express an opinion on them. On these notions, see Fu, “Governmental Accounting in China,” *passim*.

<sup>12</sup> This edict is quoted in several memorials, for example, the one cited in the next note. It is briefly abstracted in *HDSL* (1899 ed.), 174, *hubu, tianfu, pancha cangku*.

The creation and adoption of this procedure, which in fact largely duplicated existing controls, must have in essence turned on its providing yet another venue for engaging the provincial hierarchy's responsibility in the overall process of control and accounting. The very wording and phraseology of the "no-deficit" memorials that we have read suggest the ritualistic nature of the steps involved. Let us take as an example a memorial submitted in late 1773 by Bi Yuan, the governor of Shaanxi.<sup>13</sup> Bi began by quoting from the 1767 edict that instituted the procedure and then gave a list of all the officials, from provincial treasurer down to independent department magistrate, who had participated in the operation.<sup>14</sup> He then mentioned the final report submitted by the provincial treasurer, who had, not surprisingly, stated that there was not the smallest deficit.<sup>15</sup> There followed some flowery language attesting to the great importance of maintaining quotas in treasuries and granaries. Finally, Bi argued that, as a precautionary measure, officials should be warned about the dangerous consequences of excessive spending and luxurious life-styles in order to rein in the temptation to embezzle or misappropriate state funds. He himself, or so he claimed, was in the habit of imparting exactly this message to every official who came to visit him.

Interestingly, another "no-deficit" memorial sent five years later by the same author (who was still in the post of Shaanxi governor) uses almost exactly the same wording.<sup>16</sup> There are other such memorials from various provinces, all of them characterized by the same perfunctory tone: even the details of supposedly "on-the-spot" and "without-

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<sup>13</sup> ZP, *GZD*: QL 027451 (38/12/12).

<sup>14</sup> In some memorials of this type, the list gives the names of all the intendants, prefects, and independent department magistrates who were involved in the verification: see, for example, Anhui governor Min Eyuan, ZP, *GZD*: QL 036867, sent in 1778.

<sup>15</sup> Hence, the usual caption of these memorials, *cha wu kuikong* ("no deficit observed"). We have come across only one memorial of this sort which owns up to some granary deficits that had not yet been entirely made up at the time of memorializing: see Zhili governor-general Liu E, ZP, *GZD*: QL 049995 (52/1/23).

<sup>16</sup> See ZP, *GZD*: QL 036842 (43/11/20).

previous-notice” inspections by intendants and prefects read like stock scenarios.<sup>17</sup>

Comparison with some nonroutine reports confirms the *pro-forma* nature of the annual audits. In 1781, for example, Bi Yuan (still governor of Shaanxi) submitted a memorial on the results of his personal investigations into the reserves of grain contributed for *jiansheng* degrees that contrasts strikingly with his “no-deficit” ones. He recounted in detail how, during a garrison inspection tour, he had visited a number of county granaries and had personally inspected, with the aid of experienced officers, the contents of each and every granary bin and also reviewed the original administrative documents. His claim that absolutely no grain was missing is credible, for 1781 was the same year in which a big scandal in Gansu regarding the sale of degrees was exposed,<sup>18</sup> and Bi had been one of the most ardent promoters of a plan to revive the system in Shaanxi-Gansu. As heads rolled in Gansu, where a painstaking investigation was in progress, the Shaanxi governor was motivated to prove that *his* student-grain reserves were without deficit. Additional incentive for truthful reporting was provided by the emperor, who had promised he would send high officials to verify the results of Bi’s investigation!<sup>19</sup> We might note in passing the rather remarkable contrast between Shaanxi and Gansu: although the two provinces are contiguous and were then under the authority of a single governor-general, and although both engaged in similar programs to increase contributions, the one saw the development of an organized malpractice that ultimately ended in considerable scandal, while the other, apparently maintaining some level of rigor in its operations, was able to acquit itself on all counts when subjected to serious scrutiny. The very different situations unfolding simultaneously in the two prov-

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<sup>17</sup> See, as an example, Chen Huizu (then Hubei governor), ZP, GZD: QL 036874 (43/11/22). Five years later, incidentally, Chen was branded one of the most corrupt officials of the reign and executed.

<sup>18</sup> For some details, see below, Conclusions.

<sup>19</sup> See Bi Yuan, ZP, GZD: QL 039519 (46/10/13), quoting from the edict in which the inspection was ordered, and QL 040485 (46/12/28).

inces suggest a degree of provincial self-containment and homogeneity in administrative practice—for better or worse<sup>20</sup>—and also are proof that the early 1780s was not yet a period of generalized crisis in granary management.

The contrast between routine and nonroutine audits may be observed elsewhere.<sup>21</sup> By the last years of his reign, the Qianlong emperor entertained few illusions about the utility of the ritual “no-deficit” reports that he received. In an edict of 1792, which develops a rhetoric very typical of the time and suggests the sorry state of the present control and communication apparatus, he observed, “Each year the governors-general and governors of all the provinces compile memorials that report the absence of deficits in their granaries and treasuries; but when there is a calamity or a poor harvest, I do not receive any memorial informing me that granary stores have been distributed (*dongbo*).” Southern Zhili was a case in point that very year, and the cause of this situation (which was probably the same in all provinces, according to the emperor) was ascribed to the usual range of abuses. That these abuses could develop and flourish was the fault of the governors-general and governors who did not bother to make serious investigations and rested content with merely sending the *pro forma* “no-deficit audit” memorials. The result was called *youming wushi*, “existing in name but not in reality”; if this unacceptable state of affairs did not change, the emperor threatened, special investigators would be

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<sup>20</sup> As will be seen in chapter 10, the same kind of suggestion can be made concerning Shandong Province.

<sup>21</sup> For example, the “no-deficit” memorial sent from Hubei in 1783, which routinely stated that everything was perfect, should be set against the results of the thorough investigations performed on site by the newly appointed governor-general and governor in 1786. The latter uncovered deficits carried over a lengthy period, quantities of unreported damaged grain, and arrears that, in some cases, had been accumulating for more than twenty years. See, respectively, Hubei governor Yao Chenglie, ZP, GZD: QL 047142 (49/1/25), and Huguang governor-general Li Shiyao and Hubei governor Li Feng, ZP, GZD: QL 048720 (51/7\*/24). In addition, it should be noted that Li Shiyao and Li Feng unearthed several cases of embezzlement of relief funds during the 1785 drought in Hubei: see the 1786 edict quoted in *Huangzhou FZ, shou*. 14a–15a.

sent into every province to seek out whatever abuses and neglect there existed.<sup>22</sup>

It should be added that by the early nineteenth century even the long-established practice of conducting year-end audits and compiling reports seems to have fallen by the wayside. That uniform and universal execution of this control measure had been allowed to lapse is suggested at the end of an important edict of 1835, where reference is made to an empirewide granary investigation that had just brought to light a national shortage (*queduan*) of more than eighteen million *shi*. Not only does the text allude to disbursals and shortages not reported in the annual reports, it also implies that for several years some provinces had not even submitted the requisite accounting of granary stores.<sup>23</sup>

### *Post-Transfer Audits*

Before we shift our attention to the “special” control options employed by the Qing, let us turn briefly to our second type of routine investigation, namely, the “post-transfer” (*jiaodai*) audit. Potentially more revealing than the ordinary *pancha* audits, this system was designed to eliminate the possibility of deficits and errors being passed on from one official to the next. Since an incoming magistrate was to be held responsible, along with his predecessor, for any loss or irregularity discovered after the transfer of authority, he naturally took a very personal interest in the accuracy and thoroughness of this review of accounts.

An abundance of rules and precedents guided the process of post transfers, both in general and with specific reference to granary reserves.<sup>24</sup> While the *jiaodai*'s general principles were originally articulated in 1656, it was apparently not until 1692 that ever-normal reserves were formally assigned a place among the various items to be investi-

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<sup>22</sup> See *HDSL* (1899 ed.), 189, *hubu, jichu, changping guben*.

<sup>23</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, yubei cangchu*.

<sup>24</sup> See, respectively, *HDSL* (1899 ed.), 174, *hubu, tianfu, qianliang jiaodai* (Transfer of Tax Monies and Grain), for general rules; and 192, *hubu, jichu, cangchu jiaodai*, for rules on granary reserves.

gated by the incoming official.<sup>25</sup> A period of two months was originally stipulated for the entire audit; in 1727 it was extended to three months for grain stocks exceeding 50,000 *shi*.<sup>26</sup> According to a text of 1737 (a year in which statements on *jiaodai* were particularly numerous), in order to reduce the risk of his being convinced by the outgoing official's clerks and servants to collude in cover-ups, the incoming magistrate was to be aided in his investigations (*xiepan*) by an official specially commissioned by the provincial government.<sup>27</sup> The same year, an assessment of all the buildings and furniture belonging to the county administration, including granaries, was formally placed within the scope of the audit. In general, the two (or three) months to be devoted to this investigation were divided into a relatively short initial period, during which the outgoing magistrate prepared his accounts, and a longer period that would provide adequate time for the incoming official to verify their accuracy and to ensure that deficits were made up. After satisfying himself on both scores, the new official would draw up a register establishing that the inherited accounts were correct (*jieshou qingchu cejie*), and he and the supervising official would validate the results by affixing their seals to this document.<sup>28</sup> The new

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<sup>25</sup> See *HDSL* (1899 ed.), 189, *hubu*, *jichu*, *changping jichu*. The text implies that this was already done in Zhili Province. It may be noted, also, that Huang Lihong's well-known handbook of local administration, which dates from 1694 and is based upon the author's experience during the preceding decades (as a district magistrate both in Shandong, from 1670 to 1672, and in Zhili, from 1675 to 1678, before his promotion to the metropolitan administration), recommends careful inspection of the granary reserves and buildings during post transfers. See *Fuhui quanshu*, 43, 47; and Djang's translation, *Complete Book*, 126 and 134.

<sup>26</sup> In 1730 the delay was put at two-and-a-half months for officials controlling a stock of more than 25,000 *shi*. See *HDSL* (1899 ed.), 174, *hubu*, *tianfu*, *qianliang jiaodai*.

<sup>27</sup> Some texts also mention an "official commissioned for supervising the investigations" (*jianpan weiyuan*), who was probably the same person.

<sup>28</sup> See *HD* (1899 ed.), 19, *hubu*, *zhi tianxia zhi jingfei* (Managing the Empire's Expenditures), *qing qi jiaodai* (Ensuring the Regularity of Post Transfers); the text insists that the registers and seals must be sent within the prescribed delays: a "general guarantee" (*zongjie*) would not be sufficient.

official was not permitted to accept silver in lieu of grain (or “[grain] commuted in money and deposited in the treasury,” *zhejia cunku*),<sup>29</sup> especially if the grain had been “privately sold”: his predecessor was to buy it back within the time period prescribed in the *jiaodai* regulations.<sup>30</sup> The same rule applied to spoiled stocks and grain that was simply “missing.”<sup>31</sup>

To detect spoilage, “hulling tests” (*nianshi*) were to be performed, which, according to one handbook, entailed the examination of samples taken from the top, the bottom, and the middle of each granary bin.<sup>32</sup> If one *shi* of unhusked grain yielded the required five *dou*<sup>a</sup> of husked grain, then the new official would “accept transferral of the stock without any discount” (*an shu jieshou*) and not require further screening or winnowing.<sup>33</sup> Winnowing was mandatory, however, if the grain appeared to be mixed with sand or mud, and sundrying was required if it was deemed too moist. Damaged grain detected during this process would, of course, be treated as a shortage.

The *jiaodai* procedures, to which every post in the territorial hierarchy, from governor-general down, was subject,<sup>34</sup> apparently com-

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<sup>29</sup> This rule against *zhejia* was decreed in 1727; see *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu jiaodai*. A regulation of 1775 (*ibid.*) specified that if the outgoing magistrate produced money-equivalent (*gujia*), he must prove that he had received an authorization to sell grain, that no money was missing, and that the delay in buying back had been approved (literally, “was on the record,” *you an*).

<sup>30</sup> There was the possibility of additional delays when the buying areas were too far away; see *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu jiaodai*, entry of 1737.

<sup>31</sup> The term is *kuikong* (“shortage”), which points to a deficit in grain without a corresponding sum of silver on deposit in the treasury. When such shortages were detected, the culprit had to be denounced to the provincial government (*ibid.*).

<sup>32</sup> See Wang Youhuai, *Qianggu beiyao*, 2.27a–37b.

<sup>33</sup> This regulation, handed down in 1775 (*HDSL* [1899 ed.], 192, *hubu, jichu, cangchu jiaodai*), was probably meant to deter the new official from browbeating his predecessor with overly finicky searching.

<sup>34</sup> It may be noted in this respect that a decision of 1773, recorded in the “granary *jiaodai*” section of the 1899 *HDSL* (192), required newly appointed governors-general, governors, and provincial treasurers to send down officials to control granary reserves and to issue their guarantee (*panqing jiebao*) within three months.

prised a significant part of administrative life during the eighteenth century. Some handbooks of local administration provide quite a detailed view of the steps involved, especially those intended for the private secretaries (*muyou*) who specialized in financial matters (the so-called *qiangū*). To give but one example, the *Qiangū beiyao* by Wang Youhuai devotes a large part of its contents to the various *jiaodai* operations.<sup>35</sup> The section on grain stocks, particularly, offers a very thorough explication of the procedures to follow in evaluating both granary buildings and the physical condition of the grain.<sup>36</sup>

The actual efficacy of the post-transfer audit is difficult to assess. Some texts indicate that it declined to the point of virtual uselessness from the late Qianlong years on, but before that the procedure may have been a serious deterrent against the transferral and subsequent compounding of inaccuracies and irregularities. In addition, the principle of making all newly appointed officials personally responsible for the condition of their new posts, after conducting their own investigations of the accounts and collecting from their predecessors the amounts of grain needed to clear old deficits, was reinforced by what might be termed the “principle of retrospective liability.” That is to say, whenever an illegality or shortage was detected, whether during a *jiaodai* audit or at any other time, an inquiry was to be conducted to find the original culprit. In theory, the whole sequence of incumbents who had failed to detect and report the problem would also be held responsible and punished accordingly. Moreover, accountability would extend up the hierarchy to those higher officials who had supposedly checked and endorsed the faulty reports. It may be noted that this system, which meant that past irregularities were never legally excused and that their consequences might strike an official or his offspring at any moment, was considered quite remarkable by some early foreign admirers of the

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<sup>35</sup> See *juan* 2–3.

<sup>36</sup> This section is entitled “Qingli changping yanyi deng gu” (2.27a–37b).

Chinese bureaucracy. The following quotation, taken from a French, probably Jesuit, source dated 1768, is a case in point:

Les Mandarins particuliers doivent envoyer à la fin de l'année une copie des registres des greniers de leurs districts; le Gouverneur de la Province les fait examiner, & en envoie une note à la Cour, d'où elle passe dans une espece d'almanach impérial, qui paroît de trois mois en trois mois. Malheur aux Mandarins qui tromperoient les Gouverneurs des Provinces, & aux Gouverneurs des Provinces qui en imposeroient à la Cour sur cet article; les loix sont d'une sévérité extrême, & quoiqu'il arrive, les greniers économiques [i.e., the *changpingcang*] ne perdent jamais rien, les biens des coupables, de leurs Supérieurs, de ceux qui auroient dû les dénoncer, de leurs successeurs qui n'ont pas vérifié les registres, &c, sont caution pour les fonds ou pour le bled qu'ils ont dû trouver & laisser; & bien loin d'obtenir la moindre grace, il est très-rare qu'on ne les condamne pas tous à des amendes considérables au profit du grenier lésé. Ces sortes d'affaires sont terribles. On revient sur trente, quarante années d'administration, jusqu'à ce qu'on ait trouvé le vrai coupable, & tel Mandarin qui a fait son chemin & se trouve dans les premières dignités, se voit accusé, coupable & dégradé de ses emplois, pour avoir négligé de dénoncer, vingt ans auparavant, un défaut d'exactitude dans les registres d'un grenier.<sup>37</sup>

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<sup>37</sup> See Béguellet, *Traité général*, 626–27. Here is an English translation: “At the end of the year, local officials are required to send a copy of the registers of the granaries within their jurisdiction; the provincial governor has them examined and sends an account to the court; there it is published in a kind of imperial gazetteer, which is issued once every three months. How unfortunate for an official to try to cheat the provincial governor, and for a provincial governor to try to impose upon the court on this account! Law is extremely harsh, and, whatever may happen, ever-normal granaries will never incur the smallest loss. The property of the culprits, of their superiors, of those officials who should have denounced them, of their successors who failed to check the registers, etc., is viewed as security for the money or the grain they should have found and transmitted. Not only are they granted no pardon, but most of the time all of them are assessed very high fines as compensation for the loss incurred by the granary. These are dreadful cases. [As much as] thirty or forty years of administration may be investigated before the actual culprit is located, and it happens that an official who has pursued his career through the highest posts is suddenly subjected to indictment, found guilty, and cashiered because twenty years before he had neglected to denounce an inaccuracy in the granary registers.”

Its enthusiastic tone and idealized generalization notwithstanding, this description does fit with some cases of retrospective inquiries and punishments going back as many as twenty or thirty years, irrespective of the size of the shortage.

It may be added that the situation under investigation was often in such a tangle that it simply defied unravelling. A memorial from 1779 that deals with grain deficits in eight counties of Xuzhou Prefecture in northern Jiangsu offers an interesting example. The deficits added up to a total of 16,447 *shi*, and their repayment involved ten magistrates (including five presently in office) and no less than thirty-four provincial treasurers (or their offspring) who had served between the 1740s and 1779. The accounts seem to have been extraordinarily complicated, one cause being that the registers in the counties and in the provincial treasurers' offices almost never agreed. And one reason for these discrepancies, the memorialists noted, was that the magistrates of Jiangsu did not as a rule send their registers with their annual financial reports, and so the governor-general and governor could not check county figures against the provincial treasurers' reports. Moreover, the two provincial treasurers of Jiangsu not only had sent their own financial reports without having checked (*chadui*) the county registers, they also had neglected to send one copy of their own registers back to the magistrates for a final cross-checking. As a result, the provincial treasurers' offices had deducted some items without the magistrates' knowledge. Errors had crept in, unnoticed, and had for decades been compounding themselves, resulting in a situation described as "comparable to entangled silk."<sup>38</sup> The memorialists thereupon proposed new guidelines to avoid such errors in future.

The very complexity of such situations, in which errors and irregularities were allowed to accumulate and compound for decades, may

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<sup>38</sup> See Liang-Jiang governor-general Sazai and Jiangsu governor Yang Kui, ZP, *GZD*: QL 038197 (44/4/6). This, incidentally, is the longest memorial found in the *GZD* sample used for this research; We must also confess that some details in this complex piece remain rather obscure to us.

explain why the provincial authorities sometimes appeared less than enthused at the prospect of having to unravel them. For example, in 1786 a memorial from Hubei reported shortages of more than 180,000 *shi*, attributed by the magistrates to spoilage. Although the governor and governor-general explicitly indicted the officials' carelessness in carrying out *jiaodai* operations, they argued that "since [the shortages] have been transmitted for many years, a thorough investigation and severe punishment [of the guilty officials] would necessarily involve tracing back one culprit after the other and examining quite an enormous number of people." Instead of taking this course, they opted to pressure the incumbent officials to make good (in money) the entire deficit, which was accomplished within three months.<sup>39</sup> Many similar examples can be found in the sources.

In general, one might expect that high-level provincial officials were less prone—in deeds, if not in words—than imperial high commissioners to initiating endless and highly detailed inquiries into the genesis and evolution of minor deficits. Presumably, they had a more concrete understanding of the difficulties of granary management and of the magistrates' financial problems. Moreover, it is easy to imagine that they were not always eager to probe systematically into their subordinates' conduct of official business, for this line of inquiry might well end with an accusation of previous "failure to inquire" (*shicha*) being levelled against themselves. Thus, Imperial Commissioner Mailaxun's rigidity and extraordinary meticulousness during his

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<sup>39</sup> See Huguang governor-general Li Shiyao and Hubei governor Li Feng, ZP, GZD: QL 048720 (51/7\*/24). To be sure, the difficulty of tracing back responsibility—and also of having deficits made up by officials sometimes long out of office, or residing in distance provinces, or lacking the necessary means, or even long dead—worked against a consistent application of the principle of retrospective liability and even led, in some instances (as the one referred to here), to stress being placed on the *jiaodai* principle in its strictest interpretation. That is to say, once a new incumbent had affixed his seal to the *jiaodai* bond without voicing any reservation, he would be held responsible for all deficits, old and new, in his jurisdiction. This is, for example, the course followed by the early Yongzheng policy makers when faced with the entangled situation of deficits in the provinces (see Zelin, *The Magistrate's Tael*, 86–87).

1767 investigations eventually sparked protestations from the Henan governor, and even from the emperor himself!<sup>40</sup>

Let us return to the *jiaodai* system of investigation and try to evaluate its performance. Not surprisingly, the general impression confirms the eighteenth-century trends in state storage suggested in other chapters: officials mention all kinds of problems from the start, but these were not systematic or generalized enough for the overall system to have become seriously hampered before the late eighteenth century.

As early as the middle of the Qianlong reign, we find a considerable number of texts that allude to perfunctoriness or irregularities in the *jiaodai* operations, or even characterize them as just another kind of paperwork. Thus, in 1767, Funihan, the Anhui provincial treasurer, explained the unremarked transmission of errors and deficits through the years by pointing out that *jiaodai* operations and *zouxiao* (year-end) reports, as well as *pancha* (audit) controls, were all “made and compiled according to the last document of the same sort” (*zhao di'an chazao*).<sup>41</sup> More specifically, the affair which had prompted this remark showed that both types of documents (the *jiaodai* and annual *zouxiao* reports) formed independent series of accounts, that is, no checking of the one against the other was performed. Thus, in this case, a small deficit created in 1736 had been mistakenly transferred in 1741 to the “actual stock” column of the *zouxiao* report of Qimen County, Anhui, an error that lay undetected for some twenty years in the successive annual reports. The various *jiaodai* registers established whenever a new magistrate came in, however, had consistently transmitted the correct

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<sup>40</sup> See Asiha, ZP, *GZD*: QL 023047 (32/10/4). The memorial quotes lengthily from an edict in which the emperor asked why Mailaxun was so dead set against the magistrate of Wuyang (Henan), since the shortages he had found amounted to less than 1 percent of the stocks. When Mailaxun examined the reserves of community granaries, he decided that every granary director found guilty of irregularities would be sent to the provincial capital for further investigation. This was too much for Governor Asiha, who had the decision cancelled.

<sup>41</sup> Funihan's statement is quoted in Anhui governor Feng Qian, ZP, *GZD*: QL 022443 (32/7/25).

situation. The contradiction between the two sets of documents only appeared in 1758, when transmission from one magistrate to another happened to take place at the same time as the compilation of the *zouxiao* report.<sup>42</sup> This meant not only that the two kinds of controls had been effected without any cross-checking but also that, in both cases, actual inspection of the grain stocks had apparently been dispensed with. Even referring back to the intervening account books (*tangbu*), strings of stubs (*chuan'gen*), and other working registers, to establish the veracity of the acquisition and disbursal figures produced in the four-column *jiaodai* document compiled by the outgoing official, must have been rather random.<sup>43</sup>

Another frequent cause of perfunctoriness seems to have been the pressure put upon new incumbents by superior officials eager to protect their former subordinates and to have the transfer operations quickly settled in order to avoid becoming entangled in deficit reimbursements.<sup>44</sup> A late Qianlong handbook makes reference to outgoing magistrates who actually bribed their successors as well as the supervising official and made arrangements with the granary clerks and servants.<sup>45</sup>

The problems associated with the *jiaodai* procedure appear to have become particularly acute in the last seven years of the eighteenth

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<sup>42</sup> See the memorial cited above, note 41, and Liang-Jiang governor-general Gaojin, ZP, *GZD*: QL 022355 (32/7/15). Although the error was brought to light in 1758, other urgent matters prevented the provincial treasurer from having the deficit repaid at once. The issue was again raised in 1764 and was finally brought to an end three years later, after the grand councillors had ordered a thorough investigation of all the officials involved, past and present.

<sup>43</sup> On the necessity of checking these documents, see the 1737 entry in *HDSL* (1899 ed.), 174, *hubu, tianfu, qianliang jiaodai*: the outgoing magistrate had to produce them within half a month. See also Wang Youhuai, *Xingqian bilan*, 5.1a–3a, who argues the necessity of controlling the exact contents and “sincerity” of the figures presented in the *jiaodai* four-column register.

<sup>44</sup> This risk is mentioned in a decision of 1726: see *HDSL* (1899 ed.), 174, *hubu, tianfu, qianliang jiaodai*. It was, of course, related to the “symbiotic” system mentioned above, note 11.

<sup>45</sup> See Wang Youhuai, *Xingqian bilan*, 6.18b.

century. The situation is excellently summed up in an important edict, issued in early 1800, that was prompted by the dangerous and universal problem of growing deficits in both treasuries and granaries.<sup>46</sup> In this edict, the Jiaqing emperor admitted that exerting too much pressure on officials under *jiaodai* investigation inevitably led both to their extracting “contributions” from the people in order to recoup their deficits quickly and to the adoption of practices equivalent to “cutting out a piece of flesh to patch up a sore” (*wan rou bu chuang*). More important for our argument, he contrasted the low reliability of the routine annual *pancha* and the relative effectiveness of *jiaodai* controls *in the past*, attributing the existence of county deficits to the fact that magistrates “did not fear *pancha* controls by higher officials,” whereas they did fear the procedures performed when they turned over their posts—hence, the exactions to which they occasionally resorted in order to make good their deficits when pressed to present accounts. *Pancha* controls were insufficient, the emperor elaborated, because higher officials could not know everything, were hard-pressed to close out the year review by the deadline, and were all too easily swayed to endorse accounts that had been hastily tidied up by clerks and underlings. In contrast, magistrates just coming into new posts considered the *jiaodai* procedure personally important and were inclined to perform it thoroughly; furthermore, clerks and minor officials tended to be cooperative in order to please their new boss.

Unfortunately, he continued, such a contrast was a thing of the past. In recent years the checks once provided by the *jiaodai* procedure had been compromised by shameless connivance among the concerned parties. Even if an incoming magistrate was loath to accept faulty accounts, the supervising official would still try to work out some arrangement, which usually evolved into a written agreement (*yidan*). If necessary, an IOU (*qianquan*) would be drawn up with both parties affixing their seals. Such unauthorized “transactions” of state property were, according to the edict, without precedent! The governors’ absence of reaction (*bu ban*) to such practices was explained by their

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<sup>46</sup> See *Renzong shilu*, 57.6a–7a, edict dated JQ 5/1/9.

reluctance to intrude into private arrangements between master and disciple,<sup>47</sup> which could entail a loss of face; yet despite the view of some upright high-ranking officials that their inaction was accumulating them secret merits, in reality they were losing merits by protecting rapacious officials at the expense of the multitude!

The Jiaqing emperor's attention had been drawn to these problems some weeks before by a memorial from Censor Zhou Shi.<sup>48</sup> According to Zhou, when an outgoing magistrate could not recoup his deficits within the prescribed time period, "the guarantee was given under pressure" (*quan wei chu jie*) and a written agreement was privately concluded between the two magistrates and the supervising official as to how to structure repayment. As a result, it became necessary to "press for repayment" (*zizhui*) former magistrates who had already reached their new posts or returned to their native places. Alternatively, the new magistrates were obliged to use available public funds (*gongxiang*) to buy back the missing grain, or even to confuse accounts by "scattering [the missing funds under various expense items]" and "deluding."<sup>49</sup> Officials who had to be "pressed" typically claimed to have "no ability [to repay]" and asked to be released from their obligation before reimbursing even half of what they owed. In the light of what the *jiaodai* system had come to, the emperor decided to prohibit the concealment of outstanding deficits through private agreements: officials who had not yet cleared their debts were to be detained in the province and prevented from taking up their new posts. But it is doubtful that Jiaqing's attempts, in this as in many other spheres, to rid the Chinese civil service of the laxity and cynicism that had become quasi-institutionalized over the two decades or so prior to his actual reign had very lasting effects. Although the political situation around 1800 was not

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<sup>47</sup> This, at least, is the way we understand the phrase *sanjie liangshengri zhi siqing*, the "three festivals and two birthdays" (Confucius's and that of one's preceptor) being the occasions on which to pay the master a one-month bonus.

<sup>48</sup> See *Renzhong shilu*, 55.10b–11b, edict dated JQ 4/11/19.

<sup>49</sup> Respectively, *feisa* (see Sun, *Ch'ing Administrative Terms*, no. 632), and *yinshe* (probably the same as no. 634).

without parallels to that which prevailed after the Yongzheng emperor's enthronement, a similar program of government reforms would clearly have been more difficult at the turn of the nineteenth century than it was in the 1720s, if only because of a much less favorable economic environment and a much more rigid institutional context.

In any case, one can find abundant evidence of the *jiaodai* system's steady decay during the first half of the nineteenth century. In 1802, for example, Xiong Mei, the censor temporarily in charge of the Zhili governor-generalship, considered laxity in conducting the *jiaodai* procedure the basic cause of the ever-growing deficits in the treasuries and granaries of his province. The accounts officials transmitted to one another were muddled and confused. Whenever a complete audit (literally, "clearing investigation," *qingcha*) was attempted, the investigators always uncovered an incredibly entangled situation. Officials pointed the finger at one another, while deficits continued their inexorable climb. But Xiong was unable to suggest any solution beyond ordering the intendants and prefects to make regularization of *jiaodai* audits at the county level their top priority and to turn down any document containing deficits—in other words, just another version of the usual rhetoric.<sup>50</sup>

The issue of private contracts being concluded between officials involved in a *jiaodai* operation continued to be mentioned regularly during the Jiaqing and Daoguang reigns. Thus, an entry of 1821 in the *Collected Statutes and Precedents* again forbade magistrates to "establish private conventions with respect to [the repayment of] shortages" (*sili kuiduan yueyi*).<sup>51</sup> If, after the official guarantee of no deficit had been issued, such a convention was produced by a magistrate to lay the responsibility of old deficits on his predecessor, it was expressly disqualified

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<sup>50</sup> See acting Zhili governor-general Xiong Mei, ZP, GZD: JQ 008177 (7/5/30). Xiong quoted from a rescript by the Jiaqing emperor to the effect that "the magistrates in Zhili Province are the most remiss in the empire," and he stated that, according to the prefects he had consulted, this situation had obtained "for several decades."

<sup>51</sup> See HDSL (1899 ed.), 174, *hubu, tianfu, qianliang jiaodai*.

from serving as a justification. On the contrary, both officials would be punished, as would their “supervisor.”

It does seem that in actual practice the arrangements whereby repayment of arrears or replacement of money by grain could be postponed were indeed common, if not an openly accepted part of the process. This is more or less confirmed by one document from Guangxi Province, dated 1815, which suggests how various irregularities could be transmitted in this way, as long as new magistrates continued to “accept succession” without duly reporting the outstanding problems to the provincial government. The situation described in the memorial<sup>52</sup> concerned Gui County: Magistrate A had lost 6,428 *shi* of grain after rain had leaked into the granary, a loss that he had neglected to report so as to avoid punishment. In addition, 2,178 *shi* of damaged grain had been rejected during the regular inspection and sun-drying operations. When cashiered on other grounds, he had been content to remit the silver-equivalent of those quantities—taking the insufficient “official price” as his conversion rate—to his successor, Magistrate B, who had accepted the silver, yet had also requested, without success, that he be paid the “extra money” (*jintie*) necessary to buy back the required amount of grain at market prices. Soon thereafter, in the spring of 1813, magistrate B similarly lost 2,747 *shi* to heavy rains and was held accountable for an additional 789 *shi* of damaged grain found by his successor, Magistrate C, during the *jiaodai* audit. Magistrate B offered, as had his predecessor, to remit the money-equivalent at “official price,” funds which would have been added to the sum remitted by Magistrate A (which B had apparently left untouched in the county treasury), but this plan was refused by Magistrate C, who reported the situation to the provincial treasurer. (In addition, there were outstanding arrears of various compulsory contributions dating back to both A’s and B’s tenures.)

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<sup>52</sup> See Guangxi provincial treasurer Ye Shaokui, ZP, GZD: JQ 018335 (20/4/10).

The outcome of this story need not to be recounted in detail here,<sup>53</sup> because what is most important for our purposes is that this anecdote clearly shows that the *jiaodai* system, at least at that time, was no longer able to prevent granaries from being gravely depleted year after year because accurate information was not being passed along from local officials to higher-level officials. This case also suggests that magistrates may often *not* have been punished for remitting money in lieu of grain at the time of leaving their posts. What was punishable was the undeclared loss of grain through careless handling, and even this transgression could be forgiven if the necessary sum was paid within one year. Although the transmission of money in lieu of grain remained in theory illegal,<sup>54</sup> the practice seems to have become so pervasive during the nineteenth century that the government came, at least implicitly, to sanction it. Magistrates who had “connived at covering up [quantities transmitted in] money-equivalent” (*xunyin zhejia*) at the time of *jiaodai* suffered no additional punishment, assuming that they at least could make up the deficits within the prescribed time periods when one of the provincial “clearance cases” that will be mentioned in a moment occurred.<sup>55</sup> In the Guangxi example of 1815, the irregularity went only so far as the third magistrate in a sequence, but we may safely suppose that in a vast number of cases a much longer time (if ever) was needed to bring similar anomalies to light. The evidence above points to a strong probability, to say the least, of steadily increasing deficits in real grain during the nineteenth century, deficits that were very

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<sup>53</sup> In the interim, Magistrate B had eventually paid for the missing *jintie* necessary to buy back the grain he had lost and so escaped punishment. Magistrate A’s debt was to be repaid from confiscated property. It may also be noted that, in the wake of Magistrate C’s report, Magistrates A and B, along with the granary clerks, servants, and all the related archives, had been brought to the provincial capital for investigation and cross-examination.

<sup>54</sup> As was still reiterated in an edict of 1843: see *HDSL* (1899 ed.), 192, *hubu, jichu, cangchu jiaodai*.

<sup>55</sup> See, for example, the edict of 1824 concerning Jiangxi province in *HDSL* (1899 ed.), 189, *hubu, jichu, changpingcang jichu*.

incompletely taken into account in the statistics compiled in the provincial yamen and in the capital.

#### SPECIAL AUDITS

For the sake of convenience, two different kinds of “special” audits may be distinguished.<sup>56</sup> First, there were on-the-spot investigations, of which no advance notice was given, performed by special envoys of the court who, as such, were thus completely independent of the local administrative structure. Second, there were provincewide investigations, which were generally ordered by the emperor when the administration in a particular province appeared to be chronically plagued by malpractice. Let us examine the latter first.

##### *Provincewide Investigations*

As far as we can tell, provincewide “cases of clearing investigations” (*qingcha an*)<sup>57</sup> were particularly numerous during two periods: late Kangxi-early Yongzheng and late Qianlong. During both periods, the emperor and central government were obviously aware that the granary system in many parts of the empire was rapidly deteriorating, if not completely failing.

To be sure, general orders to investigate and report on actual grain reserves in various provinces are found as early as mid-Kangxi (e.g., in 1682, 1690, and 1702);<sup>58</sup> it seems, however, that during this period such measures were intended less to monitor a steadily worsening situation than to ascertain the results of mobilization efforts (mainly those mounted to stimulate contributions). There was, apparently, reason to think that in some areas the emperor’s orders were “not being carried out energetically” (*fengxing bu li*) and that the situation was one

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<sup>56</sup> We are not considering here special investigations made in one particular county after irregularities had been discovered, as in the Guangxi case just mentioned.

<sup>57</sup> Zelin, *The Magistrate’s Tael*, 224, translates the term as “tax-clearance case.” Here we are dealing with investigations concerning grain stores, specifically.

<sup>58</sup> See *WXTK*, 34.5170ff.

of “existing in name but seldom in reality” (*youming xianshi*); moreover, the elaborate (if fallible) system of annual accounting and control that we have described above had yet to come into full implementation.

The first general edict to question openly the validity of the grain figures reported by the provinces and to suggest general *laissez-aller* in the system dates from 1721. According to the Kangxi emperor, although the governors reported millions of *shi* stored in their jurisdictions, the actual stocks were “not much” (*wuji*); grain might be sold in spring, in line with the laudable practice of *chu chen yi xin* (getting rid of old grain to replace it with new), but in the autumn officials made no efforts to buy it back: they were only interested in personal gain and, if it became necessary, concealed their deficits with money transfers. This edict was promulgated during the Kangxi emperor’s last year of rule amid increasing factionalism at court and declining morale in the bureaucracy. Interestingly, it included a pathetic and angry protestation of his awareness of the real situation, and in this respect is strongly evocative of what we have previously seen in certain comments of the aging Qianlong cited above, which were made some seventy years later: “All their accumulated abuses I know perfectly well! Whether reports of famine are true or false I always know exactly, too!” As the general context suggests he did not, this was, in fact, an admission of his impotence.<sup>59</sup>

In spite of this edict’s exhortations, systematic and reasonably efficient probing into the realities of grain storage and management only came about through the efforts of Kangxi’s successor, the Yongzheng emperor.<sup>60</sup> As a result of Yongzheng’s activist approach to controlling the bureaucracy and reorganizing local finances, as well as

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<sup>59</sup> See *WXTK*, 34.5175.

<sup>60</sup> For example, an edict of 1723 was emphatic about the lack of reliability of the controls performed by intendants and prefects and stressed the necessity of charging the governors-general and governors with the responsibility of “severely controlling and memorializing on the accounts” (see *WXTK*, 35.5177). In general, it should be noted that in the early Yongzheng years mismanagement of granary stores was widely acknowledged as one basic source of deficits in provincial finances (see Zelin, *The Magistrate’s Tael*, 83).

of his new network of informants, province after province was targeted for thorough investigation of abuses and deficits that had surfaced. Thus, in 1726, after Li Fu, the governor-general of Zhili, had asked for authorization to sell and lend grain from the ever-normal granaries, the emperor sent Hanlin academicians and other officials into the field to oversee the operations, to make sure that “everybody would get real benefits” (*jun zhan shihui*) and to verify that the reserves reported were all in actual grain. What they found was considerable shortages, numerous malpractices, and sales and loans being used as a means to conceal actual deficits—a trick that had apparently escaped Li Fu. Punishment of all the culprits and rapid recovery of the “loans” they had extended were immediately ordered.<sup>61</sup>

In 1727 a general investigation of shortages was ordered in Jiangxi; the practice of 30-percent annual turnover, which was seen as an attractive means of confusing accounts and camouflaging shortages, was to be suspended until the investigation was over.<sup>62</sup> That same year the community granaries of Hunan and Hubei were similarly subjected to a general investigation of shortages, as were the ever-normal granaries of Fujian. In the latter case, the emperor’s suspicions had been aroused in 1726 by the news that a mediocre crop and a slight increase in prices had been enough to make both officials and local people nervous about the risk of rice shortages. On this occasion, the emperor mentioned recent investigations in Jiangxi and Zhili, where special officials had been sent “to check granaries one by one,” and new magistrates had been selected to replace immediately those found guilty of shortages. Yongzheng claimed that, thanks to this policy, the unstable condition of the granaries in both provinces had gradually been rectified.<sup>63</sup>

In another edict concerning the Fujian investigation, the emperor warned the investigators against local officials trying, as soon as they

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<sup>61</sup> *WXTK*, 35.5179.

<sup>62</sup> *WXTK*, 35.5180.

<sup>63</sup> *WXTK*, 35.5181.

were informed of their arrival, to conceal shortages by borrowing grain from the gentry and the rich, who, for their part, would not dare refuse because of intimidation or of “face.” The edict, which was to be publicized in every village of Fujian, warned people that such “loans” would be considered public property (*guanwu*) and not returned.<sup>64</sup> According to one source, the officials sent to investigate the granary reserves of Fujian included the governor of Guangdong, the “commissioner for restoring customs” (*zhengsushi*) of Zhejiang, two board secretaries, and some thirty-odd laureates of the last *jinshi* examination. The *jinshi* were to be put in charge of the affairs of the county whose granaries they inspected, and if they found shortages they would replace the original magistrate in the post.<sup>65</sup> Such thoroughness certainly paved the way for the efficient development of the granary system during the late Yongzheng and early Qianlong years.

Although, as has already been seen, there were cases of shortages and abuses during the mid-eighteenth century, given the virtual absence (until the 1780s) of any mention in the records of investigations encompassing entire provinces, such problems must surely have become far less frequent. So far, the most remarkable example found in the sources is the general investigation undertaken in Zhejiang during 1786 (the exact date is not certain), which led to a reduction in the figure of “grain theoretically in store” (*yingcun gu*) by more than half. A similar investigation, from about the same date, is mentioned for Jiangxi, but in this case the deficits uncovered were much lower. There was perhaps yet another, in Zhili, during the early 1780s. Somewhat later, we find mention of general investigations in Fujian (1795) and Guangxi (1797–1798).<sup>66</sup>

Other examples of these investigations could possibly be cited. More important for us, however, is that, from the late Qianlong period on, the launching of provincewide investigations, or the threat to

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<sup>64</sup> Ibid.

<sup>65</sup> See *Jianning XZ*, 4.24a.

<sup>66</sup> For references and detailed figures, see chapter 8.

launch them, seems to have become increasingly necessary. Thus, for example, in 1799 and 1800 edicts ordered the governors and governors-general to make general inquiries into the proportion of money-equivalent stored in lieu of actual grain and to press for rapid restocking.<sup>67</sup> During the Daoguang period, we find several investigations at the provincial level either mentioned or called for. By that time, however, they appear rather as desperate attempts to restore a system that was in serious trouble. In 1824, for example, the newly appointed Jiangxi governor was ordered to have the prefects thoroughly investigate the causes of accumulating arrears and recover the missing grain within one to three years.<sup>68</sup> In 1835, as we have seen, an empirewide investigation brought to light very large deficits.<sup>69</sup> Although some memorials from the 1840s also mention provincewide investigations, their authors insisted that the task was a difficult one and would probably take a long time to be completed—and in the end, presumably, did nothing.<sup>70</sup>

#### *Audits by Special Commissioners*

In order to assess the results of these provincial investigations, which were not necessarily considered very reliable, additional (or independent) investigations by highly placed officials dispatched directly by the court were sometimes ordered or, again, threatened. Most of the examples along these lines that we have found date from the late

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<sup>67</sup> See *HDSL* (1899 ed.), 191, *hubu, jichu, fengnian beichu*.

<sup>68</sup> See note 55 above. Reportedly, the 240,000 or so *shi* of arrears to be cleared wound up amidst other arrears of “grain not yet bought,” which had already been detected through previous investigations (*qingcha an*).

<sup>69</sup> See chapter 8, section on arrears.

<sup>70</sup> See, for example, Zhejiang governor Liang Baochang, ZP, *GZD*: DG 007370 (25/4/10); this memorial, which concerned Zhejiang Province, referred to a general edict of 1844 calling for thorough investigations in all the provinces. Another example is Jiangsu acting governor Cheng Yucai, ZP, *GZD*: DG 009889 (26/12/20), who wrote that accounts in Jiangsu Province had gotten so tangled since the last investigation (dating back to 1821) that the task was almost impossible to complete; moreover, the local officials did not seem to be in much of a hurry to do the job.

Qianlong and early Jiaqing years. As we have already seen,<sup>71</sup> the Qianlong emperor, in his 1792 edict denouncing the total decay of the regular investigation system and the consequent flourishing of abuses in granary management, threatened that if the current “name but no reality” situation did not change he would send specially appointed court officials (*te pai dachen*) to make random verifications (*choupan*) and memorialize immediately on any irregularities. Similarly, in 1801, a general edict of the Jiaqing emperor concerning the growing deficits and continuing decline of granaries not only ordered the governors and governors-general to resolve these problems but also announced that, in one or two years, high officials would be specially dispatched to perform personal audits (*qinwang pancha*). If further shortages appeared, only the governors and governors-general would be held accountable.<sup>72</sup>

Sending down special commissioners totally independent of the local bureaucracy to investigate granaries may have been rather frequently resorted to during the Qing. As we have seen, such commissioners were dispatched to participate in several provincial investigations during the early Yongzheng reign. Our chapter on Shandong Province mentions the assignment of what Jean Oi calls “special secret work teams” to conduct surprise investigations in areas where heavy deficits were suspected. In one such example, dating from 1752, a team of about forty people was explicitly instructed not to tolerate any interference with the investigation by local officials and gentry.<sup>73</sup>

In addition, special commissioners sent to one area for other reasons were sometimes ordered to make thorough investigations of the granaries and treasuries in the counties through which they travelled. Here, our most informative example, found in the Taibei collection of Palace Archives, is the series of investigations carried out and reported by Mailaxun in several counties of Hubei and Henan during late 1767,

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<sup>71</sup> See above, section on annual audits.

<sup>72</sup> *HDSL* (1899 ed.), 189, *hubu, jichu, changpingcang cuntiao dingli*.

<sup>73</sup> See chapter 10.

to which we have already made frequent reference. Mailaxun did try to take magistrates by surprise: he had doors and files opened; compared registers in search of discrepancies; sampled the granary bins, whose contents were measured from top to bottom and inspected for grain quality; and verified the measures used by the granary personnel. Every discrepancy or anomaly had to be explained by the magistrates and granary clerks. Borrowers of government grain in the countryside were also interrogated, and rural community granaries were inspected with as much care as the ever-normal granaries in the county seats.

Unfortunately, the documents available do not permit us to formulate a rough estimate of how frequently such "super-controls," whether performed by special commissioners or by activist governors on tour, were applied.<sup>74</sup> But my hunch is that these controls, whose success was in large part a function of the element of surprise, were by no means uncommon during the Yongzheng and high Qianlong period. Moreover, it can be conjectured that the very possibility of such surprise inspections may well have constituted an incentive for at least some magistrates to stand on their guard and be attentive to their responsibilities. In the example just discussed, the shortages uncovered by Mailaxun were not very large: in fact, they were downright trifling in several places, and some of the magistrates, who had the governor's obvious sympathy, contested Mailaxun's charges vigorously. But in other places, this particular journey helped bring to light an appreciable number of malpractices, perpetrated either by the officials or by their underlings; restitution of shortages and arrears demanded on the spot had the dual advantage of replenishing reserves and showing the local people that the central government was both willing and able to punish those who would take personal advantage of the system. And for every action actually taken, there are indications that other magistrates in the province quickly took heed and managed to make up deficits quickly, which, after all, was the desired end.

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<sup>74</sup> An example of the latter is provided by the personal inspections made in 1786 by Li Shiyao and Li Feng, who had just been appointed Huguang governor-general and Hubei governor, respectively. See above, note 21.

It is our view that the efficiency and proper management of Qing granaries depended in large part on such out-of-the-ordinary efforts. These efforts thus appear to be an essential variable in a complex equation that included the structural difficulties previously outlined, the magistrates' tendency to *laisser-aller*, as well as the objective conditions of grain supply and demand. Another more elusive variable, which is nevertheless impossible to ignore, is what may be called the "morale" of the bureaucracy, that is, its willingness to advance public interests over those of individual officials. The complex and multilayered system of regular accounting and control measures was a potentially powerful tool for monitoring grain reserves within the empire, but, given the technological, manpower, and even moral limitations of the Chinese bureaucracy,<sup>75</sup> it had to be augmented by more direct, authoritarian, and unexpected controls implemented by persons who were outside the local power structure and drew their authority directly from the court, a technique rather reminiscent of the censorial, or surveillance, function in earlier periods.

Of course, these controls, being by definition irregular in terms of both periodicity and geographical coverage, were in no small part dependent on chance. For this reason, their utility must have dramatically diminished in the face of the growing generalization of serious "abuses"—that is, abuses detrimental to the functioning of the system and which deprived it of its *raison d'être*, as opposed to tolerated irregularities, which, though troublesome, nonetheless allowed the system to sustain itself. As already suggested more than once, the trend seems to be characteristic of the late eighteenth century. In such a context, "special" controls, when ordered, sometimes brought to light situations that had long been completely out of hand.

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<sup>75</sup> Technological and manpower limitations are objective facts; moral limitations are as measured by Confucian maximalist standards of integrity.

## CONCLUSIONS: THE GANSU SCANDAL

The most dramatic example of this is afforded by the scandal that erupted in Gansu in 1781, which will be the focus of the concluding pages of this chapter. The reader might find it rather a pessimistic conclusion to this segment on control, for the story revolves around gross embezzlement and a years-long chain of totally fictitious reports, all accomplished through a conspiracy that involved the entire officialdom of one province and that no one—or, at least, no one who was willing to talk of it—was aware of at the court in Beijing. In fact, what we have here is no more than an extreme example of what *might* happen under a very peculiar and unfortunate combination of circumstances, an impressive, if atypical, illustration of the limitations of the control structure.<sup>76</sup>

As has been noted earlier in this book, in 1766 the use of the *juanjian* (sale of imperial student titles) system to build granary reserves was suspended, first in Shaanxi-Gansu and then in most of the provinces, as a consequence of an accumulation of abuses and malpractices. The most conspicuous irregularity was the acceptance of contributions in silver despite regulations to the contrary. In poorly commercialized areas such as Shaanxi or Gansu, silver contributions deprived the system of its main rationale and led to “forced buying” when grain had to be acquired locally to replenish the granaries. In 1774, however, the Shaan-Gan governor-general, Leerjin, and the governor of Shaanxi, Bi Yuan, asked to reestablish *juanjian* contributions in these two provinces and received the emperor’s approval to do so. Yu Minzhong (1714–1780), then the most powerful grand councillor,

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<sup>76</sup> The following summary is based on *Gaozong shilu*, 1129–37, passim; and on *Qingshi*, 113.1347–48 (regarding the *juanjian* system), 340.4376–77 (biography of Wang Danwang, the main villain of the piece), and 339.4374 (details on the final investigation). There are also accounts in Xiao Yishan, *Qingdai tongshi*, 2:218–20; and in *Qingdai lizhi congian*, 2.242–44, which draws from unofficial histories of the Qing dynasty. See also Hummel, *Eminent Chinese*, 100, 943–44, as well as the recent account by Yang, “Shiba shiji de Gansu maozhen an.” To our knowledge, the Taipei archives do not contain documents on this event. We have not had the opportunity to research the topic in the Beijing Number One Archives.

was instrumental in getting this approval: indeed, in the wake of the scandal described below, he was posthumously blamed by the emperor for having been at the root of the affair.

But the main promoter of the affair, and the man behind Governor-General Leerjin's memorials on the subject, was one Wang Danwang, then Gansu provincial treasurer. Over the course of the six months following the reinstatement of the *juanjian* system, 19,017 persons reportedly contributed in Gansu, delivering a total of more than 800,000 *shi*. Although the emperor harbored suspicions about such large figures, Wang Danwang succeeded in reassuring him. According to a memorial written by Leerjin, contributions by the end of 1777 totalled some 2,095,913 *shi*.<sup>77</sup> In Shaanxi the yield appears to have been much more modest: according to an edict promulgated after the Gansu scandal, some 9,600 contributors reported during the period 1775–1780, which was said to be “less than one-twentieth” of the Gansu figure. Governor Bi Yuan's reports of his personal inspections in various prefectures of Shaanxi produced the following figures: in eight counties of Tongzhou Prefecture, there had been 1,067 contributors during the six-year period, who delivered 73,190 *shi*; while in the four prefectures of Xi'an, Fengxiang, Binzhou, and Qianzhou, 1,778 persons were reported to have contributed 138,846 *shi* from 1775 through the summer of 1781.<sup>78</sup>

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<sup>77</sup> See Leerjin, ZP, GZD: QL 034179 (43/2/13).

<sup>78</sup> See Bi Yuan, ZP, GZD: QL 039519 (46/10/13), quoting from an edict dated 46/9/16, and QL 040485 (46/12/28). As is readily apparent, these figures are not without their inconsistencies. The last quoted imply an average individual contribution of 78.1 *shi*, whereas those for the first six months of the program in Gansu imply no more than about 42 *shi* per contributor. Compared with Bi Yuan's figures, the 9,600 Shaanxi contributors quoted from the edict is probably in error; besides, it would imply no less than ca. 200,000 contributors in Gansu, delivering an incredible 8 million *shi* if we assume contributions of no more than ca. 40 *shi* there! The amount of the *jiansheng* contributions to be paid by the various classes of applicants was fixed in ounces of silver by the Board (108 taels for a typical *junxiu*, that is, an aspirant to the *shengyuan* degree); local amounts in terms of *shi* of grain were fixed by precedent according to local prices. According to a 1764 memorial by Shaanxi governor Mingde (ZP, GZD: QL 018291 [29/7/12]), the grain amounts for the various prefectures of Shaanxi had been fixed in 1744 and left unchanged in spite of rising prices; Mingde obtained that they all be aligned on the lowest rate in the province, namely, 80.7 *shi*. An undated circular printed by the Shaanxi provincial treasurer, probably for

In reality, Wang Danwang in Gansu had, from the outset, engaged in grossly illegal practices. He had accepted contributions openly paid in silver, which in this case was strictly forbidden; these were all collected by the prefect and leading magistrate of Lanzhou (a clear case of *baolan*), who were in cahoots with the provincial treasurer, rather than, as should have been the case, being collected by the individual counties. Even though no grain was purchased with the money contributed, authorization to build new granaries (using the “silver for granary costs” [*cangfei yin*] levied alongside the contributions) was asked, and obtained, from the Board of Works.<sup>79</sup> At some point, special investigators went to Gansu to verify granary stores, but they were apparently taken in by the general conspiracy. In addition, Gansu falsely reported droughts for several years running and so received authorization to engage in costly—but largely fictitious—relief operations, which served as a pretext to “disburse” the contributions that had allegedly been mobilized. Everybody in the province, from governor-general to magistrate, seems to have profited by Wang Danwang’s embezzlement, although he, of course, was the main beneficiary.

In 1777 Wang was appointed governor of Zhejiang and left Gansu. His successor as provincial treasurer, one Wang Tingzan, quickly became aware of what was going on but held his peace, and the Gansu officialdom, including the new man, continued to profit from the *juanjian* business.

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distribution to the county yamens, lists the local prices in each prefecture in order to determine the amount of husked grain, wheat, and beans (theoretically in a 40/30/30 proportion, in line with a Gansu precedent) to be delivered by the different categories of candidates for the *jiansheng* degree. Comparison with Mingde’s memorial suggests that this document is posterior to the 1774 revival of *juanjian* contributions in the Northwest. See *Shaansheng ge fu zhou juanjian liangshu tiaoli*; the editors of the modern reprint state that it must be from before the 1766 suppression of contributions in Shaanxi, but their only argument (a comparison with rice prices in Jiangnan) is, to say the least, flimsy.

<sup>79</sup> We have seen one such memorial, proposing to build new granaries in five counties of Gansu, which was relaying a demand by Wang Danwang’s successor, Wang Tingzan. See Shaan-Gan governor-general Leerjin, ZP, *GZD*: QL 035406 (43/6\*/3).

The whole affair was exposed almost by accident. In 1781 a Moslem rebellion broke out in Gansu, and Lanzhou was almost captured. In the face of Leerjin's and the local authorities' demonstrated inability to cope with the situation, Grand Councillor Heshen and the elderly statesman Agui were sent to Gansu to take command. As the emperor had had occasion to note Wang Danwang's and Wang Tingzan's surprising wealth, he took this opportunity to have Agui and the newly appointed governor-general, Li Shiyao, undertake a review of the financial administration of the province.

Then the whole *juanjian* scandal gradually came to light. For our purposes, it will suffice to say that after Wang Danwang was arrested in Zhejiang—where he had lost no time in starting his fraudulent practices anew—a search of his residence yielded a remarkable personal cache of 1 million taels! He was immediately decapitated in Jehol. Leerjin (already arrested in connection with his failure to cope with the Moslem rebellion) was allowed to commit suicide. Wang Tingzan, who had distinguished himself in the defense of Lanzhou, was condemned to death by strangulation after the assizes. Scores of Gansu officials, past and present, were investigated, and more than fifty officials were condemned to decapitation after the assizes; about half of this group had their sentences commuted to lesser penalties (the sources vary on the exact number, with one stating that twenty-two officials were immediately decapitated in Gansu). The total deficit to be made up with the culprits' money was found by Li Shiyao, the new governor-general, to amount to 880,000 taels plus 740,000 *shi* of grain.

Is this affair at all representative of the overall condition of the Qing civilian granary system by the last quarter of the eighteenth century? Not really. In the first place, in view of Gansu's status as a peripheral province whose importance hinged on its strategic, rather than economic, value, it probably proved far easier to engage in organized financial malpractice there than would have been the case in the developed provinces of the interior. In addition, even if corruption was becoming more and more pervasive in this period, Wang Danwang, the official who put the whole affair in motion, was surely an exceptional man. Yet the very fact that such a conspiracy could be set in motion and then effectively concealed from the court for several

years demonstrates how inefficient the control structure described in this section had grown.

Nevertheless, it must be emphasized that the Gansu scandal was not without its positive consequences. In its wake, the whole granary and famine relief system in Gansu proper was thoroughly reviewed, and the true circumstances of past accounts were carefully assessed by the numerous intendants and prefects appointed to replace the corrupt personnel who had been dismissed and punished.<sup>80</sup> That a lesson had been drawn from the 1781 scandal is also suggested by the extreme care with which relief was administered in 1810, when Gansu suffered from a massive drought.<sup>81</sup> And right on the heels of this debacle, in the 1780s,

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<sup>80</sup> See Li Shiyao, ZP, *GZD*: QL 039661 (46/10/28). Li explained that the investigation in progress made it impossible to report the year-end figures by the usual deadline. The figures for 1781 (that is, QL 46) could only be reported in the *minshu gushu* and *shechang* memorials for 1782, viz. Li Shiyao, ZP, *GZD*: QL 043225 and QL 043227 (both of 47/11/29).

<sup>81</sup> See Wong and Perdue, "Famine's Foes," 304–8. But the administration of relief in this instance, which was put under the general supervision of Governor-General Nayancheng, does not seem to have been quite as rigorous as is claimed there. And in any case, most of the relief was administered in money, not in grain, which points to a weak performance on the part of Gansu granaries during this period. Be that as it may, Gansu's granaries and local finances were already in a sorry state by 1815, as can be seen in the *Junjichu shangyudang* kept in the Beijing Number One Archives, vol. 881 (2) and the following. An edict dated JQ 20/12/27 states that Gansu granaries were "empty" and that local finances presented a deficit of more than 1,000,000 taels. The president of the Board of Revenue and a vice-minister in charge of the metropolitan granaries had been sent to investigate alongside the new governor-general and provincial treasurer. Another text, from JQ 21/1/30, recalled that a similar investigation conducted by Nayancheng in 1810 had unveiled a general deficit (silver and grain) of more than 2,000,000 taels, and from an edict of JQ 21/3/23 it appears that six years later the cumulative deficit of the province ("old and new") still exceeded the 2,000,000-tael mark. Three months later (edict of JQ 21/6/21), information was received regarding misuse of relief funds, totaling some 140,000 taels, during the 1810 drought in several counties. Investigated officials claimed that Nayancheng and the then provincial treasurer, Chen Qi, had agreed between themselves to use these falsely budgeted (*fluxiao*) funds as "extra money" (*jintie*) to cover transportation, purchasing, and various administrative expenses, a condemnable case of *nuoyi*. Nayancheng was asked to explain, and he pretended to know nothing about it. As there remained a sum of about 24,000 taels (in addition to the above-mentioned *jintie*) not yet accounted for, the investigation was pushed aggressively forward, culminating in a

we find serious endeavors being initiated to ascertain the real situation in several provinces—the *qingcha an* mentioned above—that were probably, at least in part, a consequence of the 1781 alarm. But the overall political context, as well as the various economic and military difficulties of the late eighteenth century, prevented such efforts from being truly successful and from having any long-lasting effect.

One might say that at this point conjunctural difficulties had prevailed over structural ones. In a context—say, from the close of the Yongzheng reign through the 1770s, and perhaps later than that in some respects—in which the Qing system of civilian granaries was generally accepted as a workable and useful one, in which a majority of officials actively strove to maintain it, and in which the economic environment more or less favored its survival, the various structural, built-in constraints on management analyzed above created problems, not impossibilities. Large shortages, practices vexatious to the local population, and misuse of granary reserves as a means of personal enrichment by officials and clerks: all of these were common problems, but they were sufficiently restricted in time and space that they remained within reach of the control institutions described in this chapter. The application of special controls, in particular, may have been the key factor in establishing a sort of cyclical pattern, with phases of reasonable efficiency and reliability followed by a gradual relaxation of local officials' efforts at maintaining sound reserves and clear accounting, until the launching of a new extraordinary investigation put things back in order again. This pattern, which was basically a *bureaucratic* pattern and of which examples exist in other domains,<sup>82</sup> is easily applied to the dynamics of granary operations on the local, provincial (as in the case of the *qingcha an*), and even national levels (the early Yongzheng efforts obviously initiated a cycle of growth in the granary system across most of the

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search of the late Chen Qi's home. Nayancheng was arrested and severely grilled by the grand councillors, but bribery could not be proven. At some point, it was suggested that the 24,000 taels—exactly 2 percent of the relief budget—had in fact been paid out as a “fee” to officials in the Board of Revenue, which was, in this case, illegal.

<sup>82</sup> On population registration, see, for example, Skinner, “Sichuan's Population,” 71–73.

empire). What must have predominated during the high Qianlong period is a combination of small-scale, local, and, in certain cases, provincial, “cycles” (the term here does not imply any regularity in chronology), which did *not* add up to a national pattern.

As the eighteenth century drew to a close, the steady worsening of the conjuncture—higher market prices, more people to feed, more severe natural disasters, costly military campaigns that disturbed the disbursal and restocking cycle—tended in many regions to render formerly manageable structural difficulties of the system overwhelming. That the system had begun to come apart is particularly obvious in the numerous edicts of the first half of the nineteenth century, which threatened the officialdom of entire provinces with severe punishment if generalized abuses were not eradicated and large deficits not rapidly made up—obviously to no avail. By the Daoguang years, if civilian granaries were not yet a completely defunct institution, the rhetoric of threat, investigation, and punishment had become largely, if not entirely, ritualistic.

This perceived general trend notwithstanding, we find considerable variation from region to region. Part III of the present book is devoted to analyzing the spatial aspects of the Qing civilian granary system and its history. Before we move on to that topic, however, we invite the reader to tarry a while longer in Part II to make a last and rather circuitous detour through another area of “difficulties”—no longer those of the system itself, but those of the documents it produced.

## Statistical Difficulties and Accounting Methods

Pierre-Étienne Will

*Foolish consistency is the hobgoblin of small minds*—Emerson

As the tables at the end of this volume demonstrate, students of the Qing granary system have been left with a considerable mass of figures, both national and provincial,<sup>1</sup> the vast majority of which were compiled between the early 1740s and the early 1850s. Such richness is not without its traps, however, and in this chapter we will attempt to show how sets of figures which at first seem to offer consistent, easily comparable series reveal upon closer scrutiny considerable difficulties of interpretation and variations of content.

Most of the available quantitative data on Qing civilian granaries appear in (1) local gazetteers, (2) the “memorials on population figures

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<sup>1</sup> Local figures are rarer and almost never appear in consistent series.

and grain holdings” (*minshu gushu zouzhe*) that were sent each year to the throne by the various provincial governments, and (3) registers compiled by the central government, some of which can be found in the Qing archives. Gazetteer evidence is basically nonserial, sometimes undated, usually vague about the nature of the figures presented, and very rarely lends itself to spatial and temporal comparisons. The registers and memorials kept in the central government archives, on the other hand, ideally should provide us with a year-by-year account of provincial grain reserves across the empire. As may be seen in the tables, the materials we have been able to muster from the Beijing and Taipei archives present notable gaps in both time and space. Nonetheless, the sheer mass of figures available makes civilian granaries one of the two or three best-documented institutions of the Qing period in terms of quantitative data.

Can these data be taken at face value? It has been suggested elsewhere in this book that dissimulated shortages and false reporting were, to say the least, possibilities. The present chapter is concerned with another kind of problem, namely, understanding what the figures that appear in the various documents are meant to represent. The terse designation “grain stocks” is rather uninformative. Do the figures provide an accurate description of the physical stocks kept in the granaries? If so, then at what point in the annual cycle of disbursement and restocking were they recorded? If not, do they include some sort of liabilities (IOUs) or nongrain assets (money-equivalents), and is an analysis of the various components possible? Are the figures comparable to one another, that is, do they express the same accounting concepts and use the same units? Do they include the same types of granary (ever-normal, community, charity, etc.)? A further set of questions concerns the numerous “population and grain” memorials that present a sequence of figures, such as “beginning balance,” “receipts,” “disbursements,” and “final balance”: again, do these figures reflect the same accounting operations in every case?

As will be seen, they do not. Understanding how and why will entail some investigation into the accounting practices of the Qing government. These practices remain a largely unexplored topic, which

seriously hampers our understanding of Chinese government operations in a number of areas.<sup>2</sup>

Briefly stated, the problem is that only general statements about procedures are laid out in printed sources and official handbooks, while the technicalities of everyday administrative practice must be reconstructed from the working documents we have been fortunate enough to come across. In the case of granaries, these documents consist primarily of palace memorials (or copies or abstracts thereof) written for immediate imperial perusal and only meant to provide the overall results of the accounting, which, as we shall see, was not necessarily done in a systematic or consistent fashion. It is quite possible—indeed, rather probable—that some inconsistencies simply reflect others at earlier stages in the process, or peculiarities in local accounting practices. For the moment, it is not possible to be more specific, since we have been able to trace neither the “yellow registers” that accompanied the memorials nor the more detailed documents sent directly to the Board of Revenue, not to mention the records kept by provincial and local administrations. In other words, our current knowledge is limited to the tip of the accounting iceberg.

The first sections below are devoted to an examination of the units and conversion ratios, the types of reserves included in the provincial figures available, and the accounting formats revealed in the *minshu gushu* memorials. Then we shall try to analyze two basic concepts encountered in Qing grain statistics, namely, “actual reserves” (*shizai*) and “quota” (*e*). In the discussion of these topics, which will certainly appear lengthy and intricate in places, we will review a number of inconsistencies found in the figures and try to assess which ones really matter, in terms of both their use by the Chinese administration at the time and their interpretation by the present-day historian. As will be seen, we believe in the importance of detail: only a careful probe into

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<sup>2</sup> The existing literature on government accounting in traditional China is extremely limited. The two main works we have seen on the topic are devoted largely to dynasties earlier than the Qing: see Fu, “Governmental Accounting in China,” and Guo, *Zhongguo kuaiji shigao*, volume 2 of which we were not able to use in time.

the *bizzarries*, apparent or real, of the figures can enable us to get a clearer notion of the difficulties of interpreting such quantitative data and of the distortions that may creep in when figures are accepted uncritically.

#### UNITS AND CONVERSION RATIOS

The first question is whether the figures for ever-normal and other stocks, sent year after year to the central government by the various provincial administrations, are comparable—that is, are they based on the same units? The answer is, basically, yes. It has been shown elsewhere that the Qing achieved some success in standardizing the measures used in government business throughout the empire. Following a decision of 1704, iron copies of the standard *canghu* (granary half-*shi*) measure described in the dynasty's *Collected Statutes*, as well as the standard *dou*<sup>a</sup> and *sheng*, were cast by the Board of Works and distributed to the grain tribute authorities and to various provincial offices; the wooden copies used in county yamens and granaries were to be checked at regular intervals and replaced as necessary. Although there is evidence that in many places officials continued to use the measures handed down by local custom, at least they did make the necessary conversions to reckon their transactions in the standard units. Thus, theoretically, all granary accounts in China were using the legal *cangshi*, equivalent to 103.6 liters, and its decimal fractions (the *dou*, *sheng*, *ge*, and so on).<sup>3</sup>

When one looks at the *minshu gushu* memorials, however, there seems at first sight to be one important exception to this standard, namely, all the grain storage figures from Shaanxi, Gansu, and Xinjiang, which are reckoned in a unit called *jingshi*<sup>b</sup> (literally, “metropolitan *shi*”) or *jingdou shi* (“metropolitan-measure *shi*”); a few texts dealing with granary business in these areas explicitly convert quanti-

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<sup>3</sup> On the early Qing efforts at standardizing measures, see Wu, *Zhongguo duliangheng shi*, 252–81, and Chuan and Kraus, *Mid-Ch'ing Rice Markets*, 84–92. The situation described in Shaanxi Province in 1744 by its recently appointed governor, Chen Hongmou, affords a good example of the continued use of traditional measures in local yamens, not to speak of the market-place: see *Peiyuantang oucun gao*, 18.18a–20a.

ties expressed in *jingdou* units into their equivalent in a unit called *cangdou shi* (literally, “granary *shi*”), at a ratio of one *jingdou* equals exactly 0.7 *cangdou shi*.<sup>4</sup> Is this *cangdou shi* the same as the regular *cangshi* used in the tribute system and elsewhere in civilian granary accounting? If so, this would imply that all the *minshu gushu* figures from the Northwest must be reduced by 30 percent if we wish to compare them with the figures from other provinces and include them in our calculations of national totals. Such a gross inconsistency is hard to believe, and, above all, the question would remain: why would the local unit be called the “metropolitan” *shi*? In fact, bits of evidence reveal that the so-called *cangshi* was the local unit: it was an oversized measure used in Shaanxi and, apparently, Gansu as well, for the collection of taxes in grain and for paying the vast body of troops garrisoned in the region. The two granaries controlled by the grain intendant of Xi’an (to which taxpayers from twenty counties delivered grain) were at the center of the system, hence the name of the measure. In 1706, two years after the general edict ordering the Board of Revenue to distribute standard measures to the provinces, a special decision required the Shaanxi authorities to use the new “Board measures,” but authorized them to collect from the population and deliver to the soldiery the same physical quantities of grain as before, hence the necessity of making conversions. By 1744, apparently, the old *cangdou* implements were still in use in many places (as were some of the still different local “market measures,” *shidou*), which gave rise to various sorts of abuses. Governor Chen Hongmou had to order their destruction again, and, in addition, that henceforth the figures in all registers of

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<sup>4</sup> The term *jingdou liang* preceding the figures expressed in *shi* appears in all the Gansu *minshu gushu* memorials available. In the Shaanxi documents, the term *jingdou gu* appears until 1763. From 1764 on, the memorials simply use *gu*, but there is no reason to suspect a change of unit; moreover, some later memorials from Shaanxi (not *minshu gushu*) explicitly speak in terms of *jingdou gu*. Texts showing the conversion are: Shaanxi governor Mingde, ZP, GZD: QL 017421 (29/3/28); Shaanxi provincial treasurer Cheng Tao, ZP, GZD: QL 023416 (32/11/24); Shaan-Gan governor-general Leerjin, ZP, GZD: QL 034179 (43/2/13); and Shaanxi governor Bi Yuan, ZP, GZD: QL 037850 (44/2/24). See also the sources cited in the next note.

accounts dealing with grain transactions in the province were to bear the explicit mention “metropolitan *shi*,” and this is what we find in the *minshu gushu* memorials.<sup>5</sup> In short (and contrary to what we believed after a first reading of these memorials), the *jingdou* unit is just another name, peculiar to a region where a peculiar problem of units was raised after 1704, for the national granary *shi*.

Now, even allowing that the quantities referred to in the sources can be easily enough compared in terms of volume, there still remains the problem of comparing contents in terms of weight and nutritional value. Qing regulations, as we have shown, permitted storage of various kinds of cereals: not only the standard unhusked rice in the south and unhulled millet in the north, but also husked rice or millet in some exceptional cases, as well as, more frequently, wheat and occasionally barley, sorghum, soybeans, and other “secondary grains.” This raised the problem of establishing comparability among the different grains, based on number of possible criteria, including the market value, nutritional value, or weight of a given unit of volume. Although the Qing approach to this issue is not laid down explicitly in any regulation, there were conversion ratios fixed by administrative precedent. These are presented in table 8.1. The information is drawn basically from the *Collected Statutes and Precedents*: the rates were used for accounting in both granary and famine-relief management.

Can we know the rationale for such calculations? The only case in which the administrative conversion ratio seems to have an obvious physical basis is that of the conversion of unhusked rice (*gu*) to husked rice (*mi*), since rice loses approximately one-half of its volume in threshing and milling: the same quantity and quality of usable grain is

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<sup>5</sup> See Chen Hongmou, *Peiyuantang oucun gao*, 18.18a–20a. The 1706 decision (in *HDSL* [1899 ed.], 180, *hubu, quanliang* [Weights and Measures], *sheng dou hu* [Measures of Capacity]) was probably a response to a memorial from Boji, the Chuan-Shaan governor-general and concurrently Xi’an Tartar general, who pointed out that using the new national *shi* would mean a 30 percent loss for the troops and horses of Shaanxi and Gansu: he bargained the continuation of the same physical amount of levies and payments against the suppression of the surcharges for grain spoilage that had thus far been extracted from the taxpayers. The memorial is reproduced in *Shaanxi TZ*, 86.59a–60a.

Table 8.1. Official Equivalences of Various Grains to Unhusked Rice (*Gu*)

Chinese term	Grain <sup>a</sup>	Quantity equivalent to 1 <i>shi</i> of <i>gu</i> (in <i>shi</i> )	Provinces <sup>b</sup>
<i>Mi</i>	rice	0.5	Jiangsu
<i>Xiaomai</i>	wheat ( <i>Triticum aestivum</i> L.)	0.5	Jiangsu, Anhui, Sichuan, Shaanxi, Guizhou, Gansu
<i>Mai</i>	wheat ( <i>Triticum aestivum</i> L.)	0.6	Shandong <sup>c</sup>
<i>Mai</i>	wheat ( <i>Triticum aestivum</i> L.)	0.7	Henan
<i>Sumi</i>	millet ( <i>Setaria italica</i> [L.] Beauv.), hulled	0.5	Jiangsu, Anhui, Gansu
<i>Sugu</i>	millet, unhulled	1.0	Anhui, Gansu
<i>Huangmi</i> <sup>d</sup>	common millet (glutinous) ( <i>Panicum miliaceum</i> L.), hulled	0.5	Gansu
<i>Migu</i> <sup>d</sup>	panniced millet (nonglutinous)	1.0	Gansu
<i>Damai</i>	barley ( <i>Hordeum vulgare</i> L.)	1.0	Jiangsu, Anhui, Gansu
<i>Qingke</i>	oats ( <i>Avena nuda</i> L.)	0.8	Sichuan
<i>Qingke</i>	oats ( <i>Avena nuda</i> L.)	1.5	Yunnan <sup>e</sup>
<i>Qingke</i>	oats ( <i>Avena nuda</i> L.)	1.0	Gansu
<i>Qiao</i>	buckwheat ( <i>Fagopyrum esculentum</i> Moench)	1.0	Guizhou, Shandong
<i>Qiaozi</i>	buckwheat ( <i>Fagopyrum esculentum</i> Moench)	0.9	Sichuan

Table 8.1. cont.

Chinese term	Grain <sup>a</sup>	Quantity equivalent to 1 <i>shi</i> of <i>gu</i> (in <i>shi</i> )	Provinces <sup>b</sup>
<i>Gaoliang</i>	sorghum ( <i>Sorghum vulgare</i> Pers.)	1.0	Guizhou, Shandong, Henan
<i>Shu</i>	sorghum ( <i>Sorghum vulgare</i> Pers.)	1.0	Anhui
<i>Dou</i>	beans	1.0	Shandong
<i>Dadou</i>	soybeans ( <i>Glycine max</i> [L.] Merr.)	1.0	Gansu
<i>Heidou</i>	soybeans ( <i>Glycine max</i> [L.] Merr.)	1.0	Henan
<i>Huangdou</i>	soybeans, yellow-skinned variety	0.7	Henan
<i>Huangdou</i>	soybeans, yellow-skinned variety	0.5	Jiangsu, Anhui, Shaanxi
<i>Qingdou</i>	mung beans ( <i>Phaseolus radiatus</i> L.) (?)	1.0	Gansu
<i>Wandou</i>	peas ( <i>Pisum sativum</i> L.)	0.5	Gansu
<i>Zaliang</i>	“secondary cereals”	1.0	Shandong <sup>f</sup>

**Source**

*Hubu zeli* (1851 ed.), 17.19a-b. Similar lists appear (with small variants) in *HD* (1818 ed.), 12.18b–19a, *HDSL* (1818 ed.), 159.20a-b, and (1899 ed.) 189, *hubu*, *jichu*, *changping jichu* (entry of 1776). Comparable regulations existed in the famine relief administration, again with small variations: see Will, *Bureaucracy and Famine*, 131.

**Notes**

<sup>a</sup> Thanks to Françoise Sabban, École des Hautes Études en Sciences Sociales, for aid in identifying the Chinese terms.

<sup>b</sup> These are the provinces explicitly mentioned in the source used for this table; however, similar rates may be found in sources concerning various other provinces.

<sup>c</sup> The same rate is mentioned for Zhili: see Zhili governor-general Fang Guancheng, *ZP*, *GZD*: QL 003764 (18/5/8); before 1771 the rate in Shandong was 0.5.

<sup>d</sup> Not mentioned in the *HDSL* list.

<sup>e</sup> Source: *Hubu zeli* (1831 ed.), 17.11a.

<sup>f</sup> Most of the grains mentioned for Gansu Province are subsumed under the term *zaliang*.

present at both ends of the process. But this logic does not hold for millet, for example, as one unit of unhulled millet could yield up to 0.6 units of consumable grain, at least in the case of recently harvested grain, while the regulations specify a 0.5 equivalence.<sup>6</sup> In other words, reserves in unhulled millet might actually yield 20 percent more grain than the theoretical rate.

Furthermore, how was millet compared with the same volume of unhusked rice (*gu*), which was apparently the standard unit of accounting in granary management? Establishing equivalences for grains having different volumetric weights and nutritional values is obviously more complicated than comparing hulled and unhulled grain of the same species. The only source we have found that addresses this subject is a memorial of 1754 concerning the equivalence between wheat and husked rice (each worth twice its volume in unhusked rice). In this memorial, Zhang Ruozhen, the governor of Hubei, answered a long rescript by the Qianlong emperor, who asked for a clear explanation of the equivalence (this, incidentally, after years of memorials which routinely took the rate of two *gu* as equal to one *mai* for granted). The emperor wrote,

Seen, your memorial is appropriate. But I am not quite clear about your saying that “one *mai* equals two *gu*.” If one is speaking in terms of price, obviously the value should be quite different. If one speaks of famine relief, is it possible that eating one *shi* of wheat can be equivalent to eating two *shi* of unhusked rice? You are an old hand at provincial posts and certainly can explain the thing in detail. Try to memorialize on that.<sup>7</sup>

Here is Zhang’s answer:

[In accordance with your Majesty’s inquiry], I have once again minutely examined the question. In Hubei Province, one *cangshi*

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<sup>6</sup> See the texts of the Yongzheng period quoted in Abe Takeo, *Shindai shi no kenkyū*, 523, note 5.

<sup>7</sup> Rescript to Zhang Ruozhen, ZP, GZD: QL 006120 (19/3/27). Zhang was advocating a substantial program of wheat purchases in Hubei.

[103.6 liters] of wheat may be ground to 110 catties [about 65.6 kilograms] of flour (*mian*); its current price is 1.1 taels. I also observe that the current price of one *cangshi* of the medium-quality rice (*zhongmi*) ordinarily eaten by the people is 1.5 taels. Now, the annual food allowance of laborers is calculated according to a daily need of 0.01 *shi* of rice (*mi*) per individual. If this is exchanged for wheat, the daily need is 1 catty, 8 ounces [or 1.5 catties, about 0.9 kilograms] of flour per individual. According to these figures, one *shi* of rice can feed one hundred individuals per day, whereas one *shi* of wheat may only feed some seventy-odd individuals per day. Thus, it seems that one *shi* of wheat does not fully equal two *shi* of unhusked rice (*gu*). But if we calculate in terms of price, we find that to eat 0.01 *shi* of rice one needs 0.015 taels, and also 0.015 taels to eat 1.5 catties of flour. If we buy wheat with the 1.5 taels necessary to obtain one *shi* of rice, we will get more than 1.3 *shi* [actually, 1.36 *shi*]. Thus, although there are differences in both feeding capacity and price, on average (*yunsuan*) rice and wheat are equivalent. They may be used interchangeably for ordinary diet as well as for famine relief.<sup>8</sup>

In simpler terms, one *shi* of wheat yields less food than one *shi* of husked rice, but it is less expensive.

What can be concluded from Zhang's memorial? First, we see that the Qing took into account a number of variables in comparing different grains: volume, weight, quantity of processed product ready for consumption, and market price. The last was obviously a critical variable, since, at least in this example, it compensated for the disparity in the nutritional values of different grains. The problem was that fixed conversion ratios did not take into account the varying price differential between rice and wheat (or any other grain). This difference could not but change from one year to another, depending on harvest results, during the year, depending on the different harvest cycles of the various grains,<sup>9</sup> and from one area to another according to cropping patterns, market structure, and consumer habits.

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<sup>8</sup> See Zhang Ruozen, ZP, GZD: QL 006444 (19/4\*/12).

<sup>9</sup> In his preceding memorial (QL 006120), which dates from the end of first month, Zhang Ruozen put the price of wheat at 1.2 to 1.3 taels per *shi* and predicted a decrease when

With respect to regional variation, it may be noted that at the beginning of his memorial Zhang Ruozhen observes, “the one-*mai*-equals-two-*gu* precedent used to apply for reserves in Shaanxi Province” (where he had been provincial treasurer before being promoted to governor of Hubei), noting that Hubei is adjacent to Shaanxi and Henan and sows “up to 50 or 60 percent of wheat”<sup>10</sup>—hence, the similarity of conversion rates. In most cases, however, the Shaanxi *gu* referred to must have been millet *gu*; in Hubei it was rice *gu*, especially in the prefectures of the central basin. In all probability, millet and rice had different values, resulting from either their price relationship with wheat or their nutritional content per *shi*. This supposition can be extended to the whole array of provinces where the same conversion ratio applied (see table 8.1). In addition, the dietary value (in terms of calories, protein and vitamin content, etc.) of the different grains varied considerably, the “cheaper” ones—those that convert one-for-one with *gu* in table 8.1—not necessarily being the poorer in this respect.<sup>11</sup>

Thus, in the majority of cases the official conversion ratios had only an approximative, although of course not altogether arbitrary, relationship with nutritional values and the realities of local conditions and market practices. Estimating the degree of nonequivalence (in food content and market value) of the stocks kept in various provinces is

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the new wheat harvest reached the markets (we have seen that he mentions 1.1 taels in the text just quoted, which dates from the intercalary fourth month); meanwhile, one would expect the price of *gu* to rise gradually until the autumn harvest, then drop. Thus, the applicability of the official conversion rates was, in any event, restricted to limited periods of the year, as is confirmed by other texts (for example, a memorial by Zhili governor-general Fang Guancheng, ZP, GZD: QL 003764 [of the fifth month, 1753], who stated that the Zhili conversion rate of 0.6 *shi* of wheat for 1.0 *shi* of *gu* only applied later in the year, after the autumn harvest).

<sup>10</sup> This percentage probably refers to the total sown area, including cases of double cropping on a single plot.

<sup>11</sup> See, for instance, Will, *Bureaucracy and Famine*, 131, note 7. Precise comparisons are difficult, however, since the nutritional content of a given grain can vary considerably with the degree of processing (including milling, washing, and cooking); rice, for example, loses many nutrients in the course of polishing and washing (Bray, *Agriculture*, 477–78).

obviously impossible. Since many of the variables involved are unknown (and even were they known, the calculation would be extremely complicated), our only choice is to accept these ratios for what they were, namely, a rough index for granary and famine-relief accounting. In this respect, we must also stress the ambiguous status of the term *gu*, which according to context either refers to actual staples (such as unhusked rice) or is used as an administrative unit of accounting whose relationship with actual reserves varied.

Let us assume, then, that the figures appearing in the accounts from the different provinces and through the years are roughly comparable. But were the conversions properly done? A close look at our main source of information, the “population and grain” memorials, reveals that in some cases the provincial governments did not consistently apply the ratios in their accounting. When figures of ever-normal or other reserves represent a mix of several types of grain but do not provide a breakdown, we are tempted to assume that the necessary conversions have been made beforehand and that the different components of the total are expressed in similar, consistent units (i.e., the *shi* of *gu*). This is sometimes expressly stated: for example, in the Anhui *minshu gushu* memorials we find the expression, *mi, gu, zaliang zhe gu*, which means that the husked rice and “secondary grains” have been converted (*zhe*) into *gu* units; similarly, most Hubei memorials subsume under one figure reserves of unhusked rice (*gu*), barley (*mai*), millet (*su*), maize (*baogu*), “and wheat converted into *gu* units” (*bing xiaomai zhe gu*).<sup>12</sup> Yet in other cases, the list of grains accounted for in a single figure appears without any comment. For instance, the Shanxi memorials speak of *gu, mi, dou* (unhulled and hulled millet, beans) and those from Sichuan refer to a mix of husked and unhusked rice, wheat, buckwheat, beans, millet, and *qingke* barley. In such cases the assumption that the necessary conversions have been duly effected may or may not be justified. An interesting example occurs in the Yunnan *minshu*

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<sup>12</sup> Here, *xiaomai* is wheat; *mai* must be another crop directly convertible into *gu*, probably *damai* (barley); *su* is the generic term for unhulled millet (Bray, *Agriculture*, 440), equivalent to *sugu*.

Table 8.2. Civilian Granary Stocks in Yunnan Province, 1751–1756 (in *Shi*)

Grain	1751	1752	1753	1754	1756
Husked rice ( <i>mi</i> )	9,952	10,422			443
Unhusked rice ( <i>gu</i> )	1,051,374	1,081,549	1,116,101	1,154,123	1,160,167
Barley ( <i>damai</i> )	2,537	2,791	3,070	3,377	4,086
Wheat ( <i>xiaomai</i> )	1,262	1,387	1,513	1,665	2,014
Buckwheat ( <i>qiao</i> )	33,172	35,047	56,625	59,787	54,893
Barnyard millet ( <i>bai</i> )	175	175	4	4	4
Beans ( <i>dou</i> )	17	17			
<i>Qingke</i> barley	1,330	1,386	5,223	5,705	6,520
Total:	1,099,819	1,132,774	1,182,536	1,224,661	1,228,127

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

*gushu* memorials, which from 1751–1756 give figures of actual final balance (*shizai*) with breakdowns in which the figures for the different grains, including those not directly convertible into *gu*, add up exactly to the grand total (see table 8.2). We therefore conclude that the conversions must have been effected beforehand. However, the 1753 memorial, taking the 1752 final balance as its “beginning balance” (*jiuguan*),<sup>13</sup> notes that “converting this figure into *gu*, *qiao*, and *qingke* yields a [new] figure of 1,143,856” (rather than 1,132,772). This new figure becomes the basis of subsequent calculations attending the 1753 final balance.<sup>14</sup> Thus, in this case at least, conversions were made after the fact—but why only for this year and this figure?<sup>15</sup> Does this mean that before 1753 the figures represent a mix of grains having different

<sup>13</sup> As do all memorials from Yunnan for these years: the accounting system is a “closed” one (see the discussion of accounting formats below).

<sup>14</sup> The method of conversion is unclear.

<sup>15</sup> It may be noted that in 1764 and 1765 the Yunnan memorials, which give only one, cumulative figure, specify that the various grains have been duly converted (*zhe*).

values? In any case there is an inconsistency somewhere. It does not involve very large quantities, nor does it impair our assessment of the size of Yunnan's reserves, but it is nonetheless illustrative of the sort of inconsistencies tolerated in official statistical statements, sometimes with more troublesome consequences.

Another puzzling case comes from Hubei Province. Hubei's *minshu gushu* memorials from a number of years present both the sum of a list of various cereals, beginning with unhusked rice (*gu*), and a separate figure for husked rice (*mi*). One would accordingly suspect that the quantity of *mi* is expressed in its own unit and should be multiplied by two to obtain a grand total (note, in this respect, that when wheat is included in the list of cereals, it is expressly said to have been converted into *gu* units). But other evidence suggests that the *mi* figures have already been converted, which leads us to wonder why *mi* alone is listed separately—when it is. For example, all Hubei *minshu gushu* memorials first present figures for ever-normal granaries, then those for community granaries, and then give a grand total. The latter consists either of two figures (one for *gu* and other grains, one for *mi*) or of a simple one (in the memorials for 1763–1765, 1767). In the second case, it is clear that the quantities of husked rice in ever-normal granaries have been simply added to the rest, without being doubled.<sup>16</sup> Similarly, the “beginning balance” (*jiuguan*) of 1755, which includes husked rice while the latter was formerly listed separately, is the exact sum of the *gu* and *mi* figures given as “end balance” in 1754: here again no conversion has been made, and we must assume either that the *mi* figures, although distinguished from the *gu*, are actually expressed in the same units or that the totals are inconsistent. In either case, the difference, once again, is not very great, since the husked rice kept in the ever-normal granaries of Hubei represented a very small proportion of the total. Taking these *mi* figures both as given and doubled as a percentage of the totals of *gu* plus *mi*, we find a possible error ranging from 0.1 to 4 percent; for most years, it is around 1 percent. This is not

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<sup>16</sup> The 1768 memorial is a special case: the *mi* in ever-normal granaries has neither been added to the grand total nor listed separately.

very significant compared with the other possible sources of error, but again the inconsistency in the presentation of the accounts is worth noting.

Memorials from other provinces listing unhusked and husked grain separately clearly do effect the necessary conversions when moving quantities from one category to the other. Those from Zhejiang are an example. All *minshu gushu* memorials from this province give separate figures for both husked and unhusked rice, the former being sometimes quite large. The memorials of three years (1763–1765), after citing “theoretical reserves” (*ecun*) of both *mi* and *gu*, modify them by transferring small quantities of grain from one category to the other: in each case the necessary conversions (doubling the *mi* figures and halving the *gu* figures) are explicitly noted. Thus, in the Zhejiang statistics, contrary to what seems to be the case for Hubei, figures for husked rice must be multiplied by two to calculate a grand total. This total is not given by the memorials, and we have had to recalculate it. In this case, failing to convert the units would entail a considerable error in the totals for some years.

The case of Fengtian Province is more delicate because there is no clear evidence of whether the units have already been converted. Fengtian memorials give figures for both *sumi* and *sugu* (unhulled and hulled millet); the former are consistently much larger than the latter, which means that an erroneous assumption concerning the *sumi* would entail a very large error. On the one hand, beginning with 1786, the registers of provincial population and grain holdings (*Quanguo fensheng minshu gushu qingce*) record totals on the same order of magnitude as those in the *minshu gushu* memorials of the immediately preceding years, provided that unhulled and hulled quantities are added *without* doubling the hulled figure. On the other hand, the target fixed in 1748 amounts to 1,200,00 *shi* in *gu*, while in the following decades it is given as 500,000–600,000 *shi* in *mi*, and some memorials do make the conversion when mentioning local operations. Besides, while an inspection in 1778 led to the conclusion that Fengtian’s granaries were filled to target levels, totaling some 1,200,00 *shi* of *gu*, calculations based on the *minshu gushu* figure of that year give a total of only 591,866 *shi* unless the *sumi* figure is doubled, yielding 1,103,242 *shi*.

These figures suggest the range of possible error, which is not far from 100 percent! Our conclusion has been that figures for hulled millet *must* be doubled to get a total that is both consistent and comparable with the figures from other provinces, and that the compilers of the *Minshu gushu qingce* wrongly added figures expressed in different units without bothering to do the necessary conversions—we shall meet other examples of such inconsistencies on their part.<sup>17</sup>

Finally, the case of Guizhou must be mentioned, which is rather similar, but still more difficult to resolve. While memorials from 1741–1754 give a grand total reported to include a mix of unhusked and husked rice, wheat, and buckwheat, from 1755 to 1775 the figure is simply described as “ever-normal rice” (*changpingcang mi*). While we do know from other evidence that up to 1776 Guizhou stored much more husked rice than should have been the case in view of the risk of heavy spoilage, the stocks were still at least 30 to 40 percent *gu*.<sup>18</sup> From 1777 onward, ever-normal figures are broken down into *gu* (now by far the largest percentage), *mi*, and *qiao* (buckwheat). Here again, comparison with the *Quanguo fensheng minshu gushu qingce* list would suggest that the figures for the different grains must be added without any conversion: the 1786 and 1787 figures given in the list are the exact sum of the *gu*, *mi*, and *qiao* figures in the memorials. We are inclined, however, to think that officials in the Board of Revenue made the same mistake that almost certainly was made with the Fengtian figures. For this reason, all the figures given in *mi* in the memorials have been doubled in the appendices to this volume. The range of potential error (supposing this is the wrong decision) is 100 percent for the years 1755–1775 (when we have one sole figure in *mi*) but much lower

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<sup>17</sup> As a result, the necessary conversions have been made for Fengtian figures, whenever there was a breakdown, that is, in appendix table A.1, which is based on memorials; in A.2 based on the *Minshu gushu qingce* (which do not give any breakdown), we have been obliged to leave the figures as they were. The conversion is explicitly made in Fuchashan, ZP, GZD: QL 034815 (43/5/1). The *Hubu zeli*, HD, and HDSL quotas (in *mi*) must be doubled to be comparable with the 1748 targets (on these various series, see the section on quotas below).

<sup>18</sup> See *Gaozong shilu*, 1005.41a.

thereafter (the *mi* figures representing no more than 2 or 3 percent of the total).<sup>19</sup>

What conclusions can be drawn from the foregoing considerations? First, inasmuch as different kinds of grain were stored in their granaries, to produce usable statistics Qing officials were obliged to combine figures that actually represented different things. They tried to correct the inaccuracies inherent in this method by using conversion ratios to compensate for the differences in nutritional or market value. (Modern statisticians do the same when, for example, they measure the “cereals” output of a country and include a figure for potatoes, adjusted with a multiplier.) The result was an approximation of what was actually usable when these differences were taken into account.

The possibility that such a method was at times incorrectly applied cannot be ignored. Detailed local accounting certainly included the prescribed conversions, but we have seen that in the summarizing documents sent to the throne there were sometimes inconsistencies and errors in handling conversions. These, fortunately, do not seem to have significantly affected the totals presented (although there remains the possibility of larger errors that may have escaped us). More disturbing are the two cases (Fengtian and Guizhou) in which we simply do not know which unit was used to express the large quantities of husked grain indicated in the memorials. The decision we have had to make in calculating the figures in the appendices entails the risk of a rather considerable error, of the kind that certain compilers at the Board of Revenue may well have committed themselves in the lists we depend on entirely for the last years of the eighteenth century and for the entire first half of the nineteenth.

In any case, this investigation into the details of the accounts that we have been able to trace in the archives shows that the provincial totals of granary holdings clearly cannot be taken at face value and that several qualifications and verifications are necessary. As we shall see

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<sup>19</sup> The remarks in note 17 above apply here as well. It is, of course, impossible to divine the proportion of *mi* in the figures prior to 1755 or whether the proper conversions had been made before the total was calculated.

in the following sections, larger and more troublesome inconsistencies are revealed when the accounts from different provinces are compared with one another. Even assuming that the figures for individual provinces were correctly calculated, they did not necessarily include the same types of granaries or represent the same processes of accounting.

#### COVERAGE OF GRANARY TYPES

Exactly which types of granaries are covered by the figures in the sources? This appears to vary from one type of document to another, from one province to another, and sometimes from one period to another. Such variations obviously raise serious problems in spatial and temporal comparisons. Table 8.3 illustrates them by listing, province by province, the types of granaries included in the grain stock figures in the *minshu gushu* memorials.

The difficulties are immediately apparent. First, some provincial figures are plainly incomplete: the memorials from Anhui, Jiangsu, Shandong, and Gansu concern only ever-normal granaries and therefore omit community and other reserves, which, as we know from other sources, were in some instances quite large.<sup>20</sup> At the same time, simply comparing ever-normal reserves in the different provinces is not always possible, as a number of provinces submitted figures of total reserves without giving any breakdown or even listing the types of granaries

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<sup>20</sup> For example, the 1765 figures for Jiangsu given in *WXTK*, 37.5205, show that community granaries and salt charity granaries would contribute an additional 800,000 *shi* if they were included in the *minshu gushu* memorials of the same period. In Anhui, similarly, we know that by the mid-eighteenth century building of community stocks was quite successful; for 1764, *WXTK* records a figure of 505,285 *shi* in community granaries, equivalent to about two-fifths of the 1,235,708 *shi* recorded for ever-normal granaries (the corresponding *minshu gushu* figure for the latter being 1,358,972 *shi*). Note that figures for both Shandong and Gansu are explicitly limited to ever-normal grain during the periods 1751–1755 and 1754–1764, respectively; thereafter, granary types are unspecified, although it is quite possible that nothing was changed. Note, too, that the charity grain omitted from the Shanxi and Sichuan *minshu gushu* memorials was reported in separate memorials.

Table 8.3. Types of Reserves Covered in the "Population and Grain Memorials"

Province	Unspecified Ever-normal	Community Charity	Govt. rents Prov. granary	Contributed grain Tribute reserves	Others Breakdown
Zhejiang <sup>a</sup>	1				
Fujian <sup>b</sup>	1				
Shandong <sup>c</sup>	1				
Shandong <sup>d</sup>		1			
Gansu <sup>e</sup>	1				
Gansu <sup>f</sup>		1			
Yunnan <sup>g</sup>	1				
Yunnan <sup>h</sup>	1	1			0
Guizhou	1				
Hubei	1	1			1
Hunan	1	1			1
Shaanxi	1	1			1
Shanxi	1	1			1
Jiangxi <sup>i</sup>	1	1			1
Jiangxi <sup>j</sup>	1	1	1		1
Zhili	1	1	1		1
Guangxi	1	1	1		0
Henan <sup>k</sup>	1	1	1		1
Henan <sup>l</sup>	1	1	1	1	1
Guangdong	1	1	?	1	1
Guangxi <sup>m</sup>	1	1	?	1	1
Anhui <sup>n</sup>	1			1	1
Sichuan	1	1		1	0
Jiangsu <sup>o</sup>	1			1	1

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> Some memorials do not provide any specification; others state "grain from the whole province" (*tongsheng gu*); others state "grain from all granaries" (*gecang gu*).

<sup>b</sup> Possibly includes ever-normal and community.

<sup>c</sup> After 1755; possibly refers to ever-normal only.

<sup>d</sup> 1751–1755.

<sup>e</sup> Except 1754–1764.

<sup>f</sup> 1754–1764.

<sup>g</sup> Before 1767; possibly refers to ever-normal and community.

<sup>h</sup> From 1767.

<sup>i</sup> Until 1773.

<sup>j</sup> From 1778. "Charity" refers to customs charity granary (*guanyicang*).

<sup>k</sup> From 1773; memorials sent concurrently with the type described on the next line. Some include only ever-normal and charity, some add "and community," although the figure of "community and charity" is impossibly low when compared with those in the separate community memorials.

<sup>l</sup> Contributed grain is *quanjuan shegu* (i.e., for community granaries); tribute reserves are in the so-called *caogucang*.

<sup>m</sup> "Others" refers to grain "for Guangdong" (*bei Guangdong*).

<sup>n</sup> Provincial granary reserves until 1761 (see n. o.); "others" refers to *chubei* and/or *yubei* reserves, whose figures are given separately.

<sup>o</sup> Provincial granary reserves during 1763–1773, transferred from Anhui. "Others" refers to *chubei* and/or *yubei* reserves.

covered.<sup>21</sup> Furthermore, some provinces during certain periods sent separate memorials, similar in format to the *minshu gushu* memorials, to report on community and charity reserves. In some cases, these memorials duplicated community and/or charity granary information already given in the main “population and grain” document, but their figures could be different due to the fact that they were not prepared at the same time of the year.<sup>22</sup> In other cases, they gave figures that were probably included in the *minshu gushu* totals.<sup>23</sup> In still other cases, the data in the separate memorials completed those given in the *minshu gushu* memorials.<sup>24</sup>

In short, we are faced with a bewildering array of combinations, making it imperative that the contents of table 8.3 be kept in mind when examining the figures presented at the end of this volume. Strict comparisons are possible only in certain instances, namely: (1) between different years or periods in a given province or group of provinces, provided that no change in coverage intervenes; (2) between different provinces when coverage is the same, that is (a) for a given type or group of granaries when the corresponding figures can be isolated or reconstructed, and (b) between provincial grand totals when these are explicitly given or can be reconstructed.

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<sup>21</sup> The Zhejiang memorials refer either to “grain from the whole province” (*tongsheng gu*) or “from all granaries” (*gechang*), and sometimes such references are omitted altogether. In some cases, comparison with other sources compensates for the lack of specification. In the case of Fujian, for example, the ever-normal and community figures for 1765 as given in *WXTK*, 37.5206, must be totaled to reach the same order of magnitude as the corresponding *minshu gushu* figure (but not exactly the same figure, of course, since *WXTK* data correspond to the end of the calendar year, whereas those in the *minshu gushu* memorials do not: on this problem, see the section on accounting systems below). The same is true of Yunnan in 1765.

<sup>22</sup> The problem of how to date figures within the year is addressed in the next section. The main example here is the Zhili charity granary memorials, which, in addition, give a separate accounting for interest grain.

<sup>23</sup> Such as the Sichuan community granary memorials from 1751–1763, all the Henan community granary memorials, and the Guangxi charity granary memorials from 1773 on.

<sup>24</sup> For example, the Shanxi and Sichuan memorials on charity reserves.

“Reconstructing” here means adding the individual figures for different types of granaries in order to get a grand total. The operation sometimes runs into difficulties for reasons that will be elaborated in the next section, namely, that the different figures (ever-normal, community, etc.) in the same *minshu gushu* memorial do not necessarily represent reserves at the same time of the year. In such cases, calculation can only produce estimates, not exact amounts.

Further problems arise when we consider figures other than the year-end *shizai* balances (the exact nature of which will be examined in a later section), that is to say, figures of restocking and disbursals. As we shall see, this is because accounting formats in the different *minshu gushu* memorials vary considerably.

#### THE THREE SYSTEMS OF ACCOUNTING

Before analyzing the methods of accounting in the *minshu gushu* memorials, let us review briefly the nature of these documents and their place within the overall structure of financial reporting from the provinces to the central government. The basic procedure for annual reporting on fiscal, financial, and granary affairs was by way of the “year-end reports” (*zouxiao an*), which provided the Board of Revenue with a detailed picture of the accounts of each county as presented at the end of the calendar year. According to the *Collected Statutes*,<sup>25</sup> the provincial treasurer was to compile the yearly accounts from all counties and present them to the governor, who would memorialize the Board, appending registers (*zouxiao ce*) organized according to the so-called “four-column” (*sizhu*) system, which distinguished beginning balance, receipts, disbursements, and final balance for each item.<sup>26</sup> The deadline

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<sup>25</sup> *HD* (1764 ed.), 10.14a–b, entry on “reporting on the taxes of the year” (*fan suike zouxiao*). Although this entry concerns only taxes, the procedure for granary accounts appears to have been the same, since every administrative unit had to report simultaneously on its “treasury and granary” (*kucang*) reserves.

<sup>26</sup> As demonstrated by Fu (“Governmental Accounting in China,” especially 333ff.), the four-column format of accounting was a creation of the early Song dynasty. Its use in ever-normal granary accounting was ordered at the beginning of the Southern Song. The usual Chinese terms for the four categories are translated by Fu as “in custody formerly”

for receiving the reports in Beijing was fixed according to distance: fourth month for the provinces of north China, fifth month for central China, and sixth month for south and southwest China. Of course, this system of annual *zouxiao* reporting, which was evolved in the early Qing, was by no means displaced by an innovation such as the *minshu gushu* memorials.

The latter, as is well known, were instituted by the young Qianlong emperor, who was eager to get more accurate reports on the population of the various provinces and of their reserves of government-controlled grain.<sup>27</sup> His edict from the first day of the eleventh month, 1740, quoted at the beginning of a number of *minshu gushu* memorials, recalled the Yongzheng emperor's efforts to build up reserves and deplored the fact that, in spite of these efforts and the regular year-end investigations, granary management remained a matter of limited importance for local magistrates. He accordingly ordered that, from 1741 onward, each year in the eleventh month (*zhongdong*) the provincial governors memorialize in detail on *actual* stocks of grain in each county and prefecture under their jurisdiction.<sup>28</sup> Although the discussions and deliberations that took place in the wake of the edict were essentially devoted to the problems of counting the population, it was nevertheless reiterated that, while the former *zouxiao* system of reporting granary accounts was not to be discontinued, the eleventh-month reports<sup>29</sup> would focus on real, usable reserves, taking into account nonroutine disbursements such as relief distributed in times of famine.<sup>30</sup> Being of the *zouzhe* (palace memorial) form, these reports would go directly to the emperor and provide him

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(*jiuguan*), "newly received or added" (*xinshou*), "deducted or disbursed" (*kaichu*), and "presently existing" (*xianzai*). For the last, *shizai* ("actually in store") is more commonly used in granary documents.

<sup>27</sup> See Ho, *Studies in the Population of China*, especially 37ff.

<sup>28</sup> *Gaozong shilu*, 130.1a–3a.

<sup>29</sup> In actual practice, these reports appear to have been sent at various dates, from the beginning of the eleventh month to the very last day of the twelfth month.

<sup>30</sup> See *Gaozong shilu*, 131.4b–5a, deliberation of the Board of Revenue, and 133.5b–6a, deliberation of the grand secretaries and nine ministers.

with an immediate overview of the situation at the close of the year. To the memorials were appended “yellow registers” (*huangce*) giving more detailed figures, while still more detailed registers (*qingce*, or *xice*) were sent directly to the Board of Revenue.<sup>31</sup>

Thus, the administration for each year produced two sets of granary stock figures, one (the *zouxiao an*) at the beginning of the following calendar year, giving the balance at the close of the year in question, and the other (the *minshu gushu* memorials and registers) near the end of the year in question, giving the balance at a somewhat earlier date.<sup>32</sup> These two sets of figures were, of course, different, since both disbursements and restocking could take place in the interim. One important problem in interpreting the figures in the *minshu gushu* memorials, especially the final-balance figures, is ascertaining the period of the year to which they correspond: obviously, some delay was unavoidable in the process of compiling the figures at the county level, transmitting

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<sup>31</sup> This is indicated by the phrasing at the end of the *minshu gushu* memorials. Here is one example chosen at random: “Besides compiling a detailed analytical register and sending it to the Board for inspection, I respectfully memorialize on the whole province’s population and grain stock figures for Your Majesty’s information and at the same time draw a yellow register to be submitted for imperial perusal” (Zhejiang memorial from 1754). The usual rescript was *ce liu lan*, which may mean either “I keep the register to read it,” or “I keep the register. Read.” According to the 1899 edition of *HD*, 20, the registers sent directly to the *hubu* were managed by the “Zhejiang office” (*Zhejiang qinglisi*) of the Board, which compiled and presented them to the throne in the form of a new *huangce* at the end of the following year. These *huangce* could possibly be the source of the *Quanguo fensheng minshu gushu qingce*.

<sup>32</sup> In addition, it may be noted that from 1786 on, local administrations were in principle required to provide the hierarchy with *monthly* four-column reports of their grain stocks. Prefects were to check that there were no deficits and then to transmit the documents to the circuit intendants with their guarantee; the intendants, in turn, would send *quarterly* reports to the provincial treasurer and thence to the governor-general and governor. See *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*. This seems to have been basically a new means of involving officials above the county level in the verification of local granary accounts (rather in the same vein as the “no-deficit” memorials mentioned above, chapter 7); inasmuch as the documents sent to the provincial authorities were compiled on a quarterly basis, the delay between the determination of local balances and the compilation of the *minshu gushu* documents must not have been altered by this new measure.

them to the provincial treasurer, verifying and compiling them, and sending the provincial summaries to the throne by the eleventh or twelfth month. Regulations are silent on this point, and the exact date of the “final balance” must have varied from one province to another. The only ones to give an indication in their *minshu gushu* memorials are Jiangsu, where figures of actual stocks were from the end of the eighth month, and Anhui, which in 1752 and 1753 gave the date as end of the seventh month. The separate memorials for charity granaries in Shanxi similarly define the period covered by their accounting as from the ninth month of the preceding year to the eighth month of the current year.<sup>33</sup> In a general way, we can assume that the final balances in the *minshu gushu* memorials date from sometime in the first half of autumn. Later in this chapter we will examine the actual chronology of granary operations—a necessary step in interpreting the figures.

We can now attempt to describe and interpret the various ways the *minshu gushu* memorials presented their figures, keeping in mind two important facts: (1) there is sometimes a mix of year-end (*zouxiao*) and early autumn balance figures; and (2) the memorials present only an abstract, of widely varying coverage, of the more detailed accounts in the accompanying registers. For the sake of clarity, we have distinguished three different systems of accounting, termed “closed,” “semi-closed,” and “open,” respectively.

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<sup>33</sup> Although evidence on the subject is rather scarce, it seems that the separate palace memorials on the community and charity reserves of several provinces were originally to be sent at the beginning of the following year, thus providing accounts which corresponded to the end of the year of reference (that is, the *zouxiao* date): see the decision of 1753 on Zhili *yicang* memorials in *HDSL* (1899 ed.), 193, *hubu, jichu, yicang jichu*, or the wording in the Henan *shecang* memorials (which, actually, were generally sent at the *end* of the following year). Then it was ordered that they be sent within the year (see the 1772 Hunan memorial on *shecang*), and the balance probably corresponded to the same date as the *minshu gushu* figures. The change appears in the Zhili *yicang* memorials. However, from the beginning, Shanxi *yicang* memorials gave a balance as of the end of the eighth month, while until the end of the Qianlong reign Henan *shecang* memorials continued to be sent during the following year.

### *Closed Accounting*

The basic feature of a closed system of accounting is that the last figure in the four-column pattern, the *shizai* (“actually in store,” or else “final balance”), is identical with the first one of the following year, usually termed *jiuguan* (“formerly controlled,” or else “beginning balance”). In other words, there is no gap in the sequence of operations described by the four columns year after year. Such “pure” four-column accounting is especially useful since, in theory, it indicates the actual inflow and outflow of grain during each year,<sup>34</sup> and thus enables us to figure out the actual use of stocks and to calculate a rate of turnover. Moreover, knowing that the “formerly controlled” figure of a given year reproduces the final balance (*shizai*) of the previous year permits us to fill in a number of gaps in the series of *shizai* figures.<sup>35</sup>

It should be noted that some memorials presenting “closed” accounts do not reproduce all of the four columns, but give only three, or even two, figures. When three figures are given, it is the beginning balance that is omitted, but this can be recalculated from the three other figures and will be found equal to the previous year’s final balance.<sup>36</sup> When only two figures are given, they are the *jiuguan* and the *shizai* (beginning and final balances); in such cases, with the acquisitions and disbursals omitted, the rate of turnover cannot be calculated.<sup>37</sup>

Provinces whose memorials employed the four-column closed accounting method include Gansu in 1747; Guangdong in 1741; Guangxi in 1743, 1749, and 1751; Henan (separate memorials on community

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<sup>34</sup> Or, more aptly, annual cycle, as the period covered by the *minshu gushu* memorials does not correspond with the calendar year.

<sup>35</sup> Such reconstructed *shizai* figures have been put in square brackets in appendix table A.1.

<sup>36</sup> Examples are Sichuan, 1752–1754, and Hubei, 1747.

<sup>37</sup> The most important example here is Guangdong, but see also Guangxi, 1745. Such cases tell us no more about granary workings than a single *shizai* figure, but the fact that the *jiuguan* are identical to the previous year’s *shizai* gives us *shizai* figures for some of the years for which memorials are missing.

granaries); Hubei (ever-normal figures for 1747–1755);<sup>38</sup> Shanxi (separate memorials on charity granaries); Sichuan for the period 1777–1787; and Yunnan until 1768.

### *Semiclosed Accounting*

In the semiclosed accounting system, the beginning balance (*jiuguan*) figure is higher than the final balance (*shizai*) of the previous year. The reason for this difference is that in this case the “beginning balance” actually corresponds to a *zouxiao* final balance, that is to say, to the amount of grain in store at the end of the previous *calendar* year: the restocking effected since the previous *minshu gushu* final balance (from about the eighth month) has been included. For the same reason, in most cases there is either no “receipts” (*xinshou*) figure or a very low one (for example, in the Shanxi ever-normal accounts for some years). In other words, most of the restocking was done after autumn harvest (i.e., after the calculation of the *minshu gushu* balance) and before the end of the calendar year (i.e., before the *zouxiao* balance).<sup>39</sup> On the other hand, a disbursal (*kaichu*) figure is provided or, if omitted, may be calculated by subtracting the final from the beginning balance; this figure is probably fairly accurate, since most of the disbursements were effected at the beginning of the year, during spring and early summer. An important point, and one which definitely distinguishes the closed and semiclosed systems from the open systems outlined below, is that the disbursal figure explicitly concerns disbursements effected *during the year* covered by the memorial and thus does not include “absent” grain in the form of arrears from previous years. This is usually specified in the wording of the memorials. The Guangxi reports on charity grain offer a particularly clear view of the rationale of the system:

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<sup>38</sup> With slight differences between the *jiuguan* and the previous *shizai* in 1755 (due to the inclusion of the *mi* in the *gu* figures) and in 1756.

<sup>39</sup> The small *xinshou* figures in some of the Shanxi memorials may represent additional restocking effected or reported after the date of the *zouxiao* balance. But in most cases the totality of the year’s restocking must have been reported in the *zouxiao* documents; the 1773 memorial for Jiangxi, for example, mentions some loans “already repaid” but specifies that they were to be accounted for in the next *zouxiao* report.

Beginning balance: [figure]; this figure includes (*nei*) [or, alternatively, “from this figure must be deducted”] the grain loaned during the present year (*ben nianfen*) to the population of each county, namely, [figure], which according to precedent is presently claimed and returned to the granaries with interest; [these receipts] will be accounted for in the *zouxiao* report [at the end of the year]; actually in store: [figure].

This last balance, plus repayments and possibly new contributions, yields the *zouxiao* balance, that is, the beginning balance of the following year.

To summarize, semiclosed systems of accounting present the transactions occurring during the period from the beginning of the calendar year through the eighth month or so. As with closed systems, an annual rate of disbursal may be calculated, in this case by computing the disbursal figure as a percentage of the beginning balance—that is, of the highest level of reserves within the annual cycle, corresponding to the previous year’s *zouxiao*.<sup>40</sup>

The following provinces sent *minshu gushu* and similar memorials using a semiclosed system of accounting: Anhui (probably) from 1762 on; Guangxi (charity granary memorials); Hubei for the 1763–1768 period; Hunan;<sup>41</sup> Jiangxi;<sup>42</sup> and Shanxi (ever-normal and community granary figures).

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<sup>40</sup> In the case of closed systems, the disbursal rate must be based on a comparison of the *kaichu* figure and the sum of the *jiuguan* and the *xinshou* (that is, former balance plus autumn acquisitions, which gives the highest level of reserves in the annual cycle).

<sup>41</sup> The cases of Hubei and Hunan cannot be definitively evaluated because the memorials do not always specify that the disbursals mentioned are only from the current year; in fact, the Hunan memorials from several years (1752, 1754, 1756, and 1765) indicate that the *kaichu* figure includes sales, loans, and relief from both the current year and the preceding year. Thus, Hunan may be an ambiguous (or transitional) case, perhaps to be assigned somewhere between a semiclosed and an open system.

<sup>42</sup> With special problems related to the nature of the *shizai* figure, which will be mentioned below. Also, from 1765 on the disbursals are no longer specified as being “from the current year”; however, there is no mention of arrears.

*Open Accounting*

Open systems of accounting might also be termed “cumulative.” Their basic peculiarity is that both the initial figure, usually called “theoretical reserves” (*ezhu*) or “should be in stock” (*yingcun*)—never *jiuguan*—and the disbursal (*kaichu*) figure to be deducted therefrom include an unspecified amount of outstanding arrears, and thus only partially correspond to the operations actually performed during the year. More precisely, the amount of “theoretical reserves” is the sum of (1) the final balance (or actual stocks, *shizai*) of the previous year’s memorial, (2) the restocking done since (there is no separate entry for receipts in this system), and (3) the outstanding arrears from previous years, both grain not yet bought back (*weimai*) and unrepaid loans (*minqian*). Similarly, the *kaichu* figure (here “disbursals” is not the best translation) to be deducted from the initial one includes (1) sales, loans, and relief from the current year and (2) the same arrears.<sup>43</sup>

The final balance, which is the difference between “theoretical reserves” and *kaichu*, is, in theory, the only figure to indicate actual, usable reserves at an particular point—in this case, before autumn restocking. Inasmuch as the initial and “disbursal” figures are composed of (1) actual stocks, acquisitions, and disbursals from the current year and (2) arrears (that is, absent grain) usually accumulated over an indeterminate number of years,<sup>44</sup> it is impossible to figure out the quantities of grain going in and out of the granaries during any individual year and, thus, to compute a rate of turnover.

One characteristic of the initial figure of “theoretical reserves” in this method of accounting is that it tends to increase regularly over the

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<sup>43</sup> The presence of arrears is mentioned in the *kaichu* figure only and is usually denoted by phrases such as “less sales and loans originally and subsequently reported” (*chu yuanbao xubao tiaojie*), or “from this deduct old arrears from the different years and sales and loans from the current year” (*nei chu genian jiuqian ji bennian jietiao*), or “from this deduct disbursals and arrears due from the people during the successive years” (*nei chu dongyong ji jienian minqian gu*).

<sup>44</sup> Sometimes said to extend over as long as fifteen years: see chapter 6, section on grain loans by ever-normal granaries, for the case of Shaanxi.

years, even when the final balance does not: theoretically, decreases could only result from cancellation of arrears, from the discovery of shortages considered impossible to recoup, or possibly from disbursements (e.g., famine relief, interprovincial transfers) that did not entail an obligation to buy back equal amounts of grain. Another feature peculiar to the open system is that the difference between the initial and final figures tends to be significantly larger than is the case in closed and semiclosed systems, at least as soon as sizable amounts of arrears are included in the accounting and no longer corresponds to the actual annual operations of disbursement and restocking.<sup>45</sup>

The main examples of “open” accounting appear in the memorials from Shaanxi, Zhili,<sup>46</sup> Zhejiang,<sup>47</sup> and Anhui (at least before 1760).<sup>48</sup>

It is not really possible to explain the concurrent use of these three different formats of accounting in the “population and grain” memorials submitted annually to the emperor. In the first place, there is no discernible spatial or temporal pattern to their occurrence (summarized in table 8.4). A single province could present memorials for its different

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<sup>45</sup> See the impressive loan arrears totals in the Zhili statistics, quoted in the same section of chapter 6; in the breakdown of “disbursals” (*dongyong*) and “arrears of the people” (*minqian*), the former (and much smaller) figure refers to unrepaid disbursals, such as those made for relief. See also the Zhejiang figures from the 1750s and 1760s. In other cases, however, the accumulation of arrears could be less important, and, in theory at least, there is a possibility that in some instances most of the *kaichu* figure that was reported did correspond to disbursals of the current year. But the very mention of arrears being included makes this impossible to confirm.

<sup>46</sup> Zhili memorials explicitly characterize their *kaichu* figures as “disbursals of the current year and arrears of the successive years” up to 1764. Thereafter, mention of “the successive years” (*jienian*) disappears, but is obviously implied, *qian*<sup>a</sup> being the current term for arrears.

<sup>47</sup> In the case of Zhejiang, arrears from successive years are only mentioned for the stocks in husked rice during the 1750s; both husked and unhusked rice arrears appear from 1763 on.

<sup>48</sup> During the 1750s, Anhui memorials make explicit reference to arrears, that is, a *kaichu* including disbursals over several years. From 1762 on, this ceases to be the practice, and the *kaichu* figures are consistently lower than their 1750s counterparts. It is quite possible that the system of accounting was changed.

Table 8.4. Accounting Formats in the "Population and Grain Memorials"

Province	Type of granary				Type of accounting			
	all <sup>a</sup>	ever-normal	community	charity	one figure	closed	semiclosed	open
Fengtian	1 <sup>b</sup>				1			
Zhili		1	1	1				1
—				1 <sup>c</sup>				1
Anhui		1					1 (from 1762)	1 (before 1762)
Jiangsu		1			1			
Jiangxi		1					1	
—			1		1 (until 1773)		1 (from 1778)	
Zhejiang	1							1
Fujian	1				1			
Hubei		1				1 (1747–55)		
—			1		1 (1742–56)			
—		1	1		1 (from 1773)		1 (1756–68)	
Hunan		1					1	
—			1		1			
Shandong	1				1			
Henan	1				1 (other years)			1 (1785–87, 1792)
—			1s			1		
Shanxi		1	1				1	
—				1s		1		
Shaanxi		1	1				1	
Gansu		1			1 (other years)	1 (1747)		
—			1s		1			
Sichuan		1	1		1 (other years)	1 (1752–54, 1777–87)		
—				1s		1		
Guangdong	1					1		
Guangxi	1				1 (other years)	1 (1743–51)		
—				1s			1	
Yunnan	1				1 (from 1773)	1 (until 1768)		
Guizhou		1			1			

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> "All" means one aggregate figure for several types of granaries, or coverage unspecified. See table 8.3.

<sup>b</sup> "1" is for figures in *minshu gushu* memorials.

<sup>c</sup> "1s" is for figures in separate community or charity memorials.

types of granaries using different formats of accounting. Changes over time do not reveal any trend. In the *minshu gushu* memorials, at least, the three systems (plus the “non-system” that offers only one “final-balance” figure) simply coexisted. In the absence of more detailed documents, we have to assume that the accounts in all *minshu gushu* memorials were derived from the same operations of daily accounting and the same kind of local data, and that information in the more detailed reports that accompanied them was presented in the same way—only the summaries in the palace memorials differed.

Allowing that the use of the various formats of *minshu gushu* accounting was essentially a matter of local (or rather, provincial) administrative routine and “tradition,”<sup>49</sup> the fact remains that closed and semiclosed systems, on the one hand, and open systems, on the other, had different logical bases and conveyed different types of information to the emperor’s eye. Closed systems permitted the best monitoring of annual operations. They gave an immediate idea both of the profits gained and losses incurred by the system within the year covered by the memorial and of the rate of turnover. On the other hand, the cumulative nature of the figures in open-system memorials permitted an evaluation of the existing reserves (as indicated by the final balance) relative to the “theoretical” stocks suggested by the initial *yingcun* figure (while the beginning balance in closed systems simply reproduced the previous year’s existing reserves). In other words, the discrepancy between the initial and final figures, due to large “disbur-sal” figures that included arrears, allowed an assessment of the workings of the system over the years and highlighted structural deficits.

Although a large part of these accumulated deficits was, strictly speaking, illegal (that is, did not correspond to imperially authorized postponements), the very existence of “open” memorials mentioning

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<sup>49</sup> These “traditions” (maintained, in all probability, by the clerks in the provincial yamen) appear to have been more or less fixed as early as the first *minshu gushu* memorials of the early 1740s. Thereafter, changes were comparatively rare. It may be noted that the edicts that instituted the *minshu gushu* reports did not specify any format for the presentation of the figures.

them confirms that such deficits would be tolerated as long as they were not concealed; on the other hand, the deficits apparent in open accounting served as a reminder that things were not being run ideally, which might precipitate a provincewide investigation into the exact nature and magnitude of arrears and perhaps lead to a major restocking campaign.

#### THE NATURE OF THE "FINAL BALANCE" AND THE PROBLEM OF ARREARS

As we can see from the evidence above, the only figure common to all three systems of accounting—and the sole figure provided in the memorials from a number of provinces—is the *shizai* final balance, supposed to represent actual stocks as of the eighth month or so. This figure is, therefore, the only one usable if comparisons between provincial stocks are attempted and if a national total is to be calculated.

In one sense, a figure for the highest level of reserves within the annual cycle would have been a better indication of the quantities of grain available each year. We have seen that this figure, which corresponds more or less to the *zouxiao* balance at the end of the calendar year, can only be obtained when closed or semiclosed accounting is used in the *minshu gushu* memorials.<sup>50</sup> Even then, however, the figure is not entirely reliable. Although annual restocking was supposed to be done during late autumn and early winter,<sup>51</sup> it was in fact sometimes effected earlier or later. As has been noted above, early restocking

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<sup>50</sup> Or from other occasional evidence: for example, comparison with *minshu gushu* documents shows that the list of figures—one per province—dating from 1763–1766 in *WXTK* (37.5205–6) is composed of *zouxiao* balances.

<sup>51</sup> This was specified by some further regulations. Thus, an entry of 1727 in *HDSL* (1899 ed.), 192, *hubu, jichu, pancha cangliang*, ordered that repayment of loans of ever-normal grain be completed within the tenth month. The buying back (*maibu*) of grain sold during the previous spring was probably similarly to be completed within prescribed deadlines: a decision of 1731 confirmed a proposal by the Hunan governor that the prefects' and intendants' reports on restocking be sent no later than the end of the tenth month (*ibid.*); and an entry of 1733 (*ibid.*, 191, *hubu, jichu, maibu canggu*) specified that in Guangdong restocking must be initiated during the ninth month (or possibly earlier) and completed within two or three months, depending on the quantities to be bought.

occurred in north and central China after good wheat harvests; such acquisitions, in contrast to the regular autumn restocking, were probably accounted for in the eighth-month *shizai* balance. On the other hand, when prices were deemed too high, autumn restocking could be delayed until after the date of the *zouxiao* balance. Several decisions from the beginning of the Qianlong reign allowed postponing buying back grain sold in the spring until the following “annual cycle,” either during the next spring in neighboring counties, or taking advantage of the next wheat harvest (fifth or sixth month),<sup>52</sup> or else waiting until the next autumn harvest.<sup>53</sup> In other words, the situation was in a state of perpetual flux, and the timing of granary operations did not necessarily coincide with the theoretical schedules; nor were these operations always completed within the annual cycles covered by the *minshu gushu* and *zouxiao* reports.

Be that as it may, the eighth-month (or so) *shizai* figures of necessity form the bedrock of our statistics. Although these figures may be characterized—allowing for the caveats just made—as “actual reserves in store, after disbursements and before restocking of the year,” some questions do remain. The main one is whether arrears, that is, absent grain, are included. A second question, which at first glance seems to concern only one province, is, whether the disbursements have been duly subtracted to get the *shizai* figure.

The latter question, which we will examine first, is prompted by a series of *minshu gushu* memorials from Jiangxi Province that make a distinction between disbursements from “extra-quota grain” (*yigu*<sup>a</sup>, or *yi’egu*), not to be bought back, and disbursements from quota grain, to be bought back or repaid in kind. While the former were duly deducted from the

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<sup>52</sup> In both cases, therefore, it would be done before establishing the following year’s eighth-month balance. See the decision of 1738 in *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*. See also Hubei governor Zhang Ruozhen’s 1754 memorial (ZP, *GZD*: QL 006120 [19/3/27]), which shows that a program of acquisitions could be pursued into late spring if prices were not on the rise.

<sup>53</sup> That is, after the calculation of the next year’s eighth-month balance. See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*, decisions of 1735, 1737, and 1738.

*jiuguan* (beginning balance) figure to calculate the *shizai* (final balance), the latter were described as grain “which it is not necessary to deduct” (*ying wuyong kouchu*), since these disbursements would be made up during the following autumn. As a consequence, such *shizai* figures cannot be considered a measure of real grain, since they include figures for grain that, although it did not consist of arrears, strictly speaking, was nevertheless absent. In short, this quantity of disbursed quota grain must be deducted to get a real eighth-month *shizai* comparable to those of other provinces (and even from Jiangxi memorials of other years).

The situation becomes clearer when the full Jiangxi statistics (which also vary in format over the years) are reproduced. The columns in table 8.5 show, in order, the previous year’s eighth-month “final balance” (*shizai*, in this case termed *suidi zoubao an*); the previous end-of-year balance, termed *zouxiao an* (in this case taken as a “beginning balance,” *jiuguan*);<sup>54</sup> the acquisitions (*xinshou*) of the current year, that is, post-*zouxiao*; the disbursements (*kaichu*) from extra-quota grain, i.e., not to be restocked; what in these memorials is called “grain actually in store” (*shicun gu*), which we may call a pseudo-*shizai*, since it includes the next item: the disbursements of the current year, taken from quota grain, to be restocked but “not necessary to deduct”; and, finally, the reconstructed “real” *shizai*, obtained by deducting the disbursements just mentioned from the pseudo-*shizai*.

Obviously, the figures in this table to be taken as real, comparable eighth-month *shizai* are those in the last column,<sup>55</sup> which we have been obliged to recalculate down to 1778. The difference between these recalculated figures and the pseudo-*shizai* in the memorials is sometimes considerable. It is not impossible that the *shizai* of other provinces (especially those that give only one figure and no accounting) were also sometimes pseudo-*shizai*, although this is not provable. There is reason for strong suspicion concerning figures from Henan Province: in 1785–1787, the total holdings are presented in a three-column, open-accounting

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<sup>54</sup> After 1756 the figure is given without any specification, but it plainly continues to be a *jiuguan* in semiclosed accounting.

<sup>55</sup> With the exceptions of 1763–1764, 1768, and 1773.

Table 8.5. Jiangxi Statistics in Selected Years of the Eighteenth Century (in *Shi*)

Year	Previous year final balance	Beginning balance	Acquisitions	Disbursals from extra-quota grain	"Actually in store"	Disbursals of current year	Reconstructed final balance
1751		1,498,124	234	129,191	1,369,167	400,791	968,376
1752	1,369,167	1,264,678	223	71,773	1,193,128	256,873	936,255
1753	1,193,128	1,378,376	—	405	1,377,971	21,749	1,356,222
1754					1,180,549 <sup>a</sup>		
1755	1,180,549	1,379,365	—	2,313	1,377,052	23,863	1,353,189
1756	1,377,052	1,180,411	—	9,137	1,171,273	380,485	790,788
1763		1,345,450	—	12,892	1,332,558 <sup>b</sup>		
1764		1,375,503		87,522	1,287,981 <sup>b</sup>		
1765		1,330,630		4,577	1,326,053	500,684	825,369
1767		1,341,921 <sup>c</sup>		569	1,341,353	52,705	1,288,647
1768		1,323,618		55,790	[1,267,828] <sup>d</sup>		
1773		1,356,572	8,141 <sup>e</sup>	9,161	[1,347,411] <sup>d</sup>		
1778		1,389,131	4,480		1,393,611	98,650	1,294,961
1781		1,383,496	3,216		1,386,711	19,821	1,366,891 <sup>f</sup>
1782		1,381,358	7,950		1,389,308	12,691	1,376,617 <sup>f</sup>
1783		1,371,478	3,770		1,375,249	46,462	1,328,787 <sup>f</sup>
1786		1,339,515	1,469	133	1,340,983 <sup>g</sup>	41,215	1,299,635 <sup>f</sup>

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> There is no memorial for 1754. The pseudo-*shizai* has been reconstructed from the *suidi zoubao an* of 1755.

<sup>b</sup> The 1763 and 1764 disbursals are quota grain to be restocked and have been duly deducted from the beginning balances. Hence, the figures "actually in store" are real final balances.

<sup>c</sup> This beginning balance is the same as the *zoubao* (i.e., *zouxiao* in this case) balance for 1766 as given in the *WXTK*.

<sup>d</sup> The disbursals figures of 1768 and 1773 consist of grain to be bought back. The real final balances, here recalculated, are not given in the memorials.

<sup>e</sup> This figure represents grain already restocked, but which will not be accounted for before the *zouxiao* balance; it has therefore not been added to the beginning balance in the calculations.

<sup>f</sup> These *shicun* figures are explicitly given in the memorials: from 1779 on, the accounting is an ordinary semi-closed one, the figure "actually in store" being an intermediary one after post-*zouxiao* restocking and before disbursals.

<sup>g</sup> This intermediary figure was obtained before deducting the non-quota disbursal.

format in which the beginning balances (including arrears), not the final *shizai*, are of the same order of magnitude as the large “*shizai*” figures presented without any accounting detail in the memorials from the preceding years. The latter might therefore be pseudo-*shizai* including absent grain, be it arrears or current-year disbursements. In the absence of conclusive proof, however, we shall continue to consider the “final balances” given in the *minshu gushu* memorials—with the exception of the Jiangxi pseudo-*shizai* analyzed above—as having been calculated by subtracting the disbursements from the beginning balance plus receipts.

Now let us turn to the problem of arrears, that is, absent grain from previous years not yet rebought or repaid. For the sake of clarity, two different kinds of arrears should be distinguished, namely, reported arrears and hidden arrears. By definition, reported arrears appear somewhere in the accounting but not necessarily in the “population and grain” memorials.<sup>56</sup> We have seen that in the case of open accounting they are included in both the initial figure of “theoretical reserves” and in the second one of “disbursements,” although in most cases it is not made clear what portion of these figures they represent (the main exception is the Zhili statistic analyzed above in table 6.1). But what about closed and semiclosed systems of accounting, which in theory limited themselves to the operations of the current year? In at least one case—Shanxi Province—the memorials<sup>57</sup> duly recorded arrears,<sup>58</sup> putting them “outside” (*wai*) the three- or four-column presentation and ritually asserting

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<sup>56</sup> A proposal of 1772 emphasized the necessity of duly recording arrears in buying back (*weimai*, or *huanmai*) when preparing the annual reports (*baoxiao*): “From now on, at the time of reporting grain bought back during the current year, the arrears of the preceding years should be compiled into a detailed register (*qingce*) specifying, for each year, how much grain has been newly bought back (*xumai*), how much money has been expended on transport costs, and how much grain remains in arrears. This register should be sent to the Board [of Revenue] along with the register reporting acquisitions for the current year.” See *HDSL* (1899 ed.), 191, *hubu, jichu, maibu canggu*.

<sup>57</sup> Both the *minshu gushu* and the separate memorials for *yicang*. The latter, at least during the first few years, specified the origin and year of each item within the *xinshou* and *kaichu* columns, for both principal and interest grain.

<sup>58</sup> Both unrepaid loans and *pingtiao* grain not yet bought back.

that they were in the process of being recovered or bought back (figures are given in table 8.6). To the extent that they can be taken at face value, these figures show remarkably low amounts of arrears as compared with “actual” balances, and indicate a capacity to reduce arrears rapidly when they happen to reach exceptional levels (as in 1763–1765). In theory, such data provide us with an image of granary workings that leaves nothing in the dark. It is probable that comparable data were given in the more detailed registers appended to the *minshu gushu* memorials, but the memorials themselves, with the exception of those from Shanxi, are silent or insufficient regarding arrears, and consequently an important part of the accounting, what we shall call the “backlog” of arrears, escapes us.<sup>59</sup>

However, the above does not account for hidden arrears. These appear to have been a more or less permanent feature of the system, although it is usually impossible to ascertain when and where they occurred and to what extent. A further distinction may be introduced here, between what we would call “legal” hidden arrears on the one hand, and clearly illegal ones on the other. The former essentially consisted of grain that, despite its inclusion in the *shizai* column of the accounts, did not physically exist but had been replaced by its money-equivalent, the silver being kept in the county seats or even regularly remitted to the provincial treasury. In good practice, such *weimai* (“not yet bought”) quantities, which may be dubbed “paper-grain,” should have been declared as arrears,<sup>60</sup> but this was far from uniformly the

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<sup>59</sup> The figures on Shandong Province analyzed in chapter 10 reveal that the arrears (which were quite large most of the time) were *not* included in the *minshu gushu* figure of *shizai* reserves but were reported separately, in another document. Close study of these Shandong documents also indicates that, in administrative parlance, outstanding loans and silver-grain were treated as being “about to become actual reserves,” pending next autumn’s harvest results.

<sup>60</sup> This was ordered in a communication from the *hubu* stating that “in every province, all unrepaid loans and not yet repurchased sales must be accounted for in the *kaichu* figure, and the procedure must be consistent everywhere.” This regulation, quoted, for example, at the beginning of the Jiangsu *minshu gushu* memorials, must have been promulgated shortly after the 1740 edict on population and grain figures.

Table 8.6. Arrears in Shanxi Province, 1741–1788 (in *Shi*)

Year	Ever-normal and community			Charity		
	final balance	arrears	%	final balance	arrears	%
1741*	1,760,631	5,314	0.30			
1747	1,897,279	130,176	6.86			
1751	2,005,466	35,289	1.76	85,601	9,250	10.81
1752	1,913,920	23,040	1.20	86,502	3,089	3.57
1753	1,675,127	117,105	6.99	85,951	25,895	30.13
1754	1,854,224	5,109	0.28	110,934	596	0.54
1755	1,851,949	4,147	0.22			

	Ever-normal			Community			Charity		
	final balance	arrears	%	final balance	arrears	%	final balance	arrears	%
1756	1,321,018	6,024	0.46	204,545	4,651	2.27	56,928	5,844	10.27
1763	1,329,592	241,614	18.17	387,700	2,007	0.52	162,893	1,049	0.64
1764	1,487,157	201,377	13.54	384,819	3,453	0.90	153,988	2,998	1.95
1765	1,622,740	80,667	4.97	375,419	2,417	0.64	157,459	2,681	1.70
1767	1,842,025	25,628	1.39	407,834	78	0.02	176,074	93	0.05
1768	1,837,307	22,200	1.21	408,162	105	0.03	174,215	997	0.57
1773	1,850,785	36,021	1.95	472,117	—	—	190,269	1,743	0.92
1777	1,907,050	10,532	0.55	316,768	—	—			
1778	1,702,987	19,383	1.14	242,566	—	—	119,628	1,520	1.27
1779	1,693,024	87,914	5.19	269,122	—	—			
1781	1,864,847	21,569	1.16	360,455	—	—	176,368	227	0.13
1782	1,874,098	11,500	0.61	362,664	—	—	169,092	213	0.13
1783	1,981,772	11,740	0.59	440,766	—	—	201,304	355	0.18
1784	1,485,906	59,893	4.03	275,648	—	—			
1785	1,407,908	107,424	7.63	197,869	—	—			
1786	1,444,769	[illegible]		232,549	—	—			
1787	1,470,185	154,037	10.48		—	—	151,590	201	0.13
1788							150,740	5,168	3.43

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

\*The memorial for 1741 does provide a breakdown between ever-normal and community. The respective percentages of arrears are 0.09 and 1.23.

case: officials at every level tended to be content with verifying that the total of actual grain *plus* money-equivalent presented no shortage, reporting the whole as a “final (actual) balance.” One of the aims of the special investigations regularly called for by the central government was to assess the amount of real grain actually in storage, and to press officials to make up the deficit with purchases. As for illegal shortages—grain that had been embezzled locally or lost or sold off the record for cash—these were carefully concealed from higher officials and were still more difficult to detect.

Together, legal and illegal hidden arrears could create situations like that illustrated by a couple of memorials concerning Zhili Province in 1832.<sup>61</sup> One announced that, once deficits due to free distributions (*dongque*, meaning essentially famine-relief) and to forgiven loans or arrears (*huoque*) had been deducted, the ever-normal granaries of Zhili stored no more than 480,000 *shi* of grain; but a second memorial specified that this was only an accounting *zouxiao* figure, and that an investigation into real reserves, which had so far collected information from seventy-seven counties, revealed actual holdings that were sometimes no more than 40 percent of the reported stocks. Furthermore, an edict quoted in the same source mentioned that a special investigation during the summer of the same year (1832 was a year of drought and bad harvests in Zhili) in Shuntian Prefecture had revealed that only ten counties still had any grain in store, and certainly not up to their quotas, while the rest had not a single seed. The edict concluded as usual, that this discovery raised many doubts concerning the situation in the rest of the provinces.

In chapter 6 we analyzed why and how such arrears and shortages occurred and accumulated; the object here is to assess their statistical consequences. Of course, hidden arrears are not, by definition, apparent. However, it sometimes happens that their impact on the reliability of statistics is suddenly made clear by special, provincewide investigations. Such investigations were often followed by sharp drops in the figures of both theoretical and actual reserves; the difference between

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<sup>61</sup> Quoted in *Huangchao shihuo*zhi, *cangchu*, 24.

the new, “real” figure and the figures of the preceding year gives a clue to the extent of the hidden arrears hitherto reported as actual reserves. Only the corrected figure is known for sure—assuming, of course, that the investigations have been thoroughly done: although it casts doubt on the whole series of accounts from the preceding years, it is impossible to track with any degree of precision when the deficit became significant and how it developed.<sup>62</sup> It is only certain that the figures for an unknown number of years leading up to the investigation must be adjusted downwards. Similarly, even if the figures immediately following the investigation may be considered comparatively reliable, it is very probable that the accumulation of new arrears will begin sooner or later. A final problem is that the deficits revealed in these investigations are provincial deficits; only a detailed knowledge of the figures for each county would permit a confident assessment of the reality behind the statistics.

As we saw in chapter 7, sharp drops in figures for reserves occurring on the heels of major investigations were particularly prevalent during the 1780s and 1790s. Zhejiang provides an outstanding example. The *minshu gushu* memorial of 1786 first gave a final balance of 2,151,533 *shi*, which consisted of theoretical (*e*) reserves minus sales and loans of the current and previous years. This figure, which was in line with those of the preceding years, was termed grain that “should be in store” (*yingcun*).<sup>63</sup> Then the memorial added, “The recent investigation campaign (*qingcha an*) has revealed that this includes a shortage of 1,351,692 *shi* of grain not yet bought; if we take into account 114,228 *shi* of grain restocked after the [present] check (*pancha*), this results in a real figure of 914,069 *shi*”—in other words, less than half the amount recorded before the investigation. A five-year restocking plan was consequently decided upon. In 1787, the corresponding figures were 2,112,185 *shi* in the *yingcun* category, 1,237,464 denoted

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<sup>62</sup> Deficits could either have developed through a gradual accumulation of arrears, or have resulted abruptly from unusual disbursements and obstacles to restocking.

<sup>63</sup> The meaning of the phrase *yingcun* in this case is to be distinguished from its usage as “beginning balance” in open accounting.

“deficit,” 384,182 *shi* of restocked grain, and 1,298,251 in real reserves. Strikingly, the figures reproduced in the *Quanguo fensheng minshu gushu qingce* for the same years more nearly approximate to *yingcun*, as opposed to the figures of real reserves, yet again casting doubt on the method by which this register was compiled.<sup>64</sup> A similar general investigation is mentioned in the Jiangxi memorial of the same year (1786), but the deficit concerned was much smaller, the equivalent of 43,300 taels. The general investigation conducted in Fujian in 1795, however, reportedly unveiled a very large deficit of 2,198,000 *shi*.<sup>65</sup>

The case of Zhili is an intriguing one, possibly comparable to those just mentioned, although we have so far found no precise mention of an investigation being conducted there. In the detailed table of Zhili figures, we note a very sharp drop in the initial “theoretical reserves” (as well as in the final balances) between 1781 and 1782, so much so that the “theoretical reserves” of 1782, which include arrears even greater than those recorded in 1781, are lower than the final balance of 1781 by some 470,000 *shi*.<sup>66</sup> As this is theoretically impossible in an “open” system of accounting, one is tempted to conjecture that large hidden shortages had been discovered that would take time to make good.<sup>67</sup> Another example is the previously cited investigation of 1797–1798 in Guangxi Province,<sup>68</sup> which brought to light

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<sup>64</sup> On the nature of the *Quanguo fensheng minshu gushu qingce*, see note 31 above. Another example of the *qingce* statistics contradicting other evidence is the Gansu figure for 1789—namely, 3,164,224 *shi*—which contrasts with the much lower figure of 1,900,000 *shi* mentioned in a memorial of the ninth month of the same year: see Shaan-Gan governor-general Lebao, ZP, GZD: QL 058243 (54/9/13). There are other, perhaps less decisive, examples.

<sup>65</sup> See Min-Zhe governor-general Guiliang and Fujian governor Wu Wenrong, ZP, GZD: DG 003483 (19/12/12).

<sup>66</sup> See table 6.1.

<sup>67</sup> According to the 1786 annual memorial on deficits sent in by Zhili governor-general Liu E (ZP, GZD: QL 049995 [52/1/23]), there had been at some previous date an investigation (*qingcha*) followed by a “pardon of past faults” and a program of deficit-repaying and grain purchases, on which he was now reporting.

<sup>68</sup> See chapter 6, section on “silver-grain.”

considerable “legal” arrears of real grain: actual reserves amounted only to 533,254 *shi*, compared with reported reserves of 1,528,966 *shi*. These arrears, as we have seen, were attributed to subventions to the military during the Vietnam campaign of 1787–1789, some ten years before. Yet, the Guangxi figures from 1789 through 1795 in the *Quanguo fensheng minshu gushu qingce* remained in the range of 1,700,000–1,800,000 *shi*. Incidentally, the total lack of statistics in any province for the period 1796–1812, as well as for three years between 1812 and 1820 (see appendix table A.2), is particularly to be regretted, as this was a period of considerable problems in the granary system and of painstaking efforts to uncover and make good the deficits.<sup>69</sup>

Finally, we must mention the general investigation of 1835 into arrears and deficits, which revealed a total of eighteen million *shi* of missing grain, compared with some twenty-four million in actual stocks.<sup>70</sup> This also calls into question the *Minshu gushu qingce* figures, which remain remarkably stable during the entire 1830s, with no significant change after 1835, and invariably total some thirty million *shi* or more.

A further point must be made about the possibility of distortions in the compilation of *shizai* (as well as other) figures. The figures we have are provincial totals, with no breakdown by prefecture or county. The problem of hidden arrears or otherwise inaccurate reports notwithstanding, can we be certain that *all* administrative units regularly sent figures and were represented in the totals? The available evidence permits no answer, but the fact is that non-reporting is a possibility, as population records testify. When they had to compile figures from incomplete lists, provincial authorities either ignored the missing data—thereby producing incomplete totals—or filled in the gaps with the most recent data available, sometimes several years old—thus producing inaccurate or unrealistic totals. These possibilities must be borne in mind when considering provincial statistics, especially those from the later period

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<sup>69</sup> As is extensively documented in numerous memorials and other evidence from the same period.

<sup>70</sup> See *HDSL* (1899 ed.), 192, *hubu, jichu, yubei cangchu*.

when we know that there was a growing laxity in local book-keeping and that official discipline was on the wane. Indeed, even at the national level, as we can observe in appendix table A.2, the *Shilu* totals of more than a few years were the sum of incomplete lists of provincial figures.<sup>71</sup>

The vagaries of statistical compilation in premodern China are sometimes perplexing to the historian. While the same might also be said of the statistics produced by any modern country, in the Chinese case we can perhaps detect a tension between different attitudes and goals on the parts of those who ordered the statistics and those who produced them. On the one hand, a precise knowledge of what was actually in store and available in time of need was considered desirable by the ruler: as we have seen, this is the gist of the decision in 1740 to institute the “population and grain” memorials. On the other, this information would have been readily available through the regular channels had local officials compiled their figures with the accuracy and regularity required by administrative law; but administrative accounting was largely a matter of routine and was carried out by bureaucrats concerned with the tranquil and orderly perpetuation of their own habits and practical compromises. This is why the system had a tendency to become entrapped in its own logic, as illustrated by the attention given to internal consistency in the sets of figures that were transmitted and verified throughout the hierarchy and by the use of various devices to conceal, or present in an acceptable form, situations resulting from laxity, irregularities, local practices, or simply, the difficulty of implementing the prescribed operations. The resulting figures sometimes presented serious discrepancies with the reality in treasuries and granaries, which led to drastic readjustments in official figures when major investigations were conducted.

The multilayered and partially autonomous system of checks and controls described in chapter 7 was, of course, a response to these

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<sup>71</sup> See, for example, the years 1795 (Fujian and Hunan missing), 1816–1820 (Fujian missing), 1821–1822 and, possibly, 1823–1824 (Jiangsu and Fujian missing), 1827 onward (Fujian missing).

tendencies. As we have seen, it was able, up to a point, to prevent the accounting machine from drifting too far away from its prescribed objectives. The final figures produced by the system cannot by any means be dismissed as pure fiction, and only in a limited number of cases are they distorted to the point of being completely useless to the historian. In fact, guessing the *range* of possible error must at least be attempted, and if this is done with enough ingenuity, considerable information can be extracted from the quantitative evidence on hand, as we believe this book proves. But it should be clear that the provincial figures we have were in the majority of cases the outcome—or the sum—of compromises and approximations. For this reason they can never be considered as perfectly reliable, and skeptical scrutiny is an absolute necessity.

#### THE NOTION OF “QUOTA”

The word *e*, usually translated as “quota,” appears quite frequently in granary as well as other accounts and related materials. Upon careful examination, it becomes obvious that the term had more than one meaning or use, and these are not always absolutely clear or devoid of ambiguity. Although it is probable that this ambiguity often results from our insufficient understanding of accounting mechanics, we suspect that sometimes there *was* a degree of laxity in the use of this and other terms by administrators and memorialists. In any case, the following discussion of quotas presents hypotheses rather than firm conclusions.

One thing seems relatively sure: a basic distinction must be made between *e* meaning “fixed quota” (or, better, “target,” sometimes specified as *ding’e*), on the one hand, and, on the other, its use to refer to “theoretical reserves” or the like—that is, an “original” or “beginning” figure (sometimes specified as *yuan’e*) from which an “actual” or “final” one could be calculated. We have already alluded to this term in the latter sense in the section above on open accounting. These figures were accounting devices and did not represent actual stocks, though they were the result of actual operations (or decisions) of acquisition and disbursal and corresponded to the quantity of grain that would have been physically present if each program of buying had been completed, if each *shi* lent or sold had been returned to the granary, and

if there were no spoilage at all. These circumstances, it goes without saying, rarely, if ever, prevailed since they would have meant a total absence of arrears and in any case would be limited to the short period between the completion of restocking and the beginning of new disbursements (a period which did not even exist when the two types of operations overlapped).

“Target” quotas, by contrast, were the product, not of an accounting procedure, but of an administrative decision fixing the amount of reserves deemed desirable, at some point in time, within a given administrative unit. We will see that these targets were fixed at various times, in the form either of ranges of desirable reserves, set according to county size and importance, or of provincial totals representing the sum of the local targets. The county ranges varied widely from province to province and were more than once readjusted, especially during the first half of the eighteenth century.<sup>72</sup> A consistent list of provincial totals was drawn up for the first time in 1748, when it was decided to bring the reserves in most of the provinces back down to the Yongzheng levels. Thereafter, some adjustments—almost always increases—were made, generally at the county or prefectural level, to take into account changes in administrative geography (such as the creation of new counties or prefectures), or in response to new needs (as in densely populated prefectural towns or frontier areas). Although the only overall adjustments of provincial targets mentioned in the sources, to our knowledge, concerned Hubei in 1753, Shanxi in 1760, and Fengtian in 1762,<sup>73</sup> in other cases the cumulative increases in local targets could be considerable.<sup>74</sup>

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<sup>72</sup> See below, chapter 9.

<sup>73</sup> See, respectively, *WXTK*, 37.5198, 5202, and 5203. In Hubei an increase of 400,000 *shi* was decided upon to facilitate transfers outside the province; this new item, termed *jiazhu gu* and accounted for separately, later seems to have been incorporated into the quota proper. Shanxi’s target was raised from 1,300,000 *shi* to 1,800,000 *shi*, while the increase in Fengtian was 200,000 *shi*.

<sup>74</sup> The main examples are Shaanxi, where the 1831 list of quotas (see below) includes *jiazeng* (“additional”) figures in a number of counties, amounting to a total of 415,460 *shi*; and Gansu.

One characteristic of the local targets set at the beginning of the eighteenth century is that they are rounded to the nearest thousand. The 1748 provincial targets, on the other hand, are only exceptionally rounded (see table 8.7). One possible explanation, supported by the 1776 and 1831 lists analyzed below, is that they were the sum of rounded local targets of the type just mentioned and of unrounded figures. We know this to be true in the case of Hunan, where round county targets added to that of *one* county having a quota of 5,133 give a total of 702,133 *shi*. Such complex local figures may have resulted from the decision to adopt the figure of existing (or possibly theoretical) reserves as a suitable target—or rather “established quota,” in this case. This means of fixing targets was actually adopted for three entire provinces in 1748, namely, Fujian, Guangdong, and Guizhou, where reserves larger than the Yongzheng targets were deemed vital but whose early Qianlong targets were considered a little too high.<sup>75</sup>

It is clear that during the decades following the fixation of the 1748 quotas and the temporary policy of limiting stocks so as not to encourage price increases,<sup>76</sup> the drive toward amassing ever greater reserves continued unabated in a number of provinces: even when the original targets remained the same, new programs of buying were embarked upon (usually to take advantage of bumper crops), contributions were more or less regularly solicited, transfers of tribute grain were effected, and so on. As a result, the level of theoretical reserves (*ezhu*, or *yingcun*), as defined above—and, in some cases, of actual reserves as well—could rise well above the original targets.<sup>77</sup> A typical example comes from Zhili, which in the 1760s had, according to its *minshu gushu* memorials, theoretical reserves of ever-normal grain ranging

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<sup>75</sup> See the decision fixing the 1748 targets in *HDSL* (1899 ed.), 190, *hubu, jichu, changping gushu*.

<sup>76</sup> See chapters 3 and 6.

<sup>77</sup> This was at variance with the original policy of selling any grain above the local targets of 10,000–8,000–6,000 *shi* fixed in 1704 and returning the money to the provincial treasury (see *WXTK*, 34.5173).

from some 3 million to more than 4.5 million *shi*, whereas its target remained below 2.2 million *shi*. As far as actual (*shizai*) reserves are concerned, *minshu gushu* memorials show that in important exporting provinces such as Hunan and Sichuan the targets fixed at mid-century appear to have rapidly become obsolete; the same applies to the developing southwest (Yunnan, Guizhou, and, later, Guangxi). Other provinces, however, apparently had difficulties attaining their targets (for example, Anhui, especially regarding *shizai* figures) or even remained consistently below them, in terms either of *shizai* (Shandong and Jiangsu) or, worse, of “theoretical” reserves (Zhejiang).

These examples suggest that targets or established quotas, although preserved in the literature as “precedents,” gradually became irrelevant to the actual policies of state storage during the second half of the eighteenth century. As we will see in more detail in chapter 9, reserves in developed and commercialized “central” provinces—with the exception of metropolitan Zhili—remained at comparatively low levels, while exporting and peripheral provinces saw regular increases.

Before trying to assess the nature of the figures given in the 1776, 1818, and 1831 lists of quotas, which are only partly comparable to the 1748 list, we must examine the notion of “extra-quota grain” (*yigu*, or *yi’e gu*), a term which appears rather frequently in the sources. In general, it seems that extra-quota figures indicate quantities in excess of theoretical reserves, not target figures.<sup>78</sup> Such surpluses typically occurred when the prices after autumn harvest were low enough for the proceeds of the previous spring sales (*gujia*) to permit buying more grain that had been sold: the difference was called *yi’e gu* and could be stored, with separate accounting, as a provision for less favorable

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<sup>78</sup> An exception is Hunan Province, where a reserve of *yi’e gu* was created when the provincial target was lowered in 1748.

times,<sup>79</sup> transferred to another province,<sup>80</sup> or sold. In the last case, the silver was sometimes used to meet management costs,<sup>81</sup> but was more commonly sent to the provincial treasury and integrated into the provincial budget (*guikuan*, or *chonggong*). The profits thus realized through the regular operations of selling and buying were usually termed “surplus silver” (*yingyu yin*) and could be used to make good deficits within the province.<sup>82</sup>

<sup>79</sup> For example, such local reserves of *yi'e gu* are mentioned in Shaanxi in 1753: see Shaanxi governor Zhongyin, ZP, *GZD*: QL 005154 (18/11/22); in this instance the grain had been husked and sent to Xi'an for loans to the troops. Other examples are found in Hubei and Sichuan in the 1750s. According to Hubei governor Zhang Ruozhen (ZP, *GZD*: QL 011692 [21/4/15]), 110,000 *shi* of Hubei *yi'e gu* had been used to help build up the new reserve (*jiazhu*) of 400,000 *shi*. In general, the existence of extra-quota reserves in some counties was not incompatible with deficits in other localities. Intercounty transfers were the decision of the provincial government and were designated *tongrong*. It should be noted, however, that according to a decision of 1735 (recorded in *HDSL* [1899 ed.], 191, *hubu*, *jichu*, *maibu yunfei*), the surplus (here called *yingyu*) generated by the selling-and-buying operations, although subject to reporting by the magistrates, might be kept locally for sales and relief; superior officials were prohibited from appropriating these surpluses from county magistrates.

<sup>80</sup> See Shaanxi governor Heqizhong, ZP, *GZD*: QL 020476 (30/5/12).

<sup>81</sup> According to an entry of 1738 in *HDSL* ([1899 ed.], 191, *hubu*, *jichu*, *maibu yunfei*), the funds for transporting grain to and from the countryside during the selling and repurchasing operations were to be borrowed from the provincial treasury, then repaid with *yingyu* money. Another entry of the same year notes that *yingyu* money could also be used to meet transport costs when buying grain outside the county. There was also the possibility of asking for *yingyu* from other counties or, more simply, requesting funds from the provincial treasury.

<sup>82</sup> There are numerous references to such surplus silver in the sources. For an example, see Hunan governor Liu Yong, ZP, *GZD*: QL 040339 (46/12/16), who stated that at the end of 1781 Hunan had accumulated 68,001 taels of *yingyu yin*, the normal use of which was “for meeting expenses when buying back deficit grain” (*liu chong que'e maibu zhi xu*). The governor of Shaanxi, Bi Yuan (ZP, *GZD*: QL 042071 [47/7/12]), distinguished two separate sorts of surplus silver in his province, called “price of extra-quota grain” (*ying'e liangjia*) and “price of surplus grain” (*yingyu liangjia*), both being deposited with the provincial treasury. The former was said to come from frontier prefectures and to be intended for making up reserves in counties suffering from deficits; the latter consisted more specifically of the surpluses generated through the sales and purchases in individual counties and served to compensate for insufficient “price” at the time of

Extra-quota grain could also result from the decision to take advantage of unusually low prices to buy grain independently of the routine operations of ever-normal granaries. Such was the case in Shaanxi in 1756, a year during which, in spite of bumper crops and collapsing prices, little buying back of ever-normal grain was scheduled. The “extra-quota reserves” (*ewai beizhu*) thus acquired were destined for Gansu and the frontier areas. Accumulations of nonquota grain, it should be noted, could coexist with actual deficits in the individual granaries due to loan arrears, since loans accounted for a very large part of the disbursements in Shaanxi (hence, the low quantities of grain actually to be bought back).<sup>83</sup>

The common characteristic of all extra-quota reserves was that they did not have to be restocked after disbursement, as was the case with grain accounted for as “theoretical reserves” (*ezhu*). We have seen earlier that this distinction is clear in several *minshu gushu* memorials from Jiangxi, which have a special entry for disbursed *yi’e gu* and specify that it need not be bought back.<sup>84</sup> To summarize, the concept of *e* applied to everything within an autarkic, self-contained system of accounting that permitted no losses except by special exemption. However, reserves not a part of the *e* system could either be redirected into the system to compensate for deficits or used for other, external purposes (such as aiding a neighboring province); when exhausted, extra-quota reserves either disappeared from the record or were replaced with the occasional surpluses generated by the *e* system proper.

Let us now turn to the comprehensive lists of provincial “quotas” other than the 1748 list of provincial targets already referred to, and to the

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restocking. Variants of such terminology appear in the sources, the exact meanings of which are not always perfectly clear.

<sup>83</sup> See Shaanxi governor Lu Zhuo, ZP, *GZD*: QL 012692 (21/9/9).

<sup>84</sup> Note that, inasmuch as Jiangxi’s were semiclosed accounts, the *jiuguan* and *shizai* totals represent grain actually stored at some point in time (keeping in mind the special problem we have mentioned for *shizai*) and thus may include both quota and extra-quota grain, which is not the case with respect to the *yingcun* or *ezhu* headings in open systems.

various problems they raise. There are three such lists known to us: one appears as *juan 27* of the 1776 edition of the *Hubu zeli* (Precedents of the Board of Revenue); one appears in the 1818 edition of the *Collected Statutes* of the dynasty (*Da Qing huidian*); and one appears as *juan 18* of the 1831, 1850, and 1865 editions of the *Hubu zeli*. The *Hubu zeli* lists are in fact provincial tables (*biao*) providing individual county figures but no totals: we have therefore recalculated the provincial figures.<sup>85</sup> The county figures of the nineteenth-century editions also appear, although only for a certain number of provinces, and not in tabular form, in the 1899 edition of the *Collected Statutes and Precedents*.<sup>86</sup>

There are two main difficulties with these sets of figures, to wit, ascertaining their dates and determining their exact nature. The list of quotas (let us keep this term pending further discussion) in the 1776 *Hubu zeli* is datable from after the 1765 decision suppressing the prefectural granaries (*fucang*), since we find reference to “prefectural granary grain returned [to such-and-such county]” (*fucang guibing gu*). The 1818 list of provincial totals in the *Collected Statutes* could be from any number of years prior to that date. The same is true of the third set of figures, with 1831 as a *terminus post quem*. Both comparison with the 1818 provincial totals, and the fact that only the 1899, not the 1818, edition of the *Statutes and Precedents* reproduces these nineteenth-century *Hubu zeli* county figures, suggest that they must date from somewhere between 1818 and 1831; for convenience we will ascribe them

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<sup>85</sup> In places the tables are so packed with tiny, nearly illegible figures that a few errors may have crept into our calculations. Note that *juan 26* of the the 1776 edition and *juan 18* of the three nineteenth-century editions also give the quotas of the banner granaries in the three provinces of Manchuria. The figures are identical in all editions: 200,000 *shi* of *mi* in Shengjing (that is, Fengtian); 70,000 *shi* of *mi* and 136,840 *shi* of *liang* in Jilin; 260,000 *shi* of *gu* and 70,000 *shi* of *liang* in Heilongjiang.

<sup>86</sup> The provinces are Fengtian, Jiangsu, Shaanxi, Gansu, Guangdong, Guangxi, Yunnan, Guizhou, and Jiangxi, in that order. Isolated figures for some counties of Shaanxi (two subprefectures which were not included in the main list), Zhili, Anhui, Hunan, and Zhejiang, are given at the end. See *HDSL* (1899 ed.), 190, *hubu, jichu, changping gushu*.

to the latter date.<sup>87</sup> Table 8.7 presents side by side, for each province, the 1748 targets and what we will call the 1776, 1818, and 1831 quotas. For the sake of comparison, we have inserted the list of actual ever-normal reserves as of about 1766.<sup>88</sup>

Whatever the date of the *lists* may have been, there are good reasons for suspecting that the individual figures are not always consistent in date or, especially, in nature. Concerning the latter, terminology is of no help since the same nineteenth-century county lists are termed “[quotas] fixed by deliberation” (*yiding*) in the *Collected Statutes and Precedents*<sup>89</sup> and “theoretical reserves” (*echu*) in the *Hubu zeli*.<sup>90</sup> A cursory examination of table 8.7 reveals that some provinces (notably Fengtian, Anhui, Jiangsu, and Shandong) present round totals with little or no change from one date to the next, meaning that the figures of 1776, 1818, and 1831 are in fact targets of the same nature and the same level as those of 1748.

Beyond that, an analysis of the county figures in the *Hubu zeli* lists shows that in many provinces what we have called “quotas” for the sake of convenience are in fact a mix of round figures, obviously targets, and of complex figures which must be “theoretical figures” (*echu*, or *ezhu*) in the sense defined earlier, and which in many cases account for the increases in provincial totals over the 1748 targets. Let us take the 1831 list as an example. In provinces presenting complex (as opposed to rounded) totals, the majority, sometimes the near totality, of the local figures are round targets, but there are a few complex figures (some

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<sup>87</sup> We at first hesitated to date this list to the nineteenth-century, as the entry presenting part of the figures in the 1899 *HDSL*—the last in its section—looks as though it belongs to the year 1789 (the date of the penultimate entry).

<sup>88</sup> This list, which comes from the *WXTK*, has two advantages. First, it consists exclusively of ever-normal grain, whereas the *minshu gushu* figures include a variety of stocks. Second, its figures are year-end totals, that is, they represent the highest level of actual reserves for each year. Hence they offer the best comparison with targets or quotas.

<sup>89</sup> The phrase appears at the beginning of the Fengtian and Jiangxi entries (the first and last ones in the list) and nothing is specified for the remainder.

<sup>90</sup> The 1776 figures are called *ezhu*. The figures in the 1818 *Huidian* are simply said to be “grain reserves” (*zhugu*).

Table 8.7. Provincial Targets and "Quotas" (in *Shi*)

Province	1748 target	1766 actual reserves <sup>a</sup>	1776 quota	1818 quota	1831 quota
Fengtian	1,200,000	483,236 <sup>b</sup>	same	1,040,000 <sup>b</sup>	same
Zhili	2,154,524	1,975,275	2,188,524 <sup>c</sup>	2,197,524	2,166,685 <sup>c</sup>
Jiangsu	1,528,000	1,271,857	1,538,000	same	same
Anhui	1,884,000	1,235,708	1,894,000 <sup>d</sup>	same	1,902,000 <sup>d</sup>
Jiangxi	1,370,730	1,341,921	1,330,753	1,320,713	1,391,986
Zhejiang	2,800,000	538,373	2,876,561	2,926,561	3,247,534
Fujian <sup>e</sup>	2,566,409	2,289,718	2,961,691 <sup>f</sup>	2,962,559	2,944,483
Hubei	520,935	779,158	1,200,000	1,955,433	1,970,357 <sup>g</sup>
Hunan	702,133	1,438,349	712,133	1,487,712	1,522,712
Henan	2,310,999	2,391,600	2,315,499	2,725,999	2,735,999
Shandong	2,959,386	2,563,305	2,945,300	same	same
Shanxi	1,315,837	2,303,263	2,376,088	2,273,032	same
Shaanxi	2,733,010	2,156,610	3,082,910	3,083,011	3,578,469
Gansu	3,280,000	1,831,711	5,219,800 <sup>h</sup>	6,630,428	6,757,140
Sichuan	1,029,800	1,856,437	1,881,868	2,898,607 <sup>i</sup>	2,828,878
Guangdong	2,953,661	2,901,576	2,881,857	2,860,730	2,827,327
Guangxi	1,274,378	1,380,121	1,271,369	1,274,388	1,266,379
Yunnan	701,500	844,355	797,465	836,674	872,674
Guizhou	507,010	1,763,686 <sup>j</sup>	1,598,156 <sup>j</sup>	2,000,009	1,979,632
Total:	33,792,330 <sup>k</sup>	31,346,259	39,555,210	44,850,680	45,788,587

#### Sources

1748 targets (provincial figures): *WXTK*, 36.5195; *HDSL* (1818 ed.), 159,15a–b; *HDSL* (1899 ed.), 190, *hubu*, *jichu*, *changping gushu*, 1748 entry.

1766 actual reserves (provincial figures): *WXTK*, 37.3205–6; see also Will, *Bureaucracy and Famine*, 196.

1776 quotas (county figures): *Hubu zeli* (1776 ed.), 27.

1818 quotas (provincial figures): *HD* (1818 ed.), 12.17b–18a.

1831 quotas (county figures): *Hubu zeli* 1831, 1850, and 1865 eds.), 18; *HDSL* (1899 ed.), 190, *hubu*, *jichu*, *changping gushu*, last entry.

#### Notes

<sup>a</sup> In fact 1763, 1764, 1765, or 1766, according to province.

<sup>b</sup> Original figures in *mi*, here doubled to get *gu*-equivalent.

<sup>c</sup> The Zhili list is split between the Shuntian (i.e., capital) area, itself divided into four *ting* (eastern, southern, western, and northern "roads," respectively) including several counties each, and the prefectures of Zhili proper; the Fengtian quotas are inserted between the two.

<sup>d</sup> Original figures in *mi*, here doubled to get *gu*-equivalent.

<sup>e</sup> All the Fujian figures, except 1748, include a reserve of 400,000 *shi* in Taiwan.

<sup>f</sup> May include some errors because of hardly legible figures.

<sup>g</sup> There may be some error due to the near illegibility of the Wuchang figures.

<sup>h</sup> One or two figures may have been read wrong because of a ruined spot in the leaf.

<sup>i</sup> Includes 5,345 *shi* of husked rice, wheat, and *qingke*, here converted into *gu*.

<sup>j</sup> Original figures in *mi*, here doubled to get the *gu*-equivalent.

<sup>k</sup> This total is given by all the sources. However, the provincial figures present some variants probably due to misprints. The figures here reproduced are those of *WXTK*, which would yield a total of 33,792,312.

with several decimals) leading to a complex total: examples are Henan (only one figure of “prefectural reserves returned to the capital county” is not rounded to the nearest thousand), Zhejiang (two complex figures: the Yongji Granary in Hangzhou, which accounts for most of the increase over the previous figures, and the prefectural reserve in Quzhou), Shanxi, Yunnan, Shaanxi, Zhili, Guangxi, and Jiangxi. Sometimes only one-half or so of the county figures are round targets (as in Hubei, Hunan, and Sichuan). In these cases, the provincial totals are much higher than the 1748 targets, which indeed is an argument for interpreting the complex figures as “theoretical reserves” arrived at by actual decisions on grain mobilization.

Four provinces in the 1831 list present only (or almost only) complex figures, generally calculated out to four places after the decimal point: Guangdong, Guizhou, Fujian, and Gansu. In the case of the first three, chances are that we are dealing with figures of theoretical reserves reflecting the various decisions and operations since the amounts in store in 1748 were designated, as we saw, as established quotas. The Gansu figures, however, are more intriguing. At first sight, local Gansu quotas are complex figures with four decimals after the point, just like those of Fujian, Guangdong, and Guizhou.<sup>91</sup> However, a closer look reveals that the list consists of only a dozen different figures, all but two repeated several times (the last decimal place sometimes varies by one unit). They are reproduced below, with the number of appearances appended in parentheses:

- (1) 57,142.8571 (eight)
- (2) 142,857.1428 (six)
- (3) 28,571.4286 (five)
- (4) 114,285.7142 (twelve)
- (5) 54,571.4285 (fourteen)
- (6) 85,714.2857 (fourteen)
- (7) 54,857.1428 (seven)

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<sup>91</sup> There are a few exceptions: four administrative units present a round figure of 200,000, another gives 83,000, and another, 81,000.

- (8) 71,428.5714 (six)
- (9) 83,142.8572 (two)
- (10) 42,857.1429 (two)
- (11) 52,142.8571 (one)
- (12) 111,428.5714 (one)

Further observation reveals that half of these figures (allowing for some small variation of the last decimal, due to rounding up) are derived from the same repeating sequence of six digits, namely: 1, 4, 2, 8, 5, 7. Each figure is distinguished from the others by the number of digits it uses (though the order is immutable), by the beginning digit, and by the position of the decimal point. The other figures (i.e., (4), (5), (7), (9), (11) and (12) also include the sequence, the only difference being the addition or subtraction of a varying number of thousands (anywhere from 4 to 110).

This rather puzzling numerical pattern is easily explained when we note that all the Gansu figures in this list are expressed in *jingdou*, or “metropolitan,” *shi*. As we have seen, in the Northwest this was the formal name for the regular granary *shi*, as opposed to the local *cangdou shi* used in official grain transactions until 1706 and, in fact, long after that date; we have also seen that the proportion of the *cangdou shi* to the *jingdou shi* is 1:0.7. Doing the division 1:0.7 yields the irrational number 1.42857 . . . , with the same sequence of six digits recurring indefinitely. If we multiply the above-mentioned quotas by 0.7 to get figures in *cangdou shi*, we get:

- (1) 40,000
- (2) 100,000
- (3) 20,000
- (4) 80,000
- (5) 38,200
- (6) 60,000
- (7) 38,400
- (8) 50,000
- (9) 58,200
- (10) 30,000

(11) 36,500

(12) 78,000

Similarly, when multiplied by 0.7 the few round figures found in the list of Gansu quotas give:

$$200,000 \times 0.7 = 140,000$$

$$81,000 \times 0.7 = 56,700$$

$$83,000 \times 0.7 = 58,100$$

Thus, the Gansu local figures are clearly round targets fixed in local *cangshi*, then converted into *jingshi*. The provincial total comes to 4,730,000 *cangshi*. Regrettably, we have no means of knowing in which unit the already very high 1748 target of 3,280,000 was expressed—in other words, whether the 1789 figure represents an increase of 106 percent over the 1748 figure (assuming the latter was in *jingshi*), or an increase of 44 percent (assuming it was in *cangshi*, in which case the 1748 quota of Gansu would not be in the same unit as those of the other provinces). The higher hypothesis seems to us more probable. In any case, sharp increases in the quotas and/or targets are characteristic of the entire Northwest (including Shanxi), and appear to be especially true of the more northerly border administrations.

For the sake of curiosity, it may be observed that, in the sequence of digits generated by the ratio 1:0.7, the sum of two digits three places apart is always 9. As a consequence, the sum of two quotas (in *jingdou shi*) having their point placed three places apart in the sequence always gives a round figure, or rather, the nearest approximation thereto. Thus,

$$(1) + (2) = 200,000 \text{ (actually } 199,999.9999)$$

$$(8) + (3) = 100,000$$

$$(10) + (1) = 100,000$$

$$(4) + (6) = 200,000$$

$$(7) + (1) = 112,000$$

Clearly, the lists of quotas we have just analyzed cannot be considered nationally consistent sets of target figures comparable to the 1748

list: they plainly include a certain (or rather, uncertain) number of “theoretical reserve” figures arrived at through the actual accounting operations of granaries. Only a detailed knowledge of local accounts in the different provinces of China would allow a more precise interpretation of the *Hubu zeli* tables and their significance.

## CONCLUSIONS

The conclusions to be drawn from the foregoing have to some extent been suggested at the end of each section. We have seen a number of examples of the variety, not to say the disorder, of the accounting figures in the “population and grain” memorials. First, there are the problems entailed by units and conversion ratios, which make some recalculation necessary in order to render the figures comparable with one another. While some uncertainties remain in the conversion of figures for different grains, the margin of possible error is, with a few exceptions, quite modest. The variations in the types of granaries covered are more serious, since they render comparisons difficult in many cases, and in some provinces important (notably community) reserves are omitted from the memorials.

The main consequence of the differences in accounting format is that rates of annual grain turnover can be calculated in only a limited number of cases. In a more general way, this extreme variety of presentation has at least allowed us a glimpse of the complexities of Qing accounting. To be sure, the apparent oddities result in part from the very nature of the sources available to us in this case, namely, palace memorials. The mass of primary accounting documents which might illuminate the rationale and methods leading to the results we have tried to analyze are currently unavailable. Whatever the form of the accounts, none of the statistics that have reached us, not even the so-called *shizai* final balances, can be considered absolutely reliable.

One important reason for this is the problem of arrears, which introduces an element of uncertainty into the apparent simplicity of the four-column system of accounting: Are arrears taken into account in the figures and, if so, at what stage of the accounting? What proportion of the apparent reserves do they represent? We have encountered the full range of possibilities from detailed and apparently full accounts of

arrears to their complete omission. More vexing, arrears tended to be concealed, especially at the local level. This obviously is the major reason for suspecting a number of the figures reproduced in the appendix tables. The drastic readjustments of figures from certain provinces in the wake of investigations during the 1780s and 1790s cast doubt upon earlier figures from those provinces. Moreover, we cannot state with any certainty that the provinces *not* subjected to major investigations were free of large concealed arrears.

Finally, evidence from the entire period from roughly 1800 through 1850, for which we do not even have the occasionally comparatively detailed evidence of memorials, is suspect. Figures in the *Quanguo fensheng minshu gushu qingce* lists are frequently at odds with evidence from other sources. Clearly, the quantitative analysis of the Qing granary system becomes much less reliable from the late eighteenth century onward than for the high Qianlong years. For this reason, we have in this book, while trying in general to maintain a well-tempered skepticism in our treatment of quantitative evidence, been particularly sparing in the use of nineteenth-century figures.



## **Part III**

# **Spatial Patterns**



# Introduction

Wherever they existed, granaries served the common purpose of stabilizing food supply conditions. But although their formation, utilization, and reproduction followed the same basic rhythm across agrarian China, specific practices varied according to local political and economic conditions. These variations point to at least three important qualities of the system. First, differences within provinces and across regions demonstrate the system's flexibility, without which granary operations could not have been effective. Second, grain mobilized in one province was sometimes used for distribution in another; a complex pattern of interdependent operations among granaries of different provinces reveals important dimensions of the spatial organization of the granary network during the high Qing. Finally, although in general the willingness and capacity of officials to pursue granary operations clearly varied according to the temporal cycle of granary activities described in Part I, spatial variations in the performance of granaries were also, as with any administrative operation, a consequence of the individual abilities and interest of officials in maintaining and using granaries.

G. William Skinner has emphasized the importance of spatial structures in the study of China, stressing essential differences between the administrative and the economic hierarchies of cities as well as the

related distinctions between provincial and macroregional divisions.<sup>1</sup> These distinctions are important to an understanding of granary operations. Our presentation in this section highlights the position of granaries in political and economic space. In most cases, our data fit neatly within provincial space, but only rarely is there more than a rough approximation to macroregional space or to core-periphery distinctions within macroregions. Although officials were aware of core-periphery differences and sensitive to economic conditions ordered within macroregional space, there is much more to say about variations across political space.

In chapter 9 we consider empirewide variations in levels of storage and patterns of utilization. The three subsequent chapters each select a different part of the empire for closer analysis. The provinces included represent a range of distinctive economic settings and illustrate different types of political and military concerns. Shandong, a northern province close to the capital, is characterized by a sharply differentiated economic structure and widespread subsistence anxieties. Centrally located Hunan has a rice-rich core that exports grain, and hilly and mountainous peripheries that are less integrated with large grain markets. The southwest, comprising Yunnan and Guizhou, is a rapidly changing frontier region. Individual consideration of these areas offers a clearer picture of the opportunities and challenges faced by the Qing civilian granary system.

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<sup>1</sup> Professor Skinner graciously provided us with documentation on his macroregional divisions to make possible the analysis of our data that can be mapped onto macroregional space, but, unfortunately, the materials arrived too late to be incorporated into the research for this volume.

## National Patterns of Granary Activity

Peter C. Perdue and R. Bin Wong

A spatial analysis of granary activity can enhance our understanding of the system's priorities, strengths, and limitations. We have chosen three topics to pursue on the national level—the system's spatial patterns of grain storage, movement, and usage. Our principal purpose is to reconstruct what these patterns were. An effective explanation of all the patterns is presently beyond our grasp, because a developed analysis would require a firmer empirical grip on the varied social, economic, and political elements in what are clearly complex compounds, different in each county, province, and region. We therefore limit ourselves in this chapter to a brief presentation of evidence, some simple analysis, and a few provisional explanations of national patterns. The case studies to follow provide much greater, albeit less comprehensive detail.

## STORAGE

We begin with the spatial patterns of grain storage summarized in the appendix tables, which list the granary holdings of each province for most years between 1740 and 1850. The data are drawn from the annual “memorials on numbers of people and size of granary holdings in the empire” (*minshu gushu zouzhe*) and “registers of the numbers of people and size of granary holdings” (*Quanguo fensheng minshu gushu qingce*) that summarized population and food supply conditions in each province. As we learned in chapter 8, these figures are not always accurate. They are important, nevertheless, as rough indicators of granary storage and activity.

The temporal patterns of grain mobilization and storage vary considerably from province to province, a reality pointed out in Part I. Because of provincial variations in annual grain mobilization and distribution, the proportion of total reserves that is held by each province is hardly constant; yet, for a sample of years in the five decades between the 1740s and 1780s, selected on the basis of relatively complete data coverage, a general pattern does emerge. From the data presented in table 9.1, we see that five provinces—Zhili, Fujian, Henan, Sichuan, and Guangdong—each held reserves averaging at least 7 percent of the national total. In the Sichuan case, such large reserves were the result both of the area’s surpluses and of the administrative plan to use these supplies to provision Sichuan as well as other provinces during times of crisis. At the other extreme, Fujian was a grain-deficit province, and we can readily see how its proportion of national reserves rose when disbursements became less frequent in the 1760s and 1770s. For Guangdong and the northern provinces of Zhili and Henan, the large reserves probably reflect the state’s commitment to intervention in these areas. In contrast to these areas, seven other provinces—Anhui, Jiangsu, Zhejiang, Hubei, Guangxi, Yunnan, and Guizhou—each held no more than 5 percent of the national total.

A slightly different picture emerges when we analyze these same data on a per capita basis, which is possible for two years (1777 and 1785) for which reasonably reliable population data are available. As shown in table 9.2, the northern provinces generally decline in relative ranking, while frontier provinces, including Gansu, Guizhou, and Yun-

Table 9.1. Distribution of Total Reserves by Province (in %) for Five Selected Years

Province	1743	1753	1764	1777	1785	Average
Zhili	7	8	7	7	6	7.0
Anhui	3	2	4	4	4	3.4
Jiangsu	7	4	4	3	4	4.4
Jiangxi	5	6	6		5	5.5
Zhejiang		3	5	6	6	5.0
Fujian	5	6	9	8	7	7.0
Hubei	3	3	5	4	5	4.0
Hunan	4	5	6	5	6	5.2
Shandong	9	5	6	5	6	6.0
Henan		11	10	12	7	11.25
Shanxi	8	6	6	6	4	6.0
Shaanxi	9	6	6	7	5	6.6
Gansu	6	9	2	7	5	6.0
Sichuan	10	5	8	6	10	7.8
Guangdong	12	9	9	8	9	7.4
Guangxi	4	4	5	4	5	4.4
Yunnan	4	4	5	4	5	4.4
Guizhou	5	4	5	4	4	4.4

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

nan, join Sichuan, Guangdong, and Fujian as provinces with high per capita holdings. Thus it is evident that the state's capacity for intervention in food supply conditions, as reflected by per capita civilian granary storage, was greater in the border provinces of China proper than in the interior of the country.

The spatial pattern of food storage accords well, insofar as provincial data reveal, with the physiographic macroregions identified by G. William Skinner for nineteenth-century China. Six regions—South, Southwest, West, Northwest, Northeast, and Southeast—held a disproportionate amount of reserves on a per capita basis. Four regions—Middle Yangzi, Gan Yangzi, Lower Yangzi, and North China—stored less grain. The regions with relatively low per capita reserves include the

Table 9.2. Year-End Per Capita Reserves by Province, 1777 and 1785 (in *Shi/Kou*)

Province	1777	1785
Zhili	0.15–0.20	0.15–0.20
Anhui	0.10–0.15	0.10–0.15
Jiangsu	0.10–0.15	0.10–0.15
Jiangxi		0.10–0.15
Zhejiang	0.15–0.20	0.15–0.20
Fujian	0.30–0.35	0.25–0.30
Hubei	0.15–0.20	0.10–0.15
Hunan	0.15–0.20	0.15–0.20
Shandong	0.15–0.20	0.10–0.15
Henan	0.25–0.30	0.15–0.20
Shanxi		0.15–0.20
Shaanxi	> 0.35	0.30–0.35
Gansu		0.25–0.30
Sichuan	0.30–0.35	> .35
Guangdong	0.25–0.30	> .35
Guangxi	0.30–0.35	0.30–0.35
Yunnan	> 0.35	0.15–0.20
Guizhou	0.30–0.35	> 0.35

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

capital area and others with highly developed commercial activity—regions that could depend more confidently upon economic and political movements of grain to meet their food supply needs. In areas without easy access either to economic or to political movements of grain, larger per capita reserves were the rule. This pattern suggests that Qing leaders made clear commitments to inhabitants of less accessible areas to develop the governmental means of influencing food supply conditions.

Within subprovincial administrative units, population size was the principal criterion for establishing the target level of reserves. Table

Table 9.3. Range of Reserves to Be Stored by Ever-Normal Granaries in County-Level Units

Year	Province	Range <sup>a</sup>
1691	Zhili	5,000–4,000–3,000 <sup>b</sup>
1704	All provinces	10,000–8,000–6,000
	Shandong	20,000–16,000–12,000
	Shanxi	20,000–16,000–12,000
	Jiangsu	5,000–4,000–3,000 <sup>c</sup>
	Sichuan	6,000–4,000–2,000
1727	Jiangsu	30,000–20,000–16,000
1737	Guangdong	25,000–15,000–10,000
1789	Jiangxi	50,000–40,000–30,000

**Sources**

*HDZL*, 40.6a–8b; *WXTK*, 34.5170, 5173; *HDSL* (1899 ed.), 190, *hubu, jichu, changping gushu*; *CZCC*: QL 2/5/24 (Guangdong); *CZCC*: QL 4/11/17 (Jiangxi).

**Notes**

<sup>a</sup> Except where otherwise noted, ranges are expressed in *shi* of unhusked grain. The three figures correspond to “large,” “medium,” and “small” county level units respectively.

<sup>b</sup> Husked grain (*mi*) according to *HDZL* and *WXTK*; unhusked grain (*migu*) according to *HDSL*.

<sup>c</sup> Husked grain (*mi*).

9.3 lists the ranges set in different provinces.<sup>1</sup> While population size strongly influenced the desired target, the availability of funds and the quality of harvests actually determined the ability of officials to meet their goals.<sup>2</sup> Administrative centrality was also a key factor.

<sup>1</sup> Ranges more complicated than those shown in table 9.3 were assigned in Shandong (1729) and Shaanxi (1744). The Shandong range included both civilian and military units of administration: departments (20,000–18,000–16,000), counties (16,000–14,000–12,000), battalions (10,000–5,000–2,500), and companies (3,000). The Shaanxi breakdown did not assign targets simply by type and size of administrative unit, but rather gave units their own targets according to evaluations of local conditions (*HDZL*, 40.8a–9a).

<sup>2</sup> At times officials were explicitly instructed to increase their reserves above the nominal quota figures. In 1731, for instance, Jiangsu officials were told to continue purchases beyond target levels if monies from previous spring sales were not yet spent and grain prices remained low. In 1744, Sichuan officials used 150,000 taels from the land tax and other miscellaneous taxes to purchase grain in six prefectures; they were explicitly instructed to continue purchases beyond target levels if grain prices remained stable

Between the 1730s and early 1760s, counties housing the prefectural seat often stored additional grain in “prefectural granaries” (*fucang*), which followed the same basic guidelines applied to county ever-normal granaries.<sup>3</sup> Independent of population size and administrative centrality, access to transportation affected the size of county ever-normal granary reserves in two distinct ways. At the provincial level, as we have seen, those peripheral areas poorly served by transportation stored more grain per capita than many other areas. However, as we will see below, areas with especially good transportation also stored large amounts of grain because their stocks were subject to diversion to other areas in times of need. A national pattern of granary activity emerges from a reconstruction of grain movements into and out of granaries in different provinces.

#### MOVEMENTS

The national pattern of granary storage is linked to two patterns of long-distance grain calculation. First, through granary operations, offi-

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(*HDZL*, 40.30b, 22b). In other cases, when it is unlikely that targets were ever achieved, the quotas represented goals, not realities. But even when realities fell short of targets, they were often nonetheless impressive.

<sup>3</sup> Prefectural granaries were first established in prefectural seats with large populations and good transportation; such was the case for the 1731 formation of prefectural granaries in the Jiangsu prefectures of Jiangning, Suzhou, Changzhou, and Zhenjiang. The prefectures housing additional grain reserves were often chosen because they had large populations or were favorably situated on transportation routes. These prefectural granaries date from the early Qianlong period. They represent part of the structural elaboration of the ever-normal granary system (*WXTK*, 35.5184; Shaanxi governor Mingde, *ZP*, *GZD*: QL 018291 [29/7/12]). They were originally the responsibility of the prefect’s staff because the burden of managing additional reserves was considered too great for the county magistrate. But in the 1760s, it was decided that management of prefectural granaries should be turned over to county magistrates, so as to vest in a single official in each county responsibility for the coordinated mobilization and distribution of granary reserves; as part of the reorganization, prefectural granary reserves were often redistributed among several counties (Henan governor Asiha, *ZP*, *GZD*: QL 020227 [30/4/10]; Shaanxi governor Heqizhong, *ZP*, *GZD*: QL 021370 [30/9/9]; and Hubei governor Li Yinpei, *ZP*, *GZD*: QL 021160 [30/8/6]; there is further discussion of these granaries in Shandong in chapter 10 and in Hunan in chapter 11).

cials purchased, sold, and transported grain to complement, or substitute for commercial grain circulation. Second, granary operations were also coordinated with public patterns of grain movement created by the grain tribute, military demand, and other government needs.

Many of the state's efforts went into mobilizing grain in frontier areas or shipping it out to those areas from more interior locations. The state's efforts in the southwest, which included shipments from Sichuan to Yunnan and from Hunan to Guizhou, will be examined closely in chapter 12. For the northwest, we have already seen the repeated efforts that officials made to build up reserves in Gansu and Shaanxi (see chapter 3). In addition, efforts were made to increase reserves at strategic transportation nodes in north and northwest China: (1) along the Yellow River at Shanzhou in Henan; (2) near the Shanxi-Shaanxi border at Puzhou in Shanxi; and (3) near the Shanxi-Shaanxi border at Tongguan in Shaanxi.<sup>4</sup> State movements of grain could also extend and amplify commercial flows of grain, which traveled along a number of routes: (1) the Yangzi River; (2) sea routes from Fengtian (Liaoning) to Tianjin and Shanghai; (3) the Han River route between Hankou and Shaanxi; (4) sea routes from Jiangnan to Fujian; (5) sea routes between Taiwan and Fujian; (6) a river route from Guangxi to Guangdong; (7) the Grand Canal from the lower Yangzi to north China.<sup>5</sup> Fujian and Guangdong provinces, for instance, relied both on granary transfers and on diverted tribute and interprovincial purchases to restock their granaries, which were depleted by frequent large disbursements.<sup>6</sup> Granaries in

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<sup>4</sup> Liang-Jiang governor-general Huang Tinggui, ZP, CZCC: QL 14/2/9.

<sup>5</sup> For more on these routes, see Wu Chengming, "Lun Qingdai qianqi woguo guonei shichang," and Guo Songyi, "Qingdai de liangshi maoyi." Private trade along the coastal routes was subject to prohibitions and bans that were periodically lifted to make what was otherwise considered illegal both easier and likely larger in volume.

<sup>6</sup> Fujian received 300,000 *shi* of granary reserves from Hubei, Hunan, and Jiangxi in 1738 (Acting Fujian treasurer Qiao Xueyin, CZCC: QL 4/3/6); five years later the province received grain tribute from Jiangsu and Zhejiang (QSLJJZL, 925 [1743/11/19]). Guangdong received 80,000 *shi* of granary reserves from Hunan in 1742 (Hunan governor Kaitai, CZCC: QL 14/2/29). In 1758 and 1759, the province received 300,000 *shi* of Hunan granary reserves (Hunan governor Feng Qian, CZCC: QL 23/6/20, and Acting Liangguang

the four Yangzi River provinces of Sichuan, Hubei, Hunan, and Jiangxi frequently transferred reserves to other provinces besides Fujian and Guangdong.<sup>7</sup> Officials in Sichuan, Hubei, and Hunan all set aside large amounts of grain specifically for use by other provinces. Although Jiangxi granaries did not have an analogous item in their accounts, they too transferred reserves to other provinces.<sup>8</sup> These transfers were alternatives to grain tribute diversions and purchases that also moved grain from these provinces to the lower Yangzi, the southeast coast, and south China. All four provinces exported grain through some combination of these mechanisms, but only Sichuan and Hunan granaries were consistently exporters. Granaries in Hubei and Jiangxi sometimes bought grain, received transfers, and diverted tribute from both Hunan and Sichuan.<sup>9</sup> In the north, northwest, and southwest, tribute diversions, purchases, and granary transfers tended to occur on a smaller scale, just as private trade was less developed. State movements and private trade

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governor-general Li Shiyao, *CZCC*: QL 23/10/19). In addition to these movements of grain from the middle Yangzi region, Guangdong periodically purchased grain from Guangxi. The influx of grain from Guangxi was so important to food supply conditions in Guangdong that special granaries were established in both Guangxi and Guangdong. The “Guang Charity Granary” (*Guang yicang*), for example, was established in Sanshui County, some thirty miles from the provincial capital, where officials were to buy grain coming in from Guangxi when prices were low; in 1737 it had 101,355 *shi* and seven years later 63,125 *shi* (Guangdong governor Zhuntai, ZP, *CZCC*: QL 12/5/28; see also Liu, “A Reappraisal”). Fujian also had a special granary, the reserves of which were used to complement ever-normal granary activities (*HDZL*, 40.31b–32a). Granaries in Fujian and Guangdong clearly benefited from imports of large amounts of grain.

<sup>7</sup> Lower Yangzi provinces received grain from the upstream provinces mentioned above and in turn sent grain to the southeast coast. Jiangsu and Zhejiang had special granaries, from which reserves were transferred and distributed within the ever-normal granary network (*HDZL*, 40.31b–32a). Granary transfers from the upper and middle Yangzi provinces also moved to northern China via the Grand Canal and to northwest China along the Han River. Examples from Hunan are given in chapter 11.

<sup>8</sup> See, for example, president of the Board of Personnel Nuoqin, ZP, *CZCC*: QL 4/5/11 (Jiangsu).

<sup>9</sup> Hubei examples include purchases made in Hunan and Sichuan (president of the Board of Personnel Nuoqin, ZP, *CZCC*: QL 5/12/2) and granary transfers from Hunan (Hunan governor Pu Lin, ZP, *CZCC*: QL 50/10/13). Jiangxi examples are discussed in the text.

were both constrained by high transport costs. The intersection, overlap, and substitution of interprovincial public and private grain movements also formed the larger food supply context for granary operations within individual provinces, where transfers of grain and money built up reserves in provincial peripheries.<sup>10</sup>

The scale and complexity of granary operations during the early years of the Qianlong reign is suggested by a series of memorials on Jiangxi ever-normal granaries between 1741 and 1750. Although they are neither complete nor always consistent, these reports more than adequately establish the presence of many large flows of grain through Jiangxi's granaries. The figures summarized in table 9.4 show that between 1738 and 1742 nearly 1,000,000 *shi* of reserves were transferred from Jiangxi to other provinces. In the following year, well over half of the reserves were sold or lent within the province; this sum was more than compensated for by a combination of purchases, returns, contributions, retained tribute, and shipments from other provinces. Reserves continued to grow in 1744, even with distribution of 200,000 *shi*. Small sales in 1745 were followed by contributions that increased reserves to a yet higher level. In at least two of the next four years, there were additional disbursements. Granary operations during this decade comprised a massive set of actions—reduced-price sales and loans were replaced through purchases and repaid loans while large transfers were

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<sup>10</sup> Two methods were used to build up reserves in remote areas. First, money was raised to buy grain in peripheral places. For instance, in Anhui's three northernmost prefectures, Fengyang, Yingzhou, and Sizhou, reserves were to be increased by 200,000 *shi* in 1741 through purchases made with money transferred from other parts of the province where grain tribute had been retained and then sold. Similarly, Taiping and Zhen'an prefectures of southwestern Guangxi received money from the sales of granary stocks in other parts of the province to purchase grain from nearby areas to increase their reserves in 1747. Second, reserves could be increased through the physical transport of grain into remote areas. Some 6,000 *shi* were transported to Fenghuang in Hunan from Zhijiang and Qianyang counties in 1758. On a larger scale, four prefectures in western and northern Sichuan received a total of 147,860 *shi* from other granaries in the province (Anhui governor Zhang Kai, ZP, CZCC: QL 6/11/24; Guangxi acting treasurer Li Xiqin, ZP, CZCC: QL 12/8/22; Hunan governor Feng Qian, ZP, CZCC: QL 23/10/12; Sichuan governor-general Kaitai, ZP, CZCC: QL 25/2/30).

Table 9.4. Ever-Normal Granary Activities in Jiangxi Province, 1738–1751 (in *Shi*)

Year	Opening balance	Sales and loans	Transfers out	Reserves after disbursements	Purchases and returns	Transfers in	Tribute	Contributions	Year-end balance
1738			400,000						
1739			160,000						
1740								57,690 <sup>a</sup>	
1741									300,000
1742			400,000						900,755
1743	900,000	550,000		350,000	293,000	250,000	100,000	160,000	1,210,000 <sup>b</sup>
1744		200,000		982,400	210,000			172,800	1,470,000
1745		9,000 <sup>c</sup>						65,600 <sup>d</sup>	1,532,800 <sup>e</sup>
1746	1,673,743	63,171							
1747									1,736,000
1748		29,800	200,000	1,506,000					
1750	1,500,246	18,338						3,115	

**Sources**

Jiangxi governor Chen Hongmou, ZP, CZCC: QL 8/12/16; Jiangxi provincial treasurer Peng Jiaping, ZP, CZCC: QL 10/9/27 and 10/11/25; Jiangxi governor Saileng'e, ZP, CZCC: QL 10/12/29; Jiangxi governor Kaitai, ZP, CZCC: QL 11/12/28; Jiangxi governor Peng Jiaping, ZP, CZCC: QL 13/12/24; Jiangxi governor Asiha, ZP, CZCC: QL 15/12/6.

**Notes**

<sup>a</sup> Including contributions from 1739.

<sup>b</sup> Including purchases and contributions through first three lunar months 1744.

<sup>c</sup> As of QL 10/9/27; by QL 10/11/25 the figure is 9,700; by QL 10/12/29 it is 9,891.

<sup>d</sup> As of QL 10/9/27; the figure reported on QL 10/11/25 is 105,750, but only 95,820 on QL 10/12/29.

<sup>e</sup> As of QL 10/9/27.

being made to and from other provinces. The Jiangxi case represents an impressive level of activity in a single province during one decade. But, as we have already seen in Part I, major efforts were limited neither to Jiangxi nor to this decade.

**GRANARY USAGE**

We have already noted that an area's population size and its proximity to transportation routes influenced the scale of grain storage, which in turn defined the upper bounds of potential use. Usage patterns were also shaped by the relative proportions of grain stored in urban ever-normal granaries and in rural community and charity granaries. For thirteen of eighteen provinces we can make informed judgments about the sizes of both the urban ever-normal granaries and the rural community and

charity granaries. In six of the thirteen cases, rural granaries appear to have stored negligible amounts of grain, but in the other seven cases rural reserves were significant. We can therefore distinguish two groups of provinces: those with little or no grain in rural community or charity granaries (Gansu, Guangdong, Guizhou, Jiangsu, Shandong, and Zhejiang), and those with community and charity granary reserves that typically ranged between 20 and 40 percent of total reported provincial reserves (Hubei, Hunan, Jiangxi, Shaanxi, Shanxi, Yunnan, and Zhili).<sup>11</sup> An assessment of rural granaries based on a sample from either group would be very misleading. Shandong's experience would suggest that rural granaries were really irrelevant, while neighboring Zhili's would indicate that, to the contrary, they played a crucial role.

The prominence of rural granaries in the latter group of provinces deserves some general discussion. Variations in social structure must have strongly shaped the availability of surpluses for contribution. Without a considerable number of wealthy households to make contributions, community granary development was not very likely to succeed unless officials played major roles. In economic terms, the presence of surpluses in Hunan, Hubei, and Jiangxi made mobilization easier in those provinces than in some others where aggregate surpluses were either less plentiful or even nonexistent. In contrast to these supply side factors, demand conditions also influenced the formation of granaries. Officials in grain-poor provinces—Shaanxi and Yunnan, for example—recognized the importance of community granaries as a source of grain for their less-commercialized rural areas and often were more active than officials in other provinces in encouraging the formation and consolidation of community granaries.<sup>12</sup> Political perceptions,

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<sup>11</sup> Information on community granary reserves can be found in tables and discussion in the present chapter and in two of the case studies: Hubei (table 9.12), Hunan (chapter 11), Shaanxi (table 9.13), Shanxi (table 9.8), Yunnan (chapter 12), Zhili (table 9.9). For Jiangxi the reported size at year's end and the proportions between ever-normal and community granary reserves are shown in table 9.15 for all years between 1742 and 1773 for which we have this information.

<sup>12</sup> On official management of community granaries in Shaanxi, see chapter 3. For Yunnan, see the southwestern case study in chapter 12.

economic realities, and social structures must all be studied in more depth if the relative success of community granaries is to be understood. For our purposes in the present discussion, however, a few plausible hypotheses should suffice.

One tentative explanation for the absence or, in some cases, the small scale of community granary development in the first six provinces named above involves a combination of economic and political factors. In Guangdong, official oversight of rural granaries was less likely than in other provinces, for several reasons. First, developed lineage systems might have provided an organizational basis for local grain reserves independent of the local administration. Second, the distribution of large amounts of grain from other provinces by ever-normal granaries may have been a substitute for locally mobilized grain. Third, the amounts of grain available for community granary mobilization through contributions were probably reduced by large contributions for degrees that were channeled to ever-normal granaries. Fourth, Guangdong community granaries labored under the additional constraint of lending at no interest, which destroyed their capacity for self-generated growth.<sup>13</sup> The low figures for community granaries in Jiangsu and the absence of figures for Zhejiang may reflect the effective operation of a commercial grain system, which reduced the need for community granaries; alternatively, Jiangnan elites may have managed granaries without official oversight, or perhaps were simply reluctant to fund this kind of operation.<sup>14</sup> In both Gansu and Guizhou, there may have been little surplus grain and few wealthy people to contribute it; government management of local reserves, therefore, may have replaced management of semiautonomous community granaries by the local people. Yet a different explanation seems plausible in the case of Shandong. As we will see more fully in the next chapter, the considerable capacity of ever-normal granaries in Shandong to stabilize the food supply, along

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<sup>13</sup> *WXTK*, 37.5200–201.

<sup>14</sup> There is some evidence, provided by gazetteer materials, of Jiangnan elites managing granary reserves without official oversight (see, for example, Hoshi Ayao, *Chūgoku shakai shifuku seisatsu shi no kenkyū*, 244).

with official decisions to allow ever-normal granaries to make loans, may have diminished the incentive for separate community granaries.

Let us look more closely at those provinces where rural granaries were important. In Zhili, for instance, a comparison of disbursal data for ever-normal granaries with figures for community and charity granaries shows that disbursements from rural granaries grew as a proportion of total disbursements during the second half of the eighteenth century, although certainty about this trend is diminished by the accounting conventions detailed in chapter 8. As we can see in table 9.5, for eight of the ten years between 1749 and 1765 for which we have data, more than 80 percent of the disbursements are from ever-normal granaries; for the fourteen years between 1767 and 1792 for which there is data, disbursements from ever-normal granaries drop to the range of 65 to 75 percent.

Temporal trends elsewhere differed from the Zhili case. In Shanxi, for instance, rural granaries accounted for roughly half of the grain disbursed in those years in the 1750s and 1760s for which we have data. The importance of these rural granaries is reflected in the available data, displayed in table 9.6, which make apparent the considerable reduction in total distribution occasioned by the decline of community and charity granary efforts in the 1780s. Although the relative importance of rural granary disbursements increased in Zhili and declined in Shaanxi, both cases basically confirm that rural granaries could play a significant role in provincial granary operations.

Another confirmation of the importance of rural granaries comes from their *rates* of disbursement. In Henan, for instance, the disbursement rate averaged 24 percent for the nineteen years between 1750 and 1792 for which we have data (see table 9.7). Over the same period, decennial averages between 25 and 40 percent characterized rural granary disbursements in Shanxi and Zhili (see tables 9.8 through 9.11). Not only were rural disbursement rates relatively high, but, in the three provinces for which this comparison can easily be made, they were also more stable than those for disbursements by ever-normal granaries. In Hubei, Shanxi, and Zhili, disbursements by rural granaries varied only a little, possibly in response to harvest conditions, while disbursements by ever-normal granaries varied more dramatically, perhaps as a function of the more varied

Table 9.5. Disbursals in Zhili Province by Granary Type, 1749–1792  
(in *Shi*)

Year	Ever-normal granaries		Community granaries		Charity granaries	
	disbursal	% of total	disbursal	% of total	disbursal	% of total
1749	1,118,988	88.4	120,105	9.5	27,375	2.2
1751	1,548,743	85.5	168,944	9.3	93,054	5.3
1752	923,208	84.2	137,989	12.6	35,802	3.3
1753	817,228	84.6	112,065	11.6	36,505	3.8
1754	620,573	80.8	102,687	13.4	44,987	5.9
1755	477,593	69.5	76,844	11.9	89,443	13.9
1756	493,718	70.2	102,844	14.6	106,261	15.1
1763	3,147,117	87.8	176,354	4.9	260,529	7.3
1764	1,307,734	81.8	134,222	8.4	157,190	9.8
1765	905,404	81.6	95,152	8.6	109,023	9.8
1767	652,706	74.9	88,196	10.1	130,915	15.0
1768	894,962	74.7	103,414	8.6	200,040	16.7
1773	839,821	76.5	95,967	8.7	161,988	14.8
1777	756,790	72.3	98,937	9.5	190,749	18.2
1779	1,010,635	68.8	178,533	12.2	279,617	19.0
1781	966,457	75.1	108,529	8.4	212,032	16.5
1782	1,021,749	75.4	124,052	9.2	209,839	15.5
1783	1,047,886	75.6	120,983	8.7	217,276	15.7
1784	454,291	66.4	72,742	10.6	157,267	23.0
1785	657,741	71.2	97,639	10.6	168,921	18.3
1786	919,161	71.4	129,653	10.1	237,709	18.5
1787	737,062	74.7	92,247	9.3	157,953	16.0
1788	561,092	71.7	79,520	10.2	142,455	18.2
1792	919,926	76.3	106,011	8.8	179,596	14.9

**Source**

*Minshu gushu* memorials (see sources for appendix A.1).

Table 9.6. Disbursals in Shanxi Province by Granary Type, 1751–1787 (in *Shi*)

Year	Ever-normal granaries		Community granaries		Charity granaries	
	disbursal	% of total	disbursal	% of total	disbursal	% of total
1751	125,761	34.0	157,354	42.7	86,557	23.4
1752	183,713	40.8	182,006	39.4	96,626	20.9
1753	333,061	60.8	137,741	25.1	77,302	14.1
1754	161,215	40.8	147,273	37.2	86,913	22.0
1756	446,401	52.2	264,909	31.0	143,564	16.8
1763	285,335	56.7	148,596	29.5	69,659	13.8
1764	291,280	55.4	156,379	29.7	78,551	14.9
1765	317,816	55.3	178,583	31.1	78,325	13.6
1767	294,493	55.0	171,809	32.1	69,411	13.0
1768	340,450	56.3	188,574	31.2	76,157	12.6
1783	365,481	78.5	61,732	13.3	38,315	8.2
1787	506,015	79.6	84,107	13.2	45,440	7.1

**Source**

*Minshu gushu* memorials (see sources for appendix A.1).

sources of demand for ever-normal granary reserves (see tables 9.12 through 9.14). This contrast suggests that rural granaries met the annual problems of the lean spring that many peasants faced irrespective of harvests, while the ever-normal granaries met the challenges of broader harvest fluctuations and supply inequalities.<sup>15</sup>

**CONCLUSIONS**

When we look at granary administration in spatial terms, it is not surprising that differences among areas follow political divisions to

<sup>15</sup> The practice of drawing on community granaries first, and then utilizing ever-normal granaries, which likely produced the differentials in disbursal variations, was in fact a regulation in Shandong, where the small number of community granaries made the rule unimportant.

some extent, since it was within political units that decisions were made. At the subnational and superprovincial levels, however, differences in granary operations seem often to have been defined by economic factors, and most significantly by the food supply needs not met by private exchange.

Our evaluation of granary operations in this chapter includes a number of indicators, each of which offers a specific perspective on the system. The size of stored reserves varied explicitly according to population and transport conditions—the larger the population and the better the transport, the larger the reserves. But peripheral areas with poor transport and smaller populations had larger per capita reserves than did comparable but more centrally located areas. Movements of reserves connected granaries across provincial borders to complement, extend, and substitute for private commercial movements.

Among provinces, we have seen considerable variation in the relative importance of ever-normal and community granaries. Some of the provincial differences are probably due to distinctive social structures and variations in economic prosperity, but these cannot be identified clearly without detailed social and economic studies of specific locales. In the following chapters, we will see how economic criteria strongly influenced patterns of granary utilization within different parts of the empire. Each magistrate had a range of options, but those options varied significantly with local economic and ecological differences. Although granaries were created and managed within administrative space, their specific capacities and uses were heavily influenced by economic factors. Underlying the major temporal trends presented in Part I and the commonly shared structural problems highlighted in Part II are a number of political and economic factors that, together, determined spatial differences in granary operations. Reserves were not distributed evenly throughout China, nor did they grow and decline uniformly; the scale of reserves and the nature of granary operations varied within and across provinces. Empirewide trends establish the baseline for understanding, while spatial distinctions spanning the empire refine our reconstruction.

Table 9.7. Community Granary Rates of Distribution in Henan Province, 1750–1792

Year	Opening balance	Repayments <sup>a</sup>	Loans	Final balance	Rate <sup>b</sup>
1750	446,305	121,948	138,668	429,585	24.4
1751	429,585	176,928	183,305	423,208	30.2
1752	423,208	175,034	188,488	409,754	31.5
1753	409,754	239,915	164,939	484,730	25.4
1757	533,205	151,064	256,151	428,118	37.4
1759	492,608	147,472	110,655	529,425	17.3
1760	529,425	199,744	149,791	579,379	20.5
1761	579,379	124,090	211,464	492,005	30.1
1762	492,005	220,310	171,803	540,513	24.1
1763	540,513	142,093	98,117	584,488	14.4
1764	584,488	188,722	173,354	599,856	22.4
1766	643,111	322,986	224,157	741,939	23.2
1767	741,939	310,424	259,019	793,345	24.6
1769	755,586	333,039	316,090	772,535	29.0
1772	831,266	407,135	355,859	882,543	28.7
1774	887,762	360,932	368,071	880,623	29.5
1775	880,623	446,665	374,184	953,104	28.2
1777	982,424	254,710	298,581	938,552	24.1
1779	577,269	312,322	221,606	667,985	24.9
1781	764,185	106,634	73,700	797,119	8.5
1782	797,118	146,342	158,798	784,662	16.8
1783	784,662	185,978	172,796	797,844	21.5
1784	797,845	277,043	341,579	733,309	31.8
1785	733,309	37,378	341,710	428,978	44.3
1786	428,978	257,773	106,478	580,272	15.5
1788	662,239	96,299	67,961	690,576	9.0
1792	714,892	92,935	118,116	689,712	14.6

**Source**

Henan governors, annual memorials on community granaries (*GZD* and *CZCC*).

**Notes**

<sup>a</sup> Includes a few contributions in some years.

<sup>b</sup> Percentage of loans to highest level of reserves in the year, i.e., opening balance plus repayments. All other figures in *shi*.

Table 9.8. Community Granary Rates of Distribution in Shanxi Province, 1751–1787

Year	Opening balance	Loans	Final balance <sup>a</sup>	Rate <sup>b</sup>
1751	405,678	157,354	248,324	38.8
1752	427,406	182,006	245,400	42.6
1753	375,306	137,741	237,565	36.7
1754	448,470	147,273	301,197	32.8
1755	459,044	178,885	280,159	39.0
1756	469,454	264,909	204,545	56.4
1759	462,901	172,212	288,689	37.2
1763	536,296	148,596	387,700	27.7
1764	541,198	156,379	384,819	28.9
1765	554,002	178,583	375,419	32.2
1767	579,643	171,809	407,834	29.6
1768	596,736	188,574	408,162	31.6
1773	659,241	187,124	472,117	28.4
1777	450,403	133,636	316,768	29.7
1779	451,816	182,693	269,122	40.4
1780	469,692	138,639	331,053	29.5
1783	502,498	61,732	440,766	12.3
1784	506,996	231,348	275,648	45.6
1785	305,581	107,712	197,869	35.2
1786	311,731	28,048	273,682	9.0
1787	316,757	84,107	232,549	26.6

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> Calculation reveals that the final balances for 1759, 1786, and 1787 should be 290,689, 283,683, and 232,650 respectively. The errors are those of the sources.

<sup>b</sup> Loans as a percentage of opening balance (which in the present case includes repayments, and thus represents the highest level of reserves for the year.) All other figures in *shi*.

Table 9.9. Community Granary Rates of Distribution in Zhili Province, 1749–1792

Year	Opening balance	Loans <sup>a</sup>	Rate <sup>b</sup>
1749	294,744	120,105	40.8
1751	301,113	168,944	56.1
1752	310,719	137,989	44.4
1753	328,411	112,065	34.1
1754	333,187	102,687	30.8
1755	342,659	76,016	22.2
1756	346,102	102,844	29.7
1763	375,499	176,354	47.0
1764	399,756	134,222	33.6
1765	415,626	95,152	22.9
1767	426,747	88,196	20.7
1768	433,223	103,414	23.9
1773	441,642	95,967	21.7
1777	458,201	98,937	21.6
1779	465,707	178,533	38.9
1781	411,695	108,529	26.4
1782	415,690	124,052	29.8
1783	418,910	120,983	28.9
1784	422,870	72,742	17.2
1785	422,757	97,639	23.1
1786	418,916	129,653	31.0
1787	396,190	92,247	23.3
1788	398,091	79,520	20.0
1792	363,885	106,011	29.1

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> Zhili's being an "open" system of accounting, both the "opening balance" and "loans" include arrears.

<sup>b</sup> Loans as a percentage of opening balance. See note b to table 9.8. All other figures in *shi*.

Table 9.10. Charity Granary Rates of Distribution in Shanxi Province, 1751–1788

Year	Opening balance	Repayments	Loans	Final balance <sup>a</sup>	Rate <sup>b</sup>
1751	85,419	86,729	86,557	85,601	50.3
1752	85,601	97,527	96,626	86,502	52.8
1753	86,502	76,748	77,302	85,951	47.4
1754	85,951	111,896	86,913	110,934	43.9
1756	106,130	94,362	143,564	56,928	71.6
1757	56,928	146,884	123,317	80,495	60.5
1758	80,495	98,234	70,397	108,332	39.4
1760	113,464	31,549	61,626	83,387	42.5
1761	83,387	73,167	33,634	123,870	21.5
1762	123,870	75,921	65,185	134,660	32.6
1763	134,606	97,947	69,659	162,893	30.0
1764	162,893	69,646	78,551	153,988	33.8
1765	153,988	81,795	78,325	157,459	33.2
1767	168,908	76,576	69,411	176,074	28.4
1768	176,074	74,299	76,157	174,215	30.4
1770	164,087	89,336	85,860	167,562	33.9
1773	180,517	84,208	74,457	190,269	28.1
1776	193,650	79,841	67,010	166,382	39.2
1778	167,936	69,913	96,363	199,628	44.6
1780	130,767	98,223	61,054	167,936	26.7
1781	167,936	63,815	55,383	176,378	23.9
1782	176,368	59,111	66,387	169,092	28.2
1783	169,092	70,526	38,315	201,304	16.0
1784	201,304	39,140	74,066	166,378	30.8
1785	166,378	24,638	57,931	133,084	30.3
1786	133,084	62,941	22,595	173,430	11.5
1787	173,430	23,600	45,440	151,590	23.1
1788	151,590	42,517	43,367	150,740	22.3

**Source**

Shanxi governors, annual memorials on charity granaries.

**Notes**

<sup>a</sup> Calculation reveals that the final balance for several years are wrong by a few units. The errors are those of the sources.

<sup>b</sup> Loans as a percentage of the highest level of reserves, i.e., opening balance plus repayments. All other figures in *shi*.

Table 9.11. Charity Granary Rates of Distribution in Zhili Province, 1749–1792

Year	Opening balance	Loans <sup>a</sup>	Rate <sup>b</sup>
1749	206,688	27,375	13.2
1751	236,604	93,054	39.3
1752	306,278	35,802	11.7
1753	333,363	36,505	11.0
1754	381,328	44,987	11.8
1755	376,579	89,443	23.8
1756	405,550	106,261	26.2
1763	501,792	260,529	51.9
1764	461,437	157,190	34.1
1765	498,597	109,023	21.9
1767	558,223	130,915	23.5
1768	594,328	200,040	33.7
1773	664,402	161,988	24.4
1777	599,653	190,749	31.8
1778	625,165	234,013	37.4
1779	595,677	279,617	46.9
1781	541,889	212,032	39.1
1782	551,297	209,839	38.1
1783	555,779	217,276	39.1
1784	563,188	157,267	27.9
1785	564,921	168,921	29.9
1786	564,969	237,709	42.1
1787	523,238	157,953	30.2
1788	529,121	142,455	26.9
1789	518,718	145,382	28.0
1792	458,577	179,596	39.2

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> See note a to table 9.9.

<sup>b</sup> Loans as a percentage of opening balance (see note b to table 9.8). All other figures in *shi*.

Table 9.12. Community and Ever-Normal Granary Rates of Disbursal in Hubei Province, 1763–1768

Year	Community granaries			Ever-normal granaries			community loans as % of total disbursals
	opening balance <sup>a</sup>	loans	rate <sup>b</sup>	opening balance <sup>a</sup>	disbursals	rate <sup>b</sup>	
1763	742,399	105,141	14.2	1,091,661	280,501	25.7	27.3
1764	723,834	138,100	19.1	1,125,850	200,806	17.8	40.7
1765	676,563	189,364	28.0	1,046,212	656,958	62.8	22.4
1767	679,526	136,500	20.1	820,082	60,032	7.3	69.5
1768	625,171	135,664	21.7	941,171	561,970	59.7	19.4

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> The accounting being “semiclosed,” the opening balances include repayments and represent the highest level of reserves in the year.

<sup>b</sup> Loans or disbursals as a percentage of opening balance. All other figures in *shi*.

Table 9.13. Community and Ever-Normal Granary Rates of Disbursal in Shaanxi Province, 1752–1784

Year	Community granaries			Ever-normal granaries		
	opening balance <sup>a</sup>	loans	rate <sup>b</sup>	opening balance <sup>a</sup>	disbursals	rate <sup>b</sup>
1752	815,145	420,949	51.6	2,988,903	678,258	22.7
1753	820,655	378,941	46.2	2,569,045	641,438	25.0
1754	832,468	378,941	45.5	2,869,669	407,982	14.2
1755	841,617	192,543	22.9	3,338,278	578,676	17.3
1763	870,628	258,939	29.7	2,670,223	771,770	28.9
1764	876,439	314,176	35.9	2,846,851	651,056	22.9
1765	882,534	301,762	34.2	2,568,123	513,069	20.0
1767	888,984	261,664	29.4	3,689,283	839,150	22.8
1768	895,452	268,593	30.0	3,678,555	541,858	14.7
1773	896,301	270,971	30.2	3,491,108	778,658	22.3
1775	888,439	307,994	34.7	3,400,064	800,154	23.6
1777	882,862	296,372	33.6	3,882,787	653,737	16.8
1778	866,885	315,878	36.4	4,172,254	1,779,137	42.6
1779	841,653	315,566	37.5	3,665,292	1,462,562	39.9
1780	838,808	304,730	36.3	3,333,159	1,008,809	30.3
1781	836,114	230,386	27.6	3,519,226	786,329	22.3
1782	819,714	213,683	26.1	3,419,604	622,981	18.2
1783	815,506	199,338	24.4	3,579,859	787,873	22.0
1784	799,853	274,049	34.3	3,694,657	1,694,657	45.9

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

**Notes**

<sup>a</sup> See note a to table 9.9.

<sup>b</sup> Loans as a percentage of opening balance (see note b to table 9.8). All other figures in *shi*.

Table 9.14. Rates of Distribution from All Granaries in Zhili Province, 1749–1792

Year	Ever-normal			Community			Charity			Total reserves
	opening balance <sup>a</sup>	disbursals	rate <sup>b</sup>	opening balance <sup>a</sup>	disbursals	rate <sup>b</sup>	opening balance <sup>a</sup>	disbursals	rate <sup>b</sup>	
1749	3,322,044	1,118,988	34	294,744	120,105	41	206,688	27,375	13	3,823,476
1751	3,194,282	1,548,743	48	301,113	168,944	56	236,604	93,054	39	3,331,999
1752	2,716,779	923,208	34	310,719	137,989	44	306,278	35,802	12	3,333,776
1753	2,744,990	817,228	30	328,411	112,065	34	333,363	36,505	11	3,406,764
1754	2,794,377	620,573	22	333,187	102,687	31	381,328	44,987	12	3,508,892
1755	2,729,650	477,593	18	342,659	76,844	22	376,759	89,443	24	3,449,068
1756	2,633,701	493,718	19	346,102	102,844	30	405,550	106,261	26	3,385,353
1763	4,515,140	3,147,117	70	375,499	176,354	47	501,792	260,529	52	5,392,431
1764	2,981,353	1,307,734	44	399,756	134,222	34	461,437	157,190	34	3,842,546
1765	3,120,374	905,404	29	415,626	95,152	23	498,597	109,023	22	4,034,597
1767	3,202,272	652,706	20	426,747	88,196	21	558,223	130,915	23	4,187,242
1768	3,171,376	894,962	28	433,223	103,414	24	594,328	200,040	34	4,198,927
1773	2,572,163	839,821	33	441,642	95,967	22	664,402	161,988	24	3,678,207
1777	2,648,821	756,790	29	458,201	98,937	22	599,653	190,749	32	3,706,675
1778							625,165	234,013	37	
1779	2,839,768	1,010,635	36	465,707	178,533	38	595,677	279,617	47	3,901,152
1781	3,784,762	966,457	26	411,695	108,529	26	541,889	212,032	39	4,738,346
1782	2,348,941	1,021,749	44	415,690	124,052	30	551,297	209,839	38	3,315,928
1783	2,461,776	1,047,886	43	418,910	120,983	29	555,779	217,276	39	3,436,465
1784	2,328,501	454,291	20	422,870	72,742	17	563,188	157,267	28	3,314,559
1785	2,266,621	657,741	29	422,757	97,639	23	564,921	168,921	30	3,254,299
1786	2,728,045	919,161	34	418,916	129,653	31	564,969	237,709	42	3,711,930
1787	2,530,369	737,062	29	396,190	92,247	23	523,238	157,953	30	3,449,797
1788	2,510,558	561,092	22	398,091	79,520	20	529,121	142,455	27	3,437,770
1789							518,718	145,382	28	
1792	2,096,070	919,926	44	363,885	106,011	29	458,577	179,596	39	2,918,532

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1). See also tables 9.5, 9.7, and 9.11.

**Notes**

<sup>a</sup> See note a to table 9.9.

<sup>b</sup> Disbursals as a percentage of opening balance (see note b to table 9.8). All other figures in *shi*.

Table 9.15. Distribution of Year-End Granary Reserves in Jiangxi Province, 1742–1773 (in *Shi*)

Year	Ever-normal reserves	Percent of total	Community reserves	Percent of total	Total reserves
1742	935,297	81	217,656	19	1,152,953
1747	1,719,844	87	253,551	13	1,973,395
1751	1,369,166	82	296,805	18	1,665,971
1752	1,193,128	80	306,462	20	1,499,590
1753	1,377,971	80	335,754	20	1,713,725
1755	1,377,052	79	364,523	21	1,741,575
1756	1,171,273	75	379,203	25	1,550,476
1763	1,332,558	65	706,001	35	2,038,559
1764	1,287,981	64	721,388	36	2,009,369
1765	1,326,053	64	715,278	36	2,041,331
1767	1,341,352	65	731,768	35	2,073,120
1768	1,323,618	68	621,621	32	1,945,239
1773	1,356,472	66	706,382	34	2,062,954

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).



## North China: Shandong during the Qianlong Period

Jean C. Oi and Pierre-Étienne Will

Most of Shandong Province shares the general climatic, ecological, and agricultural characteristics of the great north China plain. Rainfall is extremely irregular, and most of it is concentrated in the summer months; a comparatively high occurrence of agricultural disasters provoked by excess or lack of water is the consequence. Productivity was generally low in late imperial times, but population densities were extremely high; for this reason, standards of living were low compared with central or south China, and the risk of scarcities was constant. As in the rest of the north, land concentration in late imperial Shandong was relatively low and the most usual situation was a combination of smallholding and small-scale, often partial, tenancy. In spite of some eighteenth-century imperial edicts implying a high rate of tenancy and

relatively harsh conditions for tenants in Shandong,<sup>1</sup> statistical evidence assembled for a sample of villages around 1900 (when land concentration and incidence of landlordism had supposedly increased over eighteenth-century levels) indicates that smallholder cultivation was by far the dominant type: the proportion of landlords and “rich peasants” among the rural population was quite low, while the proportion of tenant-cultivators ranged from no more than some 10 percent in central and northern Shandong and the Grand Canal corridor to 20–30 percent in the promontory and the south and west; smallholders, for their part, cultivated 65–80 percent of the land.<sup>2</sup> Commercialization, although by no means absent, and indeed rather strong around the cities of the Grand Canal and a few nodes like Zhoucun in Changshan County, Jinan Prefecture,<sup>3</sup> was on a smaller scale than in the south and affected a smaller proportion of the aggregate production and consumption of foodstuffs. In a majority of places, the combination of high demographic density and low productivity left room only for small agricultural surpluses, if any. This set of conditions had consequences not only for the general level of commercialization, but also for government grain storage policies.

#### SUBREGIONAL VARIATIONS AND POLITICAL UNITY

These, of course, are simply generalizations. A closer look at any given political unit within the North China ensemble will show considerable variation. Indeed, the portion of space defined as Shandong Province in the hierarchy of field administration offers a good example not only of subregional diversity, but also of the noncongruence (as analyzed by G. W. Skinner) between politically defined administrative regions and

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<sup>1</sup> See Jing and Luo, *Landlord and Labor*, 89–93; and Will, *Bureaucracy and Famine*, 66–67.

<sup>2</sup> See Jing and Luo, *Landlord and Labor*, introduction by Endymion Wilkinson, 8, 9 (table), 34; see also data on landownership, esp. 111, 125, 144. Esherick, *Origins of the Boxer Uprising*, 9 (table), offers comparable estimates.

<sup>3</sup> See, for example, Mann, *Local Merchants*, 74–93.

geographically or economically defined “natural” regions. This, as we shall see, had a significant impact on the layout and management of the government-controlled civilian granary system.

The best regionalization of late imperial Shandong has been suggested by J. Esherick,<sup>4</sup> who distinguishes six different “Shandong regions”: (1) the Peninsula, (2) the Northern Slope, (3) the Southern Hills, (4) the Jining Grand Canal Region, (5) the Southwest, and (6) the Northwest.

The Peninsula and the Northern Slope were, by the mid-nineteenth century, comparatively prosperous and free from major climatic disasters; they benefited from a variegated agriculture and enjoyed a degree of commercialization. But this did not forestall problems of provisioning in the two regions. Eighteenth-century sources describe Dengzhou, Laizhou, and Qingzhou prefectures as remote and difficult to reach. A text devoted to the construction of a new granary in Laizhou during the first years of the century spoke of them as being isolated “between islands and mountains.”<sup>5</sup> Isolation made bulk transportation of foodstuffs very difficult, particularly since the Peninsula did not communicate by river with the core of the province—that is, the regions traversed by the Grand Canal. According to one administrator, merchants had to import food over rough mountain roads.<sup>6</sup> In addition, severe restrictions on sea transportation of foodstuffs during the eighteenth

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<sup>4</sup> Esherick, *Origins of the Boxer Uprising*, 7–13. A largely similar regionalization of the province is proposed in Jing and Luo, *Landlord and Labor*, 12, 156–57.

<sup>5</sup> See *Laizhou FZ*, 13.117a–118b, “Jian Lai fu Xicang ji.” This text was written by none other than Kong Shangren, author of the celebrated *Peach Blossom Fan*. Perhaps Kong was carried away by generalization when he characterized the area as “salty and having been through several cruel famines.”

<sup>6</sup> Shandong governor Erongan, ZP, *GZD*: QL 000545 (16/9/14). It may be noted, however, that in 1726 numerous merchants were reported to have exported grain from Dengzhou, Laizhou, and Qingzhou, which had benefited from a series of plentiful crops, to the Western prefectures of Jinan, Yanzhou, and Dongchang, where weather and harvests had been poor the preceding year and prices were on the rise. See *Shizong shilu*, 48.15b–16a, edict of YZ 4/9/15. Most of the *Shilu* citations in this chapter have been located in *Qing shilu Shandong shiliao xuan*, vol. 1.

century created artificial difficulties:<sup>7</sup> food imports by sea were only possible when temporary lifts of the ban were decided by the court.<sup>8</sup> It may be added that, at least in terms of granary administration, Qingzhou, Laizhou, and Dengzhou were considered small “grain” (*gu*) producers: the major food plants in the region were panicked millet (*ji<sup>a</sup>*), finger millet (or coracan, *shan*), and yellow beans (*huangdou*).<sup>9</sup> In contrast to the Peninsula and the Northern Slope, the Southern Hills was a poor periphery<sup>10</sup> oriented not toward the richer parts of Shandong but toward north Jiangsu and the lower Yangzi.<sup>11</sup> The Jining Grand Canal Region, on the other hand, was very densely populated and benefited from a fair degree of agricultural productivity and of commercialization;<sup>12</sup> the impact of the Grand Canal on this region’s economy was of course considerable, especially when subsistence problems are considered. Indeed, the fact that the only significant artery of the province traversed only two of its regions (Jining and the Northwest) was an important cause of heterogeneity within the Shandong administrative entity. The Jining region, however, was not without its environmental problems, and its southernmost part was vulnerable to frequent and heavy flooding in late summer and fall by the rivers originating in the hilly massifs to the east.<sup>13</sup> In terms of environment, the two most

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<sup>7</sup> On the ban on sea transportation of foodstuffs (*haijin*), see Will, *Bureaucracy and Famine*, 216–25.

<sup>8</sup> See Erongan’s 1751 memorial quoted above, note 6: the governor proposed that, for this year, merchants be allowed to export grain from southern Manchuria to Dengzhou and Laizhou prefectures.

<sup>9</sup> See Shandong governor Cui Yingjie, ZP, GZD: QL 017329 (29/3/20).

<sup>10</sup> Ibid. The characterization of Yizhou Prefecture, in that memorial, is “with barren soil and subject to scarcities” (*di jin yi qian*).

<sup>11</sup> Esherick, *Origins of the Boxer Uprising*, 6, 11, makes the point that south and southwest Shandong must be considered as part of the periphery of the Lower Yangzi—not the North China—macroregion.

<sup>12</sup> Jing and Luo, *Landlord and Labor*, 79, describe the Jining hinterland and the southeast (around Yishui and Ju counties) as the main grain-producing areas of the province.

<sup>13</sup> On the distribution of disaster risks within Shandong, see Esherick, *Origins of the Boxer Uprising*, table 1; and Yuan Changji et al., “Qingdai Shandong shui han ziran zaihai,” esp. tables 6, 10, 12, 14.

problem-ridden regions of Shandong were the Southwest and the Northwest. Both were low-lying and easily waterlogged plains, constantly at risk of disaster. Until the 1850s—when the Yellow River shifted its course to the north—the Southwest had by far the highest incidence of flooding in the province. Dike breaks or over-flowing of the Yellow River and Grand Canal system combined with heavy rainfall in July and August to create waterlogged lowlands. Large parts of the area were transformed into marshes, which sometimes became breeding grounds for locusts—and for bandits. After the mid-nineteenth-century shift of the Yellow River, the same problems plagued the Northwest,<sup>14</sup> a region that had faced less devastating, if still dangerous, threats before that time. In the eighteenth century the Grand Canal and its “tributary,” the Wei River, were full of activity, and the regions they traversed—Dongchang Prefecture and Linqing Department—participated in the commercial activity and labor market maintained along their shores. However, according to Susan Naquin’s careful study of the area,<sup>15</sup> it remained vulnerable to frequent small-scale disasters, and the production of surpluses was always very limited. We might add that the Northwest was the most drought-prone area of the province. There were, however, a few important and comparatively prosperous cities, which, as we shall see, served as major depots for government grain.

Because environmental problems of all sorts created a continual threat of scarcity in virtually every area of the province, the government had to monitor the food supply constantly. But the above-mentioned differences among areas necessitated different approaches—although within a single provincial unit of management and decision-making—to the storage and distribution of grain. Coordination with the neighboring administrative units that would “naturally” communicate with parts of

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<sup>14</sup> See the description of the environment in northwest Shandong (and in the eastern half of the Hebei plain) in Huang, *Peasant Economy*, 59–60; Huang stresses the effects of topographical flatness and other risks such as droughts—particularly damaging during the spring sowing season—and soil alkalization in poorly drained areas.

<sup>15</sup> See Naquin, *Shandong Rebellion*, 6ff.

Shandong (such as south Manchuria, which faced the Peninsula, and Jiangnan, which lay at the foot of the Southern Hills) had in most cases to be mediated by central government agencies and decision-making bodies—although some exceptions will be noted below—and in any case could be done only on an ad hoc basis.

It is noteworthy that in Shandong there was closer government control of bulk grain transportation than in many other parts of China. The Grand Canal was basically devoted to government transportation, which had absolute priority. As has been mentioned, the only other significant means of transferring large amounts of grain—sea transportation around the Peninsula—was limited by restrictions, and its use was determined by government decisions (even when affected by merchants). For these as well as more fundamentally economic reasons, Shandong could not rely on massive private imports of foodstuffs comparable to those that fed the lower Yangzi. This, combined with the comparatively low productivity of the province, may have hampered the development of an economy based on continuous large-scale exchanges.

The importance of government grain storage in this context is obvious. Demand for government aid was constant and sometimes massive; private trade in food-grains was limited and rather narrowly controlled. The peripheries, as everywhere, were in need of substantial reserves that could be mobilized rapidly, but the core regions (those along the canal) were not supported by a permanent commercial influx of food imports, and so were also in need of substantial reserves. To summarize, while the Shandong administration had to manage an integrated system under the direct supervision of the central government, it was faced with an array of different conditions within its jurisdiction, which necessitated choices and coordination.

#### A SYSTEMATIC DESCRIPTION OF SHANDONG'S CIVILIAN GRANARIES

The civilian granary system of eighteenth-century Shandong was dominated, as were the systems of other provinces, by its network of ever-normal granaries, at least one of which existed in each county-level unit. But there were other types of granaries as well. Some, such as the prefectural granaries (*fucang*), the community granaries, and a

few charity granaries, corresponded to empirewide models. Others, such as the student-contribution granaries (*jiangucang*) and the salt charity granaries (*yanyicang*), evolved out of decisions specific to the province. These special granaries, to which were added some reserves of lesser importance, apparently were conceived of as supplements to the main ever-normal reserves; in fact, the ever-normal reserves eventually absorbed them.

In the following sections we shall attempt a synchronic description of the system, arranged by types of granaries, followed by an analysis of the workings of the main component of the system—the ever-normal granary—during the Qianlong reign.

### *Ever-Normal Granaries*

Although the evolution of ever-normal granary reserves as reported by Shandong authorities can be more or less followed at the provincial level—this will be attempted in a later section—the documentation available does not allow us to monitor the changes at the local or even subregional level. Only rarely does a memorial mention that stocks in a given region or locality amounted to such-and-such a figure, or even that they were high or low. The only way to figure out the spatial distribution of ever-normal grain stocks within the province is to use the targets that were assigned to each county. These targets do at least represent the level of reserves that was deemed desirable in light of local conditions of population, production, and accessibility to external resources.

As noted in chapter 9, targets ranging from 12,000 to 20,000 *shi* for county-level units were fixed for Shandong in 1704; the same range was confirmed in 1729, but with more intermediary levels. In addition, a memorial from 1773<sup>16</sup> implies that a new range of 14,000–20,000 *shi* was decided upon in 1748, probably, as suggested in some gazetteers, at the time when the new provincial target was established.<sup>17</sup> The

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<sup>16</sup> See Shandong provincial treasurer Guotai, ZP, *GZD*: QL 027404 (38/12/9).

<sup>17</sup> It may be noted here that local gazetteers suggest that in many counties the ever-normal granaries created by the Qing took over the buildings of the Ming “preparedness granaries”

county ever-normal targets prevailing in the second half of the eighteenth century are reproduced in table 10.1, which is based on the figures listed in the various editions of the *Hubu zeli*. As we saw in chapter 8, in the case of Shandong the figures in the 1776 edition are the same as those in the three nineteenth-century editions. An incomplete list preserved in an undated handbook of local administration, the *Essentials for Financial Secretaries (Qianggu yaolüe)*, only presents a few variants:<sup>18</sup> assuming that they are chronologically consistent, the figures in this handbook must date from before 1764, since the new distribution of prefectural reserves that prevailed after that date, and which appears in the *Hubu zeli* list, does not appear here (see the section on prefectural granaries below). Moreover, the independent departments of Jining and Linqing, as well as their attached counties, are still listed under Yanzhou and Dongchang prefectures, to which they belonged until 1776. These *Qianggu yaolüe* figures are also presented in table 10.1.

Although the Shandong provincial target was among the highest in the empire—it hovered just below 3,000,000 *shi*—it was not considered exceedingly large by the officials in charge of the province. In 1752, for instance, Governor Erongan stressed in two of his memorials that, given the large number of administrative units in Shandong,<sup>19</sup> the resulting local reserves were not very high for a province where annual disbursements in relief, sales, and loans were considerable and where population depended almost entirely on government grain in years of bad harvests.<sup>20</sup>

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(*yubeicang*). Indeed, until around 1750 many were still called *yubeicang*. See, for example, *Taian FZ*, 6.12a; *Ling XZ*; *Yanshou FZ*; *Jinan FZ*, 16 (Linyi County); according to a Shandong handbook of local administration, the *Qianggu yaolüe*, 42a, all the ever-normal granaries of the province were called *yubeicang* until they were given their present appellation in 1750. (This is an undated manuscript whose basis seems to consist of early Qianlong regulations augmented with later materials; the latest date mentioned is 1838.)

<sup>18</sup> See *Qianggu yaolüe*, 41a–b.

<sup>19</sup> More than 110 when including the military *wei* and *suo*.

<sup>20</sup> See Shandong governor Erongan, ZP, GZD: QL 001347 (17/4/2) and QL 001711 (17/5/11). Other memorialists made similar remarks.

Table 10.1. Ever-Normal Targets of Shandong Province (in *Shi*)

Prefecture	County	Target (after <i>HBZL</i> )	Target (after <i>QGYL</i> ) <sup>a</sup>
<u>Jinan</u>			50,000 (in <i>Guangfengcang</i> )
	Licheng	20,000	
	(returned pref.)	50,000	
	Zhangqiu	21,000	
	Zouping	16,000	
	Zichuan	16,000	
	Changshan	16,000	
	Xincheng	14,000	21,000
	Qihe	14,000	21,000
	Qidong	16,000	
	Jiyang	14,000	21,000
	Dezhou	148,000	14,000
	(returned <i>dao</i> )	30,000	
	Dezhou <i>wei</i>	10,000	
	Deping	14,000	
	Yucheng	14,000	21,000
	Linyi	14,000	?
	Pingyuan	16,000	
	Ling	14,000	
	Changqing	14,000	?
	Total	471,000	
<u>Taian</u>			10,000
	Taian	20,000	
	Dongping <i>zhou</i>	18,000	
	Dongping <i>suo</i>	5,000	?
	Donga	14,000	
	Pingyin	14,000	
	Xintai	14,000	
	Laiwu	16,000	
	Feicheng	14,000	
	Total	115,000	
<u>Wuding<sup>b</sup></u>			
	Huimin	20,000	
	(returned pref.)	3,000	
	Yangxin	14,000	
	(returned pref.)	2,500	
	Haifeng	14,000	
	(returned pref.)	1,500	
	Leling	14,000	
	(returned pref.)	2,000	

Table 10.1, cont.

Prefecture	County	Target (after <i>HBZL</i> )	Target (after <i>QGYL</i> ) <sup>a</sup>
<u>Wuding</u> cont.			
	Bin <i>zhou</i>	18,000	
	(returned pref.)	2,500	
	Lijin	14,000	
	(returned pref.)	1,500	
	Zhanhua	14,000	
	(returned pref.)	1,500	
	Putai	14,000	
	(returned pref.)	1,500	
	Qingcheng	14,000	
	(returned pref.)	1,500	
	Shanghe	14,000	
	(returned pref.)	2,500	
	Total	170,000	
<u>Dongchang</u>			
	Liaocheng	20,000	30,000
	(returned pref.)	50,000	10,000
	Tangyi	14,000	
	Boping	14,000	
	Chiping	14,000	
	Qingping	14,000	
	Xin	19,000	
	Guan	14,000	
	Guantao	14,000	
	En	16,000	
	Gaotang <i>zhou</i>	18,000	16,000
	Dongchang <i>wei</i>	10,000	
	Linqing <i>wei</i>	10,000	
	Total	227,000	
<u>Yanzhou</u>			
	Ziyang	20,000	
	Qufu	19,000	14,000
	Ningyang	14,000	
	Zou	19,000	21,000
	Sishui	14,000	
	Teng	21,000	
	Yi	14,000	
	Yanggu	14,000	?
	Wenshang	19,000	?
	Jining <i>wei</i>	10,000	?
	Shouzhang	19,000	?
	Total	183,000	

Table 10.1, cont.

Prefecture	County	Target (after <i>HBZL</i> )	Target (after <i>QGYL</i> ) <sup>a</sup>
<u>Yizhou<sup>b</sup></u>			
	Lanshan	20,000	
	(returned pref.)	3,000	
	Tancheng	14,000	
	(returned pref.)	2,500	
	Bi	14,000	
	(returned pref.)	2,000	
	Ju <i>zhou</i>	16,000	
	(returned pref.)	5,000	
	Yishui	14,000	
	(returned pref.)	5,000	
	Mengyin	14,000	
	(returned pref.)	1,000	
	Rizhao	19,000	
	(returned pref.)	1,500	
	Total	131,000	
<u>Caozhou<sup>c</sup></u>			
	Heze	25,000	
	Cao	21,000	
	(returned pref.)	15,000	
	Pu <i>zhou</i>	18,000	
	(returned pref.)	13,000	
	Fan	14,000	
	Guancheng	14,000	
	Chaocheng	14,000	
	Yuncheng	19,000	
	Shan	21,000	
	(returned pref.)	22,000	
	Chengwu	19,000	
	Dingtao	19,000	
	Juye	19,000	
	Total	253,000	
<u>Dengzhou</u>			
	Penglai	40,000	80,000
	(returned pref.)	33,300	
	Ninghai <i>zhou</i>	36,000	
	(returned pref.)	3,000	
	Huang	34,000	24,000
	(returned pref.)	10,000	
	Fushan	34,000	24,000
	(returned pref.)	3,000	
	Qixia	34,000	24,000
	(returned pref.)	3,000	
	Zhaoyuan	34,000	24,000

Table 10.1, cont.

Prefecture	County	Target (after <i>HBZL</i> )	Target (after <i>QGYL</i> ) <sup>a</sup>
<u>Dengzhou</u> cont.			
	Laiyang	36,000	24,000
	(returned pref.)	4,000	
	Wendeng	34,000	24,000
	(returned pref.)	4,000	
	Rongcheng	14,000	
	Haiyang	14,000	
	Total	373,300	
<u>Laizhou</u>			
	Yi	35,000	100,000
	(returned pref.)	65,000	25,000
	Pingdu <i>zhou</i>	31,000	
	(returned pref.)	7,000	
	Jiao <i>zhou</i>	33,000	
	(returned pref.)	5,000	
	Wei	31,000	
	(returned pref.)	7,000	
	Changyi	29,000	
	(returned pref.)	9,000	
	Gaomi	29,000	
	(returned pref.)	2,000	
	Jimo	29,000	
	(returned pref.)	5,000	
	Total	317,000	
<u>Qingzhou</u>			
	Yidu	30,000	80,000
	(returned pref.)	28,000	20,000
	Boshan	14,000	
	Linzi	24,000	
	(returned pref.)	4,000	
	Boxing	24,000	
	Gaoyuan	14,000	
	Lean	24,000	
	(returned pref.)	4,000	
	Shouguang	26,000	
	(returned pref.)	2,000	
	Changle	24,000	
	(returned pref.)	5,000	
	Linqu	24,000	
	(returned pref.)	7,000	
	Anqiu	26,000	
	Zhucheng	26,000	

Table 10.1, cont.

Prefecture	County	Target (after <i>HBZL</i> )	Target (after <i>QGYL</i> ) <sup>a</sup>
<u>Jining zhou</u>			
	Jining zhou	128,000	18,000
	Jinxiang	21,000	18,000
	Jiaxiang	14,000	?
	Yutai	41,000	18,000
	Total	204,000	
<u>Linqing zhou</u>			
	Linqing zhou	148,000	18,000
	Wucheng	19,000	
	Xiajin	14,000	
	Qiu	14,000	
	Total	195,000	
	Grand Total	2,945,300	

**Sources**

See text.

**Notes**

<sup>a</sup> When different from the *Hubu zeli* (*HBZL*) figure. The figures facing the name of the prefecture are for prefectural granaries (*fucang*). The question mark means that the county is omitted from the *Qianggu yaolie* (*QGYL*) list.

<sup>b</sup> No prefectural grain mentioned in *QGYL*, but county targets are the same.

<sup>c</sup> No prefectural grain mentioned in *QGYL*.

A detailed spatial analysis of the local targets represented in table 10.1 would require a much more in-depth regional study than is possible to attempt here. Nonetheless, it is clear that the theoretical range was considerably enlarged for a number of localities or regions. Most notably, the Northern Slope and Peninsula prefectures of Qingzhou, Laizhou, and Dengzhou had county targets that rather consistently exceeded the theoretical upper limit of 20,000 *shi*. We have already stressed the isolation (in terms of transportation opportunities) of this part of Shandong, and the consequent need, in the eyes of the government, to maintain large reserves there.

Another means of answering specific regional demands was to maintain exceptionally large stocks in a few central localities. As Provincial Treasurer Guotai recalled in a memorial of 1773,<sup>21</sup> the prefectures or departments located on the Grand Canal north-south route, as well as some others whose capital counties were classified as “busy” (*fanju*), had been allotted quotas of reserves higher than the 20,000 *shi* theoretical maximum reconfirmed in 1748: such was the case in, most notably, Linqing, Dezhou, and Jining. Governors had subsequently proposed various adjustments, and some counties had also taken over reserves previously under prefectural administration. The resulting “super-quotas” in 1773 ranged from 70,000 to almost 180,000 *shi*; they are indicated in table 10.1. We shall see in a later section that after the early 1770s—which were difficult years with much relief and other forms of disbursement—these centrally located ever-normal granaries had particularly high deficits resulting from the heavy demands to which they had been subjected. To summarize, the opportunities for rapid dispatch of grain afforded by the Grand Canal artery had an immediate impact on the government’s repartition of reserves.

The creation of special granaries (the so-called *fucang*) that were managed by the prefectural administrations and operated according to ever-normal guidelines was also a means to maintain “strong points” in the provincial network of ever-normal reserves. These granaries were not, however, without problems.

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<sup>21</sup> See note 16 above.

*Prefectural Granaries.* The Qing policy regarding prefectural granaries appears to have vacillated. On the one hand, it seemed appropriate to accumulate large reserves in prefectural capitals, since these were generally the largest cities of the prefectural territory and were centrally located, which permitted the easy dispatch of reserves to the subordinate departments and counties. On the other hand, the perennial problem of grain turnover could only be amplified by the concentration of large stocks in a single location. What is more, it was not always clear whether the management of prefectural reserves should be entrusted to the prefect or to the magistrate of the leading county. It seemed that control might be easier in the latter case, but the burden was sometimes too great for a magistrate. In any case, most of the prefectural granaries created at the beginning of the Qianlong reign were eventually suppressed, their reserves being annexed (*guibing*) to those of the capital county or distributed among the various counties attached to the prefecture.

A few documents tell us how the question of the advisability of maintaining prefectural granaries was raised in Shandong. In 1764, Provincial Treasurer Liang Zhuhong insisted in a memorial that it was important to have well-stocked *fucang* in the four “maritime” prefectures of Dengzhou, Laizhou, Qingzhou, and Wuding—peripheral areas that were difficult to provision from the outside.<sup>22</sup> At that time, Qingzhou, Dengzhou, and Laizhou had prefectural quotas of, respectively, 80,000, 80,000, and 100,000 *shi*. But Wuding, a remote, less productive territory on the seashore, had no prefectural granary because it had only been upgraded from department to prefecture in 1743.<sup>23</sup> Liang consequently proposed to divert 20,000 *shi* from the Laizhou stock to the various counties of Wuding.<sup>24</sup> Because of the difficulties of transportation, the grain would not actually be moved, but would be sold in

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<sup>22</sup> See Liang Zhuhong, ZP, GZD: QL 017234 (29/3/2).

<sup>23</sup> Although we do not have precise evidence, the *fucang* seem to have been created in the very first years of the Qianlong period, that is, in the late 1730s.

<sup>24</sup> Wuding controlled ten county-level units whose ever-normal targets totalled no more than 150,000 *shi* of grain, which was deemed insufficient in this sort of environment.

Laizhou and the money remitted to the counties of Wuding to be used for grain purchases after the autumn harvest.

Fewer than twenty days later, the governor of the province, Cui Yingjie, who had been asked by the emperor to discuss Liang's proposal, affirmed that one could only expect problems by maintaining large prefectural stocks in such locations.<sup>25</sup> He recalled that in Shandong only Jinan, Dongchang, Qingzhou, Laizhou, and Dengzhou had *fucang*; Caozhou also had "prefectural grain" (*fugu*), but it was dispersed among the counties attached to the prefecture.<sup>26</sup> The problem raised by the large quotas of Qingzhou, Dengzhou, and Laizhou was that it was difficult to ensure sufficient turnover in regions that, as we have seen, produced little millet (*gu*) of the variety suitable for long-term storage. Restocking purchases had to be entrusted to the various counties and added to county granary purchases, which resulted in high prices and other difficulties for the local population, not to mention the costs of transportation to the prefecture (and from the prefecture when distant counties needed aid) and the abuses and irregularities that cropped up in the process. Cui had already realized, in his previous position as provincial treasurer, that prefectural reserves were inconvenient both for officials and for the people. Governor Aertai had asked in 1758 for quotas to be reduced and prefectural reserves distributed among counties, but he had been refused by the Board. Cui, who considered Liang's plan unsatisfactory, now reiterated Aertai's request. The prefectural reserves in Qingzhou, Dengzhou, and Laizhou would be reduced to 50,000 *shi* (the current figure for Jinan and Dongchang), of which only 20,000 *shi* would be kept in the prefectural seat, the rest being distributed among the other counties, for a total saving of 110,000 *shi*. Of this sum, 70,000 *shi* would be definitively cut from the provincial quota, while the remaining 40,000 *shi* would be shared between Wuding and Yizhou prefectures, which until that time had had no

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<sup>25</sup> See Cui Yingjie, ZP, GZD: QL 017329 (29/3/20).

<sup>26</sup> Taian Prefecture also had a *fucang* established in 1742, but its reserve was no more than 783 *shi*, plus 648 *shi* of "student grain" (*jiangu*) and 135 *shi* contributed by the prefects; it was returned to the management of Taian County in 1750. See *Taian FZ*, 6.12a.

prefectural grain at all. These two prefectures would not, however, have a central prefectural granary; instead, the grain would be distributed among the various counties.

In short, Governor Cui's proposal, which was apparently accepted,<sup>27</sup> amounted to maintaining prefectural granaries, but in a more "diluted" way than had been the case until then.<sup>28</sup> When in 1765 the Board ordered that prefectural stocks be returned to the management of the capital counties (*gaigui shouyi guanli*), Cui argued that since prefectural reserves were dispersed among different counties, this order would require a costly reconcentration of the grain in prefectural cities. He asked that in these cases the previous system be maintained—that is, that the former prefectural grain be entrusted to the various magistrates who were already in charge of it. This proposal too was accepted.<sup>29</sup>

*Grain Transfers.* The high local targets alluded to in the preceding sections were intended for distribution in areas vastly exceeding the immediate hinterland of the prefectures or counties for which they were established. Let us briefly examine the medium- and long-distance transfers of grain in which these granaries participated.

In general, Shandong appears to have been fully engaged during the Qianlong years, especially during the first half of the reign, in the interregional movements of grain stocks that characterized Qing subsistence policy at that time. Depending on circumstances, the province could either receive grain from abroad or send reserves to neighboring

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<sup>27</sup> This is confirmed by the figures of "grain merged from the prefectural granary" (*fucang guibing gu*) in table 10.1, although there are some variants: if the total for Qingzhou has indeed been reduced from 80,000 to 50,000, the total for Dengzhou still amounts to 63,000, and Laizhou keeps its 100,000 *shi* of prefectural grain; besides, the prefectural seats present figures consistently higher than the 20,000 *shi* advocated by Cui Yingjie.

<sup>28</sup> To be sure, centralizing large reserves had advantages, even in places far away from the Grand Canal. We shall see in the next section that, at least once, important prefectural stocks were shipped across the sea from Dengzhou and Laizhou to Tianjin and Zhili Province. However, such operations were not very frequent, and their benefits were probably outweighed by the problems just outlined.

<sup>29</sup> See *Gaozong shilu*, 747.15b–16b, entry of QL 30/10/26.

provinces. Its principal means of communication with the exterior was of course the Grand Canal, but sea transportation also played a role in some instances.

Many examples illustrate the interactions of the Grand Canal and grain tribute organization with those segments of the Shandong granary system that had access to it. Cities like Jining, Liaocheng, Dezhou, and Linqing, which already had very large quotas of ever-normal reserves (not to mention large tribute granaries in some of them), were able to function as centers of relief distribution over a vast hinterland and to reroute tribute grain coming from the south. (Of course the Canal and its tributaries were also used for intraprovincial transfers between granaries.)<sup>30</sup> Tribute grain, which was basically husked rice, was not meant for long-term storage, and when it was sold or lent it would be returned to the granaries as regular unhusked *gu*.<sup>31</sup>

The need to supplement local reserves with tribute grain was felt particularly during periods of dearth, when relief and other forms of aid had to be organized on a large scale. In the autumn of 1761, for example, floods along the canal necessitated relief, loans, sales, etc., in some forty-five administrative units. Of Shandong's grain tribute for that year, 100,000 *shi* were consequently retained in the province for local storage.<sup>32</sup>

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<sup>30</sup> In 1753, for example, counties along the canal were required to send some 40,000–50,000 *shi* from their own reserves to Tancheng County in Yizhou Prefecture, which, along with neighboring Lanshan County, had suffered severe flooding and would be in need of loans and sales of government grain during the following spring. See Shandong acting governor Yang Yingju, ZP, *GZD*: QL 004659 (18/10/1). Two years later, the same procedure was repeated: see Bai Zhongshan (then concurrently director-general of the conservancy of the Yellow River and Grand Canal and Shandong acting governor), ZP, *GZD*: QL 010517 (20/10/9), in which precise figures for the transfers decided upon are presented.

<sup>31</sup> A decision of 1736 stipulated that rice tribute from the south retained at Linqing or Dezhou be rapidly sold and the proceeds forwarded to nearby counties, which would buy unhusked *gu* and store it. See *Qiangyu yaoliu*, 47a.

<sup>32</sup> See *Gaozong shilu*, 645.23a, entry of QL 26/9/30, and 646.13a–b, edict of QL 26/10/9.

In 1778, 20,000 *shi* of wheat in transit from Henan to Zhili were retained in Shandong for storage in the counties with docks along or near the canal. This grain was intended for seed loans in the western Shandong prefectures, where the earlier wheat crop had been lost.<sup>33</sup> Later during the same year, 50,000 *shi* of Jiangxi tribute rice (*mi*) were similarly retained for storage in Jining.<sup>34</sup>

In 1782, no less than 300,000 *shi* of Jiangxi tribute rice were again rerouted to Shandong; 200,000 *shi* were stored at Jining and 100,000 *shi* at Liaocheng, the capital city of Dongchang Prefecture.<sup>35</sup> In the spring of 1783, most of the reserves in Jining had been distributed as relief in the department and its counties, but some 60,000 *shi* (of *mi*) were still stored in Liaocheng. Since Jining's own large ever-normal reserve of 100,000 *shi* (at least this was the target) had already been disposed of as relief, both in Jining and in other regions, during the preceding years, a transfer from the Liaocheng stock was ordered to ensure the annual spring sales and loans.<sup>36</sup>

Shandong was not only an importer of grain from outside the province, but a supplier as well. Neighboring areas such as southern Zhili or northern Jiangsu were equally vulnerable to disasters, and they regularly demanded aid. Of course, Shandong was by no means a regular producer of food surpluses, as were, for example, Hunan and Sichuan, whose granaries could more often be required to transfer reserves abroad because restocking was easier for them. Rather, Shandong was part of an ensemble of regions with low agricultural productivity and

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<sup>33</sup> This was proposed by Shandong governor Guotai, ZP, *GZD*: QL 035516 (43/6\*/10), and apparently accepted by the emperor.

<sup>34</sup> See Guotai, ZP, *GZD*: QL 037166 (43/12/14).

<sup>35</sup> Floods had hit a large number of counties in Shandong in the late summer of 1781. Relief was distributed in thirty-six counties. The decision to retain Jiangxi tribute grain was made after new floods affected Yanzhou and Caozhou prefectures and Jining Department during the autumn of 1782. Additional relief was still being distributed in early 1783. See, among others, *Gaozong shilu*, 1136.21a–b, entry of QL 46/7/10; 1146.17a, entry of QL 46/12/8; 1163.5a–6a, edicts of QL 47/8/18; 1163.33a–34a, edict of QL 47/8/29; 1172.2b–3b, edict of QL 48/1/2.

<sup>36</sup> See Shandong governor Mingxing, ZP, *GZD*: QL 044229 (48/3/6).

large populations living more or less at subsistence level, where local scarcities had to be met either by internal transfers, or, if necessary, by imports from the Yangzi valley through the Grand Canal grain-tribute system. Some of the transfers within this ensemble were *from* Shandong.

One of the most interesting examples appears in a memorial of 1753, which describes in exceptionally concrete and technical detail the procedures that were followed.<sup>37</sup> Four prefectures of northern Jiangsu had been severely affected by floods. The governor of Jiangsu directly wrote his counterpart, Yang Yingju, the acting Shandong governor, asking about the quantity of aid Shandong granaries could provide for relief, current grain and wheat prices in Shandong, and the possibility of Shandong counties buying grain on behalf of the Jiangsu provincial government (*dai wei choumai*). He offered to send officials to deliver the money and take charge of the transportation. Yang Yingju consented, and calculated that 70,000 *shi* of unhusked millet and 15,000 *shi* of wheat (or exactly one third of the grain stored in the counties concerned) would be available from Jinan, Yanzhou, Dongchang, Caozhou, and Yizhou prefectures.<sup>38</sup> In order to reduce transport costs, and since relief had to be distributed in husked grain, the grain would have to be husked when taken out of the Shandong granaries.<sup>39</sup> When he memorialized the emperor, Yang had already asked his colleague from Jiangsu which quantities had to be delivered at which ports, and had ordered the granaries of Shandong to husk the necessary amounts of grain.<sup>40</sup> Interestingly, he also insisted that Shandong officials accompany the grain to Jiangsu, claiming that if officials from Jiangsu came to pick up the grain in the respective Shandong counties, “their orders would not be obeyed” (*huying bu ling*). The Shandong officials would

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<sup>37</sup> See Shandong governor Yang Yingju, ZP, GZD: QL 004523 (18/8/17).

<sup>38</sup> Current stocks in Shandong were only 50 percent of the theoretical reserves (*yuan'e*), but harvests were plentiful and there was no immediate need of government grain.

<sup>39</sup> This, according to Yang, had already been done on an earlier transfer of 100,000 *shi* of grain in 1743, from the Jining and Linqing granaries.

<sup>40</sup> The husk would be sold and pay for the cost of husking.

take with them the measures that had been used when loading, and this would avoid complicated verifications at the time of unloading in Jiangsu.<sup>41</sup>

Yang was opposed, however, to the grain purchases on behalf of Jiangsu suggested by his colleague, claiming that Shandong's markets were still weak, that price rises remained a risk, and that in any case, an earlier rescript had ordered a pause in government purchases. He would only agree to transfers from granaries, and indeed, he was ready to consider additional transfers of this sort if relief in Jiangsu required it. "In no case," he wrote, "would I dare to be in the least partial [in favor of my own province]" (*duan bu gan shao cun qishi*)—responding in advance to a favorite accusation of the eighteenth-century Qing emperors against their field bureaucracy.

As we can see from this example, granary reserves allowed officials to send immediate aid to neighboring areas regardless of the market conditions of the moment. In other words, the state was making up for the insufficiencies of the private sector. The speed with which such transfers could be decided and organized is also remarkable: in his memorial, Yang was simply informing the emperor of steps that had already been taken and asking for his formal approval.

Other transfers from Shandong to northern Jiangsu occurred. In 1756, for example, the emperor ordered Henan and Shandong to buy several tens of thousands of *shi* of wheat for sales at reduced prices in areas of Jiangsu that had suffered disaster in 1755. To avoid the delays of the purchasing process, Governor Bai Zhongshan of Shandong immediately sent 20,800 *shi* of wheat from the Dongchang prefectural granary.<sup>42</sup> Anticipating the need for further help, he also ordered those counties with access to the canal to take advantage of the currently very low prices by buying grain with provincial funds and storing it. If it turned out that Jiangsu did not need aid, the wheat would be sold during

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<sup>41</sup> Literally, "avoid the inconveniences of comparing the delivery" (*mian jiaodui zhi fan*). This detail suggests that the standardization of measures in government operations had only been partially achieved.

<sup>42</sup> See Bai Zhongshan, ZP, GZD: QL 012069 (21/6/4).

the next autumn or spring and the money returned to the provincial treasury. In other words, not only did granaries shorten delays in sending aid to neighboring provinces, but they also stored future aid (which was not necessarily drawn from ever-normal reserves) and kept it ready for delivery.

Shandong's granaries also transferred reserves northward to Zhili. An example from 1738 reveals a conflict between the governors of Shandong and Zhili about what form of transfer was preferable: Famin, the Shandong governor, wanted to deliver 100,000 *shi* of old grain (*chengu*) from the granaries of Linqing and Dezhou, but Li Wei, governor-general of Zhili, argued that the time for sales and loans had passed and that it would be inconvenient to store stale grain that could spoil rapidly: his preference was to send officials in Shandong to buy wheat on the market. The Board of Revenue arbitrated in favor of the granary transfer (Linqing and Dezhou stored 390,000 *shi* by that time), but on the condition that the grain be dry and of good quality.<sup>43</sup>

In 1739, the granaries of Linqing, Dengzhou, and Laizhou again sent 100,000 *shi* of grain as aid to the capital province.<sup>44</sup> This was in addition to an earlier transfer of 200,000 *shi* from the same granaries and the one in Dezhou. In both cases, several assistant prefects from Zhili came to Shandong to get the grain. Table 10.2 summarizes the distribution of the effort among the different granaries. The transfers from Dengzhou and Laizhou were made by sea. The cost of transportation was remitted to Tianjin County, which was in charge of hiring boats and keeping them ready to leave after the spring thaw. As these examples show, in the late 1730s Shandong had large reserves in its granaries, and significant transfers to Zhili were possible, both by the canal and from the coastal prefectures.<sup>45</sup>

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<sup>43</sup> See *Gaozong shilu*, 66.8a–9b, entry of QL 3/4/6.

<sup>44</sup> See a memorial of Zhili governor-general Sun Jiagan (QL 4/1/24), in *HKSS* QL 4/2, *zhongce*.

<sup>45</sup> See also *Gaozong shilu*, 82.6a–b, entry of QL 3/12/4, and 83.39b–41a, entries of QL 3/12/29.

Table 10.2. Transfers from Shandong to Zhili, 1739

Transfer	Linqing <i>cang</i>	Laizhou <i>fucang</i>	Dengzhou <i>fucang</i>	Dezhou
First				
quantity ( <i>shi</i> )	60,000	60,000	40,000	40,000
transport cost ( <i>liang</i> )	5,000	3,000	2,000	?
Second				
quantity ( <i>shi</i> )	40,000	30,000	30,000	
transport cost ( <i>liang</i> )	3,000	1,500	1,500	

**Source**

Zhili governor-general Sun Jiagan, memorial quoted in *HKSS*, QL 4/2, *zhong ce*.

Other examples could be adduced that further illustrate the participation of Shandong's ever-normal granaries in interregional operations of food redistribution.<sup>46</sup> According to need and circumstance, the granaries either contributed their own reserves or served as repositories for grain transferred from elsewhere. They also acted as centers for storing, husking, and dispatching grain bought by the government, keeping ad hoc reserves ready for transfer, and so forth. Of strategic importance, of course, were the large ever-normal and tribute granaries in the cities along the canal, from Jining in the south to Linqing in the

<sup>46</sup> Thus, in 1763 the government ordered Shandong to transfer 200,000 *shi* of husked grain to Zhili, where weather conditions had been unfavorable during the autumn of 1782 and the spring of 1783 (see *Huangchao shihuozi*, 5, *jizhu*, 24). However, that was cancelled shortly thereafter, and the grain, which had either been bought on the market or been taken from ever-normal reserves, was held *en route* in the Jining, Dongchang, Linqing, and Dezhou areas, or returned to its place of origin (and then, mostly, sold or lent when it turned out that there was no need for it in the current year, whether in Zhili or in Shandong). See Shandong governor Cui Yingjie, ZP, *GZD*: QL 015569 (28/8/1).

north, which were major centers of storage and transshipment for operations of multiprovincial scale.

#### OTHER TYPES OF GRANARIES

Several types of granaries in Shandong had a purely local role and appear as mere annexes to the main system described so far. Their very existence, however, as well as the efforts of the government to initiate them, are evidence that there was a perceived need for a network of public reserves denser than that of the ever-normal granaries. But community granaries in Shandong do not appear to have been a big success, nor did the “salt charity granaries” (*yanyicang*) instituted at the beginning of the Qianlong reign and the “student-contribution granaries” (*jiangucang*) last for very long. These granary efforts remain important, however, for what they accomplished and because the grain stored in them was subsequently moved into the ever-normal granaries.

*Community granaries.* As was noted in chapter 2, the Qing’s first comprehensive and empirewide efforts at creating community granaries in the Chinese countryside date from the beginning of the Yongzheng reign, when the emperor strongly urged the field bureaucracy to encourage—but not to force—private contributions and to develop rural granaries that, it was hoped, would remain free of official control.

In Shandong, as elsewhere, efforts were made in this direction during the mid-1720s.<sup>47</sup> But there is little evidence that community granaries there ever developed to the same extent as those in several other provinces. Indeed, there are no provincial statistics for *shecang* holdings in Shandong—neither in the *minshu gushu* memorials (which apparently concern only ever-normal grain) nor in separate memorials—but only isolated provincial figures, generally of arrears, appearing in a few memorials. A cursory examination of local gazetteers indicates that community granaries were rare and that where they existed, they did not always exemplify the theoretical ideal of reserves

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<sup>47</sup> They were not without antecedents, dating back to the Ming dynasty. In particular, serious efforts seem to have been made during the Wanli period.

scattered across the countryside and serving the needs of each neighborhood. To give but one example, the Yizhou prefectural gazetteer states that by 1760 only one county out of seven (Mengyin County) had community granaries. These had been established in response to imperial edicts of 1724, 1725, and 1726, but from the start the contributions from most of the districts (*xiang*) had been stored in the ever-normal buildings at the county city. Only one group of remote communities, located 150 *li* away from the city and not easily accessible, stored its reserves locally.<sup>48</sup>

Storing community reserves in the county seat seems in fact to have been a rather general policy of Shandong officials during the 1760s.<sup>49</sup> Even where this was not the case, the general picture suggested by the evidence is that of a very irregular layout of community granaries across Shandong, whether in terms of geographical distribution or of size of reserves.<sup>50</sup> And whatever their size and location, most of the reserves

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<sup>48</sup> See *Yizhou FZ*, 5.13a.

<sup>49</sup> For example, the Tancheng County gazetteer mentions, under the date 1763, “annexed” community and charity grain (*shecang bing yicang guibing gu*)—that is, obviously, both kinds of grain having been annexed to ever-normal reserves; see *Tancheng XZ* (1819 ed.), 2 (it may be noted that the Yizhou prefectural gazetteer does not even mention community grain for Tancheng). According to the gazetteer of Qingping County, the magistrate called in 1771 for the suppression of community granaries, and their reserves were annexed (*fuzhu*) to ever-normal reserves in the county city; see *Qingping XZ*, B2. In Zhucheng County of Qingzhou Prefecture, community granaries were reestablished in 1735 in the wake of a plentiful harvest, but in 1761 the accumulation of abuses with decentralized rural storage led the authorities to concentrate community grain in the county city and to assume control of disbursements and restocking; by 1764 the reserves amounted to 3,553 *shi* (*Zhucheng XZ*, A9.12a–b). In 1767 the community granaries of Yutai, Jinxiang, Ziyang, Zouping, Sishui, and Teng counties were put under the magistrates’ control and mostly moved to ever-normal granaries; see, for example, *Yanzhou FZ*, 10. We also know that the community reserves of Linqing were transferred to the department city at an unspecified date; by 1785 they amounted to a mere 572 *shi* (*Linqing zhili ZZ*, 3.39a–46b). Changqing County’s eleven community granaries were suppressed in 1781 when the grain, which totaled no more than 1,479 *shi*, was brought back to the county granary, entirely distributed to the population, then exempted from reimbursement in 1786; see *Jinan FZ*, 16.

<sup>50</sup> The following data, culled from a sample of local gazetteers, may give the reader a sense of this irregularity. Boshan in Qingzhou Prefecture had four community granaries located in villages (*zhuang*), but they were administered by the county authorities (*guan wei zhu*

passed under official control, administratively and often physically, during the 1760s and 1770s.

As noted in chapter 3, the question of official control of community granaries was much debated during the Qianlong reign, and in the end it was generally admitted that the advantages of official supervision definitely outweighed its disadvantages. The Shandong case shows, however, that there was some resistance against this trend at the central government level. How the question was posed in that province is adequately summarized in a memorial submitted by Governor Guotai in 1778.<sup>51</sup> Guotai did not deny the usefulness of a network of community granaries, as such reserves “can relieve [people] not reached by the ever-normal granaries” (*keyi ji changping zhi bu ji*). Community stocks consisted of grain contributed by the population. Originally, disbursements had been left to the initiative of the local granary directors (*shezhang*) without any control from the bureaucracy. Starting in 1772, however, Governor Xu Ji had required figures of community reserves and disbursements to be communicated each year to the Board of Revenue. This, Guotai said, marked the beginning of official “responsibility”

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*zhi*): see *Qingzhou FZ*, 27, quoting from the Boshan gazetteer of 1753. The community granaries of Laizhou Prefecture were only established in 1734, and by 1738 their reserves ranged from 420 to 2,200 *shi* per county: see *Laizhou FZ*, 3, *cangchu*. Taian County established two *shecang* in its capital city in 1735, but they had disappeared by 1760; in 1741 nine granaries had been founded in villages, and some other counties of Taian Prefecture also had a few rural community granaries: see *Taian FZ*, 6.12a–13b. The same was true of Xiajin County, attached to Linqing: see *Linqing zhili ZZ*, 3.39a–46b. The counties attached to Caozhou Prefecture all had community granaries, established in 1733, and during the mid-1750s their reserves ranged from 260 *shi* to 3,539 *shi* in the prefectural seat: see *Caozhou FZ*, 7.56b–58a. In Changyi County of Laizhou Prefecture, where very little grain had been left from a preceding effort, two community granaries were built in each of the four *xiang* in 1740, plus one in the county city. The magistrate, following instructions from the governor, personally toured the countryside to urge contributions, select locations for the granaries, and appoint directors; within two years he had collected more than 5,000 *shi* of grain: see *Changyi XZ*, 3.84aff., and 8.254b–265a, a text entitled “Jian shecang ji” by Magistrate Zhou Laibu. Finally, Jimo, probably by the early 1760s, had seven community granaries in seven different locations, storing a total 3,912 *shi*, plus 1,145 *shi* of “charity grain” (*yigu*<sup>b</sup>): see *Jimo XZ (xuxiu)*, 5.23a.

<sup>51</sup> See Guotai, ZP, GZD: QL 033939 (43/1/19).

(*zecheng*) in community granary management.<sup>52</sup> But the local granary directors remained in charge of extending and recovering loans. The problem was that few people were volunteering for the position: well-to-do families were wary of incurring liabilities, while poor households often took advantage of it to embezzle. Even if a few “honest and rich” citizens happened to accept the function, when the time came to lend grain they could not avoid being partial to their neighbors, even when the latter were landless people who would be insolvent after autumn, not to speak of the problem of people who might respond violently when pressed to repay their loans. As a result, the directors could only camouflage the arrears as new “loans” year after year, and in spite of the registers communicated to the board there was less and less grain actually going back to the granaries.

The remedy, according to Guotai, was to transfer the whole management to the county administration. The grain would still be stored in the rural *xiang*, but the designated “affluent and honest” granary directors would only be in charge of keeping it secure during the year. At the time of extending spring loans, the local constables (*dibao*) would draw up lists of poor peasants who were entitled to loans on the basis of having tilled the soil. These lists would be checked against the lists of taxpayers in the county offices, and only then would the *shezhang* be authorized to make the loans. For repayments, the *dibao* would receive the lists of borrowers from the yamen and be in charge of collecting the grain and remitting it to the granary directors. Late in the winter, the magistrate would make an inspection tour before drawing up the register of repaid and outstanding loans destined for the board. In other words, what the governor advocated was a complete bureaucratization of the process under the aegis of the county administration, the “directors” being no more than mere granary custodians.

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<sup>52</sup> In fact, as we have just seen, in several places officials fully managed community reserves well before that date. The *Qianqu yaolüe*, 52a–b, alludes to Xu Ji’s request and states that from then on community granary accounts were included in the year-end and post-transfer records.

The Board of Revenue rejected the proposal.<sup>53</sup> While admitting that rural management and storage of community stocks presented its own set of problems, the central administration conservatively maintained that the advantages of the Shandong governor's plan were outweighed by the extra expenses it would entail for the people and by the opportunities for corruption it would offer the yamen personnel and rural *dibao*. They also argued the plan would simply take away grain that could have been lent to the population.

Nevertheless, Guotai's proposal was well attuned to the general mood of the time, especially in Shandong. The rules he was advocating were quite close to the regulations governing loans of ever-normal grain.<sup>54</sup> And we have seen that in the 1760s much community grain was already under the control of the magistrates and that some of it had been transferred to the county granaries.<sup>55</sup> As was the case with other sorts of reserves that we will examine below, the trend was toward suppressing their distinctiveness, annexing them to ever-normal stocks, and centralizing the whole system in county cities. In reality, by 1778 very little of the community grain still existing in Shandong was to be found in the countryside.

*Student-Contribution and Charity Granaries.* In the theoretical structure of Qing civilian granaries, charity granaries constituted an intermediate tier between the ever-normal granaries directly run by the bureaucracy and the rural community granaries stocked and managed by the local population. Ideally, they would be located in intermediate market towns (*ji*<sup>b</sup>). As has been pointed out earlier in this volume, this theoretical construction was only realized in a few northern provinces—and there incompletely. Shandong was not among them. A general order to set up charity granaries had come in 1747, in the wake of the efforts of governors-general Nasutu and Fang Guancheng in

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<sup>53</sup> See *Huidian an: jizhu qingce*, year 1778, quoting Guotai's memorial.

<sup>54</sup> On which topic, see the last section of this chapter.

<sup>55</sup> A move that in 1774 was still considered condemnable by the Board of Revenue: see the decision quoted in *Qianggu yaoliu*, 52b. Obviously, local practices and central directives were sometimes at odds.

Zhili: one year later the Shandong governor, Zhuntai, memorialized that his own efforts had not borne fruit because a bad harvest in 1747 had left the people too impoverished.<sup>56</sup>

But curiously enough, when Zhuntai enthusiastically announced in 1749 that he was taking advantage of a good harvest (following several bad years) to launch a contribution drive and establish charity granaries, an imperial edict severely rebuked him for such a “stupid” move: it was much better, the emperor said, to leave the grain in the market, especially at a time when ever-normal purchases had just been stopped.<sup>57</sup> In his answer to the edict, the governor abjectly admitted that he had understood nothing about the situation, compliantly paraphrased the emperor’s arguments *against* setting up charity granaries in this case, and affirmed that he had immediately cancelled the contribution drive and would wait for a series of bumper crops before considering such a move again.<sup>58</sup> And that was the end of it: never again was there any question of setting up a comprehensive network of charity granaries in Shandong.<sup>59</sup>

Contributions were, however, raised in eighteenth-century Shandong through other methods and stored in other types of granaries. These were the student-contribution granaries (*jiangucang*, or *jiancang*),

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<sup>56</sup> See Zhuntai, LF, *JJCD*: QL 003509 (13/10/26).

<sup>57</sup> Zhuntai, LF, *JJCD*: QL 004822 (14/8/24), and *Gaozong shilu*, 347/14, edict of QL 14/8/29. It is indicative of the uncertainties concerning desirable policies that the emperor could have very strong words against charity granaries only two years after having endorsed plans to set them up in north China. Apparently, this new attitude was related to the current policy of maintaining relatively low levels of storage.

<sup>58</sup> See Zhuntai, LF, *JJCD*: QL 004965 (14/9/23).

<sup>59</sup> However, we do find in a few local gazetteers mention of charity granaries in the eighteenth century. For example, *Tancheng XZ* (1763 ed.), 5.34a, mentions 4,728 *shi* of contributed charity grain, but it does not seem that there existed specific granaries for it; the same is true for Jimo County, which had 1,145 *shi* of charity grain, probably during the early 1760s (see above, note 50). See also *Jiao ZZ* (1752 ed.), 2. The prefectural gazetteer of Taian mentions several charity granaries, which had already disappeared by 1760: *Taian FZ*, 6.12a–13b.

which will be described here, and the salt charity granaries (*yanyicang*), to which the next section is devoted.

“Student grain” was accounted for separately from other types of reserves, and in many cases it was stored in separate granaries, at least through the 1760s. Apparently, the reserves subsumed under this name were collected during several campaigns to raise contributions in exchange for the title of “student of the imperial academy” (*jiansheng*), a method we have encountered in other provinces as well. The Laizhou prefectural gazetteer tells us that a contribution drive was launched in 1704 (although it is unclear whether it concerned Laizhou itself, or a wider area, or the entire province); the target for Laizhou, fixed at 150,000 *shi* of husked grain, had been reached by 1708: 301,060 *shi* of unhusked grain were stored at that date, requiring the construction of new granaries. We do not know exactly how the reserves were to be used, but we can see in the case of other student-contribution granaries that the grain was disbursed in the same way as ever-normal grain. At the beginning of the Qianlong reign, student-contribution reserves in Laizhou were still significant: the prefectural granary stored 195,330 *shi* of it in 1738, for example, and several counties also had sizable amounts.<sup>60</sup>

It is probable, however, that some of this grain had been collected during later campaigns. In fact, we know that a new contribution drive was decided in 1738. Governor Famin proposed the following guidelines, which were approved by the Board of Revenue: (1) the targets for the “contributed increments [to ever-normal reserves]” (*juanzeng*) would be fixed according to the current quotas of each place; (2) the size of the individual contributions in grain would be determined according to current market prices (the figure fixed by the board was expressed in silver); (3) building and management costs would be calculated according to a recent precedent from Hubei Province; (4) intendants would be sent to the counties to ensure that there were no abuses such as excess levies (*fushou*) or engrossment (*baolan*); and (5) the operation would be stopped when contributions totalled 1,100,00

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<sup>60</sup> See *Laizhou FZ*, 3, *cangchu*. See also the text by Kong Shangren cited above, note 2.

*shi*.<sup>61</sup> In all probability, most of these contributions were accounted for under a separate budget and stored in separate granaries. At some times during the 1730s and 1740s they amounted to quite sizable reserves.<sup>62</sup> Yet the available evidence suggests that by the 1760s student-contribution grain had ceased to exist as an independent reserve and had been annexed to the main ever-normal system. Exactly the same process occurred with the “salt charity” reserves.

*Salt Charity Granaries.* The so-called salt charity granaries (*yan-yicang*) were created in Shandong during the early Qianlong period.<sup>63</sup> Unlike the salt charity granaries that operated in other provinces, the *yanyicang* of Shandong did not restrict their service to salt households, but were meant as an addition to the other granaries that already served the general population. In fact, their creation was inspired both by the

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<sup>61</sup> See *Gaozong shilu*, 71.11a–b, entry of QL 3/6/29.

<sup>62</sup> For instance, Shouguang County in Qingzhou Prefecture had a student-grain granary built in 1739: see *Qingzhou FZ*, 27.10a–13b. In Changyi County of Laizhou Prefecture, ten bays of student-grain granaries were built in the same year, and by 1742 the stocks of student-grain amounted to 10,979 *shi*, as against 9,440 *shi* of ever-normal grain: see *Changyi XZ*, 3.84aff. In Yi County, the capital of Laizhou Prefecture, 8,000 *shi* of student grain had apparently been collected, of which 5,132 were sold at reduced prices in 1747: see *Yi XZ*, 2.28ff. Several counties in Yizhou Prefecture also had *jiangucang*: see above, chapter 5, table 5.1. In Tancheng, to give a last example, we know that ten bays of student-grain granaries were built as a consequence of the 1738 order. According to the 1763 accounts reproduced in the local gazetteer (*Tancheng XZ* [1763 ed.], 5.33a–b), Tancheng had an “original quota” (*yan’e*) of student-grain amounting to 14,150 *shi*; 2,160 *shi* were added in 1738. By 1763, 12,396 *shi* from that reserve had been disbursed as relief and 3,066 *shi* as sales at reduced prices. The remaining reserve was 849 *shi*, plus a contribution of 504 *shi* of wheat. It was annexed to the ever-normal stock that same year. This last example shows that student-grain was not used in the same fashion as community or charity grain (that is, for loans), but rather as ever-normal grain (for relief and sales). For this reason, the original reserves could only decrease.

<sup>63</sup> Also called by a variety of other names, such as salt-ticket charity granaries (*yanpiao yicang*), salt community granaries (*yanshecang*, e.g., in Deping County), merchant community granaries (*shangshecang*, e.g., in Jiyang County), or delivered-grain granaries (*shugucang*, e.g., in Zhangqiu County). In some documents the grain kept in these reserves is designated as “grain delivered by merchants” (*shangshugu*).

need to stabilize the salt trade in important portions of Shandong, and by a desire to increase civilian reserves of grain in the province.

According to the only detailed account that we have found,<sup>64</sup> the salt trade in Shandong was distributed among two types of areas, the “certificate areas” (*yindi*) and the “ticket areas” (*piaodi*). While the *yinshang*, i.e., the merchants in the certificate areas, were solidly entrenched and succeeded one another according to well-established inheritance rules,<sup>65</sup> or were able to sell their licenses when they ran into difficulties, the situation was much less regulated in the ticket areas. At first, only local merchants were allowed to compete for the position of *piaoshang*, and they paid the salt tax to the local magistrates, but beginning in 1728, merchants of any origin were allowed to apply to the Shandong salt controller. In 1730, the system was abolished in eighteen out of fifty-seven *piaodi* counties, and the salt tax was merged with the land tax. The rule under the ticket system was, “When you have the means, you assume the charge; when you have lost them, you step back” (*you li ze chong, wu li ze tui*). When a merchant had to step back, he would lose everything to his successor: both the tickets (*piao*) and the area of trade to which they corresponded (*di*).

Originally, this difference in the organization of trade was due to the fact that the ticket areas were poorer and more open to contraband (because they were closer to the salt-producing coastal areas), hence less attractive for potential candidates. This had changed, however, by the early 1740s, because of the economic and demographic development of the preceding decades. Conditions for salt traders had improved, and opportunities for profit in the ticket areas were as good as, or even better than, in the certificate areas. As a result, competitors had become numerous, and, taking advantage of the laxity of the regula-

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<sup>64</sup> In *Yizhou FZ*, 12, *yanfa*, from which most of what follows is derived; but see also *Shandong TZ*, 86.2627–50, *passim*. Taken in isolation, the only entry on the topic in *HDSL* ([1818 ed.], 162.14b–15b) is totally unclear on the rationale of the system.

<sup>65</sup> In 1732 their number had been fixed at 272, organized into twelve guilds (literally, “networks,” *wang*): see *Shandong TZ*, 86.2635.

tions, they intrigued to capture the trade (*mou duo*) from those who already controlled it. A considerable amount of litigation ensued.

It was to remedy this situation that in 1741 a vice-president of the Board of Punishments, Zhou Xuejian, wrote a memorial proposing that the salt merchants in the ticket areas be subject to the same rules as in the certificate areas—namely, that their right to trade in a given area be considered a hereditary asset (*shiye*), and that they be offered the same guarantees as the *yinshang* when they had to leave the trade. In exchange for these advantages, the candidates would be required to deliver, to the counties where they wanted to operate, a quantity of grain proportionate to the number of tickets (*piao*) they bought.<sup>66</sup> Later, if a merchant wanted, or was obliged, to leave the trade, his initial investment in grain (and granary construction) would be paid back to him by his successor. The counties concerned would be graded “upper,” “middle,” and “lower,” the corresponding quantities of grain per ticket being 2, 1.5, and 1 *shi*.<sup>67</sup>

The memorial was accepted, and, in 1742, the salt controller of Shandong proposed a grading of counties according to the profitability of their salt trade; the counties located the farthest from the production areas were considered to have the easiest and the most rewarding trade.<sup>68</sup> This classification is reproduced in table 10.3, which indicates

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<sup>66</sup> Assuming they had the means to pay for the initial contribution in grain, the merchants currently in charge would be given a priority; otherwise, any dependable candidate could apply to the salt controller and take the charge.

<sup>67</sup> According to *Jiyang XZ*, 3.41b, Zhou—referred to as a vice-president of the Board of Rites, a position that he actually never held—had toured Shandong during the eighth month of 1741 and ordered the gentry to submit their opinions on the current problems of the province. A *juren* of Jiyang by the name of Gao Tingshu submitted a memorial on the difficulties of the salt trade, which was reportedly the origin of the reform described here. To be sure, Gao (whose text is reproduced in *Jiyang XZ*, 3.38b–41b) advocated a rather different system: the transportation and sale of the salt would have been entrusted to the officials, the profit generated being used to purchase and store grain. Gao claimed that more than 400,000 *shi* could be purchased *annually* in this way.

<sup>68</sup> According to Shandong governor Cui Yingjie, ZP, *GZD*: QL 015682 (28/8/18), the proposal was made—that is, probably, forwarded—by Sanbao, censor of the Changlu Salt Department (whose seat was in Tianjin and who controlled Zhili, Shandong, and parts of Henan and Anhui), and Yan Sisheng, the governor of Shandong.

Table 10.3. Classification of Shandong Counties in "Ticket" Salt Trade Areas

Upper	Middle	Lower
Zhangqiu	Ling	Juzhou
Jiyang	Qidong	Xincheng
Laiwu	Yangxin	Boxing
Zichuan	Changshan	Binzhou
Xintai	Boshan	Lanshan
Deping	Leling	Haifeng
Zouping	Qingcheng	Lean
Shanghe	Linzi	Putai
Linyi	Mengyin	Rizhao
Huimin	Linqu	Zhanhua
	Yidu	Lijin
	Gaoyuan	Shouguang
	Yishui	Wei
	Bi	Tancheng
<u>total tickets</u>	<u>total tickets</u>	<u>total tickets</u>
44,929 <i>piao</i>	47,086 <i>piao</i>	45,494 <i>piao</i>
<u>total grain</u>	<u>total grain</u>	<u>total grain</u>
89,858 <i>shi</i>	70,626 <i>shi</i>	45,494 <i>shi</i>

**Source**

See text and notes.

the total number of tickets per category and the corresponding quantities of grain to be delivered by the applicants. The grain, which had to be delivered to the counties within two years, would be stored in special granaries and managed along community granary guidelines<sup>69</sup> by spe-

<sup>69</sup> This was the final decision, but Zhou's proposal spoke of "charity granary rules." In fact, there seems to have been a certain confusion between the two, as reflected in the variable terminology mentioned above, note 63.

cially designated granary directors (*shezhang*) and assistant directors (*shefu*); grain would be lent in the spring and summer to people whose need for help could be ascertained, and returned in autumn with 10-percent interest. The salaries of the directors and of the “measurers” (*douji*) entrusted with taking care of the grain, as well as the various management costs, were to be met by the interest payments. The granary buildings, the construction of which was financed by a surcharge of 0.08 tael per *shi* of contributed grain, would be located in the county seats or in important towns.<sup>70</sup> Finally, officials were to exercise control and to report each year on the activities of the new granaries.<sup>71</sup> In short, every provision seems to have been made to ensure high-quality storage and management of the new reserves. It must also be added that in many counties these reserves (whose spatial distribution is not available) must have represented significant increases over the available stocks. In the “upper” category the average was about 9,000 *shi*, but figures of 14,000 or 15,000 *shi* are mentioned for some places, which is in the same range as ever-normal targets.

How did the institution evolve over the years? The initial reserves of 205,978 *shi* were supposed to increase regularly with the interest paid on loans. The only further data available on the salt charity granaries of Shandong date from 1763, twenty years later. In that year Governor Cui Yingjie asked and obtained permission to integrate the stocks of “grain delivered by merchants” (*shangshugu*) into the regular ever-normal reserves.<sup>72</sup> According to Cui, the initial contribution of the

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<sup>70</sup> Literally, “in important districts and big towns where shops have been set” (*she dian zhi juxiang dazhen*). It appears that in most cases, in fact, the grain was stored in the county seats. The only exception to this so far encountered is Jiyang County, where three “merchant community granaries” were established, one in the county capital and two in other settlements that already had community granaries. See *Jiyang XZ*, 2.9a.

<sup>71</sup> According to *Yizhou FZ*, 12.10b–14a, in each county the initial collection and delivery of the contributions were taken charge of (*chengban*) by a merchant; in Tancheng County, we are told, it was a “foreign” merchant (*waishang*) because the local ones were only petty traders (without sufficient means, presumably), but the magistrate took charge of the construction of the granary (*chengxiu*). See *Tancheng XZ* (1763 ed.), 5.31b, 32b.

<sup>72</sup> See Cui Yingjie, *ZP*, *GZD*: QL 015682 (28/8/18).

salt merchants had indeed been “entrusted to the local officials’ care” (*gui yu difangguan shouzhu*), and the grain normally should have been made part of the quota of official stocks; actually, it was still accounted for as an “extra-quota” (*ewai*) reserve. But in the eyes of the common people who came to borrow grain this was all “loans received from the government granaries,” and the confusion between the two sorts of grain—one that had to be repaid with interest (the *shangshugu*) and one that was interest-free (the ever-normal grain)—was a source of abuses: people paid interest that was not due, and this went into the pockets of the clerks, runners, and local constables.<sup>73</sup>

In any case, in 1763 the stocks of “merchant-delivered grain,” including interest but excluding the loans that had been exempted from repayment at various periods, amounted to some 180,000 *shi*, plus 33,000 *shi* of outstanding loans. In other words, the reserve was about the same size as at the time of its creation.<sup>74</sup>

For Cui, appending the merchant-delivered grain to the regular reserves would help the situation: henceforth “only the appellation ‘ever-normal’ would be used for official granaries.” What is more, the addition of some 210,000 *shi* of non-quota grain to the current figure of theoretical holdings would greatly help to reduce the “deficit” that

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<sup>73</sup> Although the confusion between loans of “merchant grain” and loans of ever-normal grain suggests that both types of reserves were stored in the same place, various sources (notably, local gazetteers) imply that “merchant grain” often continued to be stored in separate buildings (but possibly located in the same compound), and that its annexation to ever-normal reserves meant a physical transfer. For example, when it was proposed in 1764 to effect some transfers of “prefectural reserves,” the use of the granaries for merchant grain which had been recently (the year before) freed was suggested as a possibility. See Shandong provincial treasurer Liang Zhuhong, ZP, *GZD*: QL 017234 (29/3/2), and Shandong governor Cui Yingjie, ZP, *GZD*: QL 017329 (29/3/20). On the other hand, we know, for example, that by 1760 the salt charity granary of Bi County had been demolished and its reserves transferred to the ever-normal granary: see *Yanzhou FZ*, 5.12a.

<sup>74</sup> The only local figures we have concern Jiyang County of Jinan Prefecture: the original 1742 stock was 14,000 *shi*, and 13,307 *shi* were left by 1748. It may be noted that that same year, the ever-normal target of Jiyang was reduced from 21,000 to 14,000 *shi*, but the actual stock was only about 6,500 *shi*, plus 4,270 *shi* of outstanding loans. See *Jiyang XZ*, 3.36b–37a.

this figure presented when compared with the provincial target (that is, some 279,000 *shi* at the time) and would save a great many purchases.<sup>75</sup>

To summarize, the grain initially collected from one group of Shandong's salt merchants—the “ticket merchants” who operated in thirty-nine of the province's counties—constituted for some twenty years a rather useful, if not always honestly managed, complement to the regular reserves for extending grain loans to the population. Although this complement was supposed to grow with the repayment of interest—as community granaries in some provinces had remarkably done during the same period—it did not. According to the memorial just cited, there was almost nothing left of the interest that was collected once salaries and maintenance costs had been paid. For these reasons the governor found it entirely justifiable—as did the emperor, who approved the memorial—to transform this extra-quota non-ever-normal grain into regular ever-normal quota grain. The decision removed a cause of confusion for the general public and a pretext for graft by the subbureaucrats. It did not change the level of actual reserves in the province, but it did change the balance sheet for the better. As illustrated in the accounting approach proposed below, deficits and arrears were in a sense rhetorical notions that could be manipulated so as to suit the realities of storage and restocking. The creation of the salt charity granaries of Shandong increased the grain reserves of the province by some 10 percent;<sup>76</sup> their suppression twenty years later meant the absorption into the statutory reserves of the province of an external reserve that helped to make good these statutory reserves' structural deficits.

By the mid-1760s, then, the various types of reserves that had been set up to complement ever-normal granaries had all but disappeared, both as accounting and as physical entities. By about the same time, most of the community stocks had also been put under official control.

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<sup>75</sup> On the notions of theoretical holdings and deficits in Shandong accounting, see below.

<sup>76</sup> The *minshu gushu* figures for Shandong in the early 1740s turn around two million *shi*.

In other words, the Shandong civilian granary system was drastically simplified during these years and efforts were again entirely concentrated on the bureaucratically managed ever-normal granaries.

#### EVER-NORMAL DISBURSALS AND RESTOCKING: AN ACCOUNTING APPROACH

Out of necessity, reliance on government grain was considerable in Shandong in the eighteenth century. Most of the memorials dealing with the problems of grain storage in the province stress the high incidence of disasters and the need to organize loans, sales, and relief on an almost annual basis. This section is devoted to an examination of the extant quantitative data that illustrate how civilian granaries in Shandong distributed and reconstituted their reserves. Apart from the direct evidence it provides for this particular province, we offer it as a case study of what *can* and *should* be read in the grain-stock figures of Qing China, keeping in mind the analysis of their nature attempted in chapter 8. Regrettably, the level of granary activity cannot be directly observed from the *minshu gushu* memorials, as all but one (the 1754 memorial, which has a “closed” four-column presentation) give a sole figure of “actual reserves” (*shizai cuncang*), without any indication of restocking or disbursal. But there are a certain number of memorials and other documents that, for several years, give figures that are of use for this purpose, including figures of arrears, which are usually absent from *minshu gushu* memorials. Table 10.4 plots these figures along with the data found in the *minshu gushu* memorials. What can we learn from it?

As the table indicates, the level of granary activity (disbursals and restocking) is directly visible only during the periods 1753–1754 and 1764–1765. The 1753–1754 data come from two overlapping documents: (1) the *minshu gushu* memorial of 1754, which indicates the restocking during the autumn of 1753 (coming after the *minshu gushu* balance of that year), the disbursals of early 1754, and the 1754 balance as of the eighth month or so; and (2) the year-end *zouxiao* report of 1754, which gives year-end figures of total holdings for 1753 (the “previous balance”) and 1754, and figures of acquisitions and disbursals in between, as well as figures for arrears, on which we will

comment later.<sup>77</sup> The restocking and disbursal figures indicated in the one document do not seem to match those in the other, probably because the documents do not cover exactly the same periods.<sup>78</sup> Nevertheless, the data suggest a comparatively high level of granary utilization: from the 1754 *minshu gushu* figures, for example, if we assume that the addition of the “previous balance” (the *minshu gushu* figure for 1753) and restocking figures yields the highest level of reserves in the annual cycle, it appears that acquisitions represented 28.6 percent of that level, while disbursals amounted to 24.4 percent. Similarly, assuming that the *zouxiao* balance of 1754 was the highest level of reserves during the next cycle, restocking would have amounted to 31.5 percent and disbursals to 13.2 percent.<sup>79</sup>

The figures available (or reconstructed) for 1764–1765 suggest a somewhat lower level of activity.<sup>80</sup> For the 1764–1765 cycle, restocking amounted to 18.2 percent of the highest level (the 1764 year-end figure of reserves), and disbursals to 13.3 percent; for the 1765–1766 cycle, restocking amounted to 14.3 percent, while disbursals are not known.

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<sup>77</sup> We do not have the original *zouxiao* report of 1754, but we know its contents through the evaluation of it done by the Board of Revenue at the beginning of 1755. This evaluation is found in *HKSS*, QL 20/2, *ce* 1.

<sup>78</sup> Thus, the restocking indicated in the 1754 *minshu gushu* memorial (theoretically done during the fall of 1753) would imply a year-end figure higher than the “previous balance” given by the *zouxiao* report; probably the restocking was in fact pursued at the beginning of 1754 (that is, after the date of this previous balance). Conversely, the disbursals indicated in the *zouxiao* report are lower by some 150,000 *shi* than those in the *minshu gushu* memorial; perhaps some of the latter were given out before the beginning of calendar year 1754.

<sup>79</sup> The disbursals of spring 1755 have been calculated on the assumption that they more or less correspond to the difference between the 1754 *zouxiao* figure and the 1755 *minshu gushu* balance.

<sup>80</sup> Figures of disbursals and restocking have been reconstructed calculating the differences between *minshu gushu* balances and year-end *zouxiao* balances. The *zouxiao* balance of 1764 is given in Shandong governor Cui Yingjie, ZP, *GZD*: QL 021121 (30/8/2); the *zouxiao* balance of 1765 is given in *WXTK*, 37.5206.

Table 10.4. Ever-Normal Accounts in Shandong Province during the Qianlong Period, 1741–1792 (in *Shi*)

Year	(1)	(2)	(3)	(4)	(5)	(6)		(7)	(8)
	Disbursals (spring)	Balance (other than [3] or [5])	Balance ( <i>minshu</i> <i>gushu</i> )	Restocking (autumn)	Balance ( <i>zouxiao</i> )	Arrears		Target	Deficit
						loans	sales		
1741			2,721,584						
1743			2,196,330						
1744			1,933,223						
1745			2,249,990						
1746			2,354,431						
1747			1,573,889						
1748						970,000 <sup>a</sup>			
						760,000 <sup>b</sup>			
1749			1,229,000						
1750			1,611,181						
1751			1,729,527						
1751		1,300,000 <sup>c</sup>							
1752	[not yet calculated] <sup>d</sup>					738,000 <sup>d</sup>	883,000 <sup>d</sup>		
1752		1,300,000 <sup>ef</sup>	1,094,398 <sup>e</sup>						
1753			1,297,663	519,807	1,634,796	681,820		[2,900,000]	[583,400]
1754	444,126 or 258,028 <sup>h</sup>		1,373,343	617,100	1,960,931	390,939		[2,900,000]	[548,000]
	[258,028]								
1755			1,702,903						
1756			1,568,705						
1758			1,665,705						
1759			1,965,320						
1763		1,699,760 <sup>i</sup>	1,637,351			502,421 <sup>i</sup>	370,569 <sup>i</sup>	2,952,000 <sup>i</sup>	279,250 <sup>i</sup>
1764		2,087,707 <sup>j</sup>	2,070,058	[462,057]	2,532,115	504,026 <sup>j</sup>	239,172 <sup>j</sup>	2,882,000 <sup>j</sup>	51,090 <sup>j</sup>
1765	[335,835]		2,196,262	[367,000]	2,563,305	46,101 <sup>k</sup>	246,089 <sup>k</sup>		57,693 <sup>k</sup>
1767		1,823,763 <sup>l</sup>	1,940,994			571,000 <sup>l</sup>	[275,737] <sup>l</sup>	2,882,000 <sup>l</sup>	211,500 <sup>l</sup>
1768			1,831,311						
1771			1,885,179						
1773		2,325,300 <sup>mn</sup>	2,025,561			?	84,490 <sup>m</sup>		534,360 <sup>m</sup>
1775			1,980,983						
1777			2,535,991						
1778			1,951,454						
1779			2,374,107						

1780		2,389,390				
1781		2,366,932				
1782		1,418,997				
1783		1,365,251				
1784		1,308,943				
1785		1,192,670				
1786		718,096				
1787	[ca. 850,000] <sup>o</sup>	909,252		>1,010,000 <sup>o</sup>	>360,000 <sup>o</sup>	>2,945,300 <sup>o</sup> ca. 720,000 <sup>o</sup>
1788		1,342,578	140,000 <sup>p</sup>	?		711,500 <sup>pa</sup>
			190,000 <sup>r</sup>			
1789		1,981,928				
1792		1,978,372				

### Sources

*Minshu gushu* memorials: see sources for appendix table A.1. Other sources: *Gaozong shilu*, 325.1b–2a (QL 13/9/16); Erongan, ZP, *GZD*: QL 001711 (17/5/11) and QL 002177 (17/7/28); *HKSS*, QL 20/2, *ce* 1; Cui Yingjie, ZP, *GZD*: QL 015567 (28/8/1), QL 018522 (29/8/17), and QL 021121 (30/8/2); *WXTK*, 37.5205–6 (1765 *zouxiao* figure); *Gaozong shilu* 792.11b–12a (QL 32/8/10); Guotai, ZP, *GZD*: QL 027404 (38/12/9); Changlin, ZP, *GZD*: QL 052003 (52/10/3), and QL 056057 (53/12/17).

### Notes

The figures in square brackets have been recalculated by the authors.

<sup>a</sup> As of 9th month.

<sup>b</sup> As of 11th month.

<sup>c</sup> As of end of winter.

<sup>d</sup> As of 5th month.

<sup>e</sup> As of end of 7th month.

<sup>f</sup> Includes 100,000 *shi* of wheat just bought (here converted into 200,000 *shi* of *gu*).

<sup>g</sup> This figure may not include the wheat referred to in note f above.

<sup>h</sup> The first figure is from the 1754 *zouxiao* report; the second is from the 1754 *minshu gushu* memorial.

<sup>i</sup> As of 1st day of 8th month.

<sup>j</sup> As of 17th day of 8th month.

<sup>k</sup> As of 2nd day of 8th month.

<sup>l</sup> As of 10th day of 8th month.

<sup>m</sup> As of 9th day of 12th month.

<sup>n</sup> This figure includes an unspecified amount of arrears.

<sup>o</sup> As of 3rd day of 10th month.

<sup>p</sup> As of 17th day of 12th month.

<sup>q</sup> This figure includes both arrears with corresponding silver and deficit grains to be bought back with funds outside the system.

<sup>r</sup> As of 3rd month of 1789.

These are the only years for which there are accounts that give a relatively precise measure of both acquisitions and disbursements. The figures they yield appear in line with the general trend that has been analyzed in previous chapters. However, the nature and scope of ever-normal granary activity in eighteenth-century Shandong can be inferred from other sorts of evidence as well. First of all, the very shape of the curve drawn by the *minshu gushu* figures of reserves suggests episodes of both massive disbursements and active reconstruction of the reserves: thus, the lows of the late 1740s to early 1750s and of the 1780s contrast sharply with the highs of the early 1740s, the 1760s through the 1770s, and late 1780s through the 1790s. Circumstantial evidence as well as data on arrears and deficits make it possible to look more closely at the conditions of these variations.

Data on arrears—quantities of grain lent or sold during the previous years but not yet returned or brought back—do not appear in the *minshu gushu* memorials, but for some years they are given in other documents. For example, the arrears listed in table 10.4 for 1753 and 1754 were mentioned in the 1754 *zouxiao* report, but were ignored by the 1754 *minshu gushu* memorial that partly covered the same operations. Where these arrears appeared in the accounting procedure is made clear by several memorials that paralleled the routine *minshu gushu* reports but presented the evidence in a different way. One example will suffice here.

On the first day of the eighth month in 1763—just before restocking time—Governor Cui Yingjie informed the emperor that harvests had been plentiful in most of the province, and that the time was favorable for taking action (*chouban*) to refurbish the reserves. He summarized the current status of the reserves as follows:

- (a) Provincial target (or quota) (*cang'e yingzhu gu*): 2,952,000 *shi*.
- (b) Actual stocks, plus grain forwarded to Zhili and being returned to the (Shandong) granaries (*reng gui cang zhu*): 1,699,760 *shi*,<sup>81</sup> more or less the same amount as reported in the *minshu gushu* memorial of

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<sup>81</sup> There were also 100,000 *shi* (in *gu*-equivalent) of wheat bought during the year. It is not said why they were not included in this figure of actual reserves.

that year, which must have referred to approximately the same point in time.<sup>82</sup> But the *minshu gushu* balance did *not* include the following figures of arrears detailed by Cui, who specified that they were “outside” his figure of 1,699,760 *shi*:

(c) Unreturned loans from previous years: 502,421 *shi*.

(d) Unrestocked grain from sales of previous years (*tiaoque gu*): 370,569 *shi*.

The figures in (c) and (d) represent “paper-grain” and “silver-grain,” respectively. The point is that Cui, who expected the good harvests of 1763 to transform this paper and silver into real grain, counted them as assets and added them plus the wheat mentioned in note 81, to the figure of actual stocks (b), to arrive at what he called the “deficit” (*quegu*)—the difference between the target and the sum of all the assets. This deficit came to:

(e) 279,250 *shi*, or less than 10 percent of the target. Cui promised it would be made good through purchases paid for with tax monies (*diding yin*).

Similar memorials follow the same presentation and make the same claims. Since there were, supposedly, IOUs and silver corresponding to the arrears, the arrears were treated as assets and added to the positive side of the balance. This approach was sustained, in administrative rhetoric, by the claim that the arrears were in the process of being recovered and bought back, or would be soon, and were expected to be made good within the year, after autumn harvest.

Both the available figures and other evidence show that, save in very exceptional circumstances, this was plainly a fiction. Granaries in Shandong, as in many other provinces, operated with a significant backlog of arrears dating back several years. A glance at table 10.4 suggests that in Shandong this backlog was never less than several hundred thousands of *shi*, and could have been neutralized only by restocking efforts much larger than those we know about. Apparently,

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<sup>82</sup> The 1763 *minshu gushu* memorial put actual stocks at 1,637,351 *shi*. The difference may be due to this Zhili grain, which had possibly not been *actually* returned, or at least not entirely.

however, such a backlog was considered normal, and it certainly did not prevent the granary system from performing its functions as long as the figure remained within more or less constant limits.

In actual fact, the figure was at times subject to sharp variations, and it may be of interest to analyze what caused such variations. Table 10.4 shows several episodes of dramatic increase in the backlog, as well as years when the government managed to get arrears back to comparatively low levels. Inflated arrears (and growing “deficits,” in the sense defined above) were usually caused by disasters followed by relief campaigns that included massive disbursements of grain in the form of loans, sales, and free relief. They might also have been the result of mismanagement, or of a combination of mismanagement and disaster, as was probably the case during the second half of the 1740s and the beginning of the 1750s, when reserves diminished quickly and arrears were extremely high. We know that large quantities of grain were lent to the population during the years 1746–1749, a period in which a series of floods struck Shandong.<sup>83</sup> In 1752, however, and again during the fall of 1754, considerable abuses of the lending system were exposed—abuses that probably accounted for some of the same arrears and that continued until the new governor, Guo Yiyu, took drastic action during the fall of 1754.<sup>84</sup> In just five months, Guo was able to force the officials and underlings responsible for the irregularities to return 536,000 of the 922,000 missing *shi*. The results can be seen in the large restocking figure and in the low figure for arrears (which includes, moreover, sales arrears) indicated in the 1754 year-end report. It is probable, however, that there were additional shortages uncovered and made good in 1754 that did not appear in the accounts because they had been concealed by the local administrations.

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<sup>83</sup> See below, section on the lending process in Shandong. Forty-six counties were hit by floods in 1746, ninety-four in 1747 (one of the few “secular” floods in the province during the Qing), thirty-seven in 1748, and twenty-three in 1749. See Yuan Changji et al., “Qingdai Shandong shui han ziran zaihai,” 164.

<sup>84</sup> See chapter 6, section on problems of grain lending, especially note 92, as well as the next section of the present chapter.

The extent to which the system recuperated during the decade after 1754 is shown by the steady upward curve of *minshu gushu* balances. A fair amount of granary activity during this period is also suggested, first, by the highs and lows that remain in this curve, and second, by the fact that arrears (that is, grain that had been disbursed during the preceding years) again totaled more than 800,000 *shi* by 1763.

The figures for deficits (last column in table 10.4) are also instructive. Remember that in this context “deficits” mean missing quantities of grain for which no money- or IOU-equivalent existed within the system; these quantities generally corresponded to distributions of free relief. The deficits for 1753 and 1754 are not given in the sources, but they can be calculated, since the target can be assumed to have been about 2,900,000 *shi* (as it was during most of the Qianlong period), and the “assets” (the sum of year-end actual stocks *and* arrears) are known. The figures obtained by subtracting the assets from the target are about 583,400 *shi* for 1753 and 548,000 *shi* for 1754.

As it was calculated at the beginning of the eighth month of 1763, the deficit was 279,250 *shi*. One year later, it had dropped to 59,090 *shi*. This does not mean, however, that the restocking effort (using tax monies) promised by Governor Cui Yingjie had been efficiently carried out. Rather, shortly after the deficit of 279,250 *shi* had been calculated, Cui had obtained authorization to integrate some 210,000 *shi* of salt charity (or “merchant-delivered”) grain into the ever-normal reserves, thus effecting the “reduction” of the deficit recorded the following year. This maneuver also accounts partly for the rather large increase in actual reserves from 1763 to the next year.<sup>85</sup> In such a case, apparent changes in reserves and deficits are simply the result of accounting devices rather than of actual restocking operations.

The same sort of circumstantial evidence helps to explain the sudden drop in loan arrears from 1764 to 1765. This apparent reduction has, in fact, two explanations. The first lies simply in the presentation of the figures in 1765: when he calculated the arrears and deficit at the

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<sup>85</sup> As we have seen above, note 72, Cui’s request to this effect was presented in a memorial dated QL 28/8/18.

beginning of the eighth month, the governor—contrary to the practice in the preceding years—took as his baseline not the real reserves at that date, but the year-end balance of 1764; the disbursements made in between were left unspecified and, of course, were listed among the assets since they were reimbursable. Had they been deducted in order to get an eighth-month balance, they would probably have been found in the “arrears” column. These disbursements from early 1765 can be calculated by subtracting the 1765 *minshu gushu* figure (also from around the eighth month) from the 1764 year-end balance; they amount to some 336,000 *shi*. If they are transferred to the “loan arrears” column, there is still an apparent drop in these arrears of more than 100,000 *shi*.<sup>86</sup> The difference may perhaps be explained by the fact that, during one of his southern tours, the Qianlong emperor granted various exemptions to the places he visited, including a complete cancellation of grain loan arrears corresponding to the years 1747–1762.<sup>87</sup> The measure did not affect the entire province, but it necessarily contributed to the reduction in arrears seen here.<sup>88</sup> It is apparent from a memorial of 1767, however, which gives a figure of 571,000 *shi*, that loan arrears accumulated again. Although the memorial does not specify the amount of purchase arrears, in all probability the size of the total backlog was on the same order of magnitude as in 1763–1764.

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<sup>86</sup> This calculation assumes that all the disbursements of 1765 were loans, which was certainly not the case. If we knew the distribution of loans and sales, we would be able to ascribe only loans to the loan arrears column, and the difference with the figure of the preceding year would be even larger.

<sup>87</sup> See *Dongchang FZ, shou*, 3.3b.

<sup>88</sup> Similar exemptions were regularly granted. On the occasion of an imperial visit to Shandong in 1771, 49,000 *shi* of arrears corresponding to the years 1763–1769 were exempted in Jinan, Wuding, Yanzhou, Caozhou, Dongchang, and Qingzhou prefectures. See *Gaozong shilu*, 879.6a–b, edict of QL 36/2/19, and 879.9b–10a, edict of the following day. Yet another exemption was decreed on the occasion of the “Eastern tour” (*dongxun*) of 1776, which concerned the arrears of 1771 and 1772. And again, in 1780, when the imperial retinue came back from the south, the inhabitants of Linqing and six other county-level units were exempted from the repayment of loan arrears that were due to officially authorized postponements in 1777, 1778, and 1779. There was a similar measure in 1784. See *Dongchang FZ*, 3.4a–5a.

Ultimately, the data from the 1760s suggest a fairly stable situation. Shandong's ever-normal granary system stored a high and relatively constant level of reserves (hovering around 2,000,000 *shi* as far as the pre-restocking *minshu gushu* figures are concerned); at the same time, "assets" consisting of absent but, in principle, recoverable grain commonly amounted to several hundred thousand *shi*, with 700,000–800,000 *shi* apparently being considered a perfectly acceptable level. The deficit proper (grain that would have to be bought back with funds from outside the system, sometimes called *dongque*) remained below 10 percent of the target.

This relative stability, however, was only possible when the overall economic situation was favorable. Governor Cui Yingjie, who authored several of the memorials from which the above data have been extracted, described the years 1763 to 1765 as particularly plentiful. But at the same time, Cui, as well as other memorialists, repeatedly stressed that as long as demands on granaries remained substantial and frequent, efforts to purchase grain locally could never be pushed too far. Government restocking depended on low prices and had to be stopped as soon as prices rose, whereas in areas of mediocre harvests there could be no question of pressing for purchases. "Endangering the people's subsistence" remained the key phrase used to justify such prudence.

In short, the system in Shandong remained fragile even in the absence of serious climatic disasters. What might happen when conditions became less favorable has already been seen in connection with the late 1740s and early 1750s. The data collected in table 10.4 yield more evidence both of the system's fragility and of its apparent ability to recover, at least through the end of the Qianlong reign.

One consequence of climatic disasters and of the relief they required was the increase of the final "deficit" in the accounts. At the very end of 1773, Governor Guotai reported that 618,850 *shi* still had to be bought back, of which only 84,490 were in arrears from previous years, that is, with the corresponding silver held in store; in other words, the amount considered to be in deficit was 534,360 *shi*, well over the levels of the 1760s. (The outstanding loan arrears were not specified.) This situation resulted from the exemptions and relief made necessary by a

Table 10.5. Granary Deficits in Central Places in Shandong, Late 1773 (in *Shi*)

Place	Target	Deficit
Licheng	70,000	42,400
Dezhou	178,000	80,600
Jining	128,000	25,100
Liaocheng	70,000	49,700
Linqing	148,000	91,900

**Source**

Shandong governor Guotai, ZP, *GZD*: 027404 (38/12/9).

series of poor harvests in 1770 and 1771;<sup>89</sup> good harvests in 1772 and 1773 had not been enough to bring the situation back to normal. Transport nodes and “places of high activity” (*fanju zhi di*) where relief had been distributed during several years, and which had been asked to aid neighboring counties (or even other provinces to the north and south), exhibited particularly high deficits, as can be seen in table 10.5. The total deficit for these five areas, 279,200 *shi*, was more than half the provincial deficit. However, even though we lack data on the arrears and deficits during the following years, the granary system of Shandong seems to have recovered, since the *minshu gushu* balances did not decrease—quite the contrary, they steadily increased to new levels until 1781.

The decade that began in 1782 was strikingly different. From that year on, the *minshu gushu* figures dropped sharply, reaching in 1786 their lowest level during the entire Qianlong reign. The disaster record for these years reveals that Shandong experienced a number of very severe droughts between 1778 and 1787—the only such concentration of disasters, in fact, during the eighteenth century. To mention only the

<sup>89</sup> Twenty-nine counties were hit by floods in 1770, sixty in 1771. See Yuan Changji et al., “Qingdai Shandong shui han ziran zaihai,” 164.

worst years, seventy-one county-level units were affected in 1778, seventy-eight in 1785, sixty-eight in 1786, and sixty-nine in 1787.<sup>90</sup> Although the impact of the 1778 drought on ever-normal reserves probably explains the much lower *minshu gushu* figure for that year, there was an immediate recovery afterwards, and a real collapse, the effects of which are particularly noticeable for the years 1785–1787, did not occur until 1782.

Regrettably, accounting details are not available for any but the very last year of the drought period. In a memorial written at the beginning of the tenth month of 1787, Governor Changlin stressed that unreturned loans, as well as relief and sales that would have to be restocked with external funding, had accumulated to fairly high levels over the years because of generally mediocre harvests, in addition to the series of climatic difficulties just mentioned. Since private storage remained consistently low, it was difficult even after the fall harvest for the government to buy grain. As can be seen in table 10.4, on the eve of the restocking effort recommended by the governor at the end of 1787, there were more than 1,010,000 *shi* of postponed loan repayments “due to successive disasters”;<sup>91</sup> more than 360,000 *shi* of grain sold at reduced prices whose repurchase had been delayed over the years and of shortages discovered in investigations that had not been made good; and more than 720,000 *shi* of unstocked relief and exempted repayments. The last figure corresponds to the final “deficit” as defined above, and has therefore been written in the last column of the table: it is the highest such deficit mentioned in the sources available for the Qianlong period. In short, missing grain amounted to more than 2,000,000 *shi*, of which nearly 1,100,000 would have to be bought on the market; in theory, it left in the granaries only a little more than 850,000 *shi* before restocking.

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<sup>90</sup> *Ibid.*, 157. The wheat harvest of 1787 was “considerably reduced,” but the fall harvest was apparently plentiful.

<sup>91</sup> As will be seen in the next section on the loaning process in Shandong, by 1780 the loan arrears from the period 1770–1780 amounted to no more than about 93,000 *shi*.

Of course the governor warned that it would be impossible to restock such large quantities of grain within the year.<sup>92</sup> Even his proposal to spread government purchases over two years was rather ambitious (especially since the population of Shandong was supposed to return more than a million *shi* of grain loans at the same time). The priority was to restock grain that had been sold at reduced prices, and silver was kept in the provincial treasury for this purpose.<sup>93</sup>

The initial part of Changlin's program may have been successfully implemented, since the *minshu gushu* figure for 1788 shows an increase of 433,326 *shi* over the 1787 figure. Indeed, the governor noted at the end of 1788 that the restocking that remained to be done through purchases amounted to 711,500 *shi*, compared to the almost 1,100,000 of the previous year.<sup>94</sup> But apparently, loan arrears from the period 1781–1786 remained large (no precise figure being given), and for this reason Changlin advocated a more limited program of buying, amounting to 330,000 *shi*; the remainder would be purchased after the 1789 fall harvest. At the date of Changlin's memorial, 140,000 *shi* had already been bought in various counties, and a further memorial, dated the third month of 1789, announced the completion of the program.

While we do not have details on what happened afterwards, there is a figure for reserves in 1789<sup>95</sup> that implies a remarkable jump of nearly 640,000 *shi* over the 1788 *minshu gushu* figure. Does this mean that the program of loan recovery to which the governor had given priority at the end of 1788 had been thoroughly implemented? Whatever

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<sup>92</sup> In addition to the figures just mentioned, there were 82,800 *shi* of tribute grain and beans that had been retained in 1785 and distributed as relief. They would have to be bought back and shipped to Tongzhou the following spring, and this was considered a top priority.

<sup>93</sup> It may be noted, incidentally, that part of this silver had been used for loans of "rations" (*kouliang*) during the summer of 1787. The governor proposed to advance the corresponding sum from tax monies (*diding yin*) rather than wait for the repayment of the loans.

<sup>94</sup> See Shandong governor Changlin, ZP, *GZD*: QL 056057 (53/12/17).

<sup>95</sup> It appears in one of the registers whose contents are reproduced in appendix table A.2, and is in theory the *minshu gushu* figure of the year.

the case may have been, the figures available from 1789 onwards<sup>96</sup> remain consistently in the vicinity of 2,000,000. Pending further evidence to the contrary, they may be taken as an indication that the crisis of the 1780s was successfully surmounted. In spite of its fragility, the Shandong civilian granary system at the end of the eighteenth century was still capable of recovering. Interestingly, when the Qianlong emperor decided on a general exemption of arrears on the year of his successor's ascension of the throne (1796) and asked each governor to report on the outstanding arrears of his province, the amount of grain arrears reported for Shandong was 504,200 *shi*.<sup>97</sup> Although we do not know exactly how much of this amount represented ever-normal grain (since it included community loan arrears and some tax arrears as well) or how much of it dated back to the crisis of the 1780s, 504,200 *shi* was no more than about half the level of 1787 and was comparable to the "backlog" that we have described for earlier years. In some sense, then, things definitely had returned to normal by the end of the Qianlong reign.

#### THE LENDING PROCESS

In a manner that seems to have been typical of north China,<sup>98</sup> loans of ever-normal grain, complemented by loans of community and other grains, played a vital role in Shandong in the annual cycle of "reproduction" of the peasantry. In fact, most of the quantitative evidence shows that loans (as opposed to sales at reduced prices) and, of course less regularly, relief, made up the larger part of granary disbursals; as a result, the "backlog" to which we have alluded largely consisted of loan arrears. But if grain loans answered an important demand in Shandong, their management was also ridden with problems, some of them general—what we have called "structural"—and others particular to the province.

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<sup>96</sup> See appendix tables A.1 and A.2.

<sup>97</sup> See edict in *Dongchang FZ, shou*, 3.18b–19b.

<sup>98</sup> See chapter 6, section on lending problems.

Ever-normal loans in Shandong were subject to largely the same rules as were applied in other parts of the empire. Loans were made in spring; repayment was expected after the fall harvest, but, following a provincial precedent of 1746, postponements of repayment and exemptions of the 10-percent interest were allowed when crops were insufficient. Using the standard classification of harvest results on a scale of 0 to 10 *fen*, it was stipulated that in case of a 6-*fen* (60-percent) crop, half of the repayment could be postponed to the next year; if the result was 5 *fen*, reimbursement would not be called for until after the following year's autumn harvest. Only in cases of 8- to 10-*fen* plentiful harvests was a 10-percent interest added.<sup>99</sup> On the other hand, loans might be exempted from repayment in times of disaster when crops were rated as 5-*fen* or lower. According to the rules stipulated by Governor Guo Yiyu in 1755, loans of ever-normal grain were only authorized to "peasants tilling or renting the land" (*geng dian nong-min*), and could not exceed one *shi* per contract.<sup>100</sup> Similar rules certainly existed before, but by that time they had come to be widely ignored. In any case, the notion that tenants (*dian*) were eligible seems contradicted by the regulations quoted in the handbook on Shandong administration, *Essentials for Financial Secretaries*:<sup>101</sup> according to this source, a borrower had to be a landowner (*you di zhi hu*); the amount of land he owned had to fall between five and twenty *mu* (this last stipulation dating from 1782); his residence status had to be verified on *baojia* registers, and he had to turn over three years' worth of paid tax receipts for verification; and groups of five borrowers had to act as mutual guarantors, the *dibao* producing a bond as evidence. There was also the provision, possibly referring to people who had been forced to sell their land, that "if the [prospective borrower's] name appears on the tax registers, but he has no land, he will also be entitled to receive

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<sup>99</sup> See *Qianggu yaolüe*, 40a.

<sup>100</sup> See Shandong governor Guo Yiyu, ZP, GZD: QL 008864 (20/3/3).

<sup>101</sup> See *Qianggu yaolüe*, 51b.

a loan.” And finally: “As a rule, persons who are able to find [another] occupation (*ke ying sheng*) are barred from loans.”

Certain means of repayment were peculiar to the province. In particular, peasants were allowed to repay their loans partially or totally in “secondary grains” (*zaliang*), a term that in this context may have meant such plants as sorghum and beans.<sup>102</sup> Beans were authorized for loan repayments in Shandong in 1740.<sup>103</sup> Wheat was also allowed under certain conditions, using a conversion ratio of 0.5 *shi* of wheat to 1.0 *shi* of *gu* until 1771, after which the ratio was 0.6 to 1.0 (although for community granary repayments the proportion of wheat was still 0.5).<sup>104</sup> These alternative means of repayment were intended to make it easier for peasants to repay their debts on time.

Shandong granaries lent not only food “rations” (*kouliang*) but also seed grain. The government was always extremely anxious to ensure that crops be sown in time, especially when climatic difficulties created a scarcity of seeds or prevented poor peasants from acquiring them. For example, on the eve of autumn in 1778, the emperor expressed concern about the sowing of winter wheat in Henan and Shandong, where the preceding wheat harvest had been partially lost. In Henan, seeds were to be lent from an imported 100,000 *shi* of wheat coming from Shaanxi; in Shandong, granaries had little wheat in store by that time. The governor suggested that 20,000 *shi* of tribute wheat being sent from

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<sup>102</sup> The year-end accounts analyzed in 1755 by the Board of Revenue (see above, note 77) described the reserves of Shandong as being composed of unhusked grain (*gu*), beans (*dou*<sup>b</sup>), sorghum (*gaoliang*), as well as husked grain (*mi*) and wheat (*mai*). Sorghum, which is particularly hardy through flood conditions and requires little investment, was rather widely cultivated in lowlands prone to waterlogging in the twentieth century, and certainly earlier: see Huang, *Peasant Economy*, 63. The regulation about *zaliang* repayment dated from 1754 and is mentioned in several memorials. See also *Qianggu yaolüe*, 50b.

<sup>103</sup> See *Huangchao shihuo*zhi, 5, *jizhu*, 13.

<sup>104</sup> See *Qianggu yaolüe*, 50a. Reportedly, the rate was raised from 0.5 to 0.6 in the provinces adjoining Henan, where wheat reimbursements were authorized in years of abundant wheat harvests at a rate of 0.7 *mai* for 1.0 *gu*.

Henan to Zhili be intercepted and stored for future loans in the granaries of counties with riverine access.<sup>105</sup>

In principle, the burden of grain loans to the peasantry was shared by both community and ever-normal granaries, and loans were coordinated with sales at reduced prices, according to precise guidelines. Loans would be made to peasants first from community granaries; if these were not sufficient, then loans or sales, or both, from ever-normal granaries would be organized.<sup>106</sup> Although one source suggests that loans of ever-normal grain were not authorized in Shandong until 1747, at least while community granaries could be resorted to,<sup>107</sup> we know that considerable amounts of grain, both ever-normal and retained tribute, were lent during the period 1740–1748, resulting in a very large accumulation of arrears—no less than 970,000 *shi*.<sup>108</sup> In 1748 alone, 460,000 *shi* of spring loans had been distributed, and at the end of the year there remained an arrear of more than 760,000 *shi* resulting from “disaster loans.”<sup>109</sup>

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<sup>105</sup> See Shandong governor Guotai, *ZP, GZD*: QL 035516 (43/6\*/10).

<sup>106</sup> See, for example, Lu Yao, *ZP, GZD*: QL 033573 (42/12/6); Shandong governor Mingxing, *ZP, GZD*: QL 047365 (49/2/27); and Shandong governor Guotai, *ZP, GZD*: QL 037166 (43/12/14). According to the *Qianggu yaolüe*, 45b: “When poor peasants were in need of food rations, at first only loans of long-stored rice, wheat, and coarse grains, as well as community grain, could be extended; if these were not enough, then ever-normal unhusked grain would be disbursed, repayments being requested after the fall harvest according to regulation.” Unfortunately, we do not know the rules of eligibility that applied to loans of community grain in Shandong.

<sup>107</sup> See *Qianggu yaolüe*, 40a.

<sup>108</sup> See *Gaozong shilu*, 325.1b–2a, edict of QL 13/9/16, and 325.41a–b, memorial from Shandong governor Zhuntai (same month). Apparently, these loans corresponded to a series of poor harvest years. The figure of arrears did not include loans whose reimbursement had been officially exempted or postponed. The respective proportions of ever-normal grain and retained tribute are not known. There was an exemption of the land tax in 1748, and Zhuntai suggested taking advantage of this to push repayments; the emperor, however, insisted on a very progressive approach so as not to overburden a peasantry weakened by a succession of harvest failures.

<sup>109</sup> See *Gaozong shilu*, 328.23a–b, edict of QL 13/11/8.

The accumulation of arrears was apparently believed at that time to be the result of normal circumstances, but evidence dating from a few years later makes it clear that the management of ever-normal loans raised all sorts of problems. While on the one hand Government loans of grain in eighteenth-century Shandong were obviously massive—witness the figures for arrears—on the other hand, at least during certain periods, the lending system was riddled with irregularities.

The problems raised by ever-normal loans can be observed throughout the Qianlong reign, but they seem to have been particularly acute during the 1750s. In 1752, Governor Erongan gave an account of ever-normal and community granaries in which he stressed the accumulation of arrears and detailed the abuses that he had been able to investigate during his tours across the province.<sup>110</sup> Some magistrates, worried only about spoilage and thus impatient to remove grain from the granaries, indulged in compulsory distributions (*qiang wei sanpai*) of loans without taking the condition or needs of the recipients into account. Others, preoccupied only with lining their pockets by “lending little and recovering much,” did not bother to inquire about the recipients and lent grain to “people without an occupation” (*wuye zhi ren*) who in the end could not be “pressed.” In other cases, people living in distant districts were denied access to the loans—for example, granary doors were not opened on a fixed and advertised day—and the loans were pocketed by underlings in the names of people who were not even informed. In the cases of some community granaries that had no proper buildings, reserves were dispersed among local subbureaucrats (such as the *difang* and *xiangbao*) who used them at their will and without any check, with the result that shortages could be more than half the reported stocks. Finally, there were magistrates who concealed irrecoverable arrears by extending fictitious new loans—what we have elsewhere called “rolling over.”

In short, we find in Erongan’s report the whole gamut of negligences and illegalities already outlined in chapter 6, resulting in an accumulation of “paper-grain” that was more and more difficult to

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<sup>110</sup> See Shandong governor Erongan, ZP, GZD: QL 001347 (17/4/2).

reconvert into real grain as time passed. Magistrates who indulged in such abuses were so numerous in the province, Erongan said, that it must prove counterproductive and, in the end, detrimental to the population, to take action against them too swiftly. He had therefore ordered the prefects to take the matter in hand, allowing for some further delays for recovering the arrears.

This discouraging story continued four months later.<sup>111</sup> Seeing that the field administration was dragging its feet instead of clearing the accounts as ordered, Erongan secretly sent two officials (an intendant and an acting prefect) to make unannounced investigations in some of the counties with the highest deficits. What they discovered was even worse than the governor's findings of the previous year: loans inscribed under false names, unregistered repayments, loans wildly extended by all sorts of low-ranking personnel in the yamen, fictitious reports of disasters, confused registers, borrowers who were unable to repay, and so on: the list is too long to be detailed. Erongan then took more drastic action. What may be called a secret work team<sup>112</sup> of more than forty expectant and assistant officials was sent down to assist in the investigations, with strict orders not to protect the culprits and to avoid meddling by yamen personnel and local subbureaucrats and gentry. As an additional precaution, intendants and prefects were to report secretly to the provincial government on their work. Arrears had to be made good in time; officials guilty of embezzlement were to be denounced. Arrears whose origins could not be traced were to be paid back by the magistrates who had extended the loans. As the harvest had been plentiful and few government purchases of grain were on the agenda, it seemed an appropriate occasion for cleaning up loan accounts and eradicating abuses.

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<sup>111</sup> Erongan, ZP, *GZD*: QL 002361 (17/8/27).

<sup>112</sup> We use this term because the make-up and tasks of such investigative teams are often strikingly similar to the "work teams" sometimes dispatched in contemporary China to check various administrative problems. See Oi, *State and Peasant*, chapter 5. Like the government of the People's Republic, the late imperial state had to develop a means of taking its bureaucracy by surprise to ensure that its regulations were being enforced.

Were these energetic measures successful? It seems that they were not, since, as described in chapter 6,<sup>113</sup> a report by Governor Guo Yiyu three years later spoke of considerable loan arrears—no less than 922,000 *shi* by 1754—and of practices entirely similar to those just described, which apparently were infecting the whole province. In all probability, resistance to investigation and reform had been much greater than anticipated.

We lack information about what occurred after Guo Yiyu's efforts in 1755, but it seems that these efforts were more efficacious than the action taken by Erongan in 1752, since, reportedly, they significantly reduced the enormous backlog of arrears found the preceding year.<sup>114</sup> Large loan arrears still turned up in the following decades, but, strikingly, the backlog of arrears during the 1760s and 1770s did not increase as it had done during the early 1750s: it remained in the same range, and at times was even reduced. The only explanation is that, on average, new and recovered loans roughly balanced each other to make the system more or less effective. That a certain regularity in Shandong's lending process existed by that time is suggested by a memorial of 1788 that alludes to the situation that prevailed before the climatic difficulties of the early 1780s had set in.<sup>115</sup> In spite of the usual denunciations, this document does not imply a particularly dramatic accumulation of abuses and shortages. "The years before 1780," said Governor Changlin in this text, "had been auspicious and repeatedly plentiful. [Each year] during the lean period, loans were extended according to precedent, and officials who administered them naturally had to recover them within the proper deadlines and to clear the current

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<sup>113</sup> Shandong governor Guo Yiyu, ZP, *GZD*: QL 008864 (20/3/3) (already mentioned in chapter 6 above, note 92). In fact, Guo's investigation dated from the fall of 1754, and a first memorial (which we do not have) had been sent during the tenth month.

<sup>114</sup> It may be noted that in his memorial Guo Yiyu asked that expectant officials be sent to Shandong to help in the recovering of loan arrears that was planned—in other words, much as Erongan three years before, he felt that assistance from outside the local bureaucracy was indispensable.

<sup>115</sup> See Shandong governor Changlin, ZP, *GZD*: QL 054182 (53/6/2).

year's loans (*nian qing nian kuan*)." To be sure, an examination by Changlin and the provincial treasurer of the entire province's accounts for the years 1770–1780 revealed that there still were 93,180 *shi* of ever-normal loan arrears from this period. This figure seems quite modest, however, and, compared to what happened during earlier decades, a worsening trend is not by any means implied. As for the high level of loan arrears corresponding to the years 1781–1786, according to Changlin it resulted from unusual climatic difficulties and officially authorized postponements.

In community granaries, the governor noted, the arrears accumulated during the period 1764–1780 amounted to 92,710 *shi*. This figure is comparatively large, given the much smaller size of community reserves, and may point to the lower quality of community granary management.<sup>116</sup>

Changlin proposed that the officials who had originally extended the loans during the years 1770–1780 be required to repay the arrears going back to that period. For arrears of community grain, the officials in charge when the loans had been extended would have to pay 70 percent of the sums, yamen secretaries and granary directors being held liable for the rest.<sup>117</sup>

In any event, the lending function of ever-normal granaries always remained an important one in Shandong, and, as we have seen, the volume of loan arrears could increase dramatically when a series of bad years compelled the government to allow further delays in repayment. When the situation returned to normal after such episodes, the local economy had difficulty absorbing, concurrently, the repayment of accumulated loans and governmental purchases of large quantities of grain. The problems raised by such "competition" between repayments

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<sup>116</sup> One of Changlin's complaints was that magistrates drew on community granary contributions to meet other expenses.

<sup>117</sup> Changlin availed himself of a "former" (*congqian*) case of shortages in Shandong province to decide on the price to be paid, which ended up being 0.7 taels per *shi*. Although there is no way to know for certain, this was perhaps referring to one of the cases that we have mentioned above (either 1752 or 1755).

and purchases were pointed out by Governor Changlin at the end of 1788, when he was faced with making good the huge backlog of loan arrears from the period 1781–1786 *and* buying back more than 700,000 *shi* of grain.<sup>118</sup> However good the 1788 harvest had been, buying such quantities of grain within the same season would not only push up market prices but would also dissuade peasants from repaying their loans, since “the people hope to obtain a price by selling [their grain]; as a result, they are going to delay at will the repayments of [loan] grain they should make.” People simply did not have enough surplus to sell grain to the government and repay their debts at the same time.<sup>119</sup>

In a memorial written three months later,<sup>120</sup> Changlin again raised the question of competition between repayments and purchases, but this time it was from a very different perspective, and “confusion” would be a better term. If controls were insufficient, he told the emperor, one irregularity to be feared was that magistrates accepted repayments from the people and reported them as purchases. In other words, some of the loan arrears, although maintained on the records, became fictitious assets and some of the silver-grain was probably embezzled.

### *Some Hypotheses*

The evidence is fragmentary, to say the least; nevertheless, it points to some significant features of the lending process in Shandong. Whatever the irregularities and abuses they occasioned, loans of government grain (and, to a lesser extent, of community grain) to the province’s inhabitants were an important part of the subsistence policies followed there. As noted earlier, the same was true in other northern provinces, such as Shaanxi and Zhili. Where productivity was low and well-developed grain trade networks were absent, regular aid was obviously of much help, whatever the harvest results might be. It is likely that more grain was lent than was sold at reduced prices; because of these loans

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<sup>118</sup> See Changlin, ZP, GZD: QL 056057 (53/12/17).

<sup>119</sup> As we have seen, the authorities in Shandong consequently decided on a limited program of purchases.

<sup>120</sup> See Changlin, ZP, GZD: QL 056738 (54/3/18).

extended year after year, the chances are that the granaries of these provinces did not meet—or at least not at the same point—the same disbursal and turnover difficulties that were regularly reported in regions with higher standards of living, easier access to private grain imports, and better-stocked markets.

Apparently, official infringements of the regulations concerning loans of ever-normal grain were worse in Shandong than elsewhere, at least during the early 1750s and probably for some years before that, and must have resulted in a significant weakening of the system. Some of the constraints and difficulties that explain these infringements are no different from those encountered in other provinces. For example, the risk of grain spoilage, sometimes raised as an excuse for reckless and imprudent lending of ever-normal grain, was no higher than elsewhere. Lending grain to, and then recovering it from, a dispersed rural population was certainly a more difficult bureaucratic challenge, and vulnerable to more problems, than were granary purchases and sales. In this respect, however, was Shandong fundamentally different from other areas in north China?

We suggest in this section that, at a minimum, certain peculiarities of the province's social structure may have played a role in the development of abuses in the lending process. Still another hypothesis concerns not society but the bureaucracy. The generalized and well-entrenched nature of the irregularities unveiled by several investigations during the early 1750s suggests a set of administrative practices consistent across the province and over the years—what we propose to call a provincial administrative tradition. Let us examine this second hypothesis first.

“Tradition” in this case does not mean anything “cultural.” Rather, it stands for a set of administrative conventions and habits—often bad habits—that were enduring and that distinguished the bureaucratic machine of a given province. These conventions and habits constituted a tradition in the sense that they were passed on from official to official, although the real guardians and transmitters were the vast number of local clerks, secretaries, village chiefs, and other subaltern personnel who ran the day-to-day administration and who remained in place while ranking officials came from outside the province, stayed for a while,

and left. At stake was not simply a desire to preserve opportunities for personal profit, even if this was by no means absent. Rather, it was the need, as perceived by the subaltern echelons of the administrative machine, to ensure the smooth perpetuation of their positions and small privileges, in a bureaucratic and regulatory environment where they were expected to perform difficult and demanding tasks with few means and little reward. They were consequently inclined to bypass technical difficulties (such as ensuring regular turnover, running complex systems of registration and distribution, and recovering small-scale loans), indulge in easier and possibly more profitable procedures, and, above all, devise ways to deceive the upper echelons and elude the multiple controls provided for by administrative law. Magistrates could only follow: it was always risky to initiate a thorough housecleaning, and in any case few had the will, the means, and the support from their superiors that would be necessary to make such an attempt.

Connivance within the bureaucratic apparatus was essential (and, of course, it was what the imperial government tried above all to discourage). Where it could be ensured, a conspiracy of silence resulted, which only some activist and high-principled governors, or special commissioners sent down by the throne, might from time to time attempt to break.<sup>121</sup> The provincially self-contained hierarchy of administrative offices, as well as the entrenched subbureaucracy that controlled the transmission of information between the different levels and handled routine business, ensured the coherence and quasi-institutionalization of irregular practices kept concealed from the government. Although much research remains to be done on the subject, some evidence suggests that each provincial apparatus maintained its own set of such “traditions” with which the higher bureaucracy had to cope in its attempts at reform.<sup>122</sup> As far as granary management is concerned,

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<sup>121</sup> As a matter of fact, it seems that Governor Guo Yiyu in 1754–1755 was eventually able to curb organized malpractice in Shandong as far as grain loans were concerned.

<sup>122</sup> The existence, in nineteenth-century Sichuan, of such a provincial tradition in irregular practices and in cheating the central government (with respect to population figures) has been ingeniously established by Skinner in “Sichuan’s Population.”

it is notable that not a few memorials and edicts denounce abuses that are said to be peculiar to this or that province. The hypothesis can be ventured, therefore, that this sort of factor explains in part the existence of pervasive and, as it turned out, exceedingly harmful practices in Shandong during the early Qianlong period—practices that no other province seemed to be experiencing to such an extent. It might also explain the resistance to reform that is suggested by the sources.

The process whereby an “administrative tradition,” in the sense defined above, took shape and became so entrenched within the bureaucratic apparatus of a province could not have occurred entirely spontaneously. Some of the practices involved, especially at the subaltern level, presuppose the complicity or collaboration of those who controlled local society. The structure and specificities of this society are therefore important. What does the evidence from Shandong tell us in this respect?

A number of the memorials we have cited insisted that “ruffians,” “evil gentry,” rural constables, and other such characters were involved in the irregularities and abuses being denounced, and most notably in the corruption of the grain-lending system of Shandong. Along with subofficials on the lower rungs of the administrative apparatus, this social constellation may well have played an active role, at least in some regions, in resisting attempts to clear accounts or curb irregularities. It remains to be seen, however, what the terms just cited, which are rather general and all-purpose, and certainly not peculiar to Shandong, do imply in this particular province.

Although our information on the social structure of the different parts of Shandong is extremely scarce, there are indications of rather strong social stratification in some of its regions. Local strongmen, while not necessarily big landlords of the sort described by Jing Su and Luo Lun in their study of the province,<sup>123</sup> could exert a significant degree of control on rural society—through their connections with an

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<sup>123</sup> Jing and Luo, *Landlord and Labor*, passim; these landlords, typically, did not have scholarly and official connections, but their local influence might be considerable. See, for example, Wilkinson’s introduction to the same book, 30.

unruly subbureaucracy, by influence-peddling, and through the use of violence. This seems especially to have been the case in the peripheral, less commercialized parts of the province: there was a long tradition of violence and outlawry there, and it became particularly apparent during the first stages of the Manchu takeover.<sup>124</sup> Furthermore, according to one author,<sup>125</sup> a “more patrimonial” style of village landlordism prevailed in these same areas (notably, the Southern Hills and the Southwest), whose exemplars he characterizes as “rude and uncultured.” Such men were certainly better placed, and more willing, to act as village hegemons and to resist control by the bureaucracy than were the more commercialized and outward-looking elite of the core areas.

More generally, that Shandong had a strong local elite (which does not imply a powerful literati-gentry promoting a “Confucian” style of social relations and eager to cooperate with the government, which, with few exceptions, it had not), capable of using public institutions to its own ends and of blocking attempts at reform, is confirmed by what happened somewhat earlier, when the Yongzheng emperor tried to erase tax deficits and to impose fiscal reform. It turned out on this occasion that much of the tax collection in Shandong, quite typically, was in the hands of “vestiges of the outlawed *li-chia* [*lijia*<sup>a</sup>] system, under the guise of which influential members of the local community, often with the aid of hired thugs, collected the land and head tax at several times the legal rate.”<sup>126</sup>

There is little reason to doubt that such practices, which could never be completely eradicated and which created a system of corruption in which magistrates participated more often than not, also had an impact on grain-lending practices and, more generally, on the overall functioning of local granaries and famine relief. Our hypothesis, admittedly supported by meager solid evidence, is that at least in parts of the province, local power-holders were able to maintain dependency and

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<sup>124</sup> See Wakeman, *The Great Enterprise*, chapters 9 and 11.

<sup>125</sup> Esherick, *Origins of the Boxer Uprising*, 12, 36.

<sup>126</sup> See Zelin, *The Magistrate's Tael*, 150–51.

foster clientelism, and thus control the peasantry's access to, and possibly misappropriate, the means of social relief provided by the imperial state—not to mention locally managed reserves such as those in the community granaries.<sup>127</sup>

## CONCLUSIONS

The evidence presented in this chapter leads to two conclusions. On the one hand, we have shown that the civilian granary system was an important part of Shandong's subsistence policies and served as a source of aid year after year, as it did in other provinces on northern China. At the same time, we have given detailed examples of large arrears and deficits, and, more notably, of mismanagement and malfeasance by the local officials and subaltern personnel involved with the operation of the granaries. These two aspects are not irreconcilable. Rather, they point precisely to the strengths and weaknesses of the civilian granary system. The system did work, and did perform a service; the question is how well.

What this study has shown is, first, that the granary system was impressively resilient, capable of recovering from periods in which natural disasters or official mismanagement, or both, had resulted in large arrears, and that it continued to provide all sorts of aid right through the end of the Qianlong reign. We have also seen that one reason the system could maintain itself was that officials were able to devise imaginative and flexible policies, not necessarily in line with the basic operating rules, so as to draw on outside sources of grain when the regular channels for restocking the civilian granaries faltered.

Of course, this sort of flexibility and adaptability were not unique to the province. But the key to the success of the system in Shandong was the link between the ever-normal granary network of the province and the well-established grain tribute system, which provided both a source of supplementary grain and an essential route of transportation.

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<sup>127</sup> On the ability of present-day village leaders to manipulate similar types of state-supplied goods, see Oi, "Communism and Clientelism."

This route (and the less regularly used sea route) allowed the civilian granaries of Shandong to aid neighboring provinces as well. The total picture that emerges is one of constant grain movement, not just throughout the province but within the region. This movement was fed by purchases on markets, by the grain tribute and the operations of the granary system itself, which between them were able to accumulate considerable reserves within the province. But the dependence on supplementary sources of grain also meant that when the state's overall grain supply became less secure, as it did from the beginning of the nineteenth century onward, so would the supplies of the civilian granaries.

However, we cannot judge the effectiveness of the system solely by looking at reported stocks, arrears, amounts delivered, and the like. There is also the question of who received the grain. The record provides little concrete information about this, but the structure of the system and the peculiarities of its implementation in Shandong allow us to sketch a few tentative conclusions.

The first and most important point is that the reserves kept in the granaries were not equally accessible, whether in the form of loans, reduced-price sales, or relief, to all who might need them. This problem was common to all provinces, but in the present case it may have been aggravated by the fact that, especially after the mid-1760s, Shandong's population depended almost exclusively on the reserves of the ever-normal granaries. This, along with the return of the few existing community granaries to centralized bureaucratic control, made Shandong's civilian grain reserves more concentrated than in other provinces, and therefore less accessible. In addition, it appears that access to loans of ever-normal grain, at least during part of the period, was denied to that portion of the peasantry classified as "tenants"—perhaps 10 to 30 percent of the rural population, according to region. This may have been a serious flaw, as annual *soudure* loans were an important element in the "reproduction" cycle of the poorer peasantry all across northern China. On the other hand, everyone was eligible to participate in reduced-price sales, including landless people (who were also barred from ever-normal loans).

The high incidence of corruption and mismanagement, at least during certain periods, raises further questions as to whether the grain always reached its intended recipients. The problem may have been made worse by the predominance, in parts of the province, of local strongmen who exerted substantial control over rural society: one suspects that they, too, influenced who actually received the available grain.

In summary, the Shandong case illustrates what happened to a fragile system under extremely demanding circumstances. The province's climatic and topographical conditions were such that there was always a need for relief in one area or another. Shandong was also among the provinces whose regional diversity made coordination a difficult task. One may hypothesize that the combination of a permanent threat of scarcities and the difficulties of coordination and supply, plus the peculiarities of the local power structure, put pressure on Shandong officials to engage in illegal behavior and to continue, to a greater extent than might otherwise have been the case, whatever irregular practices their predecessors have begun. The greater concentration of grain stocks in the larger towns and county seats could only add to the opportunities for abuse on the part of those who were in charge of disbursing the grain and distributing it across the countryside. In the case of grain-lending operations at the beginning of the period under study here, the coincidence of environmental demands and structural weaknesses in the system apparently resulted in an incidence of negligence, corruption, and irregularities higher than elsewhere. In short, the system in Shandong, at the same time that it was effective in mobilizing and handling impressive amounts of grain, was extremely fragile due both to bureaucratic insufficiency and to nature's failings.



# HUNAN PROVINCE

Cartographie : C.Zacharopoulos



## The Middle Yangzi: Hunan

R. Bin Wong

Hunan is a province of great contrasts. During the Qing dynasty, rice fields near the Xiang River and alongside Dongting Lake produced grain for the Yangzi River trade. To the south and west of these areas were more mountainous and hilly areas where grain was usually produced and consumed locally. This province's granary operations reflected its varied landscape as well as its geographical position within the empire.

### THE EVER-NORMAL GRANARY, 1650–1780

The formation and operation of ever-normal granaries in Hunan between 1650 and 1780 followed the general pattern of development presented in chapters 2 and 3, but with significant adaptations to local conditions.

#### *Mobilization*

During the late seventeenth and early eighteenth centuries, when ever-normal granaries were first established in a number of counties,

contributions played only a small role;<sup>1</sup> thus, the amounts recorded in local gazetteers are usually very small.<sup>2</sup> By the first decade of the eighteenth century, ever-normal granaries were increasingly stocked through purchases made with treasury funds. The largest stocks were located along the Xiang River and near Dongting Lake. Granary storage in other parts of the province was less developed.<sup>3</sup>

As reserves grew, management difficulties became increasingly obvious. Among the problems encountered by Zhao Shenqiao, governor of Hunan from 1703 to 1711, was the tendency of county officials to make loans or reduced-price sales without promptly restocking. Loan arrears created deficits, while money from reduced-price sales was stored indefinitely. Reports to the governor on granary activities were often contradictory—prefects and magistrates offered conflicting figures; the amounts supposedly lent exceeded the amounts available for lending; and real loans were smaller than those reported. Granary purchases were sometimes made at administratively set prices well below market prices.<sup>4</sup> Zhao's problems resembled difficulties found in other parts of the empire during this period.

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<sup>1</sup> For Yuezhou and Baling, see *Yuezhou FZ*, 13.1a–3a; *Pingjiang XZ*, 20.5a–13b; and *Li ZZ*, 5.47b–51a.

<sup>2</sup> For instance, the southern Hunan county of Jianghua collected forty-five *shi* during the Kangxi reign, while nearby Yongming recorded a forty-four-*shi* total by 1706. In Daozhou, twenty-five *shi* were listed in 1712, and seventy-one and eighty-six *shi* were reported one year later in Lingling and Qiyang counties, respectively. (All figures except that for Qiyang are from *Yongzhou FZ*, 7.45a–48a; the latter appears in *Qiyang XZ*, 3.4b.) Contributions in Baoqing Prefecture were only slightly larger (*Baoqing FZ*, 86.16b–24a).

<sup>3</sup> Examples of early contributions include: Shaoyang, 650 *shi* in 1682; Xinhua, 420 *shi* in 1883; Wugang, 380 *shi* in 1681; Xinning, 220 *shi* in 1680–1683; and Chengbu, 158 *shi* in 1680–1683 (*Baoqing FZ*, 86.15a–16a). Governor Zhao favored continued contributions channeled into charity granaries to be built into county seats to supplement ever-normal granary operations (*ZZGS*, 11.49a–50a). Evidence of charity granaries in early Qing Hunan includes one built in Xiangxiang around 1690 and another built in Lizhou in 1685 (*Xiangxiang XZ*, 3.16a–17b, and *Li ZZ*, 5.47b–51a).

<sup>4</sup> *ZZGS*, 13.23b–24a, 34a–b; 13.22b, 22b–23b, 24a; and 11.54a–b.

Management improved in succeeding decades. Mobilization became more routinized once grain purchases were subject to a larger set of rules. By the 1730s, Hunan granaries made regular grain purchases, the size of which varied according to harvest conditions and grain prices. Campaigns to increase reserves, usually made in years and areas with especially good harvests and low prices, complemented these purchases. In Hunan, as in the empire in general, regular grain purchases by officials after the autumn harvests fell into two categories, depending on the method of acquisition: (1) direct purchase from individual households; (2) buying on the market.

Officials whose jurisdictions lacked well-developed grain markets favored buying directly from households. Officials in Guiyang, for example, a mountainous area in the southern part of the province, claimed in 1735 that the direct-purchase method worked well in their jurisdiction. They argued that people there had grain but no money; when the government bought grain, the people got money and the granaries got grain, so both sides benefited.<sup>5</sup> In neighboring Yongzhou prefecture, the government paid for grain before the crop came in. Officials claimed that advancing money for crops not yet harvested helped peasants meet their needs in the lean spring period.<sup>6</sup> We do not know what prices the peasants were paid; the price for direct purchases was usually set by the officials. Sometimes, however, aware that a below-market price could cause difficulties, officials purchased at a “people’s price” (*minjia*), which was apparently the market price.<sup>7</sup> Another response to the problem of administratively set prices was made in the 1760s, when the provincial treasurer suggested that the autumn purchase price be reset each year.<sup>8</sup> Officials realized that the virtues of the direct-purchase method were compromised by the

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<sup>5</sup> *HNSLCA, hulu*, 26.42a–51b.

<sup>6</sup> *HNSLCA, hulu*, 25.45a–61a, 80b–81b.

<sup>7</sup> Hunan governor Yang Xifu, ZP, CZCC: QL 12/2/20.

<sup>8</sup> *HNSLCA, hulu*, 24.30a–31b. The official setting of grain prices for direct purchases using money from spring sales was an issue separate from the use of treasury funds to replace or augment reserves by large amounts.

difficulties of setting prices administratively. This problem was compounded further by the difficulties of assessment and collection.

Direct purchases were made in one of two ways: either officials would send runners to individual households or people would come to the county seat to sell their grain to clerks. In the former case, officials were interested in buying grain from those households with the largest surpluses, because the more grain they purchased from each household, the fewer households they had to visit. Sometimes purchases were made from rich households owning at least 50 *mu* of land; at other times, a fixed sum of 20 *shi* was purchased from families receiving at least 500 *shi* in harvests and rent collections.<sup>9</sup> Regardless of the technique employed, rich households repeatedly opposed such sales and on occasion refused to sell. Runners would then buy from poorer households without the status and power to deflect government demands.<sup>10</sup> Compounding this problem was the fact that in Hunan, as in other provinces, runners did not always purchase at the officially stated price; this further lowered the already “short prices” (*duanjia*).

The difficulties created when runners offered short prices paralleled the tax collection problems that arose when runners made extra demands. The official solutions to the problems were also parallel. As in the tax payment system whereby individual taxpayers would present their taxes personally (*zifeng tougui*), individuals with surpluses to sell to the government were encouraged to bring their grain to the county seat to sell, receiving reimbursement for their travel expenses in addition to the officially stated price for their grain.<sup>11</sup> This approach eradicated the problems of runners paying less than the stated prices, but opened the door, as did the tax collection solution, to the problems of

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<sup>9</sup> *HNSLCA, hulu*, 24.7a–14a; Hunan governor Chen Hongmou, ZP, *GZD*: QL 012252 (21/6/29).

<sup>10</sup> *HNSLCA*, 24.41a–43a.

<sup>11</sup> On the tax system, see *HNSLCA, hulu*, 22.34a–36b; 23.28a–35a; and 26.59a–62b; the ability of individual households to bargain with officials should be doubted, but in areas with well-developed markets, peasants may have been better able to obtain a reasonable price for their grain because they had other venues for selling their surpluses.

individuals entrusting their grain to middlemen (*baolan*) to sell at the county seat. A grim example of the latter was the 1747 suicide case of a middleman named Lu Zhongren, who had been entrusted with conveying grain to the seat of the northwestern county of Sangzhi for sale to the ever-normal granary. Difficulties with financing and scheduling transportation forced Lu to delay his trip to the county seat, so he stored the grain with a third party while he made the necessary travel arrangements. The grain disappeared before Lu was ready to leave, and he was held responsible. Having no means of paying for the lost grain, he killed himself.<sup>12</sup>

Direct purchase from households also raised problems of equity within counties. In Anhua, for instance, grain was purchased for the ever-normal granary in the four districts (of a total of nine) that were located within twenty miles of the county seat. For the local government, this was the cheapest and easiest method of granary restocking, but the gentry in these four districts, to whom direct purchase represented a burden, complained that the practice was unfair. They claimed that the restocking burden should be shared by all parts of the county since the granary served the entire county. Local officials responded with a new restocking procedure in which all districts would bear similar burdens. Twenty percent of the grain was to be purchased in the four districts where all the grain had previously been purchased; another 20 percent would be purchased in the other five districts, and the 60-percent balance was to be shared evenly across all nine districts. In reviewing the new procedure, the provincial treasurer and the Board of Revenue agreed that it was a fair apportionment of the restocking burden, but noted that it was more expensive. They therefore ordered local officials to return to the practice of limiting purchases to the original four districts.<sup>13</sup> Cheaper restocking won out over the more equitable distribution of the burden.

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<sup>12</sup> *HNSLCA, hulu*, 22.12a–23a.

<sup>13</sup> *HNSLCA, hulu*, 25.85a–87b.

Finally, direct purchase provided an opportunity for political intrigue. In a complex legal case in Lingling, a *shengyuan* named Hu Yinglong charged that government clerks were cheating the people by paying them too little for their grain. After the clerks protested and had Hu arrested for filing a false charge, the governor ordered the Yongzhou prefect to investigate the charges on both sides. After much investigation and discussion of evidence by the Board of Revenue and the prefectural government, it was decided that the abuses Hu had identified were true in part. People selling grain to the ever-normal granary had indeed received less than the amounts intended by the government. During a year of high grain prices, when they themselves needed extra money for food, the clerks had increased the fee for writing sales receipts. The clerks' actions were punished because they were wrong, even if understandable. Complicating the matter, however, and impugning the apparent virtue of Hu Yinglong, it was found that his charges against the clerks had been made after they had bribed him not to tell what he had observed. The case was concluded officially with the decision to stop direct purchases and to restock the ever-normal granary by market purchases in a neighboring county.<sup>14</sup>

Market purchases to restock ever-normal granaries began in parts of Hunan in 1735, one year after the Yongzheng emperor had praised the Jiangsu market-purchase method for preventing the harassment of rich households by forced purchases at "short prices."<sup>15</sup> Having to buy on the market meant that officials could not set the price at which they purchased grain. It follows that the amounts they could buy were generally determined by the receipts from spring sales and by autumn market prices. The amounts that officials wanted to buy varied each year according to market prices and the level of reserves still available. When prices were high and reserves were considered too small, only limited amounts could be purchased with receipts from spring sales. When prices were high and reserves deemed adequate, some of the

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<sup>14</sup> *HNSLCA, hulu*, 25.2a–80b.

<sup>15</sup> *HNSLCA, hulu*, 26.35a–41b, 42a–51b; and *HDZL*, 40.16b.

restocking could be postponed until the following year and the unspent silver stored. When prices were low and restocking could be accomplished without spending all of the income from spring sales, the balance was also stored for use in future years.<sup>16</sup>

Market purchases occurred with varying frequency according to the granaries' demand for reserves and the ease of access to rice markets. They were easiest in counties with well-developed rice markets. Officials in counties with relatively good transportation access to these markets could also make such purchases easily. The more distant a county was from large rice markets, the less likely officials were to buy grain on the market, but when reserves were low, market purchases were made from greater distances.

The advantages of market purchase lay primarily in the freedom it gave officials from the problems of a system that was much like tax collection. The market-purchase method, however, was constrained in a number of ways. First, transport costs, defrayed in part by meltage fees, limited the spatial scope of the system.<sup>17</sup> Second, grain shipment created its own problems—either boats had to be hired or corvée labor drafted for service, and officials faced the possibility of losses during transport in either case.<sup>18</sup> Third, even in counties with large rice markets, the size of granary purchases was limited by commercial demand.

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<sup>16</sup> *HNSLCA*, 24.18a–22a; in this case copper, not silver, was being stored. In 1780 there were 68,000 taels of surplus silver, of which 40,000 had been deposited in pawnshops in 1778, the interest income being used to establish a relief center for orphans and old people (*pujitang*) in Changsha; a year later, another 40,000 taels from the sale of community granary interest grain were deposited to increase the funding for this center. In 1814, 18,000 *shi* of ever-normal granary reserves were sent to the center (Hunan governor Liu Yong, ZP, *CZCC*: QL 45/6/24, and ZP, *GZD*: QL 040339 [46/12/16]). See also Hunan governor Guanghou, ZP, *CZCC*: JQ 18/5/21).

<sup>17</sup> Hunan governor Kaitai, ZP, *CZCC*: QL 15/5/30; meltage fees were also used to defray shipping costs of military grain (see Hunan governor Guanghou, ZP, *CZCC*: JQ 17/5/30).

<sup>18</sup> For discussion of which granaries could make market purchases within the county or in nearby counties and those that relied on direct purchases, see *HNSLCA*, *hulu*, 22.46a–51b and 23.2a–23b; and Hunan governor Feng Guangyu, ZP, *CZCC*: QL 4/12/6. On the use of corvée, see *HNSLCA*, *hulu*, 24.41a–43a; on transport costs causing problems, see *HNSLCA*, *hulu*, 24.45b.

Local officials were encouraged to make their market purchases before merchants from other provinces came to buy grain and before large amounts of stored grain were shipped to other areas.<sup>19</sup> But this strategy did not always work; merchants often made their purchases before officials arrived. In order to avoid further increases in market prices that had already been pushed upward by sales leaving the province, officials were sometimes encouraged to stock granaries through direct purchases from rich households.<sup>20</sup> Higher-level authorities, realizing that high market prices were sometimes the result of previous extra-provincial grain sales, turned away officials from neighboring counties who wished to make market purchases.<sup>21</sup> Buying directly from rich households prevented competition between officials and merchants, since it allowed officials to intercept those grain surpluses headed for commercial channels.

Market purchase was therefore not always preferable to direct purchase. Officials weighed each method's particular balance of virtues and defects in each of many local food supply and marketing situations. To avoid the problems inherent in both direct purchase and market purchase, officials continued to turn to nonpurchase alternatives.

As in other provinces, efforts were made to solicit contributions for degrees in order to stock ever-normal granaries. Yang Xifu, governor of Hunan in 1748, saw these contributions as a desirable alternative to purchase, noting that an increase in contributions reduces the need to purchase grain.<sup>22</sup> Although most contributed grain appears to have gone directly into ever-normal granaries, this was not always the case. The Xiangxiang magistrate ordered the building of a "contribution granary" (*juangucang*) in 1739. You and Liuyang each had a "degree contribution granary" (*juanjiancang*), while Chen built a similar, if not

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<sup>19</sup> Hunan governor Hu Baoquan, ZP, GZD: QL 007246 (19/7/16).

<sup>20</sup> Hunan governor Feng Guangyu, ZP, CZCC: QL 4/12/6.

<sup>21</sup> HNSLCA, *hulu*, 26.35a–41b.

<sup>22</sup> Yang Xifu, cited in JSWB, 39.21a–25b.

identical, granary called a “contribution charity granary” (*juanyi-cang*).<sup>23</sup>

The strategy did not work well, however. Contributions fell dramatically short of the provincewide target of 1,565,000 *shi* set in 1739. Only 7,000 *shi* were contributed the first year.<sup>24</sup> By 1742 only 300 people, contributing a total of 92,000 *shi*, had responded to the opportunity to purchase a *jiansheng* degree. Moreover, contributions in silver had decreased in worth because of price increases. By 1756 total contributions had reached 180,600 *shi*, less than 12 percent of the target figure.<sup>25</sup> At the county level, some people were more generous than others, but the overall results were modest everywhere.<sup>26</sup> This generally poor showing did not prevent Ying Shutiao, vice-president of the Board of Revenue, from memorializing in 1763 to have Hunan, Hubei, Jiangsu, Jiangxi, and Zhejiang all solicit grain contributions for degrees. The provincial treasurer of Hunan, Lai Chao, approved of this idea; he saw clearly that contributions in the lower Yangzi would reduce that region’s official demand for Hunan grain.<sup>27</sup> But the 1766 cancellation of contributions in kind makes it unlikely that much grain was in fact collected.

The other alternative to purchases, retained tribute, also played a small role in restocking the province’s granaries, although Hunan’s grain tribute was sometimes rerouted to other areas in need. In 1743,

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<sup>23</sup> *Xiangxiang XZ*, 3.17a; for You and Liuyang, see *Changsha FZ*, 11.39b and 21a, and *Chenzhou FZ*, 10.4a.

<sup>24</sup> Hunan acting governor Xu Rong, *ZP*, *CZCC*: QL 5/8/15.

<sup>25</sup> Hunan governor Xu Rong, *ZP*, *CZCC*: QL 8/3/22; Hunan judicial commissioner Kuishu, *ZP*, *GZD*: QL 013103 (21/10/15).

<sup>26</sup> The size of contributions varied from county to county. In some, such as Ningyuan, where 338 *shi* were contributed in 1740, only small amounts were contributed. But in Pingjiang, where 540 *shi* were contributed in 1739, total contributions reached 3,725 *shi* in 1742. Similarly, in Qiyang a total of 3,443 *shi* was contributed by twelve people between 1746 and 1754 (*Yongzhou FZ*, 7.45a–48a; *Pingjiang XZ*, 20.6a; and *Qiyang XZ*, 3.4b).

<sup>27</sup> Board of Revenue vice-president Ying Shutiao, *ZP*, *GZD*: QL 016004; Hunan provincial treasurer Lai Chao, *ZP*, *GZD*: QL 28/10/7.

however, some of the grain tribute was retained and sent to Miao areas; other cases include 91,000 *shi* retained in 1737 and 100,000 *shi* retained in 1751; these are rare examples.<sup>28</sup> In spite of the vexing problems involved, officials successfully relied on purchases as the primary means of restocking Hunan's granaries.

### *Distribution*

The guiding principle for grain distribution in Hunan during the late seventeenth and early eighteenth centuries was to lend one-half the reserves annually and retain one-half for famine relief.<sup>29</sup> Governor Zhao Shenqiao complained about two aspects of ever-normal granary loans. First, officials would make loans to individuals who claimed to represent large groups of people, with the result that 100–300 *shi* would go to a single person with no guarantee that the others he allegedly represented ever received any grain.<sup>30</sup> Second, as in Shandong, loan collection in the fall was difficult. In a 1707 case from Chaling, for example, a debtor with an outstanding granary loan sent the debt-collector after a debtor of his own, a tenant who owed him rent—an action that ended with the tenant's suicide and charges of irresponsibility and mismanagement all around.<sup>31</sup>

Because of problems with loans, the governor favored storing 70 percent of the grain and selling the remaining 30 percent at reduced prices. But granary sales did not always directly reach the poor, because merchants and local bullies (*digun*) bought grain from the granaries for private resale.<sup>32</sup> Steps were taken in the 1730s and 1740s to ensure that reduced-price sales would reach the truly needy. Households registered in the *baojia* were classified according to need, and only those classi-

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<sup>28</sup> Hunan acting governor Jiang Pu, ZP, CZCC: QL 8/8/23; and Hunan acting governor Fan Shihuan, ZP, GZD: QL 002231 (17/8/8); these amounts have been converted to standard *gu* units.

<sup>29</sup> ZZGS, 11.49a–50a.

<sup>30</sup> ZZGS, 11.42a–43a, 52a–53b.

<sup>31</sup> ZZGS, 4.58a–59b.

<sup>32</sup> ZZGS, 11.52a–53b.

fied as poor were eligible to receive ever-normal granary sales.<sup>33</sup> This solution was not very successful, however, because difficulties in locating the unemployed (*wuyezhe*) hindered effective registration and household identification of the poor.<sup>34</sup>

The size of ever-normal granary distributions was limited by the granary's organizational form. A single ever-normal granary could only distribute so much grain to so many people. At times—usually in disaster years—depots (*chang*) were set up in a few other parts of the county to distribute grain, but this practice never became a regular feature of distribution procedures.<sup>35</sup> The distribution bottleneck led officials in Changsha and Shanhua to allow rice shops to buy grain from the ever-normal granaries and resell it at higher prices, but in general they did not condone purchases by a few individuals who then resold the grain in the countryside (*baomai*).<sup>36</sup>

Within these organizational constraints, the timing, pricing, and extent of grain distributions reflected a sophisticated consideration of many factors. When poor autumn harvests lowered supplies during the following lean spring period, ever-normal granaries sometimes began their sales earlier.<sup>37</sup> The timing of granary sales was also influenced by commercial grain circulation. In the early eighteenth century, Zhao

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<sup>33</sup> *HNSLCA*, *binglu*, 5.18a–27a.

<sup>34</sup> *HNSLCA*, *hulu*, 24.20b.

<sup>35</sup> For example, Hunan governor Yang Xifu, ZP, *CZCC*: QL 12/2/20, referring to 1745.

<sup>36</sup> *HNSLCA*, *hulu*, 23.36a–38b; similarly, Governor Chen Hongmou criticized local officials in Fujian for allowing rice shops to purchase ever-normal granary reserves for resale in 1751 (see *Peiyuantang oucun gao* 32.6a–7b). While permitting intermediaries in ever-normal granary distribution was considered incorrect by higher-level officials in eighteenth-century Hunan and Fujian, there were instances of private intermediaries being publicly sanctioned. Tribute grain was sold to Beijing flour shops in 1759; during the 1770s and 1780s, rich flour-shop owners were allowed to go to the Tongzhou granary and purchase grain for resale in Beijing (see *HDSL* [1899 ed.], 188). There is also the nineteenth-century example from Anhui of an urban charity granary in Hefei that, admittedly rather ambivalently, relied on rice shops for retail distribution of granary reserves (see *JSWXB*, 43.69a–72b).

<sup>37</sup> *ZZGS*, 2.3a–4b, in which earlier sales are debated.

Shenqiao approved reduced-price sales precisely when merchants were buying up grain for export. In general, granary sales were intended to mitigate the price increases caused by declines in local supplies.<sup>38</sup> But in areas hoping to attract some small amount of commercial imports, granary sales were sometimes postponed in order to maintain the high prices necessary to attract those imports.<sup>39</sup> Finally, in areas that were not in a position to attract commercial sales, granary sales could begin earlier than in other areas, the hope being that early sales would lower prices and thereby induce those individuals with large reserves to sell their grain.<sup>40</sup>

A number of counties in Hunan began their granary sales before the prescribed period—the fifth and sixth lunar months—began. Early sales usually took place in those areas where merchants took grain out of their markets before the fifth lunar month. In counties with abundant reserves, earlier sales could stabilize market prices more swiftly.<sup>41</sup> Those opposed to early sales argued that the practice rendered granaries unable to continue their sales through the prescribed period, while supporters pointed out the importance of such sales in lowering prices, irrespective of the causes of the price increases.<sup>42</sup>

Officials also debated the relative importance of harvest quality and market prices to the price set for granary sales. The simplest procedure was to set granary prices as a function of market prices; the higher the spring market price, the larger the differential between the market price and the granary sale price. This formula disregarded the cause of high spring prices and paralleled the procedure for scheduling sales in relation to the timing of steep price increases. Alternatively, the quality of harvests could determine the differential—the poorer the harvest, the greater the difference between granary and market prices.

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<sup>38</sup> ZZGS, 4.5a–7b, 16a–17b.

<sup>39</sup> Luo Ruhuai, ed., *Hunan wenzheng: guochao wen*, 51.15.

<sup>40</sup> HNSLCA, *hulu*, 22.37a–b.

<sup>41</sup> HNSLCA, 22.3a–b.

<sup>42</sup> HNSLCA, *hulu*, 22.27a–29a, 37a–40b, 24.30a–31b.

The latter procedure, which was based on one used in Jiangxi in 1747, was begun in Hunan in 1752. Local officials evidently did not always employ it, however, because its appropriateness needed to be stressed again in 1766.<sup>43</sup>

Price-setting could also be influenced by transportation. In western Hunan it was discovered that the prescribed price reduction would not cover the transportation costs of people coming from more than twenty-five miles away, so officials set lower prices.<sup>44</sup> Lowering the price was an alternative to setting up additional distribution points and helped to limit *baomai*.

It made sense to calculate prices according to prevailing market rates, harvest quality, and transportation access when spring prices were low enough to attract buyers and the difference between spring and autumn prices covered the costs of restocking. In principle, there should always have been a differential, but it could be miniscule or nonexistent when poor harvests were compounded by large merchant purchases for export in the autumn. In the 1760s, neighboring Hubei developed a system for setting selling prices according to the anticipated costs of replacement. For a time this system was considered in Hunan,<sup>45</sup> but it could not guarantee that the price for spring sales would be low enough to move sufficient grain out of the granaries and avoid spoilage from prolonged storage. The problem of setting spring sale prices at a low enough level to ensure adequate turnover of stocks was addressed in a 1772 report that reminded officials that most granaries were to turn over their stocks every three years; a few, located in damper climates, were to distribute one half of their reserves annually, while

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<sup>43</sup> *HNSLCA, hulu*, 24.30a–31b.

<sup>44</sup> Hunan acting governor Xu Rong, ZP, CZCC: QL 6/5/8.

<sup>45</sup> Hubei governor Chen Huizu, ZP GZD: QL 028001 (39/128); *HNSLCA, hulu*, 24.51a–52b.

four counties near Dongting Lake were to distribute 70 percent each year because of severe dampness.<sup>46</sup>

In addition to feeding civilian populations, granaries served military needs in a number of ways. Some counties sent grain annually to military units; these counties included Xintian (146 *shi*), Dong'an (219), Yongming (597), Lingling (1,375), and Jianghua (1,595), all in southern Hunan. The ever-normal granary in Yuanling, in western Hunan, sent the much larger quantity of 3,200 *shi* annually to a nearby military garrison. In each of these counties, provincial treasury funds were allocated for fall restocking purchases. The ever-normal granary figures in each case included the military supplies. In other counties, such as Yongshun, Baojing, Longshan, and Sangzhi in northwestern Hunan, grain sent to the military was physically stored in the ever-normal granaries, but separate accounts were maintained.<sup>47</sup> We will see further examples of this practice on a larger scale in chapter 12, which looks at the southwest. Besides the grain disbursed to military units on an annual basis, additional grain was made available when harvests were bad. For example, military garrisons in Changsha and Shanhua counties were given tickets to buy grain at ever-normal granaries in 1766.<sup>48</sup> When one county's ever-normal granary was not able to meet the requirements of military supply, neighboring counties were called upon.<sup>49</sup> When transport soldiers carrying the grain tribute lacked food, ever-normal granaries provided grain.<sup>50</sup>

### *Transfers*

In addition to distributing grain within the county and to the military, ever-normal granaries in some counties were directed to send grain

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<sup>46</sup> *HNSLCA*, *hulu*, 24.48a–50b.

<sup>47</sup> *Yongzhou FZ*, 7.37a–53b; *Yuanling XZ*, 12.8b–9b; and *Yongshun FZ*, 4.34a–b.

<sup>48</sup> *HNSLCA*, 24.23a–29b.

<sup>49</sup> Hunan governor Li Hu, *ZP*, *GZD*: QL 037230 (43/12/17), and Hunan governor Pu Lin, *ZP*, *CZCC*: QL 50/12/10.

<sup>50</sup> Hunan governor Fang Shijun, *ZP*, *GZD*: QL 025656 (33/8/4).

Table 11.1. Ever-Normal Granary Transfers from Hunan to Other Provinces (in *Shi*)

Year	Amount	Destination
1738	100,000	Fujian
1742	192,000	Guangdong
1746	50,000	Guangdong
1751	150,000	Zhejiang
	100,000	Anhui
1754	200,000	Jiangnan
1755	100,000	Jiangnan
1756	402,000	Jiangnan
1759	300,000	Guangdong

**Sources**

*HDZL*, 40.23b; Hunan governor Xu Rong, ZP, *CZCC*: QL 7/5/13; Hunan governor Yang Xifu, ZP, *CZCC*: QL 11/1/24, and ZP, *GZD*: QL 000885 (16/8/20); acting Hunan governor Fan Shishou, ZP, *GZD*: QL 002231 (17/8/8); Hunan governor Hu Baoquan, ZP, *GZD*: QL 007246 (19/7/16); Hunan governor Chen Hongmou, ZP, *GZD*: QL 008159 (20/11/27); acting Hunan governor Jiang Bing, ZP, *CZCC*: QL 22/7/22; Hunan governor Feng Qian, ZP, *CZCC*: QL 24/2/27.

elsewhere for civilian use. These transfers moved grain from counties where granaries had surpluses to those with deficits. Transfers were used both for stocking granaries and for immediate distribution.<sup>51</sup> For example, the transfer method was used in 1758 to increase reserves in the Fenghuang granary by 6,000 *shi*, and again in 1760 to supply counties in southern Hunan with 14,000 *shi* for reduced-price sales.<sup>52</sup> However, the size of granary transfers to other provinces dwarfed the scale of transfers within Hunan. A sample of ever-normal granary transfers to other provinces is given in table 11.1.

<sup>51</sup> Hunan governor Yang Xifu, ZP, *CZCC*: QL 11/6/18; *ZZGS*, 9.38a–39a; *HNSLCA*, *hulu*, 13.28a–b.

<sup>52</sup> Hunan governor Feng Qian, ZP, *CZCC*: QL 23/10/12, and ZP, *CZCC*: QL 25/8/5.

These transfers represented an organizational challenge to local officials, who had to hire boats and supervise the shipments. The process could be further complicated by decisions to halt the grain transfers after they had begun. In 1770, for example, a transfer of 120,000 *shi* of husked rice to Guizhou was halted when Guizhou officials decided that good harvests in the autumn of that year reduced their need for Hunan grain. Officials in Hunan thereupon diverted part of the transfer to military use and planned to sell the balance the following spring.<sup>53</sup>

Hunan's ever-normal granary reserves were used during the eighteenth century to supplement the civilian food supplies both in Hunan and other provinces as well as to augment military supplies. In some years granary transfers, which supplied grain to provinces east, west, north, and south of Hunan, exceeded the amounts sold at reduced prices, given out as famine relief, or distributed to the military. In short, the granaries of a rice-rich province with well-developed water transportation and land routes could affect food supply availabilities over a broad area.

#### THE COMMUNITY GRANARY, 1650–1780

Community granaries were established in a few counties during the late seventeenth century; a few more counties had them by the 1720s, although most Hunan gazetteers do not mention their existence before the 1730s. Where the gazetteers for that time (including those for the counties listed in table 11.2) do mention a community granary, there is reference in some cases only to a *plan* to build one—in Jianghua, for example; in other cases, such as that of Liuyang, it is clear from the record that a granary had already been built. By the 1740s and 1750s, however, most of Hunan's counties had community granaries.<sup>54</sup>

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<sup>53</sup> Hunan governor Defu, ZP, CZCC: QL 35/8/6, and ZP, CZCC: QL 35/9/3.

<sup>54</sup> *Hunan TZ* (1756 ed.), 40.10a.

Table 11.2. Early Qing Community Granary Formation in Hunan Province

County	Year	Number of community granaries
Dao zhou	1690	5
Qiyang	1690	3
Jianghua	1723	7
Pingjiang	1723	36
Qiyang	1723	187
Liling	1727	64
Liuyang	1734	4
Yiyang	1735	23
Baling	1735	35

**Sources**

*Yongzhou FZ* (1693), 5.34a (Dao zhou), 5.22b (Qiyang); *Yongzhou FZ* (1867), 3.38b (Jianghua); *Pingjiang XZ*, 20.7a; *Qiyang XZ*, 3.11a; *Liling XZ*, 3.20–24; *Changsha FZ*, 11.21 (Liuyang); *Yiyang XZ*, 3.13–14; *Baling XZ*, 6.2.

*Problems of Monitoring and Control*

The early eighteenth-century governor of Hunan, Zhao Shenqiao, opposed the placement of granaries outside the county seat, arguing that they were a management burden for too many people and that it was too difficult for officials to visit rural locations to investigate and prevent abuses. Zhao so strongly disliked placing granaries outside the county seat that he suggested that grain lent to peasants in the countryside of Anhua be returned to the county seat.<sup>55</sup> When community granaries in Hunan were expanded during the years following Zhao's tenure as governor, there was a shift from urban-based community granaries to rural community granaries.<sup>56</sup> Zhao's sentiments, however,

<sup>55</sup> ZZGS, 13.19b–20a.

<sup>56</sup> This was the case in Changsha after 1730 (see *Changsha XZ* [1810 ed.], 9.41b–51b).

continued to find support. The governor of Hunan in 1736 opposed increasing the number of community granaries, maintaining that officials would be unable to supervise their operations.<sup>57</sup> Seven years later the Hunan circuit censor, Mingde, voiced fears that insufficient official supervision over growing numbers of community granaries was resulting in unreported deficits.

Local and provincial officials could certainly appreciate the problem of inadequate supervision, which existed in other provinces as well, but momentum had swung in favor of increasing community granary reserves. Responding to Mingde's memorial, the Board of Revenue stated that community granaries should be developed to lessen the burdens on ever-normal granaries, which had trouble replacing grain sold at reduced prices because the administratively set price was below prevailing market prices.<sup>58</sup>

Before increasing community granary reserves could be realistically considered, however, a solution to the supervision problem had to be reached. Governor Jiang Pu of Hunan put forward a plan in 1744, ordering the construction of "chief granaries" (*zongcang*) financed with the receipts from the sale of interest grain charged on community granary loans. Each of these chief granaries stored the grain previously held in a number of "dispersed granaries" (*sancang*). By reducing the number of accounts local officials had to review each year, supervision of community granary operations could be improved. There would be no need for runners to go out and investigate individual granaries; instead, granary heads could send their reports to local officials without delay.<sup>59</sup>

The instances of mismanagement that were uncovered as this system was implemented were sometimes only marginal. In Lanshan, for instance, the books reported a total of 5,667 *shi*, but an investigation

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<sup>57</sup> *HNSLCA*, *hulu*, 20.3a–8b.

<sup>58</sup> *ZP*, *CZCC*: QL 8/6/13, a discussion memorial by Board of Revenue officials on a memorial by Hunan judicial commissioner Mingde.

<sup>59</sup> Hunan governor Yang Xifu, *ZP*, *CZCC*: QL 12/3/17.

Table 11.3. Changes in the Number of Community Granaries in Hunan Province

County	Old community granaries	“Chief granaries”
Yiyang	23 (1735)	8
Qiyang	187 (1723)	28
Liling	64 (1727)	6
Pingjiang	36 (1723)	3
Baling	35 (1746)	4
Xiangxiang	16 (1746)	5

**Sources**

*Yiyang XZ*, 3.13-14; *Qiyang XZ*, 3.11a and *Yongzhou FZ* (1764), 3.10; *Liling XZ*, 3.20-24; *Pingjiang XZ*, 20.7a; *Baling XZ*, 6.3; *Changsha FZ*, 11.39a (Xiangxiang).

by officials revealed the true level of reserves to be 550 *shi* less than this amount. With less than a 10-percent error, the previous management system can hardly be considered a failure. Officials hoped to rid the granaries of even these small discrepancies, however, by replacing the eighty-four community granaries with seven chief granaries.<sup>60</sup> Reductions in the numbers of community granaries were also achieved between 1744 and 1746 in Yiyang, Qiyang, Liling, Pingjiang, Baling, and Xiangxiang counties (see table 11.3).

Our information on other counties does not include the number of community granaries before the beginning of the chief granary system in 1744. It is clear, however, that many other counties also implemented chief granaries during this period.<sup>61</sup> In some cases these new granaries kept separate accounts for the former granaries, allowing no grain

<sup>60</sup> *HNSLCA*, *hulu*, 20.38a-41b.

<sup>61</sup> Examples include Huarong, Hengshan, You, Chaling, Xiangtan, Xiangxiang, and Changsha counties. See *Huarong XZ*, 4.2b-3b; *Hengshan XZ*, 14.4a-6a; for other counties, see *Changsha FZ*: You, 11.39b; Chaling, 11.10b-11a; Xiangtan, 11.27a; Xiangxiang, 11.39a; and Changsha, 11.13b-14a.

transfers among them.<sup>62</sup> Even so, there was probably some improvement in supervision. In general, the implementation of a more centralized accounting system at the subcounty level demonstrated the provincial government's commitment to supervision of community granaries. These revised accounting procedures no doubt facilitated the preparation of the provincial total of reserves each year. It is no accident that our figures for provincial totals begin after this system was inaugurated.

The emphasis on community granaries in the 1740s and 1750s created an increasingly important source of grain for the civilian population. Officials consciously used community granaries to complement ever-normal granary operations. A report from Jianghua in 1754, for example, noted the practice of drawing up an annual list of poor people living near the county seat who were eligible for reduced-price sales from the ever-normal granary, and called for a similar list to be made in rural areas to determine who should receive community granary loans.<sup>63</sup> But the new system of supervising and monitoring community granary operations did not allay the fears of some officials that community granaries were not being managed well. In 1754, Governor Hu Baoquan expressed his fear that community granary reserves might have declined over the previous several years because of administrative problems. His successor, Chen Hongmou, settled the matter, declaring in 1756 that 90 percent of the 50,000 *shi* in outstanding loans had been collected. Chen's zeal for community granaries and his record of accomplishments as governor of eight provinces lends credence to his claim of reducing loan arrears.<sup>64</sup>

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<sup>62</sup> For instance, in Hengyang (*Hengyang XZ* [1761 ed.], 3.90a–92a); the same accounting procedure was used for a granary established in Yiyang County in 1791 (*Yiyang XZ*, 3.13a–14a).

<sup>63</sup> For example, a report from Jianghua in 1754 noted the practice of annually drawing up a list of the poor people living near the county seat who were eligible for reduced-price sales by the ever-normal granary and called for a similar list to be made in rural areas to determine those people who should receive community granary loans (*HNSLCA*, *binglu*, 5.18a–27a).

<sup>64</sup> Hunan governor Hu Baoquan, ZP, *GZD*: QL 007247 (19/7/16); and Hunan governor Chen Hongmou, ZP, *GZD*: QL 012806 (21/9/29).

While he succeeded in reducing arrears, Chen Hongmou does not seem to have kept new contributions coming in. According to Governor Liu Yong, writing in 1781, there were no new contributions to community granaries between 1757 and 1780.<sup>65</sup> But it appears from the continuously large amounts of reserves reported in these years that the absence of new contributions was not a major problem.

#### SIZE AND UTILIZATION OF RESERVES

##### *Ever-Normal Granaries*

Ever-normal granary reserves in Hunan grew dramatically during the last third of the seventeenth century and the first half of the eighteenth century. Between 1669 and 1721, reserves reached 360,726 *shi*; this figure was doubled (702,133 *shi*) during the Yongzheng period and redoubled (1,534,402 *shi*) through massive buying between 1735 and 1747.<sup>66</sup> Purchasing required much planning and effort. In 1739, the provincial government set county-level targets totaling 500,000 *shi*, earmarked for transfer to provinces in need of grain.<sup>67</sup> Wherever the price of unhusked rice was under four *qian*<sup>b</sup> per *shi*, all the targeted purchases were to be made; where the price was around four *qian*<sup>b</sup>, 50 percent of the purchases were to be made; and where the price greatly exceeded four *qian*<sup>b</sup>, purchases were to be halted. Following these guidelines, 300,000 *shi* were purchased following the 1739 harvests. After an excellent early rice crop was reported by virtually every county in the following year, the provincial government ordered that the 200,000 *shi* balance be purchased.<sup>68</sup> Efforts such as these doubled the reserves in a decade.

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<sup>65</sup> Hunan TZ (1885 ed.), 55.8b.

<sup>66</sup> Hunan governor Yang Xifu, ZP, CZCC: QL 13/8/18.

<sup>67</sup> Hunan governor Feng Guangyu, ZP, CZCC: QL 5/3/6.

<sup>68</sup> Hunan treasurer Zhang Can, ZP, CZCC: QL 5/6\*/9. One *qian*<sup>b</sup> equals 0.1 tael.

Table 11.4. Opening Balances and Annual Disbursals for Ever-Normal Granaries in Hunan Province, 1745–1793 (in *Shi*)

Year	Opening balance	Disbursals	Rate* (in %)
1745	1,459,899	266,726	18
1751	1,369,687	736,495	54
1752	1,299,205	537,918	41
1753	1,163,211	238,792	21
1754	1,164,470	440,837	38
1755	1,176,755	311,947	27
1756	1,179,670	716,984	61
1758	1,384,018	374,021	27
1759	1,444,735	310,588	22
1763	1,504,852	137,113	9
1764	1,505,593	199,278	13
1765	1,506,693	952,172	63
1767	1,438,342	158,712	11
1768	1,416,483	133,876	9
1773	1,510,323	108,426	7
1775	1,511,569	329,003	22
1777	1,515,286	104,722	7
1778	1,516,006	451,810	30
1779	1,167,018	401,779	34
1780	1,473,871	138,616	9
1783	1,523,421	99,791	7
1784	1,518,270	160,970	11
1785	1,515,097	226,331	15
1786	1,357,027	189,704	14
1787	1,355,903	402,562	30
1788	1,502,670	94,900	6
1789	1,504,887	175,089	12
1792	1,478,268	97,413	7
1793	1,478,722	97,730	7

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

\* Disbursals as a percentage of opening balance. In Hunan's "semiclosed" accounting, the opening balance includes restocking and represents the highest level of reserves in the year.

Accompanying the growth of reserves, in Hunan as elsewhere, was the formation of prefectural granaries, which represented a structural development in the granary system. At mid-century the prefectural granaries often had reserves larger than those in their nearby county ever-normal granaries; the transfer of control over these prefectural reserves to county magistrates in subsequent years is reflected in figures that do not include separate amounts for prefectural granaries, but often report large increases in the size of ever-normal granary reserves in those counties housing prefectural seats.<sup>69</sup>

The growth of reserves which prompted the 1748 quota changes reduced Hunan's target reserves to less than one half the reported stocks. The difference between real reserves and the newly reaffirmed Yongzheng quota was labeled "extra-quota grain" (*yi'e gu*). In Hunan it was decided to use these reserves for transfer to other provinces, the very same purpose for which large purchases had been made in the 1740s. In other words, Hunan officials changed the names but not the realities of their granary reserves. As is clear from table 11.4, the renewal of the Yongzheng-period quota did not result in a reduction of reserves. Averaging the reserves for the 1750s and for the 1780s yields figures of 1,256,819 and 1,468,893 *shi*. This trend of increasing reserves contrasts sharply with the decline in rates of disbursal depicted as decennial averages in table 11.5.

Assuming that the data we have reflect general decennial conditions, a clear story can be told. Roughly one-third of the ever-normal granary reserves were disbursed annually between 1746 and 1765; Hunan's ever-normal granary system met the prescribed rule of turning stocks over every three years. In succeeding decades a sharp drop in the average level of disbursals is unmistakable; while it is not always certain that disbursal figures given are only for the current year, the carrying over of arrears would reinforce the observed trend of decreased disbursal amounts, since arrears were more likely to grow than to contract. The general willingness of officials to use ever-normal granaries in Hunan waned long before the levels of reserves maintained

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<sup>69</sup> *Hunan TZ* (1756 ed.), 40.1a-9a, and *Hunan TZ* (1820 ed.), 41.23b-40b.

Table 11.5. Ever-Normal Granary Decennial Rates of Disbursal in Hunan Province

Decade	Average rate	No. of years represented
1746–1755	36%	5
1756–1765	33%	5
1766–1775	12%	4
1776–1785	16%	7
1786–1795	13%	6

**Source**

See table 11.4.

by granaries were sharply lowered. Ever-normal granary use declined not because of diminished official capacities, but because officials chose to reduce their ever-normal granary activities.

The attitudes of officials toward granary disbursals are reflected both in their statements and in their actions. Yang Xifu, governor of Hunan, expressed disapproval of 30-percent distribution in 1748, claiming that the benefits of reduced-price sales in good years were outweighed by the costs of replacement. But disbursals remained high in the 1750s because Governor Chen Hongmou remained a vigorous proponent of granaries. Subsequent complaints, beginning in the late 1750s, by other officials were followed by a drop in disbursal rates in the 1760s. In 1758, Governor Feng Qian requested that the amounts to be distributed be decided according to needs rather than according to the fixed rules.<sup>70</sup> A few months later, in 1759, he noted that roughly 400,000 *shi* of grain would have to be disbursed in that year according to the regulation requiring roughly one-third of granary reserves to be disbursed annually. He questioned the wisdom of making large sales when prices had been reasonably low after several years of good

<sup>70</sup> *QSLJJZL*, 633 (1758/12/3).

harvests.<sup>71</sup> In fact, very little grain appears to have been sold within the province that year. Of the 310,588 *shi* listed for 1759, 300,000 *shi* had been transferred to Guangdong.<sup>72</sup> The 1740s and 1750s had been decades of large disbursements, including both reduced-price sales and transfers. Following the 1759 decision to sell very little grain within Hunan, the average level of disbursements dropped dramatically.

These low rates of disbursement were clearly the result of official choice rather than of inability to disburse grain, because in 1765 nearly a million *shi* were disbursed. At least three-quarters of this amount was in the form of reduced-price sales.<sup>73</sup> The state sold tens of thousands of tons of grain in Hunan in this one year when mediocre harvests were being bought up by outside merchants and officials. Equally impressive was the replacement of 883,831 *shi* of disbursed grain in only two years.<sup>74</sup> There was certainly no lack of administrative capacity to mobilize and distribute grain.

For the 1770s and 1780s, it is more difficult to adduce qualitative evidence of administrative capacity to intervene in food supply conditions. There is a 1772 report stating that there had been no reduced-price sales in Longyang for six or seven years because prices had not risen above seven *qian*<sup>b</sup> per *shi*, the price at which reduced-price sales were to be initiated. Years of good harvest and low prices may explain some local cases of fewer sales but are likely inadequate to explain the lower levels of sales over the entire province for a period of twenty years.<sup>75</sup>

While the absolute levels of disbursements are difficult to reconstruct, we can disaggregate some examples to identify the likely changes in the relative importance of transfers, reduced-price sales, and military

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<sup>71</sup> Hunan governor Feng Qian, ZP, CZCC: QL 24/3/28.

<sup>72</sup> Feng Qian, ZP, CZCC: QL 24/4/27.

<sup>73</sup> Feng Qian, ZP, GZD: QL 021532 (30/10/2). Feng states that more than half of the reserves were sold at reduced prices; given the total level of reserves and the fact that nearly a million *shi* were disbursed, the three-quarters proportion is reasonably inferred.

<sup>74</sup> HNSLCA, hulu, 24.18a–22a. This replacement figure is the difference between total reserves in 1767 and the amount left after 1765 disbursements.

<sup>75</sup> HNSLCA, hulu, 24.48a–50b.

supplies. Transfers from Hunan granaries to other provinces continued to be large, even if less frequent. The proposed transfer of 240,000 *shi* to Guizhou in 1770 was larger than total disbursements in the preceding and following years, and the transfer of 100,000 *shi* to Hubei in 1785 represented just under half of the total disbursement for that year.<sup>76</sup> In contrast to this continuity of transfers, the relative size and importance of reduced-price sales and military disbursements was reversed during the second half of the eighteenth century.

Reduced-price sales unmistakably declined from the high levels achieved in the 1740s and 1750s. For the years 1746 to 1750, annual sales were 570,000, 190,000, 210,000, 50,000, and 20,000 *shi*, respectively;<sup>77</sup> 255,000 *shi* were sold at reduced prices in 1754 and another 500,000 *shi* in 1755.<sup>78</sup> In contrast, sales in 1786 totaled only 60,231 *shi*, a figure much larger than those for 1789, 1790, and 1801, years of high prices when sales ranged from 5,000 to 20,000 *shi*.<sup>79</sup>

Conversely, military disbursements rose toward the end of the eighteenth century. In 1748, for example, 59,307 *shi* were disbursed to the military. In 1786, 43,778 *shi* were lent to garrisons and an additional 52,770 *shi* were distributed to the military; the total of 96,548 *shi* was almost twice the 1748 figure.<sup>80</sup> The military campaigns against the Miao during the 1790s used up much larger amounts of ever-normal granary reserves. For the 1795 movement of 20,000 troops into western Hunan to combat the Miao, 438,000 of the 1,516,400 *shi* of ever-normal granary reserves were used.<sup>81</sup> In 1803, the military in Hunan received

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<sup>76</sup> Hunan acting governor Defu, ZP, CZCC: QL 35/8/6 and QL 50/10/13; see also table 11.4.

<sup>77</sup> Hunan governor Kaitai, ZP, CZCC: QL 15/7/24.

<sup>78</sup> Hunan governor Hu Baoquan, ZP, GZD: QL 007246 (19/7/16); Hunan governor Chen Hongmou, ZP, GZD: QL 012252 (21/6/29); and Hunan judicial commissioner Kuishu, ZP, GZD: QL 013103 (21/20/15).

<sup>79</sup> Hunan governor Pu Lin, ZP, GZD: QL 050142 (52/2/9), and ZP, CZCC: JQ 11/8/3.

<sup>80</sup> ZP, CZCC: QL 13/8/18; Hunan governor Pu Lin, ZP, GZD: QL 050142 (52/2/9).

<sup>81</sup> Huguang governor-general Bi Yuan and Hunan governor Jiang Sheng, ZP, CZCC: QL 60/7/8.

34,700 *shi*, and an additional 600,000 *shi* were sent to the military in Hubei.

The shift in the relative size of civilian and military disbursements is also indicated by data from 1748 and 1786, two years for which the size of both reduced-price sales and military disbursements is known. Reduced-price sales dropped from 218,681 to 60,231 *shi* as military disbursements increased from 59,307 to 96,548 *shi*. The 438,000 *shi* used primarily for the Miao military campaigns in 1795 contrasts even more sharply with the reduced-price sales of 5,000–20,000 in the high-price years of 1789, 1790, and 1801.<sup>82</sup>

To summarize, total reserves in ever-normal granaries grew from the late seventeenth century through the late eighteenth century. Beginning in 1745, from which point reliable figures are available, annual granary disbursements averaged roughly 30 percent for the next twenty years. The subsequent decline in the size of disbursements was followed by a shift from largely civilian disbursements to military ones.

#### *Community Granaries*

The impact of the drop in reduced-price sales was probably mitigated by increased reserves in community granaries. Table 11.6 shows the final-balance reserves in Hunan community granaries for those years between 1745 and 1793 for which we have data. The decennial averages for the five decades between 1746 and 1795 show generally increasing reserves: 389,459 *shi* (1746–1755); 486,200 *shi* (1756–1765); 554,535 *shi* (1766–1775); 626,392 *shi* (1776–1785); 728,968 *shi* (1786–1795). Unfortunately, figures on annual distribution by community granaries in Hunan are not available. The annual provincial reports to the central administration on granary reserves list both the total reserves and disbursements by ever-normal granaries, but only the final-balance figures for community granaries, so we cannot be sure that increasing amounts of community granary reserves necessarily meant additional distribution.

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<sup>82</sup> ZP, CZCC: QL 13/8/18; Hunan governor Pu Lin, ZP, GZD: QL 050142 (52/2/9).

Table 11.6. Community Granary Year-End Reserves in Hunan Province, 1745–1792 (in *Shi*)

Year	Reserves	Year	Reserves
1745	404,395	1773	572,428
1751	377,453	1775	577,613
1752	384,552	1777	581,817
1753	402,916	1778	584,490
1754	394,995	1779	522,835
1755	432,379	1780	591,138
1756	443,652	1783	684,170
1758	478,000	1784	684,709
1759	489,664	1785	735,588
1763	497,203	1786	712,114
1764	505,270	1787	723,431
1765	503,416	1788	734,362
1767	532,537	1789	736,395
1768	535,560	1792	738,538

**Source**

*Minshu gushu* memorials (see sources for appendix table A.1).

Lack of data is symptomatic of the monitoring-and-control problem we have already addressed: data were sketchy largely because official control of community granaries was limited. The question of how to monitor community granaries was a delicate one. Theoretically, these granaries were stocked with contributions from rich people, managed by local people without government interference, and used by poorer people who took out loans. How to guide community granary operations without close control was not obvious, but it was clear that without at least light surveillance, officials would never be able to monitor the small and scattered community granaries.

The figures on community granaries are sufficient, however, for estimating granary disbursements, because Governor Liu Yong reported that no contributions had been made between 1756 and 1780. The year-end totals for 1758 and 1780 are 478,000 and 591,138 *shi*, respectively. The difference of 113,138 *shi* between these two amounts must

be due largely to interest payments on loans. Assuming interest payments to have been the standard 10 percent, more than a million *shi* of grain must have been lent out to produce the observed increase in reserves. The average annual distribution was therefore about 50,000 *shi*, roughly 10 percent of the average holdings. The estimate is compatible with county-level figures from Qiyang, for which the amounts of principal and interest for fifty-two years are recorded.<sup>83</sup> If the estimate errs, it probably underestimates distribution. First, it does not include grain lent without interest, the practice in years of especially poor harvests. Second, it assumes that the level of outstanding loans was the same in 1780 as in 1758, but it is likely that arrears were larger by the second date, because Governor Chen Hongmou had completed his efforts to recover arrears shortly before 1756.

From this conservative average of annual community granary distribution we can estimate the relative importance of community granary loans and ever-normal granary sales. The average disbursal from ever-normal granaries was 285,508 *shi* during those years between 1758 and 1780 for which we have data. Assuming that reduced-price sales within the province equaled between 50 and 70 percent of total ever-normal granary disbursals inside and outside the province, community granary loans represent 22 to 27 percent of the combined sales and loans by ever-normal and community granaries. Even if we assume that all disbursals were reduced-price sales, our conservative estimate of community granary loans still accounts for 15 percent of total distribution. It appears, therefore, that community granary loans accounted for an average of 15 to 25 percent of granary distribution within Hunan during the 1760s and 1770s, when the average rate of ever-normal granary disbursal had fallen from the levels common in earlier decades.

#### BELEAGUERED GRANARIES, 1780–1850

After 1780, the granary system in Hunan retained an ability to intervene in food supply conditions, but the overall scale of operations shrank;

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<sup>83</sup> *Qiyang XZ*, 3.13a.

restocking became increasingly difficult and the major targets shifted from civilian to military.

*Pressures and Precarious Successes, 1780–1810*

Some of the pressures on Hunan's ever-normal granaries came from old and familiar difficulties, like those caused by transfers to other provinces. In 1806, for instance, when 50,000 *shi* of milled rice from the ever-normal granaries was earmarked for shipment to Fujian, the governor-general of Zhejiang and Fujian halted the shipments after 28,400 *shi* of husked rice had been prepared. The acting governor of Hunan claimed that this was more rice than could be sold at reduced prices because harvests had been good that year.<sup>84</sup>

Other problems were newer; primary among them were disbursals to the military. The additional burdens these disbursals placed on officials seeking to restock the granaries prompted the governor-general to request a halt, in 1803, to irregular disbursals to the military until the granaries had been restocked. He argued that the original purpose of providing additional grain to the military had been to help ever-normal granaries avoid spoilage by turning over their stocks.<sup>85</sup>

The 1780s were good years for community granaries. Total community granary reserves rose markedly in response to a campaign initiated in 1780 by Governor Liu Yong, who assigned targets for contributions, totaling 160,000 *shi* in each of twenty departments and counties.<sup>86</sup> Contributions were reported from many counties.<sup>87</sup> In 1781 the governor went on to order forty-five other departments and counties in the province to raise 120,000 *shi* in contributions for community granaries. Two years later, 57,258 *shi* of this latter amount had been

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<sup>84</sup> Hunan governor Alinbao, ZP, CZCC: JQ 11/5/18 and JQ 11/8/3.

<sup>85</sup> Huguang governor-general Wu Xiongguang, ZP, CZCC: JQ 8/6/18.

<sup>86</sup> *Hunan TZ* (1885 ed.), 55.8b.

<sup>87</sup> For example, a merchant near the city of Pushi in Chenzhou gave 5,000 *shi*, while gentry in the vicinity gave 8,500 *shi* (Hunan governor Liu Yong, ZP, GZD: QL 040338 [46/12/16]). In Xiangtan, a total of 17,738 *shi* of a 20,000-*shi* target was raised (*Xiangtan XZ* [1818 ed.], 17.29a).

collected; fifteen departments and counties had surpassed their assigned targets, seventeen had fallen short, and thirteen reported meeting their targets. In 1785 the new governor requested that the contributions be halted; he argued that the forty-five departments and counties that had collected 57,258 *shi* by 1783 now had a total of 224,400 *shi*, an adequate amount with which the community granaries could function.<sup>88</sup> The increase in community granary reserves between 1779 and 1785 that is shown in table 11.6 is accounted for by the 57,258 *shi* reportedly raised in forty-five departments and counties and the roughly 156,000 additional *shi* in the other twenty departments and counties.

The reserves achieved by the mobilization campaigns of 1780–1785 were sustained at least through 1792; provincial reports for community granary holdings are not available for years after this. There are a number of reasons for believing that the figure of more than 730,000 shown for 1792 represents the absolute peak of community granary reserves. It is certainly larger than any other figure for the eighteenth century, and it is unlikely that rural grain storage in the first half of the nineteenth century achieved larger totals. First, subsequent growth was constrained by the 1781 provincial decision to sell interest grain and to use the receipts for irrigation repairs. In Xiangtan, for example, where community granaries stored 15,457 *shi* in 1780, almost 2,000 *shi* of interest grain were sold and the money from sales put into the treasury to finance irrigation repairs.<sup>89</sup> Second, the governor's 1790 decision to order both ever-normal and community granaries to send grain to military troops reduced the level of reserves. In Qingquan, for instance, 5,748 *shi* of community granary reserves were consequently sent to the military. In Cili, 2,899 of the 6,000 *shi* collected in 1781 were sent to the military in 1795.<sup>90</sup> The use of community granary reserves for purposes other than loans to local people was a departure from previous practices. This deflection from original purposes figured

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<sup>88</sup> Hunan governor Lu Yao, ZP, CZCC: QL 50/5/19.

<sup>89</sup> *Xiangtan XZ* (1818 ed.), 17.25b–31b.

<sup>90</sup> *Qingquan XZ*, 11.1a–9b and *Li ZZ*, 5.47b–51a.

prominently in the Jiaqing emperor's 1799 decision to return fuller control over community granaries to local people.

*Draining the Ever-Normal Granaries, 1800–1850*

Beginning no later than the 1780s, distribution to the civilian population was largely limited to areas suffering particularly poor harvests. Since grain was sold only in very bad crop years, the rule that established the amount of price reductions as a function of harvest conditions was not used, but other rules remained in use. Areas requiring distribution were identified by the monthly grain price lists, and the price differential between market prices and granary sale prices was larger when market prices were higher.<sup>91</sup>

Reduced-price sales were made in 1809, 1821, 1824, 1831, and 1836 in areas suffering drought or flood.<sup>92</sup> Counties without adequate reserves received transfers from other counties, much as they had in earlier decades. In 1832, for instance, the ever-normal granary in Anxiang had only 7,000 *shi*, an insufficient amount of grain, because floods had prevented the replacement of the previous year's sales. Consequently, 10,000 *shi* were sent from the ever-normal granaries in three other counties: Xiangyin and Liuyang each sent 3,000 *shi* and Xiangtan sent 4,000 *shi*. The Xiangyin ever-normal granary sent an additional 2,000 *shi* to Pingjiang, where projected sales of 1,500 *shi* according to the 33-percent disbursal rule were deemed inadequate.<sup>93</sup>

Reduced-price sales and transfers, along with relief, spoilage, and distribution to the military, resulted in declining reserves in a number of counties. In Yiyang, which had stored 30,380 *shi*, a combination of relief, diversion to the military, and spoilage reduced reserves to zero between 1831 and 1864.<sup>94</sup> A more detailed report on Liuyang ever-normal granary reserves states that a total of 29,469 *shi* was reduced to

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<sup>91</sup> Hunan governor Songfu, ZP, CZCC: DG 4/5/4.

<sup>92</sup> Hunan governor Sucheng'e, ZP, CZCC: DG 11/5/22, and Hunan governor Yutai, ZP, CZCC: DG 16/3/24.

<sup>93</sup> Hunan governor Wu Rongguang, ZP, CZCC: DG 12/5/23.

<sup>94</sup> *Yiyang XZ*, 6.58a.

4,595 *shi*.<sup>95</sup> The Liling ever-normal granary experienced similar declines through three major disbursements—4,800 *shi* in 1826 for unspecified purposes, 8,000 *shi* to the military in 1832, and 17,000 *shi* transferred to the provincial granary in 1859 (of which 6,000 *shi* was returned in 1862)—which caused reserves to drop from 33,748 to 9,915 *shi*.<sup>96</sup> For other places, the available information is less precise.<sup>97</sup> Some reports simply state the level of reserves at two or more dates, with no explanation of the decline.<sup>98</sup> County-level reports do not show the complete picture, but they do suggest a general trend of decline produced by a combination of disbursements to the military and failure to restock after reduced-price sales, relief, or transfers.

The mobilization and distribution of official reserves in the western and southwestern parts of the province represent a partial exception to practices in the rest of the province. One of the legacies of the Miao unrest in Hunan was the effort begun in 1806 to build up grain reserves.

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<sup>95</sup> The causes were the following: three shipments of 1,000 *shi* each to Liling for relief after floods in 1826; 1,000 *shi* allocated to make up arrears in grain tribute payments in 1829; unspecified amount for military supplies in 1832; 1,000 *shi* sent to Yiyang for reduced-price sales plus an additional 8,000 *shi* sold at reduced prices within the county in 1849; 197 *shi* were missing due to errors in the conversion of milled to unhusked rice; 4,500 *shi* were discovered to have been misappropriated in ways not specified; finally, in 1859, 10,000 *shi* were sold and the money sent to the military (*Liuyang XZ*, 4.8b).

<sup>96</sup> *Liling XZ*, 3.20a.

<sup>97</sup> In Lizhou, the difference between reserves of 22,103 *shi* in 1759 and 99 *shi* in 1874 was largely attributed to military disbursements and the failure to restock the granary. In neighboring Anxiang, a reduction from 7,631 *shi* before 1831 to 265 *shi* in 1874 was largely ascribed to the use of reserves after 1831 without replacement (*Li ZZ*, 5.47b–51a). For Wuling we are told that the ever-normal granary was empty by 1861 because of misuse of reserves and spoilage (*Wuling XZ*, 19.5a).

<sup>98</sup> For example, reserves in Cili dropped from 10,246 *shi* in the late eighteenth century to 6,662 *shi* in 1815 and to 2,056 *shi* by 1861 (*Cili XZ*, 4.3a–4b). In Qingquan a drop from 45,427 *shi* in 1801 to 25,424 *shi* in 1868 is recorded (*Qingquan XZ*, 4.4a–5a). In Yuanling, ever-normal granary reserves had dropped by 25,117 *shi* between the late Qianlong period and 1849, when purchases of 7,040 *shi* increased reserves to 21,529 *shi* (*Yuanling XZ*, 12.8b–9b.) Finally, in Linxiang we learn that there was no grain in the ever-normal granary by 1854 and, similarly, none in the Xupu ever-normal granary by 1869 (*Linxiang XZ*, 4.18a, and *Xupu XZ*, 7.17b–18b).

But an 1815 investigation revealed that only 17,900 *shi* of a 78,400-*shi* quota were stored in Miao areas. Drought in 1820 prompted reduced-price sales in 1821; the governor remarked that in the isolated Miao areas with limited production and few commercial imports, the poor relied on the government to supply grain.<sup>99</sup> For the next fifteen years there is evidence of repeated government efforts to meet these needs. The governor-general and governor proposed jointly in 1821 to invest 100,000 taels of the land tax with Huguang salt merchants, who were to pay an annual interest of 12,000 taels for use of this money; 5,000 taels of the annual interest was to be added to the already invested sum and 7,000 taels used to purchase grain. An 1828 report claimed that granary deficits in Miao areas had been erased.<sup>100</sup> In 1829, 15,500 *shi* were lent without interest because of drought in the area. In 1830, 12,000 *shi* were earmarked for loans; even though harvests of the previous autumn were good, the garrison soldiers and Miao peasants still needed seed grain for the spring planting.<sup>101</sup> Loans were again made in 1833, 1834, and 1835.<sup>102</sup> In 1835, each of 7,000 garrison soldiers received 1.0 *shi*, half for consumption and half for seed grain, while 10,000 Miao households each received 0.5 *shi* of seed grain. An additional 3,000 *shi* of seed grain were distributed in an area that had reduced harvests from insect damage, bringing the total loan figure to 15,000 *shi*. The provision of these loans to civilians and military troops reflects a continued official commitment to aiding populations in peripheral areas.<sup>103</sup>

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<sup>99</sup> Hunan governor Zuo Fu, ZP, CZCC: DG 1/10/26, and Huguang governor-general Songfu and Hunan governor Kang Shaoyong, ZP, CZCC: DG 8/12/15.

<sup>100</sup> Hunan governor Zuo Fu, ZP, CZCC: DG 1/4/26.

<sup>101</sup> Hunan governor Kang Shaoyong, ZP, CZCC: DG 9/11/10 and DG 10/2/15.

<sup>102</sup> Hunan governor Wu Rongguang, ZP, CZCC: DG 14/2/29 and DG 15/3/19.

<sup>103</sup> The military outside the Miao areas also received loans, as we have already seen. Sometimes these loans were in money form; at other times, they were made in grain (Hunan governor Yutai, ZP, CZCC: DG 20/518). In 1849, ever-normal granaries in eight counties lent a total of 3,057 *shi* to six different garrisons. In the next year, eight garrisons received 4,893 *shi* in loans from twelve different counties (Hunan acting governor Wang Gongzhen, ZP, CZCC: DG 29/5/12).

When we turn our attention from the county level to the provincial level, the picture becomes fuzzy. In 1804 the ever-normal granaries in Hunan had a combined deficit of more than 509,000 *shi*; much of that amount had gone to the military during the Miao suppression campaigns. Restocking was not taking place because the administratively set price was lower than prevailing market prices and loans to the military and transfers to other provinces were still being made.<sup>104</sup> In 1805, the governor noted that only 31,970 *shi* of the deficit had been made up. His predecessor had in 1802 or 1803 raised the administratively set price from 0.5 to 0.65 taels per *shi*, still significantly below the normal market price of 1.0 tael per *shi*. The governor called for restocking at market prices, but it is not clear that this advice was followed.<sup>105</sup> In fact, it is not clear whether much grain at all was purchased in the first two decades of the nineteenth century. An investigation in 1824 revealed that ever-normal granaries were still understocked by a total of about 500,000 *shi*,<sup>106</sup> with slightly more than half the counties showing deficits. At the county level there is much evidence that reserves were depleted during the first half of the nineteenth century and no evidence of successful restocking outside the western parts of the province where the Miao uprisings had taken place. In general, reserves from ever-normal granaries appear to have been distributed to civilians and the military, with very inadequate replacement.

One significant cause of increasing difficulties in restocking was that local officials—who lacked sufficient funds to maintain reserves—were often accused of mismanagement, when declining reserves were actually the result not of personal failings but of systemic pressures. In 1806, for example, the Liuyang magistrate was expected to purchase 8,300 *shi* of grain with 8,300 taels. Because prices rose, he ordered a

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<sup>104</sup> Huguang governor-general Wu Xionguang, ZP, CZCC: JQ 8/6/18.

<sup>105</sup> *Shangyudang fangben* (n.d.).

<sup>106</sup> Hunan governor Songfu, ZP, CZCC: DG 4/6/29.

halt after 3,180 *shi* had been purchased. In the following year, he fell further behind when 4,000 *shi* earmarked for transfer to Fujian were held back. Because the grain had already been husked and would spoil easily, the magistrate sold it at reduced prices. The sales did not yield enough money to replace the 4,000 *shi* at current market prices.<sup>107</sup> And in 1821, the magistrate of Xiangyin was ordered to ship reserves from the ever-normal granary to Yuezhou, where grain from a number of counties was being collected to replace grain tribute exactions. Unfortunately for him, not all the grain he shipped reached Yuezhou. He was held responsible for replacing the grain, but did not have funds available for this purpose.<sup>108</sup>

### *Community Granaries, 1800–1850*

Community granaries were not any easier to maintain. The diversion of community granary reserves, combined with arrears on loan repayments, dramatically reduced nineteenth-century reserves. In Lizhou, for instance, 3,209 of the 4,000 *shi* mobilized in 1781 were soon reported to be in arrears; by 1808 the sub-prefecture had only 318 *shi* in community granary reserves.<sup>109</sup> Arrears were also the cause reported in Liling, where community granaries were said to be out of grain in 1819.<sup>110</sup> The magnitude of the arrears problem in these cases and others suggests that official supervision was ineffective. There is no evidence of provincial-level efforts to encourage and monitor the repayment of arrears.

In some counties, reports to local officials on community granary operations actually ceased, as did reports by county officials to the provincial officials.<sup>111</sup> When officials investigated the community granary situation in later years, they often found little or no grain. There

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<sup>107</sup> Acting Hunan governor Zhu Shaozeng, ZP, CZCC: JQ 16/1/18.

<sup>108</sup> Hunan governor Zuo Fu, ZP, CZCC: DG 1/9/12.

<sup>109</sup> *Li ZZ*, 5.47b–51a.

<sup>110</sup> *Liling XZ*, 3.20a–23b.

<sup>111</sup> The absence of reports is noted in *Xintian XZ*, 7.36a.

was none in Wuling community granaries in 1821, for example, while in neighboring Taoyuan the 75 *shi* remaining in 1824 were moved to the ever-normal granary.<sup>112</sup> An 1823 report from Hengshan revealed only 500 *shi* left in two community granaries. Guiyang had no community granary reserves by 1839.<sup>113</sup> This grim picture of decline is mitigated by the reserves documented by other official investigations. For example, investigators discovered reserves of 11,718 *shi* in Liling's community granaries between 1800 and 1802; 10,865 *shi* were discovered in Dong'an between 1797 and 1800; and 5,545 *shi* were found in Xintian in 1799 and 1800.<sup>114</sup>

Provincial totals certainly declined for community granary and ever-normal granary stocks actually in reserve. It is also clear, however, that contraction of reserves was not a uniform experience throughout the province. During the first half of the nineteenth century a number of counties tried to raise "charity grain" (*yigu*<sup>b</sup>)—grain contributed by the rich or purchased by officials with money supplied by the rich. Sometimes the grain was stored in the ever-normal granary, as was the case in Hengyang, where 7,673 *shi* were contributed in 1803.<sup>115</sup> In other cases, a separate charity granary was built; in 1809 Wugang had such a granary, for which additional charity grain was collected in 1847.<sup>116</sup>

Provincial appeal prompted local initiative in some counties. When the Hunan governor called for charity grain in 1821, he elicited both modest and considerable contributions. Only 220 *shi* were contributed in Wuling.<sup>117</sup> But in Taoyuan in 1823, the magistrate personally bought 484 *shi* to add to the 26,530 *shi* contributed by other people in the county.<sup>118</sup> Gentry and commoners in the county seat of Zhijiang

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<sup>112</sup> *Wuling XZ*, 19.5b; and *Taoyuan XZ* (1824 ed.), 5.10b–14a.

<sup>113</sup> *Hengshan XZ* (1823), 14.4a–6a; and *Guiyang ZZ*, 6.18a–19a.

<sup>114</sup> *Yongzhou FZ*, 7.54a.

<sup>115</sup> *Hengyang XZ* (1820 ed.), 9.65a–b.

<sup>116</sup> *Baoqing FZ*, 86.19b.

<sup>117</sup> *Wuling XZ*, 19.5b.

<sup>118</sup> In 1823 and 1824 a total of 4,300 *shi* was lent from this amount (*Taoyuan XZ* [1892 ed.], 3.6a).

contributed 500 taels in 1821 to buy charity grain; reserves reached 2,044 *shi* in 1831 and 3,215 *shi* in 1838.<sup>119</sup> In 1847 the provincial treasurer made another plea for charity grain. A charity granary erected in the county seat of Shaoyang received 11,000 *shi* between the fall of 1850 and the spring of 1851; 20,000 additional *shi* were contributed in 1859.<sup>120</sup> In neighboring Xinhua, five men responded to the 1847 call for charity grain by organizing three waves of mobilization, bringing in a total of 11,000 *shi*.<sup>121</sup> Three men in Xiangtan organized the collection of 36,000 *shi* to store in the county seat.<sup>122</sup> Local efforts were not necessarily small ones.

An alternative to contributions of grain or of money to buy grain was the purchase of land whose rent would supply a charity granary with annual income. In Yuanling, 4,311 *shi* of grain was contributed in 1831; this grain was augmented in 1842 by rents received from “charity land” (*yitian*). The magistrate contributed 1,000 taels and the gentry added 12,055 taels. Of this amount, 9,475 taels were used to buy pieces of paddy land totaling 255 *mu* and producing annual rent income of 500 *shi*; the balance of the money was used for granary repairs and expenses. Additional contributions of charity land were made between 1854 and 1869.<sup>123</sup> Inspired by the Yuanling example, officials and gentry in Changsha started a charity granary in 1850 that paid its expenses with rent income from contributed land.<sup>124</sup>

These examples of charity grain and granaries all represent efforts to rebuild urban grain reserves. Outside the county seat and other large towns, there is little evidence of new mobilizations of grain before 1860. In Shaoyang, community granaries were established in 1850 with

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<sup>119</sup> *Zhijiang XZ*, 9.21b–22.

<sup>120</sup> *Shaoyang XZ*, 3.7b–8b.

<sup>121</sup> *Xinhua XZ*, 9.28b.

<sup>122</sup> *Xiangtan XZ* (1899 ed.), 2.13b–19a.

<sup>123</sup> *Yuanling XZ*, 12.1a–3a.

<sup>124</sup> *Changsha XZ* (1870 ed.), 10.52a.

contributions of grain exacted as a surtax on the land, but this type of effort was relatively rare.<sup>125</sup> A striking example of it comes from Xiangtan, where officials divided the county into 607 sections and challenged each to raise grain to be lent to people in need. A total of 51,000 *shi* were raised and stored by 147 of the areas; 310 others raised 22,000 *shi* but lacked storage space; the other 150 reported no success.<sup>126</sup> In other counties there is no evidence that the decline of community granaries was balanced by efforts to rebuild or replace them. A few counties may have sustained their community granary reserves, but, in general, the picture of decline parallels that of the shrinking of ever-normal reserves. Gone forever was an integrated system of ever-normal and community granary reserves.<sup>127</sup>

#### FINAL OBSERVATIONS

The temporal trend of granary operations in Hunan largely conforms to the empirewide chronology introduced in Part I. During the first period discussed, Hunan's ever-normal reserves grew markedly, and some counties established community granaries. The ever-normal granaries were then integrated into a larger network that spanned a number of provinces between 1735 and 1780; at the same time, official monitoring of community granary reserves increased. During the third period (1780–1850), ever-normal stocks were drained away by extraordinary military and civilian requirements. Both the sophistication and the fragility of granary operations in Hunan are clearly exposed within this cycle of granary activity.

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<sup>125</sup> *Shaoyang XZ*, 3.7b–8b.

<sup>126</sup> *Xiangtan XZ* (1899 ed.), 2.13b–19a.

<sup>127</sup> The early nineteenth-century formation of charity grain reserves, usually in urban areas and often managed by nongovernmental elites, represents a fuller development of early eighteenth-century practices. In some cases, a charity granary formed in the eighteenth century received land endowments and money contributions at later points to revitalize its abilities to lend grain. In Xiangxiang, for instance, a charity granary formed in 1744 with a 135-tael contribution from the magistrate received more than 900 taels and twenty-five *mu* of land in 1794 (*Xiangxiang XZ*, 3.17a).

Ever-normal granary operations varied within the province according to harvest and market conditions. On a larger spatial scale, provincial-level activities were influenced by harvest variations and long-distance trade conditions in provinces along the Yangzi River. The amount of grain county officials purchased in any given year was a function of the quality of the harvests, autumn grain prices, current reserves, and the funds available for restocking. Whether grain was purchased directly from households or in the market depended on the presence or absence of large rice markets in the county and transportation access to markets in neighboring counties. The timing, size, and price of granary sales were all influenced by harvest conditions, prevailing grain price levels, and the impact of commercial flows on local food supply conditions.

Community granaries were most successful when county officials seriously tried to monitor granaries which were sufficiently numerous to serve areas beyond the easy reach of the county's ever-normal granary. The relatively high levels of community granary reserves achieved in Hunan attest to the success of a system of private management under official supervision. The system's collapse began when those monitoring and control procedures deteriorated. Once county reports to the province became unreliable, local efforts became increasingly uneven. Some county officials and local elites responded to the collapse of the community granary system by initiating local efforts to rebuild rural reserves, but others did not.

The evolution of ever-normal granary operations in Hunan contrasts with that of community granaries in the province. For one thing, the capacity of ever-normal granaries for influencing food supply conditions was developed earlier and maintained longer—a contrast that follows directly from the structural differences between the two granary types: it was easier to maintain the direct official management of ever-normal granaries, which were concentrated in county seats, than it was to sustain indirect official monitoring and supervision of community granaries scattered across the county. Capacity, however, did not guarantee actuality: ever-normal granary disbursal rates dropped after 1765, even before restocking appears to have become extremely difficult. The decline in the frequency, and often the size, of transfers

to other provinces indicates that granaries in other provinces were reducing their levels of disbursement, carrying larger deficits, and finding alternative methods of meeting their disbursement needs. The decision to reduce the size and frequency of ever-normal granary sales within the province was likely influenced by the availability of large community granary reserves, from which 15 or 20 percent of total disbursements may have been made.

Whatever the full range of criteria that entered into these decisions to decrease the level of ever-normal granary disbursements, the fact that such decisions were made indicates that granary operations were not necessarily the obvious, or sole, official response to fluctuations in the food supply. Officials chose from a range of possible responses, although that range undoubtedly was contracting by the early nineteenth century. The continued use of ever-normal reserves and the development of charity grain, however, suggest that even as difficulties increased, granary storage remained a political priority for local officials and elites.



## The Southwest : Yunnan and Guizhou

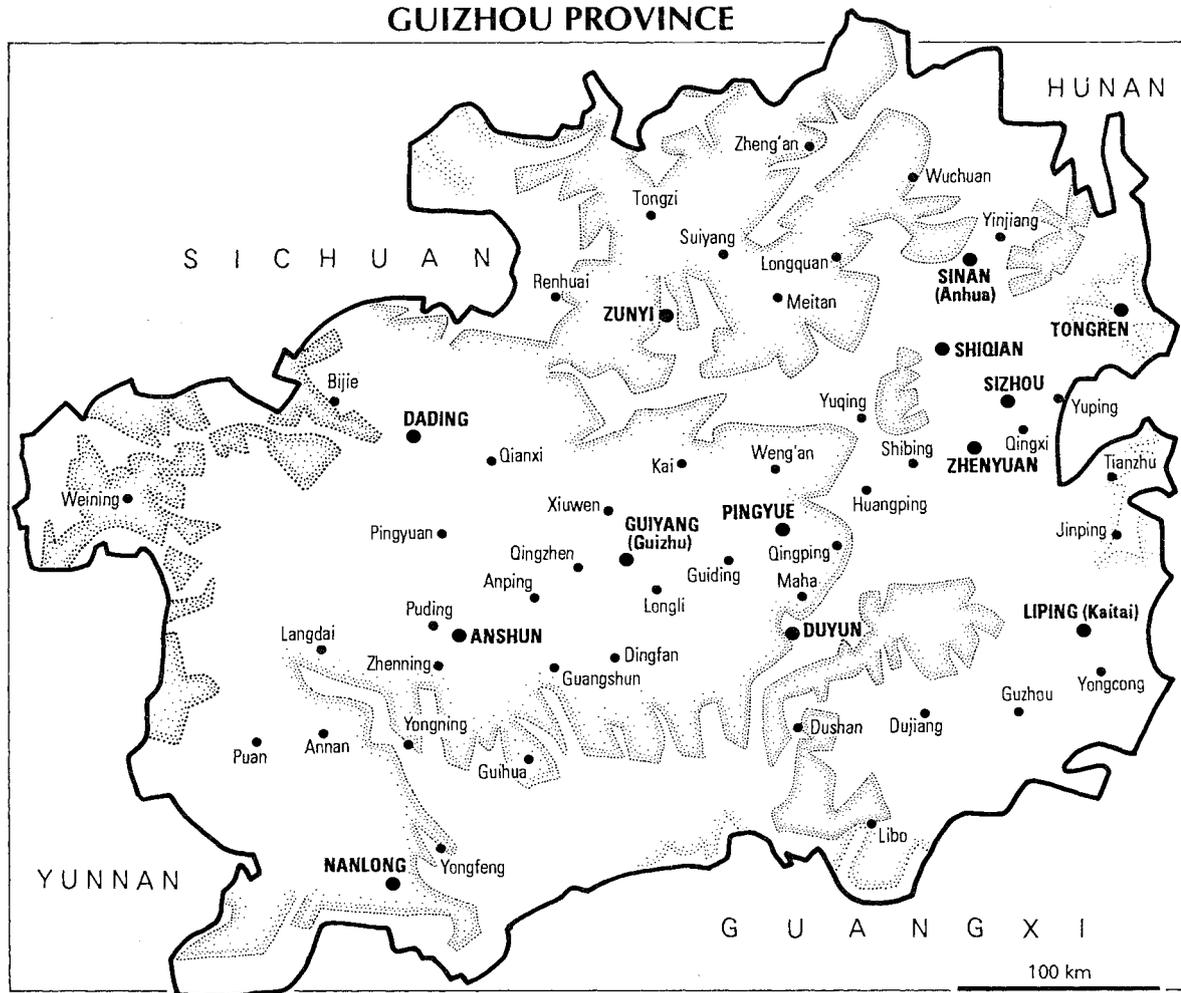
James Lee

In the late seventeenth century, the southwest was still a relatively primitive frontier region. By the end of the eighteenth century, it had developed into one of the principal regional economies of Qing China. While the granary system expanded in keeping with the national patterns of development discussed in Part I, local circumstances gave rise to a number of distinctive regional features.<sup>1</sup> On the one hand, because the southwest was a major frontier, granary operations were closely tied to military operations: grain was stored in order to feed a large military as well as native population. On the other, because of the rapidly developing economy, the granary system was able to capitalize on an increasing number of sources of grain.

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<sup>1</sup> This chapter is abstracted from a larger chapter on food redistribution and subvention to be included in Lee, *State and Economy in Southwest China*.

# GUIZHOU PROVINCE



The high cost of transportation to the southwest precluded easy access to sources of grain outside the region. The provincial authorities accordingly promoted the accumulation of grain, for military as well as civilian purposes, in a regional network of state granaries. The common rationale was, "Given the absence of transportation by water, the storage of grain in ever-normal granaries is far more crucial in Yunnan and Guizhou than in other provinces."<sup>2</sup> In 1748, when the Qianlong emperor reduced the target levels of reserves throughout most of the empire, the southwest was among the few regions whose targets remained unchanged.<sup>3</sup>

This system of food redistribution was largely a Qing achievement. Nevertheless, similar local state granaries had had a long history in the southwest. Ever-normal granaries were said to have begun in Dali as early as the ninth century.<sup>4</sup> The Yuan established similar granaries in Kunming in the thirteenth century,<sup>5</sup> and by the early seventeenth, the Ming had expanded this system to virtually every county in Yunnan and

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<sup>2</sup> This evaluation was first made in 1706 by Beihenuo, the governor-general of Yun-Gui. It soon became a common dictum and can be found in many official documents. See *Yunnan TZ* (1835 and 1894 eds.), 61.3a.

<sup>3</sup> Another region was the northwest, that is, Shaanxi and Gansu. In the first days of 1749, the court summarized the strategic priorities that differentiated Outer China from China Proper when it reported that "Yunnan is a far-away frontier, without any river access close by. Xi'an [Shaanxi] and Gansu are along the border; besides, they must keep military provisions in readiness. These three provinces did not have a fixed target in Yongzheng, and one should follow the targets fixed in Qianlong". Besides, Fujian and Guangdong, which were mountainous and densely populated, were ordered (as was Guizhou) to adopt their present level of reserves as a target. See *Gaozong shilu*, 330.33–35 (QL 13/12/12), reproduced in *QSLYYS*, 3: 555; see also, with a slightly different wording, *HDSL* (1818 ed.), 159.14b–15a.

<sup>4</sup> According to *Yunnan TZ* (1835 ed.), 61.1b, quoting from the unofficial history of the Nanzhao kingdom (*Nanzhao yeshi*), such granaries were established by its young sovereign in 824.

<sup>5</sup> According to *Jinning ZZ*, 5.18b, "In 1309 all the departments and counties in Yunnan were ordered to establish ever-normal granaries to keep the price of grain even."

to many in Guizhou.<sup>6</sup> The capacity of these early granaries, however, was severely limited. Moreover, their main function appears to have been the sustenance of the military population. According to a late sixteenth-century source, the civilian granaries in Yunnan and Guizhou were only supposed to store (*yingcun*) 27,000 *shi* of grain (or 1,500 metric tons), less than 1,800 *shi* of which were in Guizhou.<sup>7</sup> These quotas were less than those of almost any other province in China, and, in all probability, actual stocks were below the quotas.

#### CIVILIAN GRANARY STOCKS IN THE SOUTHWEST UNDER THE QING

By contrast, the Qing granaries were reported to store as much as 3.6 million *shi* (or 200,000 metric tons) of grain, an enormous increase over the Ming. Tables 12.1 and 12.2 list the annual stocks of grain for Yunnan and Guizhou from ca. 1700–1850. Figures represent the “actual stocks” (*shizhu*, or *shizai*) that were supposed to be kept in the granaries. Although these stocks included many different crops (barley, beans, buckwheat, millet, rice, and wheat), the units are units of account. Most of them date from mid-autumn to year-end and should be roughly comparable. Except when noted otherwise, the records of holdings for Yunnan cover both ever-normal and community granaries, those for Guizhou only ever-normal granaries.<sup>8</sup>

In the Southwest, as in much of China, the middle years of the eighteenth century (1725–1775) were a period of rapid expansion of granary stocks. In tables 12.1 and 12.2 we can discern two distinct periods of rapid growth, each at the beginning of an imperial reign. First, at the beginning of the Yongzheng reign, reserves doubled from about 0.5 million *shi* in 1723 to about 1 million *shi* by 1725. Then, at

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<sup>6</sup> *Yunnan TZ* (1576 ed.), 5.11b–34a, lists many of these granaries. The names vary: *yubeicang*, *yongningcang*, *bianmincang*, *changpingcang*, *zushucang*, *cunliucang*, *guanghuicang*, and so on.

<sup>7</sup> See Zhang Xueyan, *Wanli kuaiji lu*, 43.15a–b.

<sup>8</sup> For granary coverage, see above, table 8.3. Although before 1767 the *minshu gushu* memorials for Yunnan did not specify the coverage, the figures apparently included the same two types of reserves as from that date.

Table 12.1. Granary Holdings in Yunnan Province, 1704–1855  
(in *Shi* of *Gu*)

Year	Holdings	Year	Holdings
1703	327,320 <sup>a</sup>	1779	1,743,551
		1780	1,746,040
1722	445,853 <sup>b</sup>	1781	1,723,856
		1782	1,723,670
1725	1,400,000 <sup>c</sup>	1783	1,711,376
1726	508,699 <sup>d</sup>	1784	1,703,254
		1785	1,723,616
1732	498,547 <sup>e</sup>	1786	1,727,389
		1787	1,728,217
1738	701,500 <sup>f</sup>	1788	1,727,920
		1789	1,726,940
1742	1,014,590	1790	1,718,546
1743	974,615	1791	1,706,257
		1792	1,687,336
1746	1,039,770		
1747	1,007,430	1794	1,641,648
1748	1,107,753	1795	1,627,953
1750	1,146,217	1812	1,321,223
1751	1,099,817	1813	1,325,859
1752	1,132,772		
1753	1,182,536	1816	1,324,763
1754	1,224,660	1817	1,284,682
1756	1,228,128	1819	1,264,420
		1820	1,284,846
1759	1,405,014	1821	1,272,759
		1822	1,227,142
1762	1,480,741	1823	1,225,799
1763	1,459,560	1824	1,248,089
1764	1,466,896		
1765	1,440,401	1826	1,246,168
1766	1,417,956	1827	1,246,642
1767	1,487,156	1828	1,247,402
1768	1,520,309	1829	1,247,880
		1830	1,248,101
1773	1,695,982	1831	1,241,500
		1832	1,243,036
1775	1,582,252	1833	1,243,841
		1834	1,196,962
1777	1,690,989	1835	1,189,044
1778	1,695,773	1836	1,190,158

Table 12.1, cont.

Year	Holdings	Year	Holdings
1837	1,205,846	1847	1,220,908
1838	1,204,274	1848	1,222,506
1839	1,203,941	1849	1,158,421
1840	1,210,119	1850	1,155,730
1841	1,214,683	1851	1,157,338
1842	1,210,402	1852	1,173,713
1843	1,215,330	1853	1,182,182
1844	1,220,849	1854	1,191,471
1845	1,212,168	1855	1,196,314
1846	1,243,710		

### Sources

See sources to appendix tables A.1 and A.2. For figures not in the appendix tables, see sources in the notes. For the years 1786–1789, we have preferred the figures from table A.1 to those from table A.2 (the difference is not very large).

### Notes

<sup>a</sup> Source: *Yunnan TZ* (1736 ed.), 14.5b, and *id.* (1835 ed.), 61.3b: contributions accumulated between spring 1690 and spring 1703. Includes only ever-normal granaries.

<sup>b</sup> Yunnan governor Tuerbing'a, LF, *JJCD*: QL 003418 (13/10/16). Does not include community granaries.

<sup>c</sup> An entry of 1725 in *HDSL* (1818 ed.), 203.14b, states that Yunnan has in its granaries more than 700,000 *shi* of husked grain (*mi*), which must be rotated by annual distribution to the military. An edict of the same year speaks of more than 570,000 *shi* of husked grain in Yunnan (*ibid.*, 159.18a, and *Yunnan TZ* [1835 ed.], 61.4a).

<sup>d</sup> Same as note b.

<sup>e</sup> See table 12.4, note i.

<sup>f</sup> Same as note b. This is the "Qianlong quota" that was considered desirable for Yunnan ever-normal granaries in 1748: see *Yunnan TZ* (1835 ed.), 61.6a.

Table 12.2. Granary Holdings in Guizhou Province, 1704–1855  
(in *Shi* of *Gu*)

Year	Holdings	Year	Holdings
1704	182,400 <sup>a</sup>	1785	1,623,202
1725	250,606 <sup>b</sup>	1786	1,602,169
ca. 1735	254,994 <sup>c</sup>	1787	1,500,869
1741	1,155,837	1788	1,681,594
1742	1,226,849	1789	1,641,334
1743	1,211,805	1790	1,698,732
1744	1,265,555	1791	1,870,566
1745	1,303,353	1792	1,749,743
1746	1,366,667	1793	1,809,250
		1794	2,015,565
1748	507,010	1795	2,015,779
1749	860,000		
1750	1,398,713	1812	1,581,917
1751	1,327,635	1813	1,593,115
1753	1,229,329	1816	1,851,759
1754	1,231,246	1817	1,897,059
1755	2,874,914		
1756	1,850,984	1819	2,020,819
		1820	2,020,972
1760	1,953,066	1821	1,886,292
		1822	2,021,308
1763	1,426,832	1823	2,021,464
1764	1,546,580	1824	2,021,665
1765	1,464,242		
1766	1,795,684 <sup>d</sup>	1826	2,021,955
1767	1,758,786	1827	1,819,061
1768	1,756,044	1828	1,885,853
1769	1,744,074	1829	1,920,815
		1830	1,949,220
1773	1,745,804	1831	1,981,491
		1832	1,967,804
1775	1,686,384	1833	1,959,441
1776	1,611,000	1834	1,872,728
1777	1,444,202	1835	1,957,776
1778	1,295,915	1836	1,939,813
1779	1,195,070	1837	1,989,907
1780	1,257,689	1838	2,004,898
1781	1,594,747	1839	2,007,580
1782	1,748,856	1840	2,007,813
1783	1,682,713	1841	2,009,963
1784	2,529,709	1842	2,005,142

Table 12.2, cont.

Year	Holdings	Year	Holdings
1843	2,015,279	1850	1,907,799
1844	2,015,406	1851	1,921,219
1845	2,014,473	1852	2,026,090
1846	2,024,556	1853	2,026,398 [?]
1847	2,024,742	1854	2,026,398 [?]
1848	2,024,920	1855	431,086
1849	1,906,294		

**Sources**

See sources to appendix tables A.1 and A.2. For figures not in the appendix tables, see sources in the notes. See also chapter 8, section on Units and Conversion Ratios, for the problem of units peculiar to Guizhou *minshu gushu* memorials.

**Notes**

<sup>a</sup> Literally, more than 1,200 *shi* of *mi*, more than 180,000 *shi* of *gu*. See *HDSL* (1818 ed.), 159.12b

<sup>b</sup> An edict of 1725 mentions a reserve of 400,000 *shi* of husked grain (*mi*) in Guizhou. See *HDSL* (1818 ed.), 159.18a.

<sup>c</sup> See table 12.6, note h.

<sup>d</sup> Year-end figure; includes community granaries.

the beginning of the Qianlong reign, they again doubled from about 1 million *shi* in 1735 to about 2 million *shi* by 1740. Although the records show stocks continuing to grow gradually during the late eighteenth century, we shall see that in this region, as elsewhere, the numbers may have increasingly represented assets on paper rather than grain physically in storage.

Whatever the case may have been, granary holdings were not reported to peak until 1795, when, according to the regional authorities, they were over 3.6 million *shi* of grain. Although granary stocks in Yunnan gradually declined thereafter, from 1.7 million *shi* in 1790 to 1.1 million *shi* by 1850, Guizhou holdings were reported to remain at the 2 million-*shi* level. Until 1850, southwestern authorities continued to claim regional reserves of more than 3 million *shi*. The Chinese state, in other words, attempted to store ten to fifteen kilograms of husked grain—that is, a one-month supply of food—for every registered person

in the southwest. This was more grain per capita in the local civilian granaries than in any other region of China.<sup>9</sup>

At first, during the late Kangxi and Yongzheng reigns, much of the civilian grain in both provinces was mobilized through a variety of contributions, called by such terms as *juanjian*, *juanna*, *juanmai*, and *juanshu*, which generally meant the sale of imperial academy student-ships<sup>10</sup> but also included more or less voluntary payments by local officials. By these methods, Yunnan had raised more than 100,000 *shi* by 1682, and again 327,320 *shi* during the period 1690–1703. In 1732, the total amount of contributed grain in the ever-normal granaries in Yunnan was 428,638 *shi*.<sup>11</sup> We do not know if Guizhou did as well; but in 1739 the governor of the province, Zhang Guangsi, indicated that a contribution target (*yingjuan gu*) of 247,000 *shi* had been fixed for Guizhou's sixty-eight administrative units, and that the program would be put to a halt when that figure had been reached.<sup>12</sup> As far as we can tell, contributions continued to be a source of grain in the southwest until 1768, when the practice was stopped.<sup>13</sup>

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<sup>9</sup> Average per capita grain consumption estimates vary; a decision of 1765 in *HDSL* (1818 ed.), 203.4a, allocated 0.25 *shi* of husked rice (*mi*) per month to the family members of the cavalymen in Yunnan and Guizhou; rations for the poor could be less than that, however, for example 0.3 *shi* of unhusked grain per month and per adult in 1736 Shandong: see below, table 13.1 and accompanying text. According to our calculations, the average per capita grain holdings in China in 1795 were seven kilograms of grain, that is, half what they were in Yunnan.

<sup>10</sup> See Xu Daling, *Qingdai juanna zhidu*, as well as chapters 2 and 3 in this book.

<sup>11</sup> See *Yunnan TZ* (1736 ed.), 14.5b, 1706 communication by Yun-Gui governor-general Beihenuo; *ibid.*, and table 12.4 below, for the 1732 figures; *Yunnan TZ* (1835 and 1894 eds.), 61.2b–3b, 4b–5a.

<sup>12</sup> See *Gaozong shilu*, 91.15 (entry of QL 4/4/27), in *QSLGZJ*, 119.

<sup>13</sup> We do not know how effective contributions were as a source of revenue in the 1740s and 1750s. According to *Gaozong shilu*, 364.25 (in *QSLYSH*, 3: 555–56), quoting from governor Tuerbing'a, in 1750 almost all the grain in the ever-normal granaries in Yunnan was *juanshu* or *juanna* (that is, contributed) grain, or grain originating in various government rents, while there was “no purchased grain” (*bing wu caimai zhi kuan*). This statement is, however, contradicted by the fact that during the two preceding decades purchases and transfers played a considerable part in the enlargement of southwestern ever-normal reserves (see below).

However, the rapid expansion of civilian granary holdings during the early Qianlong reign came first of all from a combination of inter-provincial transfers and purchases (in the case of ever-normal granaries) and profits on the sale and lending of grain (especially in the case of community granaries). The major examples of the former occurred in 1736, when a single transfer of 266,000 *shi* of tribute grain that were due (*yingyun caoliang*) by Hunan and Hubei doubled the reserves of the ever-normal granaries in Guizhou, and in 1742, when a single purchase of 300,000 *shi* of rice from Sichuan considerably increased the stocks of the ever-normal granaries of Yunnan.<sup>14</sup> At the same time, a series of smaller interprovincial transfers and purchases moved additional grain from Guangxi, Hunan, and Sichuan to both Yunnan and Guizhou. Our sources allow us to reconstruct five examples, which account for an additional 250,000 *shi* or more (in *gu*-equivalent) in ever-normal stocks.<sup>15</sup>

More than half of the increase in granary stocks, however, came from a remarkable expansion in the community granary system of southwest China. Community granaries were not established in the southwest until 1724, and at first they were concentrated in but a few

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<sup>14</sup> For the Guizhou example, see *Gaozong shilu*, 25.4 (*QSLGZJ*, 218). For the Yunnan example, see the memorial dated QL 7/11/17 in *Zhang Yunsui zougao*.

<sup>15</sup> In 1733, Guangxi transferred 50,000 *shi* from the granaries of Xunzhou to Guizhou and Dujiang in southern Guizhou (*Shizong shilu*, 133.14–15, in *QSLGZJ*, 217–18). In 1738, Guizhou issued funds to buy 20,000 *shi* (possibly of husked grain) from Hunan to store in granaries in Anshun and Puding (*Gaozong shilu*, 59.7, see *ibid.*, 218). In 1747, Guizhou purchased 20,000 *shi* of husked rice (*mi*) from Hunan and proposed an additional purchase of 50,000 *shi*, 40,000 from Hunan and 10,000 from Guangxi (see acting Guizhou governor Zhang Guangsi, ZP, *CZCC*: *juan* 462). In 1744, Governor Zhang Yunsui reported that Yunnan had issued 20,000 taels to the magistrate of Yongning in southern Sichuan to purchase and transport 10,500 *shi* of husked grain to Zhaotong and Dongchuan (*Zhang Yunsui zougao*, memorial dated QL 9/7/3). In 1745, he reported that Yunnan had issued an additional 27,000 taels for similar purchases of 10,428 *shi* of military grain (*ibid.*, memorial dated QL 10/5/7).

counties and possessed quite modest stocks.<sup>16</sup> Then, after 1735, Chen Hongmou, the provincial treasurer of Yunnan, expanded the community granary system of Yunnan by way of transfers of ever-normal grain and grain from the state domains (*guan Zhuang*), for a total that must have fallen between 50,000 and 75,000 *shi*.<sup>17</sup> In 1740, Zhang Yunsui, then acting governor-general of Guizhou, similarly expanded the community granary system of that province to every county with a transfer of between 25,000 and 50,000 *shi* of ever-normal grain.<sup>18</sup> In each case, the motive was to make grain available to the rural poor, especially during the lean spring season. Although the exact results of these efforts are not always clear, they appear to have initiated a period of intense granary activity in the rural southwest. For the next twenty-five years, community granary stocks rose at a rate roughly corresponding to annual loans of 30 percent of the reserves yielding a 10-percent interest. Thus, in contrast with ever-normal granaries, community granaries expanded largely with grain procured locally.

Table 12.3 compares community and ever-normal granary holdings in Yunnan, the province for which we have the most detailed information, from ca. 1725–1765. Whereas ever-normal granary holdings only doubled during this forty-year period, community granary holdings increased an order of magnitude, from about 70,000 *shi* in 1725 to 260,000 *shi* in 1747, 500,000 *shi* in 1758, and close to 600,000 *shi* by

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<sup>16</sup> Yang Mingshi, the governor of Yunnan, mentioned in a memorial of 1725 that contributions to community granaries had begun the year before and proposed that the annual figures of contributions, loans, and actual reserves, be communicated to the Board at the end of the following year; see *Shizong shilu*, 37.3b–4a (YZ 3/10/4), in *QSLYYS*, 3: 553. According to Chen Hongmou, in 1735 only some twenty counties in Yunnan had mobilized more than 1,000 *shi* of contributions, while some had none at all; the provincial total was slightly more than 70,000 *shi*: see *Yunnan TZ* (1835 and 1894 eds.), 61.5a. According to Zhang Yunsui, in 1740 only twenty-seven counties in Guizhou had community granaries, with total holdings of only 12,200 *shi*: see *Zhang Yunsui zougao*, memorial dated QL 5/11/20.

<sup>17</sup> See *Yunnan TZ* (1835 and 1894 eds.), 61.5a.

<sup>18</sup> See *Zhang Yunsui zougao*, memorial dated QL 5/11/20.

Table 12.3. Community and Ever-Normal Granary Holdings in Yunnan Province, 1722–1765 (in *Shi* of *Gu*)

Year	Community	Ever-normal	Total
1722		445,853	
1726		508,699	
1732	69,909	428,638	498,547
1735	71,500		
1738		701,500	
1747	260,000	817,429	1,077,429
1748			1,107,753
1749	300,000		
1758	500,000		
1764	569,896 <sup>a</sup>		1,466,896
1765		844,355 <sup>b</sup>	1,440,401

**Sources**

Table 12.1 above; *Yunnan TZ* (1835 ed.), 61.4b–5a, 6b, 7b; Yunnan governor Tuerbing'a, LF, *JJCD*: QL 003418 (13/10/16).

**Notes**

<sup>a</sup> Year-end figure, quoted after WXTK.

<sup>b</sup> Same as note a.

1765.<sup>19</sup> All together, as a proportion of total granary holdings, the community granaries expanded from 14 to 40 percent. By contrast, in other provinces community granaries held an average of no more than 25 percent of all civilian granary holdings, and many provinces had no

<sup>19</sup> According to a report of 1759 by Yunnan governor Liu Zao<sup>b</sup>, “Community granaries were first established in Yunnan in 1724; during the more than thirty years until now, interest and principal have been generating each other, so that [reserves] are more than ten times [what they were at the beginning].” The text went on to say that it was time to control such growth, especially considering that, contrary to the ever-normal granaries, which sold grain [for food] at reduced prices, the community granaries of Yunnan only lent seed grain and therefore did not need to maintain very large reserves. See *HDSL* (1818 ed.), 162.9a–b; *Yunnan TZ* (1835 and 1894 eds.), 61.6a–7b. Note, however, that the assertion about large ever-normal reserves for sales appears to be at variance with what provincial treasurer Peng Jiaping said a few years earlier (see below, at note 24).

community granaries at all. In the southwest, regional authorities apparently had a far greater commitment to feed their rural population than elsewhere.

### *Spatial Distribution*

The spatial distribution of grain stores also reflects the strong dedication of southwestern authorities to the welfare of their rural population. Tables 12.4 through 12.7 show the distribution of grain by prefecture and county-level unit in Yunnan in 1732 and ca. 1830, and in Guizhou in ca. 1730 and during the Daoguang period.<sup>20</sup> The Yunnan data are represented in figures 12.1 and 12.2; the ca. 1830 data are recalculated in per capita terms in figure 12.3. At first glance, the distribution of grain appears generally consistent with the distribution of population. The three most densely settled prefectures—Chengjiang, Yunnan, and Dali—held more than one-third of the reserves in the 1730s and were expected to hold about one quarter in the 1830s. On a per capita basis, however, the pattern is almost completely reversed: the same prefectures stored virtually the least grain per capita. By contrast, Shunning and Yongchang, two of the most lightly populated prefectures in Yunnan, stored the most grain per capita. The distribution of granary holdings at the provincial level, in other words, replicates the pattern

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<sup>20</sup> Only 1732 in Yunnan is sure. The figures in the 1741 *Guizhou TZ* must be from a few years before the date of completion of the gazetteer, and the same is true of the figures in the 1835 *Yunnan TZ*. The *Qiannan shilüe* is a more difficult case: the main text was compiled in 1749 under the sponsorship of the Guizhou governor, Aibida, but the text printed in 1847 incorporates an unknown proportion of later additions, including the changes in administrative geography having occurred in between. In a few cases, granary figures have explicit Daoguang dates, but the vast majority is undated. The figures, however, are significantly higher than the 1776 *Hubu zeli* quotas (see table 8.7), and the total comes closer to nineteenth-century totals. We have therefore made the assumption that figures have been updated posterior to the 1749 compilation. Besides, the nature of the figures in the four tables is variable. While those in tables 12.4 and 12.6 are characterized as “actually in store” (*shizhu*), those in table 12.5 are described as “quotas” (*ezhu*), or even targets in the case of ever-normal granaries, that is, figures of reserves deemed desirable; we do not know when they were fixed, but most are identical to the 1776 quotas. Figures in the *Qiannan shilüe* (table 12.7) are variously described as *shizhu*, or *ezhu*, or have no description at all.

Table 12.4. Granary Holdings in Yunnan Province, 1732 (in *Shi* of *Gu*)<sup>a</sup>

Prefecture/County <sup>b</sup>	Contributions <sup>c</sup>	Community <sup>d</sup>	Other	Total <sup>e</sup>
<u>Yunnan Pref.</u>	10,000		3,100 <sup>f</sup>	
Kunming	16,487	6,021	6,902 <sup>g</sup>	
Fumin	4,329	691		
Yiliang	2,818	1,947		
Luoci	5,195	464		
Jinning Dept.	6,200	2,534		
Chenggong	3,334	787		
Anning Dept.	3,741	727		
Lufeng	4,468	1,296		
Kunyang Dept.	4,420	1,008		
Yimen	4,592	727		
Songming Dept.	5,838	1,379		
Total:				99,005
<u>Qujing Pref.</u>	9,620			
Nanning	558			
Zhanyi Dept.	2,641	220		
Luliang Dept.	4,061	2,345		
Malong Dept.	3,910	187		
Luoping Dept.	5,151	528		
Xundian Dept.	4,180	1,115		
Pingyi	52	609		
Xuanwei Dept.	2,750	240		
Total:				38,167
<u>Lin'an Pref.</u>	5,180			
Jianshui Dept.	1,010	731		
Shiping Dept.	4,636	463		
Ami Dept.	7,309	2,196		
Ning Dept.	4,111	372		
Tonghai	4,078	515		
Hexi	4,092	474		
Xi'e	4,225	366		
Mengzi	4,692	692		
Total:				45,142

Table 12.4, cont.

<b>Prefecture/County<sup>b</sup></b>	<b>Contributions<sup>c</sup></b>	<b>Community<sup>d</sup></b>	<b>Other</b>	<b>Total<sup>e</sup></b>
<u>Chengjiang Pref.</u>				
Heyang	3,527	1,174		
Jiangchuan	4,076	455		
Xinxing Dept.	6,364	1,990		
Lunan Dept.	4,280	1,024		
Total:				22,890
<u>Wuding Pref.</u>				
Hequ Dept.	4,371	391		
Yuanmou	6,171	1,233		
Luquan Dept.	4,911	383		
Total:				21,150
<u>Guangxi Pref.</u>				
Shizong Dept.	4,835	508		
Mile Dept.	5,027	850		
Total:				20,007
<u>Guangnan Pref.</u>				
Guangnan garrison	8,183	963		
Total:		435		9,581
<u>Yuanjiang Pref.</u>				
Xinping	6,193	1,958		
Total:	1,505	245		9,901
<u>Kaihua Pref.</u>				
Wenshan	12,166	1,601		
Total:				13,767
<u>Zhenyuan Pref.</u>				
Enle	265	205		
Weiyuan	242	129		
Total:		154		995
<u>Dongchuan Pref.</u>				
Huize	7,247			
Total:				7,247
<u>Puer Pref.</u>				
Total:	1,117	976		2,093

Table 12.4, cont.

<b>Prefecture/County<sup>b</sup></b>	<b>Contributions<sup>c</sup></b>	<b>Community<sup>d</sup></b>	<b>Other</b>	<b>Total<sup>e</sup></b>
<u>Dali Pref.</u>	6,214			
Taihe	6,421	936		
Zhao Dept.	6,751	972		
Yunnan	6,914	1,654		
Dengchuan Dept.	3,340	384		
Langqiong	2,943	435		
Binchuan Dept.	6,856	379		
Yunlong Dept.	4,376	514		
Total:				49,089
<u>Chuxiong Pref.</u>	7,440			
Chuxiong	4,158	1,060		
Zhennan Dept.	8,068	615		
Nan'an Dept.	353	801		
Heiyan salt well	164	142		
Langyan salt well	125	171		
Total:				23,097
<u>Yao'an Pref.</u>	7,120			
Yao Dept.	3,795	2,129		
Dayao	4,859	1,396		
Baiyan salt well	323	248		
Alou salt well	152	68		
Total:				20,090
<u>Yongchang Pref.</u>	2,240			
Baoshan	11,482	2,465		
Yongping	5,018	688		
Tengyue Dept.	23,506	855		
Total:				46,254
<u>Heqing Pref.</u>	6,621	464		
Jianchuan Dept.	3,377	268		
Zhongdian <i>ting</i>		42		
Weixi <i>ting</i>		12		
Weixi garrison		4		
Total:				10,788

Table 12.4, cont.

Prefecture/County <sup>b</sup>	Contributions <sup>c</sup>	Community <sup>d</sup>	Other	Total <sup>e</sup>
<u>Shunning Pref.</u>	6,082	1,743		
Yun Dept.	4,255	1,029		
Total:				13,109
<u>Yongbei Pref.</u>	9,482	572	18 <sup>h</sup>	
Total:				10,072
<u>Lijiang Pref.</u>	2,453	496		
Total:				2,949
<u>Menghua Pref.</u>	9,916	1,351		
Total:				11,267
<u>Jingdong Pref.</u>	7,713	1,856		
Total:				9,569
Grand Total: <sup>i</sup>	408,247	67,962	10,020	486,229

#### Sources

*Yunnan tongzhi* (1736 ed.), 14.1a–19a. The figures are also in the 1835 ed., 61.8b–32a, and in the 1894 ed., 11a–41b. A footnote to the 1835 and 1894 eds., 61.5a, specifies that the figures are real reserves as of YZ 10 (1732).

#### Notes

<sup>a</sup> A few figures in husked grain (*mi*) have been doubled to get *gu*-equivalent. When a mix of different grains is mentioned, it is without breakdown and we have to assume that the necessary conversions have been done. On the various grains stored in Yunnan, see tables 8.1 and 8.2.

<sup>b</sup> The table follows the same order as the source. Zhaotong prefecture, which is absent from the list, was transferred from Sichuan to Yunnan in 1727, and exchanged its previous name Wumeng against Zhaotong in 1731. Several of its dependencies were created in 1728.

<sup>c</sup> *Juanna juanshu gu*. These are the ever-normal stocks.

<sup>d</sup> *Linian shecang gu*

<sup>e</sup> All the totals in this table have been calculated by us.

<sup>f</sup> Reserve in husked rice (*mi*): the figure in the source has been doubled.

<sup>g</sup> Same as note f.

<sup>h</sup> 9 *shi* of husked rice stored at the "Twelve passes," Shier guan.

<sup>i</sup> Before presenting the detailed figures reproduced in this table, the source gives the following total: unhusked grain, wheat, buckwheat, barnyard millet (*bai*), and *qingke* barley stored over the years in the community granaries: 69,909 *shi*; same grains, contributed over the years, fines, etc.: 428,638 *shi*. These figures yield a total 498,547 *shi*; the difference with our recalculated total may be due to the non-conversion of certain grains. The stocks are said to be under the management of the Yunnan grain intendant (*liangchu dao*).

Table 12.5. Granary Quotas of Yunnan Province, ca. 1830 (in *Shi* of *Gu*)<sup>a</sup>

Prefecture/County <sup>b</sup>	Ever-normal	Community	Other <sup>c</sup>	Total <sup>d</sup>
<u>Yunnan Pref.</u>				
Kunming	40,500	10,627		
Fumin	9,000	3,915		
Yiliang	9,000	5,687		
Luoci	9,000	2,771		
Jinning Dept.	9,000	2,453		
Chenggong	9,000	2,902		
Anning Dept.	9,000	4,894		
Lufeng	9,000	4,753		
Kunyang Dept.	9,000	1,223		
Yimen	9,000	3,630		
Songming Dept.	9,000	1,378 <sup>e</sup>		
Total:				174,733
<u>Dali Pref.</u>				
Taihe	10,000	8,733		
Zhao Dept.	10,000	6,324		
Yunnan	10,000	6,159		
Dengchuan Dept.	9,000	612		
Langqiong	8,000	2,901		
Binchuan Dept.	9,000	615		
Yunlong Dept.	8,000	3,489		
Total:				92,833
<u>Lin'an Pref.</u>				
Jianshui	10,000	3,028		
Shiping Dept.	9,000	2,138	23	
Ami Dept.	9,000	15,504	856 <sup>f</sup>	
Ning Dept.	9,000	4,686		
Tonghai	9,000	2,661		
Hexi	9,000	6,562		
Xi'e	9,000	6,387		
Mengzi	9,000	6,195		
Total:				121,040

Table 12.5, cont.

Prefecture/County <sup>b</sup>	Ever-normal	Community	Other <sup>c</sup>	Total <sup>d</sup>
<u>Chuxiong Pref.</u>				
Chuxiong	10,000	5,795	21	
Zhennan Dept.	9,000	5,188	244	
Nan'an Dept.	9,000	1,169		
Ejia <i>zhoupan</i>	3,000	1,875		
Dingyuan	8,000	5,632	275	
Guangtong	9,000	4,161		
Yao Dept.	10,000	7,275		
Dayao	8,000	3,517		
Total:				101,152
<u>Chengjiang Pref.</u>				
Heyang	10,000	7,626		
Jiangchuan	8,000	3,867		
Xinxing Dept.	10,000	1,246		
Lunan Dept.	8,000	5,299		
Total:				54,038
<u>Guangnan Pref.</u>				
Baoning	5,000	3,208	2,174	
Fu Dept.	5,000	2,836		
Guangnan garrison		536		
Total:				18,754
<u>Shunning Pref.</u>				
Shunning	10,000	6,209	10,000 <sup>g</sup>	
Yun Dept.	9,000	3,915	6,000 <sup>h</sup>	
Mianning <i>ting</i>	9,000			
Total:				54,124
<u>Qujing Pref.</u>				
Nanning	10,000	575 <sup>i</sup>		
Zhanyi Dept.	9,000	6,007		
Luliang Dept.	9,000	3,073		
Malong Dept.	9,000	2,859		
Luoping Dept.	9,000	2,057		
Xundian Dept.	10,000	440		
Pingyi	9,000	4,210		
Xuanwei Dept.	10,000	3,396		
Total:				97,617

Table 12.5, cont.

Prefecture/County <sup>b</sup>	Ever-normal	Community	Other <sup>c</sup>	Total <sup>d</sup>
<u>Lijiang Pref.</u>				
Lijiang	9,000	11,484		
Heqing Dept.	10,000	3,891		
Jianchuan Dept.	10,000	6,038		
Zhongdian <i>ting</i> <sup>j</sup>	6,648	4,418		
Weixi <i>ting</i>	4,000	1,322		
Total:				71,379
<u>Puer Pref.</u>				
Ning'er	4,000	8,160	5,000 <sup>k</sup>	
Simao <i>ting</i>	4,000	3,663	5,500 <sup>l</sup>	
Weiyuan <i>ting</i>	4,000	5,821	7,000 <sup>m</sup>	
Talang <i>ting</i>	636	2,426	5,500 <sup>n</sup>	
Total:				55,706
<u>Yongchang Pref.</u>				
Baoshan	10,000	18,559	32,782 <sup>o</sup>	
Yongping	8,000	420	22,000 <sup>p</sup>	
Tengyue <i>ting</i>	10,000	5,735	33,968 <sup>q</sup>	
Longling <i>ting</i>	20,000		4	
Total:				161,468
<u>Kaihua Pref.</u>				
Wenshan	7,000	2,010		
Anping <i>ting</i>	3,000	1,037		
Total:				13,047
<u>Dongchuan Pref.</u>				
Huize	10,000	7,199		
Total:				17,199
<u>Zhaotong Pref.</u>				
En'an	4,000	5,705	11,741	
Zhenxiong Dept.	4,000	4,189		
Yongshan	4,000	3,190		
Daguan <i>ting</i>	4,000	2,855		
Ludian <i>ting</i>	4,000	2,943		
Total:				50,623
<u>Jingdong Subpref.</u>				
	10,000	6,044	160	
Total:				16,204

Table 12.5, cont.

<b>Prefecture/County<sup>b</sup></b>	<b>Ever-normal</b>	<b>Community</b>	<b>Other<sup>c</sup></b>	<b>Total<sup>d</sup></b>
<u>Menghua Subpref.</u>	10,000	7,186		
Total:				17,186
<u>Yongbei Subpref.</u>	10,000	8,983	800	
Total:				19,783
<u>Guangxi Ind. Dept.</u>	10,000	3,378		
Shizong	9,000	2,662		
Qiubei	3,000	2,694		
Mile	9,000	1,892		
Total:				41,626
<u>Wuding Ind. Dept.</u>	10,000	345		
Yuanmou	8,000	4,588		
Luquan	8,000	600		
Total:				31,533
<u>Yuanjiang Ind. Dept.</u>	9,364	4,370	7,000 <sup>r</sup>	
Xinping	10,000	7,399		
Total:				38,133
<u>Zhenyuan Ind. Dept.</u>	4,000	5,800		
Enle	4,000	2,887		
Total:				16,687
<u>Heiyan Salt Inspectorate</u>			201	
Total:				201
<u>Langyan Salt Inspectorate</u>		922	125 <sup>s</sup>	
Total:				1,047
<u>Baiyan Salt Inspectorate</u>				
Baiyan salt well	2,362		323 <sup>t</sup>	
Alou salt well	177		152 <sup>u</sup>	
Total:				3,014
<b>Grand Total:</b>	<b>739,687</b>	<b>373,274</b>	<b>151,648</b>	<b>1,264,609</b>

Table 12.5, cont.

**Source**

*Yunnan TZ* (1835 ed.), 61.8b–32a; the figures are also in the 1894 ed., 61.11a–41b.

**Notes**

<sup>a</sup> One figure in wheat (*mai*, in the community granaries of Lijiang) has been multiplied by 1.43 (0.7 *mai* for 1 *gu* being the rate in Yunnan) to get *gu*-equivalent; similarly, two figures in oats (*qingke*, at Zhongdian) have been multiplied by 1.5, and one figure in husked rice (*mi*, at the Baiyan salt well) has been doubled. When a mix of different grains is mentioned, it is without breakdown and we have to assume that the necessary conversions have been done; note, however, that the most frequent combination in Yunnan is unhusked grain and buckwheat, which have the same value in any case. On the various grains stored in Yunnan, see tables 8.1 and 8.2.

<sup>b</sup> The table follows the same order as the source. *Zhoupan* is second-class assistant department magistrate. Places administered by such officials are often called *ting*. What we call subprefecture here is a *zhili ting*. An independent department is a *zhili zhou*.

<sup>c</sup> Extraquota grain (*yi'e gu*) if left unspecified.

<sup>d</sup> All the totals in this table have been calculated by us.

<sup>e</sup> A note specifies that a memorial has asked for exemption of this “original quota” (*yuan'e*) because of arrears impossible to trace to identifiable borrowers. In other words, after a certain date that is left unspecified, it was officially acknowledged that there would be no more grain in the community granaries of Songming.

<sup>f</sup> This figure includes 696 *shi* of extraquota grain and 160 *shi* of grain from a charity granary established with a land endowment during the Yongzheng reign.

<sup>g</sup> Grain accumulated through extra purchases (*jiamai zhuozhu gu*)

<sup>h</sup> Grain accumulated through extra-purchases (*jiamai zhuozhu gu*).

<sup>i</sup> A note specifies that a memorial has asked for exemption of this “original reserve” (*yuan zhu*) because of arrears impossible to trace to identifiable borrowers.

<sup>j</sup> Contrary to the rest, the figures in Zhongdian are “actual reserves” (*shizhu*), not “theoretical reserves” (*ezhu*).

<sup>k</sup> “Reserve built with grain bought with funds [specially] received” (*ling jia caimai beizhu gu*).

<sup>l</sup> Same as note k.

<sup>m</sup> Same as note k.

<sup>n</sup> Same as note k.

<sup>o</sup> Includes 2,782 *shi* of extraquota grain and 30,000 *shi* of grain accumulated through extra-purchases (*jiamai zhuozhu gu*).

<sup>q</sup> Includes 30,000 *shi* of grain accumulated through extra-purchases (*jiamai zhuozhu gu*).

<sup>r</sup> Same as note k.

<sup>s</sup> Same as note k.

<sup>t</sup> Contributed grain actually in store (*Shizhu juanshu gu*).

<sup>u</sup> Same as note t.

Table 12.6. Granary Holdings in Guizhou Province, ca. 1735 (in *Shi* of *Gu*)<sup>a</sup>

Prefecture/ County <sup>b</sup>	Ever-normal <sup>c</sup>	Agricultural <sup>d</sup>	Contributions <sup>e</sup>	Total Other <sup>f</sup>
<u>Guiyang Pref.</u>	8,274	3,136	142	
Changzhai <i>ting</i>		4		
Guizhu		834	410	
Dingfan Dept.	3,147	34	18	224
Guangshun Dept.	4,051	18	6	
Kai Dept.	4,000	40	114	
Longli	2,920	18	45	
Guiding	6,000	15	10	
Xiuwen	4,432	85	46	
Total:				38,023
<u>Anshun Pref.</u>	8,832	121	97	240
Puding	4,000	119	45	
Zhenning Dept.	6,000	41	23	
Yongning Dept.	3,524	67	26	240
Anping	6,000	59	83	
Qingzhen	4,000	71	69	
Langdai <i>tongzhi</i>		27	3	
Guihua <i>tongpan</i>		13	4	
Total:				33,704
<u>Pingyue Pref.</u>	5,440	128	185	
Pingyue	800	87	152	
Huangping	600	4	3	
Huangping <i>zhoutong</i>	3,387	73	94	
Weng'an	3,746	54	123	
Yuqing	5,681	80	97	
Meitan	1,687	56	89	
Total:				22,566
<u>Duyun Pref.</u>	6,000	95	25	
Duijiang <i>tongpan</i>	19,492	2		
Duyun	3,840	56	52	
Maha Dept.	1,600	32	16	
Dushan Dept.	1,720	40	22	270
Qingping	3,000	53	97	
Libo	2,012	11	419	
Total:				38,854

Table 12.6, cont.

Prefecture/ County <sup>b</sup>	Ever-normal <sup>c</sup>	Agricultural <sup>d</sup>	Contributions <sup>e</sup>	Total Other <sup>f</sup>
Zhenyuan Pref.	2,240	115	160	
Zhenyuan	1,089	5	20	
Shibing	1,494	64	122	
Tianzhu	2,663	586	441	
Total:				8,999
Sinan Pref.	3,814	104	208	
Anhua	643	44	88	19
Yinjiang	3,091	17	40	
Wuchuan	898	50	50	50
Total:				9,116
Shiqian Pref.	560	95	147	
Longquan		36	43	
Total:				881
Sizhou Pref.	2,217	95	486	50
Yuping	2,557	533	232	
Qingxi	2,844	454	23	
Total:				9,491
Tongren Pref.		30	104	
Tongren	734	24	108	
Total:				1,000
Liping Pref.	2,040	103	82	72
Guzhou <i>tongzhi</i>	20,668			
Kaitai	3,039	332	224	
Yongcong	2,000	79	39	
Jinping	1,949	668	756	
Total:				32,051
Dading Pref.	6,000	3,103	81	
Shuicheng <i>tongpan</i>		6		
Pingyuan Dept.	6,000	81	193	
Qianxi Dept.	7,296	202	454	
Weining Dept.	9,667 <sup>g</sup>	4,171	60	
Bijie	1,840	55	105	
Total:				39,314

Table 12.6, cont.

Prefecture/ County <sup>b</sup>	Ever-normal <sup>c</sup>	Agricultural <sup>d</sup>	Contributions <sup>e</sup> Other <sup>f</sup>	Total
Nanlong Pref.	1,920	3,099	10	
Yongfeng			9	
Pu'an Dept.	2,976	78	221	
Pu'an	2,561	57	82	
Annan	6,082	111	52	
Total:				17,258
Zunyi Pref.				
Zunyi	1,240	767	105	
Zheng'an	21	8	78	
Tongzi		16	147	
Suiyang	1,976	19	111	
Renhuai		31	159	
Total:				4,678
Grand total: <sup>h</sup>	226,304	20,711	7,755	1,165
				255,935

**Source**

Guizhou TZ, 15, *jizhu*, 1b–11b.

**Notes**

<sup>a</sup> The few figures in husked grain (*mi*) in the source have been doubled to get *gu*-nequivalent.

<sup>b</sup> The table follows the same order as the source. *Tongzhi* is assistant prefect; *tongpan* is subprefect; *zhoupan* is second-class assistant department magistrate; *zhou tong* is first-class assistant department magistrate. These posts may also be called *ting* ("subprefecture").

<sup>c</sup> Lit., "Accumulated grain," *jizhu gu*.

<sup>d</sup> Lit., "Grain to encourage agriculture," *zhongnong gu*. An edict of 1692 quoted in the same source (15, *jizhu*, 1b) shows that this was an annual contribution of grain extracted from the incumbent officials of the various provinces, "each one according to his means," to be stored in the nearest ever-normal granary.

<sup>e</sup> *Qinfeng gu*. The exact nature of this item remains unclear.

<sup>f</sup> Most of the time grain from fines.

<sup>g</sup> Includes 1667 *shi* of buckwheat (*qiao*).

<sup>h</sup> Before the detailed figures reproduced in this table with a few conversions, the source gives a grand total broken down by types of grain, viz. 1,264 *shi* of husked grain (*mi*), 250,606 *shi* of unhusked grain (*gu*), 25 *shi* of buckwheat converted into rice (*qiao zhe mi*), 1,702 *shi* of buckwheat, and 54 *shi* of wheat. Using the proper conversion ratios, this would yield a total 254,994 *shi*.

Table 12.7. Granary Holdings in Guizhou Province during the Daoguang Reign (in *Shi* of *Gu*)<sup>a</sup>

Prefecture/ County <sup>b</sup>	Ever-normal	Community	Charity	Other <sup>c</sup>	Total
<u>Guiyang Pref.</u>	57,260				
Changzhai <i>tongzhi</i>	15,844				
Guizhu	82,410	281		770 <sup>d</sup>	
Longli	35,768			78	
Guiding	31,140				
Xiuwen	27,281				
Kai Dept.	27,500				
Dingfan Dept.	14,649				
Datang <i>zhoupan</i>	7,978				
Luohu <i>zhoupan</i>	11,139			82	
Guangshun Dept.	14,211	221			
Total:					326,612
<u>Anshun Pref.</u>		43,952	6,410		
Langdai <i>tongzhi</i>	19,474		1,858	197	
Guihua <i>tongpan</i>	19,634	231			
Puding	49,600	63	2,160		
Zhenning Dept.	31,014	3,221			
Yongning Dept.	25,525	1,251			
Qingzhen	36,874			167	
Anping		30,360	6,752		
Total:					278,743
<u>Pingyue Aut. Dept.</u>	64,187	271	500	454	
Meitan	18,810	25	1,172	217	
Weng'an	20,608			244	
Yuqing	20,800		270	270	
Total:					127,828
<u>Duyun Pref.</u>	27,456	1,781			
Bazhai <i>tongzhi</i>	19,483	3,847			
Danjiang <i>tongpan</i>	28,100	7,840			
Dujiang <i>tongpan</i>	24,910				
Duyun	23,987	189	400		
Maha Dept.	24,391	1,409	1,400		
Dushan Dept.	24,605	1,698			
Sanjiaotun <i>tongzhi</i>	3,032				
Qingping	62,584	180			
Libo	15,328		840	3,309 <sup>e</sup>	
Total:					276,769

Table 12.7, cont.

Prefecture/ County <sup>b</sup>	Ever-normal	Community	Charity	Other <sup>c</sup>	Total
<u>Zhenyuan Pref.</u>	47,185	200			
Taigong <i>tongzhi</i>	19,874			156 <sup>f</sup>	
Taigong garrison	5,976	4,089			
Qingjiang <i>tongpan</i>	35,414		3,460	148 <sup>g</sup>	
Qinjiang garrisons		18,310		4452 <sup>h</sup>	
Zhenyuan	21,155		4,426		
Shibing	26,521		2,530		
Tianzhu	31,699	3,080	3,319		
Huangping Dept.	30,922		1,796		
Total:					264,712
<u>Sinan Pref.</u>	22,756		1,400		
Anhua	11,600	113			
Wuchuan	11,958	21			
Yinjiang	14,400	141			
Total:					62,389
<u>Shiqian Pref.</u>	16,717		1,672		
Longquan	13,000	226			
Total:					31,615
<u>Sizhou Pref.</u>	24,400	12			
Yuping	18,493	374	300	144 <sup>i</sup>	
Qingxi	19,773				
Total:					63,496
<u>Tongren Pref.</u>	30,003	96		28 <sup>j</sup>	
Total:					30,127
<u>Liping Pref.</u>	25,403		395		
Guzhou <i>tongzhi</i>	26,440				
Guzhou garrisons	10,728				
Xiajiang <i>tongpan</i>	15,752				
Kaitai	22,055				
Jinping ass. mag.	15,916	381			
Yongcong	16,958	9,026			
Total:					143,054

Table 12.7, cont.

Prefecture/ County <sup>b</sup>	Ever-normal	Community	Charity	Other <sup>c</sup>	Total
Dading Pref.	29,396	230			
Shuicheng <i>tongpan</i>	29,600				
Pingyuan Dept.	33,669	501			
Qianxi Dept.	29,846				
Weining Dept.	23,913	938			
Bijie	12,550				
Total:					160,643
Xingyi Pref. <sup>k</sup>	34,082	2,888 <sup>l</sup>			
Xingyi	11,038	3,000			
Pu'an	22,899		600	790	
Annan	31,647				
Zhenfeng	19,440				
Pu'an Ind. Subpref.	26,864				
Total:					153,248
Zunyi Pref.					
Zunyi	45,118				
Tongzi	10,000				
Suiyang	23,940			337	
Renhuai	9,573	20			
Zheng'an Dept.	13,915				
Renhuai ind. <i>tongzhi</i>	17,392	400	200		
Total:					120,895
Grand Total:	1,919,874	66,554	41,860	11,843	2,040,131

**Source**

*Qiannan shilüe*, passim

**Notes**

<sup>a</sup> The few figures in husked grain (*mi*) in the source have been doubled to get *gu*-equivalent.

<sup>b</sup> The table follows the same order as the source. *Tongzhi* is assistant prefect; *tongpan* is subprefect; *zhoupan* is assistant department magistrate; *zhou tong* is first-class assistant department magistrate. These posts may also be called *ting* ("subprefecture").

<sup>c</sup> Extraquota grain (*yi'e gu*) in the ever-normal granary if no other specification.

<sup>d</sup> Includes "agricultural," contributed, and extraquota grain.

<sup>e</sup> Contributed grain (*jizhu qinfeng gu*).

<sup>f</sup> Contributions, and "agricultural grain" contributed until 1827.

<sup>g</sup> Including 38 *shi* of contributed and "agricultural" grain.

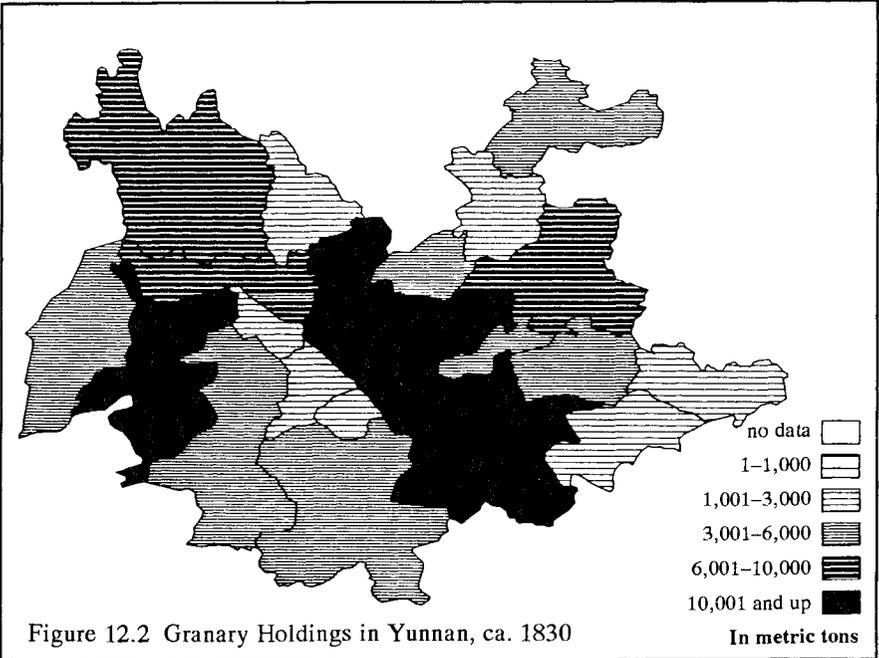
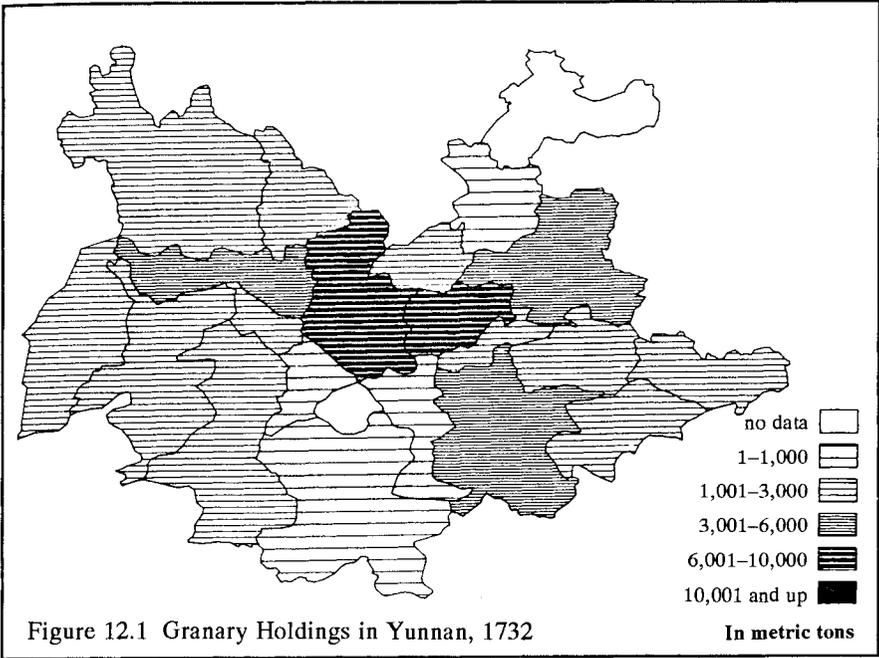
<sup>h</sup> "Grain kept locally" (*zhuoliu gu*).

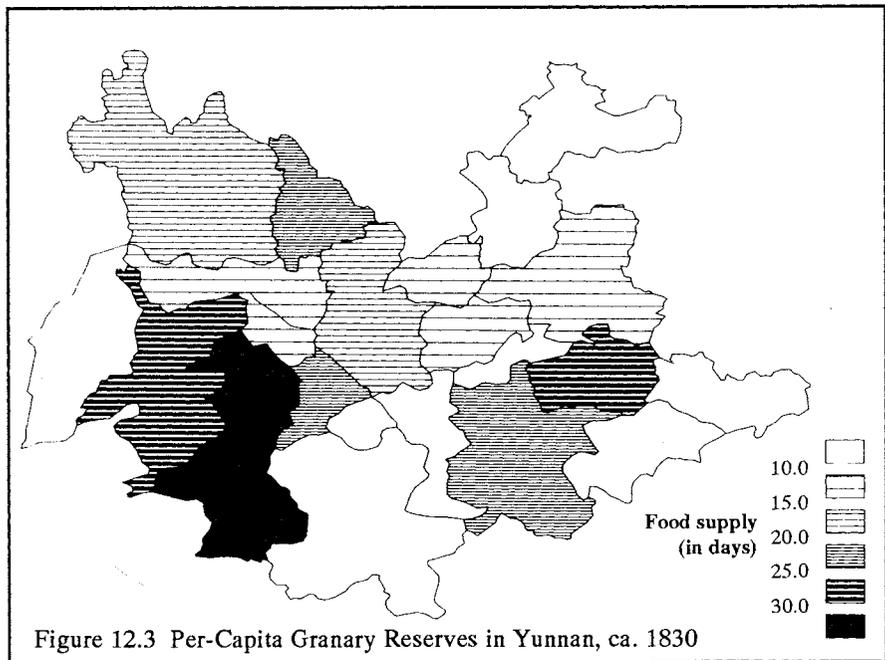
<sup>i</sup> Contributed grain (*juanshu gu*).

<sup>j</sup> Contributions 1801–1823.

<sup>k</sup> New name of Nanlong prefecture after an anti-Miao expedition in 1797; similarly, Yongfeng was transformed into Zhenfeng.

<sup>l</sup> This figure was before the 1797 rebellion.





of granary holdings at the national level. This ability to nourish people who lived far away from county seats (in the case of community granaries), on the borders of provinces, and at the frontiers of the empire was a major accomplishment of the late imperial state.

### *Social Distribution*

In the southwest, the importance of food redistribution was reinforced by the strategic importance of the frontiers with what are now Burma, Laos, Tibet, and Vietnam. Granary operations accordingly differed substantially from practices in the interior. First of all, in the southwest the civilian granaries were required to feed the military as well as the civilian population. There were approximately 100,000 active soldiers stationed in the southwest, requiring about 250,000 *shi* of husked grain in annual provisions, normally supplied by Hunan and Sichuan. These provisions were routinely stored in the civilian granaries. This arrangement had two important advantages: regional authorities regularly received large quantities of interprovincial grain that would otherwise have been unavailable, and, by furnishing military rations from older

existing stocks, they could assure a regular turnover, thus preventing the spoilage so common elsewhere.<sup>21</sup>

In addition, the southwestern civilian granaries were supposed to feed the native as well as the immigrant population. Indeed, the presence of a large non-Han population meant that regional authorities often had to cater to local tastes. In 1758, for example, Liu Zao<sup>b</sup>, the Yunnan governor, reported:

There are more non-Han (Yi) than Han in Yunnan. . . . The non-Han like to eat secondary grains (*zaliang*). . . . And yet most of the grain currently in storage is husked and unhusked rice. The grain we loan and sell during the spring and summer goes against non-Han tastes. . . . Eleven administrative districts — Qujing, Nanning, Zhanyi, Xuanwei, Malong, Luliang, Wuding, Hequ, Zhennan, Zhenxiang, and Yongshan — are presently proposing that, according to local conditions, all or part of their stores be kept in buckwheat. They should be authorized to restock in buckwheat when replacing the annual disbursements.<sup>22</sup>

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<sup>21</sup> When it was edicted in 1725 that ever-normal granaries would no longer store husked grain (*mi*), it was found that Yunnan and Guizhou had more than 570,000 and 400,000 *shi* of it, respectively, and that more than the normal one or two years would be necessary to replace it with unhusked grain. The Yongzheng emperor ordered that the exchange be effected by using this *mi* to pay the rations of the military (*bingxiang*), which amounted to 149,600 *shi* a year in Yunnan and 95,600 *shi* a year in Guizhou, and then levying unhusked paddy rice (*daogu*) as fall land tax. Yunnan had four years to complete the operation, and Guizhou, three (one would have expected the opposite). See *HDSL* (1818 ed.), 159.18b–19a. As has been noted above (ch. 8), Guizhou appears to have stored large quantities of husked grain long after 1725. On grain imports for the military, see for example the 1740 report of Zhang Yunsui, to the effect that “The Yunnan army needs 158,000 *shi* a year. The local taxes cannot supply this grain. Much of it comes from Chu and Yue [i.e., Hunan and Guangxi], but the transport is difficult and costs are accordingly high. We cannot use this method to supply the civilian population.” See *Zhang Yunsui zougao*, memorial dated QL 5/3/13.

<sup>22</sup> See *Gaozong shilu*, 571.38b–39a (QL 23/9/30), in *QSLYYS*, 3: 557. The text specifies that here *zaliang* means buckwheat (*qiao*) and wheat (*mai*), the latter exchanging against *mi* at a 1.4:1 rate (or, 0.7 *mai* for 1 *gu*).

Finally, the emphasis on food redistribution to the rural and native populations meant that the state disbursed much grain in largely non-commercialized settings. As many officials reported to the Board of Revenue, “We loan far more grain than we sell.”<sup>23</sup> The provincial treasurer of Yunnan, Peng Jiaping, elaborated in 1753: “The people of Yunnan are simple and pure. When the lean spring season arrives they all borrow grain from the state. After the autumn harvest they return what they took. Unlike the case in other provinces, their loans do not remain outstanding. There is no need to sell grain at reduced prices (*pingtiao*).”<sup>24</sup> There are many similar statements in the official reports.<sup>25</sup> Despite the rise in urbanization and commercialization, many people in the southwest, especially the native non-Han, continued to live in rural communities largely innocent of extensive market contact. Just as state sales stabilized the market economy of the urban cores, state loans reinforced the moral economy of the rural hinterland.

State sales of grain were concentrated, of course, in the urban core regions of the southwest macroregion, principally Yunnan *fu* (the prefecture surrounding the provincial capital of Yunnan), and Dongchuan, a prefecture in northeastern Yunnan with an extremely large mining industry.<sup>26</sup> Both prefectures were characterized by large nonagricultural populations dependent on the commercial grain market. Moreover, as these populations could rise and fall abruptly, prices were

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<sup>23</sup> For an example of this generalization, see Yunnan governor Tuerbing’a, LF, *JJCD*: QL 15/10/16.

<sup>24</sup> *Gaozong shilu*, 447.29b–30a (QL 18/9/29), in *QSLYSSH*, 3: 556.

<sup>25</sup> Thus, the 1718 edition of *Yuqing XZ*, 3.10a, noted that “the loans from the ever-normal granary during the fifth and sixth months are an essential part of the local economy.” In 1748, Zhang Yunsui, then governor-general of Yun-Gui, said: “In Yunnan and Guizhou the roads are extremely rough. There are very few rich households. There is no commercial export of grain and no hoarding. The natives (*Yimin*) farm by slash and burn. Many of them eat secondary grain and buckwheat (lit., “bitter buckwheat,” *kuqiao*). Normally, we do not sell much grain to reduce prices. So it is fairly easy to purchase enough grain to restock the granaries.” See *Gaozong shilu*, 311.44–46 (QL 13/3/28), in *QSLYSSH*, 3: 555.

<sup>26</sup> See Yunnan provincial treasurer Chen Hongmou, ZP, *TKGZ*: bundle 4, memorial of QL 2/1/15. See also the text of early 1766 cited below, note 39.

not only higher than elsewhere, but also more subject to fluctuation. This was especially true in the mining districts, where employment depended on the fluctuations in copper production, but also true in the capital. Indeed, as Zhang Yunsui observed in 1741, even the provincial examination, which attracted more than ten thousand eager students to Yunnan prefecture, could drive prices upward.<sup>27</sup> In 1736, official concern over food supply conditions in that prefecture had led the provincial treasurer to suggest that neighboring counties set aside ever-normal granary reserves to transfer to the capital during the spring, when less commercial grain arrived in the city.<sup>28</sup> Similar concerns over food supply conditions in Dongchuan prefecture led governor Li Hu in 1772 to order the provision of an additional half-year supply of grain under the authority of the Yunnan Copper Office to supplement the civilian granary system.<sup>29</sup>

#### THE PROCESS OF GRAIN DISTRIBUTION

Both loans and sales of government grain were largely concentrated during the lean spring period.<sup>30</sup> Although the two types of transactions

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<sup>27</sup> See Yunnan governor Zhang Yunsui, ZP, *TKGZ*: bundle 10, memorial dated QL 6/8/6: "Whenever the provincial examinations are held, at least 10,000 literati converge on the provincial capital, driving up the price of rice. I have therefore ordered the prefectural authorities to disburse rice (*mi*) from the county granaries at fourteen copper cash or 0.012 taels of silver per *sheng* (0.01 *shi*) in order to lower prices."

<sup>28</sup> See Chen Hongmou, ZP, *TKGZ*: bundle 5, memorial dated QL 1/2/3: "Only in the provincial capital where merchants congregate and there are many people is it easy to prepare enough grain for disbursement during the spring dearth. I have therefore ordered all the nearby granaries, in addition to what they sell in their own districts, also to transport grain to the provincial capital in order to lower prices."

<sup>29</sup> This grain was to be loaned to miners as an advance against future production. See Yunnan governor Li Hu, LF, *JJCD*: QL 016908, a memorial entitled "Tongchang shiyi shitiao" (Ten rules for mining administration).

<sup>30</sup> We have recorded forty-two memorials specifically devoted to grain distribution from the local civilian granaries in Guizhou and Yunnan. According to the dates of these memorials, grain was distributed mostly during the fourth month: one memorial dates from the first month, four from the second month, six from the third month, fourteen from the fourth month, six from the fifth month, six from the sixth month, five from the seventh month.

targeted distinct populations, officials were keenly aware that the net effect, especially in the more commercialized regions, overlapped considerably. Sales, apparently at 10 to 20 percent below market prices,<sup>31</sup> were supposed to lower prices by increasing supplies and reducing demand in the urban core regions. Loans of food and seed grain in rural areas could lead to the same result. Besides, as early as 1743 officials allowed soldiers with numerous dependents to receive one- or two-months' rations in advance in order to avoid competition between the military and civilian populations and thus keep market prices more stable.<sup>32</sup> These advances, like many other loans, were not included in the annual summary of grain disbursements.

The exact amount of grain distributed through loans and sales is, therefore, extremely hard to reconstruct. Of course, the sums varied according to need. Only the military had fixed rations, and still they could consume varying amounts through loans and advances. We only have data for a few years and these figures, with few exceptions, cover only the amount of grain sold. How much grain the southwestern granaries loaned is unknown, especially for community granaries, which were managed by the local elite with little official oversight.<sup>33</sup> We only know that the amounts of grain loaned far exceeded the amounts sold. In theory, annual grain loans and sales were supposed to be on the order of one-third of the grain stocks. Although the recorded amounts of grain disbursed in the southwest were often less than this, officials, at least in the early Qianlong years, appear to have met

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<sup>31</sup> See Yunnan governor Zhang Yunsui, ZP, *TKGZ*: bundle 5, memorial dated QL 4/4/28: "Rice prices in the provincial capital gradually rise during the agricultural busy season because there is very little rice available for sale. Therefore, after meeting with the merchants, I ordered officials to set up stores and sell the rice from the two granaries at 10 percent below market price in order to alleviate such food problems."

<sup>32</sup> Again, Yunnan governor Zhang Yunsui, ZP, *TKGZ*: bundle 15, memorial dated QL 8/4\*/7: "According to the regulations, we should loan one or two months' worth of military rations to the larger military families to eliminate market demand and lower prices."

<sup>33</sup> This was, of course, a common feature of most community granary systems. See the discussion in chapter 3 and elsewhere.

national guidelines. Indeed, it is only in this context that Zhang Yunsui's proposal in 1737 to loan an additional 10 to 20 percent of the ever-normal reserves for seed grain, beyond the stipulated 30-percent rate, makes sense.<sup>34</sup> Table 12.8 summarizes our knowledge of grain disbursements in Yunnan and Guizhou.

We think it possible to infer from these data that throughout most of the eighteenth century in Yunnan and Guizhou the state disbursed perhaps 0.5 million *shi* each year for the civilian population. The total amount of grain sold in the two provinces was certainly well over 100,000 *shi* most of the time. The amount of grain loaned is said to have been far larger; our admittedly skimpy data suggest a figure of more than 300,000 *shi*. As for the military, as we have seen, they consumed 250,000 *shi* (husked) a year, or the equivalent of another half-million *shi* of unhusked grain, of which a part involved ever-normal granaries through loans and advances. A reasonable total of annual disbursements from the civilian granary system would be perhaps 600,000 *shi*, that is, 20 to 30 percent of the granary holdings.

Since the average annual per capita grain consumption (including children and adults) during the eighteenth century seems to have hovered around 2.5 *shi* of husked grain, or 5 *shi* unhusked, the above figures would suggest that the state annually not only fed 100,000 soldiers for the entire year, but also disbursed enough grain to feed 100,000 civilians for the same period, or as many as 600,000 civilians during the annual two-month dearth. Between 5 and 15 percent of the registered

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<sup>34</sup> See Yunnan governor Zhang Yunsui, ZP, TKGZ: bundle 3, memorial dated QL2/9\*/19: "If farmers lack seed or capital (*gongben*), then local officials should lend them grain. . . . I propose that in addition to the grain in the community granaries which the people loan out on their own at interest, the ever-normal granaries, besides their normal disbursement of grain, should also loan 10 to 20 percent of the grain from the remaining 70 percent of stocks as seed. I have therefore ordered all departments and county magistrates to set forth personally each spring and ascertain which of the poor really need loans of seed from the granaries. These loans should be made without interest and can be remitted in case of poor harvest."

Table 12.8. Granary Disbursals in Southwest China, 1738–1780  
(in *Shi* of *Gu*)

Year	Province	Initial reserves	Sold	Percent sold	Loaned	Percent loaned
1738	Guizhou		>64,000			
1742 <sup>a</sup>	Guizhou	[1,155,837]	296,330	[25.6]		
1746	Yunnan	ca. 1,000,000	28,089	2.8		
1747	Yunnan	1,039,770	28,252	2.7		
—	Guizhou	1,360,000	73,868	5.4		
1748 <sup>b</sup>	Yunnan	784,066	25,833	3.3	154,079	19.7
1750 <sup>c</sup>	Yunnan	346,523	47,000	13.6		
1751	Yunnan	1,141,099	99,738	8.7		
1752	Yunnan	1,099,817	13,337	1.2		
1753	Yunnan	1,132,772	9,162	0.8		
1754	Yunnan	1,182,536	11,401	1.0		
1755	Guizhou	1,231,246	60,000	4.4		
1758	Guizhou		80,627			
1763	Yunnan	1,480,741	57,934	3.9		
1764	Yunnan	1,459,560	66,315	4.5		
1765	Yunnan	1,466,896	103,560	7.1		
1767	Yunnan	1,417,956	53,792	3.8		
1768	Yunnan	1,487,156	38,898	2.6		
1772	Guizhou	ca. 1,600,000	90,000	5.6	188,000	11.8
1772 <sup>d</sup>	Guizhou		377,200			
1780 <sup>e</sup>	Guizhou		90,000			

#### Sources

See sources and notes to tables 12.1 and 12.2, and notes below.

#### Notes

<sup>a</sup> *Gaozong shilu*, 189.25–27, entry of QL 8/4/30, in *QSLGZJ*, 220–21. In this text the Guizhou governor, Zhang Guangsi, summarized the sales and restocking of the year—that is, the cycle beginning in QL 7 (1742). What we give as “initial reserves” here is, in fact, the final balance of the previous year (before restocking). The same holds true for most years represented in this table.

<sup>b</sup> Evernormal granaries only. See Tuerbing’a, LF, *JJCD*: QL 003418 (QL 13/10/16).

<sup>c</sup> Includes only ever-normal “surplus” grain sales. See Yunnan governor Tuerbing’a, LF, *JJCD*: QL 15/10/16.

<sup>d</sup> *Gaozong shilu*, 1141.43, entry of QL 46/9/30, in *QSLGZJ*, 229. This grain (actually half that quantity in husked grain) may have been sold over more than one year; the purpose was to lower the target reserve of Guizhou. See below, text at note 44.

<sup>e</sup> Source: Guizhou provincial treasurer Sun Yongqing, ZP, Beijing Number One Historical Archives, *Yuxue liangjia* [Rainfall and food prices]: box 223, memorial dated QL 15/10/16.

population in the southwest, in other words, was dependent on the state's redistribution of grain for some part of the year.<sup>35</sup>

#### VULNERABILITY AND DECLINE

Although access to military grain allowed regional authorities to feed large numbers of people, the military connection also made the granaries more vulnerable to extraordinary demands on their holdings. The unusual crisis from 1768 through 1772 is our best-documented example. First, war with Burma, from 1765 through 1770, severely strained the local food supply. Then a combination of floods and droughts, the worst in more than a century, devastated both Yunnan and Guizhou from 1768 through 1770.<sup>36</sup> The result was a double blow to the granary system, as large amounts of relief were repeatedly required, especially in western Yunnan, just as the military increased its demands for grain.<sup>37</sup> Although in principle the Qing army imported its provisions from the outside, a combination of patriotism and expedience induced provincial authorities to contribute large quantities of grain, including more than 300,000 *shi* from the ever-normal granaries in 1768 and approximately 300,000 *shi* from the community granaries in 1770.<sup>38</sup>

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<sup>35</sup> The registered population in southwest China was approximately 5 million in 1750, 7 million in 1775, 10 million in 1800, and 13 million in 1850. These figures, of course, undercount the actual population, which we have estimated at 10 million in 1775 and 17 million in 1850. See Lee, "Food Supply and Population Growth," and "Ming Qing shiqi Zhongguo Xinan de jingji fazhan he renkou zengzhang," for a detailed discussion of these estimates.

<sup>36</sup> The history of natural and man-made disasters has recently attracted much attention in China. See Guizhou tushuguan, comp., *Guizhou lidai ziran zaihai nianbiao* for a vivid description of the history of these five years.

<sup>37</sup> For three years—1769, 1770, and 1771—the provincial authorities had repeatedly to provide large-scale relief to flood victims in much of western and northwestern Yunnan. See, for example, *Gaozong shilu*, 826.25–26 (QL 34/1/13), 872.16 (QL 35/11/11), and 881.27 (QL 36/3/29), in *QSLYYS*, 3: 530–31.

<sup>38</sup> *Gaozong shilu*, 809.26–28 (in *QSLYYS*, 2: 14–15), entry of QL 33/4/25, and 815.65 (ibid.: 16), entry of QL 33/7/30. In the first document, Yunnan authorities stated that Yunnan's ever-normal granaries could allocate more than 350,000 *shi* of unhusked grain to the military. The second document mentions that more than 300,000 had indeed been

Within two years, in other words, the granaries delivered approximately one-third to one-half of their holdings to the military, in addition to their normal military disbursements, and further doled out uncommonly large outright grants in aid to the civilian population.

The consequent decline in granary holdings is well documented for both provinces. In 1766, at the beginning of the Burma war, the ever-normal granaries of the more densely populated areas of Yunnan already had trouble restocking because of consistently high prices and a scarcity of contributors, and the provincial authorities had to devise a system of compensation (*tongrong zhuoban*) whereby the well-stocked granaries of places out of the way would transfer grain to those of the populous districts.<sup>39</sup> In 1769, however, it was the ways of making good the deficits created, this time, by transfers of grain to the military engaged in the Burma war that the governor of Yunnan had to ponder.<sup>40</sup>

How much of these deficits were ever made good? In 1801, the governor-general of Yun-Gui reported:

The community granaries still have large deficits. . . . In 1770, the local notables gave up much of the community grain to supply the Burma campaign. These arrears have persisted for the last thirty

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allocated; the court authorized that restocking purchases be made at market prices (as was the rule for purchases of military supplies), instead of the insufficient administrative price of 0.5 tael per *shi*. Deliveries from Yunnan granaries to the Qing armies' advanced basis at Yongchang were preferred to the more costly transportation of grain from the ever-normal granaries of Nanning and Xunzhou prefectures in Guangxi, which had been suggested at first. See also the other passages on military-granary interactions reproduced on pp. 12–23 of the same volume, *passim*.

<sup>39</sup> See the memorial of Yun-Gui governor-general Liu Zao<sup>b</sup> and Yunnan governor Changjun in *Gaozong shilu*, 749.21 (QL 30/11/30) (*QSLYYSH*, 3: 558). Among the places with high prices and granary deficits were the nodes of communications and the concentrations of people at the lead and copper mines. Places out of the way suffered the opposite problem: easy restocking because of low prices, but few disbursements and a high risk of spoilage.

<sup>40</sup> *Gaozong shilu*, 839.13–14 (QL 34/8/22), in *QSLYYSH*, 3: 559 (which wrongly dates it 1767). See also *Yunnan TZ* (1835 and 1894 eds.), 61.7b–8a. One of the means suggested to implement the restocking program was to reconvert to actual grain tax-in-kind that had been previously commuted in money in 33 administrative units.

years. According to the account books from our audit, in 1799 the total theoretical holdings [of Yunnan] (*ezhu*) were 605,440 *shi*, but the actual reserves were 301,879 *shi*, plus enough silver to buy an additional 15,334 *shi*. We are still missing more than 281,349 *shi*.<sup>41</sup>

In Guizhou there was a similar process of deterioration, also beginning in the second half of the eighteenth century. Nevertheless, as we shall see, the shortages revealed during the first half of the nineteenth century appear relatively modest compared to the province's high targets.

According to a regional investigation in 1752, granary holdings were less than 10 percent below their theoretical levels (*e*).<sup>42</sup> But in 1776, the provincial treasurer of Guizhou, Zheng Dajin, reported: "The target reserves of the ever-normal granaries in Guizhou is 805,500 *shi* of husked rice, which should be converted into 1,611,000 *shi* of unhusked grain. According to our investigation, only 30 to 40 percent of this amount is existing [in kind]."<sup>43</sup> In not quite twenty-five years, in other words, the deficit in Guizhou had swollen from less than 10 percent to almost 70 percent. According to Zheng, the reason was the inability of frontier officials to handle sales of government grain and ensure turnover, with, as a consequence, a high rate of losses. He advocated the total replacement of husked rice with unhusked *gu* within three years.

As a matter of fact, by 1781 Guizhou seemed to have almost fully restocked. A memorial by governor Li Ben tells us that in 1772 the

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<sup>41</sup> See Langgan, ZP, *CZCC*: *juan* 499. As one can see, the figures do not quite add up. *Renzong shilu*, 81.13 (JQ 6/3/27), in *QSLYYS*, 3: 560–61, has a good summary of this memorial by the Grand Secretariat, where the figures add up: actual reserves plus compensatory remittances (*peijie*, meaning repayments due by the military?): 324,090 *shi*, deficit (*quegu*): 281,350 *shi*, making a total of 605,440 *shi*.

<sup>42</sup> *Gaozong shilu*, 418.13–19, in *QSLGZJ*, 224–25. This was one of the answers to the circular edict enquiring about the opportunity of suspending granary purchases in order to combat the rise of market prices. Guizhou authorities announced that they had no problem with stopping purchases.

<sup>43</sup> *Gaozong shilu*, 1005.41 (QL 41/3/30), in *QSLGZJ*, 228.

Board of Revenue had ordered Guizhou to diminish its target reserves, then amounting to ca. 1,000,000 *shi* of husked rice, and that, consequently, 188,600 *shi* had been sold. But in 1778 Guizhou was again ordered to return to its former target, which meant repurchasing the same amount, or rather, this time, 377,300 *shi* of unhusked grain. In 1781, 240,000 *shi* had still to be bought, and since this was a year with much better harvests than before, the governor promised it would be done.<sup>44</sup> In other words, what we get at the beginning of the 1780s is the image of a province actively building stocks and trying to overcome the perennial problems posed by the Guizhou tradition of storing husked grain. We should be aware, however, that purchases ordered at provincial level like those just mentioned were not necessarily in contradiction with the persistence of local deficits like those mentioned in Zheng Dajin's 1776 piece.

In any case, as we might expect, losses recurred as grain continued to be disbursed. For example, in 1820 a special audit of the granaries in one prefecture, Sinan, revealed arrears of more than 35,000 *shi*, which would have been approximately half the prefectural target.<sup>45</sup> According to the auditors, most of these arrears were long-standing. Some of this grain had been sold and not replaced, and some had been diverted for military purposes. According to another investigation in 1823, the granaries in Guizhou revealed a shortage (*quegu*) of 209,675 *shi*.<sup>46</sup> Again the province tried to restock. But as was typical of these early nineteenth-century efforts, progress was much slower this time, and in 1828 the granaries were still some 118,030 *shi* below their theoretical level. The provincial governor promised to complete restocking within three years.<sup>47</sup> The sources are silent about his

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<sup>44</sup> *Gaozong shilu*, 1141.33 (QL 46/9/30), in *QSLGZJ*, 229.

<sup>45</sup> See Yun-Gui governor-general Qingbao, ZP, *CZCC*: *juan* 529 (JQ 25/6/12).

<sup>46</sup> *Xuanzong shilu*, 51.17–19 (DG 3/4/16), in *QSLGZJ*, 232. The cause, again, was heavy spoilage and an inability on the part of the officials leaving their post to repay the shortages within the deadlines.

<sup>47</sup> *Xuanzong shilu*, 145.39 (DG 8/10/30), in *QSLGZJ*, 235.

success. The reported granary stocks, in other words, were often merely a reflection of intent, not reality.

#### EPILOGUE: CONTINUED EFFICIENCY AMID MOUNTING PROBLEMS

The above notwithstanding, in the southwest the decline in stocks coincided with a conscientious effort by officials to redistribute grain through what appear to have been increasingly frequent disbursals. Beginning in 1768, regional authorities wrote a large number of memorials specifically to report the distribution of grain to the civilian population in Yunnan and Guizhou and the consequent levelling of prices. We have recorded thirty-seven such memorials from the Beijing No.1 Archives, covering the period 1768 through 1822.<sup>48</sup> Twenty-four are from the last third of the eighteenth century. Evidently, this activity was first of all a response to the disastrous years of war and natural disasters from 1768 to 1772 (eight of these memorials date from this period). The result of these strenuous efforts to regulate food prices may well have been the increasingly stable rice prices that can be observed in the late eighteenth century.<sup>49</sup> Clearly, as a number of officials concluded, "In the southwest, the state supply of grain is the most important service the government offers the people."

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<sup>48</sup> Twenty-seven of these memorials concern Guizhou, ten concern Yunnan.

<sup>49</sup> See Lee, *State and Economy in Southwest China*, chapter 8.



## Conclusion

Eighteenth-century officials adapted the civilian granary system to different environments and in response to diverse regional opportunities and economic and political demands. Shandong officials took advantage of both the flow of tribute grain on the Grand Canal and the resources of salt merchants. Free of the persistent subsistence insecurities of Shandong, Hunan granary activities within and beyond the province were shaped by the interregional rice trade. In the southwest, where officials lacked the luxury of plentiful grain, granaries nonetheless met the particular demands of a landlocked frontier sustaining many troops and a sizable mining population.

Granary operations were affected by specific events, such as military campaigns and protracted poor harvests, and responses to these disturbances varied. The Chinese government generally displayed greater capabilities and willingness to meet subsistence problems in the decades between the 1730s and 1770s than in the periods preceding and following. Further, a province's administrative conventions—where these were long-standing and distinctive, we suggest calling them administrative traditions—influenced the likely responses to many kinds of political challenges, not merely those of food supply management.

Previous scholars have enunciated a wide range of views on regional variation in administration, and on its vices and virtues. T'ung-

tsu Ch'ü has stressed the constraints on effective action posed by uniform procedures for local administration in the Qing, while Ray Huang has deplored the complex variations in the sixteenth-century fiscal system.<sup>1</sup> The present volume suggests that regional variations can sometimes be interpreted as signs of strength and at other times as indicators of weakness. We can identify a wide variety of differences within and between politically and economically defined areas. In the early Qing, variations were largely the product of uneven implementation. Subsequently, however, during the period of the granary system's greatest success, most variations were deliberate, and this flexibility affirms the system's strength. The character and significance of regional variations changed once again in our final period, when the survival, not to mention the effectiveness, of granaries became less certain. As granary operations became increasingly decentralized, there was greater local variation, and local efforts were no longer reinforced by the initiatives of higher-level officials. But this is hardly the time or place to lament the decline of the Qing granary system. It remains for us to assess the system's achievements and to place them in historical and comparative perspective.

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<sup>1</sup> See Ch'ü, *Local Government in China*, 193–95; and Huang, *Taxation and Governmental Finance*, 2–29.

**Part IV**

**A Comparative Assessment**



# Qing Granaries and Late Imperial History

R. Bin Wong

Two large questions form the axes of this chapter: (1) How important was the Qing granary system? and (2) What does the system suggest more generally about the state's role in late imperial history? The system's social and economic importance will be examined by roughly estimating the numbers of people fed by granary disbursals, its political importance by an even rougher estimate of the costs of the system to the state. In exploring the state's larger role in late imperial history, we will consider the relationships suggested by the granary example between political ideals and realities and between political commitments and capacities.

## BUREAUCRATIC PRACTICES: IDEALS AND REALITIES

Although administrative ideals were never implemented clearly and completely in late imperial China (or anywhere else, for that matter), they nonetheless remain important. We suggested in the opening chapter

of this book that Qing-dynasty granaries were developed within a long tradition of food supply intervention. Without the ideals, no tradition would exist. Yet, in general, the ideals that motivated late imperial political practices seem divorced from political realities, leading historians to stress political ideals as abstract ideas and to dismiss their relevance to an understanding of realities. A number of studies of the government in late imperial times point out the state's limitations by stressing the gap between administrative ideals and bureaucratic realities.

This gap is, in part, an artifact of the available documentary record. On one side, we have collections of regulations and precedents that tell us how things sometimes were and always should have been. On the other, we have the edicts, memorials, and other official as well as private correspondence that frequently complain about how things usually were and never should have been. Chinese officials themselves often acknowledged political realities as deviations from ideals.<sup>1</sup> Indeed, the differences between ideals and realities formed the context for bureaucratic efforts to improve administration. But to concentrate on these disparities creates an excessively narrow focus. We see three distinct aspects of the relationship between administrative ideals and realities which lead us to reinterpret the bureaucratic practices that link them.

We begin with two examples that illustrate the meaning of ideals in the accounting system, followed by a more general example from granary operations. First, how much grain were the granaries to hold? We have seen that the quota (*ding'e*) figure was really only a target. Stocking in excess of quotas was sometimes ordered, while restocking

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<sup>1</sup> Scholars who make the differences between principles and realities basic to their studies include Ray Huang, especially in his "Fiscal Administration during the Ming Dynasty"; Kung-chuan Hsiao, whose *Rural China: Imperial Control in the Nineteenth Century* is a broad and deep inquiry into state goals, efforts, impacts, and failures that stresses differences between what should have been and what was; and Etienne Balazs, whose work *Political Theory and Administrative Reality in Traditional China* largely builds on this important contrast. Previous treatments of granaries often fall in this type of analysis. See introduction to Part I.

to meet them was not always deemed appropriate. It would therefore be wrong for us simply to take the target figure as an ideal to contrast with real reserves. Targets merely indicate what some officials thought desirable or reasonable at certain points in time; their opinions might change without the quotas being formally altered. Conversely, as the example of Hunan's mid-eighteenth-century quotas clearly shows, officials could alter the target figures without changing the amount of real reserves and their uses. A second example of ideals in accounting is the term we translate as "theoretical reserves" (*yincun*), that is, the amount of grain that would be stored if all grain for which money had been allocated were presently in stock and all grain ever disbursed had been replaced. Theoretical reserves rarely declined, and when they did the decreases were slight. Theoretical reserves almost always grew, as did the discrepancies with real reserves. Should this gap be taken as a measure of the system's problems? To answer affirmatively would mean that we take the theoretical reserves as a standard against which to measure performance. Yet there is not much evidence that Chinese officials themselves considered theoretical reserves to be an attainable ideal. The concept of theoretical reserves, much like the present-day American "ideal" of a balanced federal budget, was not considered realistic.

A second reason realities never measured up to ideals was that there were competing ideals which offered conflicting standards. For instance, debates over grain storage policies included deliberations over the relative virtues of storing grain and money. Storing grain allowed officials to intervene directly by distributing and transferring food supplies. Storing silver was less taxing administratively because spoilage problems were avoided, but insecure because silver was more easily diverted surreptitiously to other purposes. Disagreements about the relative effectiveness of market stimuli and administrative action figured into evaluations of distributing grain or money. For example, one argument advanced by the proponents of reduced official grain storage and distribution was that government sales lowered prices and thereby reduced the merchant incentives to import grain; giving people money instead of grain increased their purchasing power, and the continued high prices would attract commercial imports. Those in favor of official

grain sales, however, considered them a means to lower market prices and thereby reduce the incentive to keep grain off markets in anticipation of growing scarcities and further price hikes; official sales in this view were seen as a means to bring more private grain onto the market as needed to reduce prices.<sup>2</sup> The relative virtues of grain and silver storage depended, in part, on competing analyses of how to induce lower market prices. Since the grain storage ideal faced stiff competition from the principle of storing silver, the decision to store silver rather than grain can be seen not only as a failure to sustain the granary system, but also as a change in preferred methods of intervention.

As a third and final example of administrative ideals and bureaucratic realities, let us consider two related features of granary operations in the eighteenth century. First, the ideal of self-financing was chronically frustrated, as receipts from spring sales repeatedly fell short of fall purchase prices. Second, restocking failures hardly undermined the viability of the system because the state periodically channeled external resources—contributions, grain tribute, provincial treasury funds—into the system. The result was not mere reproduction but real growth for much of the eighteenth century. The significance of its failure to support itself must be measured against the reality of a system through which thousands of tons of grain and millions of taels of silver passed. The failure to achieve an ideal may be a poor guide in evaluating the system's real successes and failures.

In sum, excessive attention to the discrepancies between ideals and realities can divert us from establishing appropriate standards by which to evaluate the realities themselves. We need other measures of success and failure. The size of real reserves is a good place to start. For this line of investigation, the absolute accuracy of the numbers is not necessarily very important. Despite the considerable limitations of the

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<sup>2</sup> An example of arguments in favor of storing money instead of grain can be found in the granary section of *JSWB*. In his "Qingmiao shecang yi" (A discussion of green sprouts and community granaries), Li Fu defends Wang Anshi's green-sprouts loans (*JSWB*, 40.21a–23a). He admits that distributing grain is better in ideal terms but that, in practical terms, lending money is less troublesome. See chapters 3 and 6 for further discussion of policy debates over reduced-price sales and restocking.

accounting system, scrutinized in chapter 8, to argue that they constituted a severe constraint on granary operations would require our being able to demonstrate reduced distribution and restocking efforts as a direct result of accounting inaccuracies. In general, we believe the system's operations could tolerate considerable numerical inaccuracies. The point is that as long as officials distributed and restocked reserves, the granary system made an impact that we must attempt to assess. One indicator of the granary system's importance would be the number of people probably affected by granary disbursements.

#### MEASURING THE IMPACT: BENEFICIARIES OF GRANARY DISBURSALS

In chapter 3, Liang-Jiang governor-general Nasutu's 1738 discussion of distribution from ever-normal granaries was described at some length because of its particularly lucid statement of criteria for deciding to whom grain should be distributed.<sup>3</sup> Recall that Nasutu distinguished three sets of people whose access to granary reserves during the lean spring period was decided by harvest conditions and market prices. In especially poor harvest years, both urban and rural households lacked grain; distribution centers temporarily established in different parts of the county were to supply large numbers of people. At the other extreme were years of especially bountiful harvests, when the seasonal upturn in market grain prices was relatively small; in such years, only the registered poor were eligible to receive a maximum of 0.2 *shi* per household, enough grain to feed a family of four for a week's time.<sup>4</sup> In harvest years that fell between these two extremes, Nasutu advocated reduced-price sales to urban dwellers, who were most affected by the seasonal fluctuations in market grain prices. If we assume that all people eligible for grain in plentiful harvest years were perforce eligible in years of normal and poor harvests, Nasutu's discussion offers a picture of a very

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<sup>3</sup> See chapter 3 for an evaluation of the Nasutu memorial, to be found in *WXTK*, 36.5189.

<sup>4</sup> This rough calculation is based on a conversion of the rates used in Shandong for monthly allocations, that is, 0.3 *shi* per adult and 0.15 *shi* per child; the Shandong case will be discussed below.

specific group of the destitute as annual recipients; a larger group of townspeople who relied on market purchases for much of their food supply formed a frequent, if not annual, clientele, while a broader group of urban and rural people received grain when beset by severe crop failures.<sup>5</sup>

It is no accident that a discussion such as Nasutu's dates from the period of most intense ever-normal granary activity, a time when the distinctions he outlines could well have been employed in a number of provinces. We know that granary distribution was not as fully developed before the 1720s and was certainly less frequent after the 1780s. Only when distribution was taking place in both abundant and poor harvest years was there any need to make distinctions among target groups. Significantly, at roughly the same time Nasutu was stressing the urban population's need for reduced-price sales in years of normal harvests, community granaries were being developed to meet the seasonal needs of rural households caught short in the lean spring period.

Unlike the rules for ever-normal granaries, which rarely specify those eligible to receive grain, guidelines for community granaries often include an explicit statement limiting potential recipients to people tilling the land. Such statements can be found in the granary guidelines written by Chen Hongmou, the eminent eighteenth-century official, for the provinces of Fujian, Jiangxi, Jiangsu, and Hunan. The guidelines for Hunan community granaries went so far as to explicitly exclude merchants, soldiers, and officials. In the Jiangsu guidelines, large landholders were similarly excluded as prospective borrowers, while the Fujian guidelines stressed that those lacking both land and permanent employment were also ineligible.<sup>6</sup> The target population for

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<sup>5</sup> It may be that Nasutu's plan was most appropriate for the highly urbanized lower Yangzi region, but with simple adjustments to include a higher proportion of urban people among the poor and to enter some rural people in the second category, the plan would have been reasonable for other parts of the empire. Even without tinkering, the basic logic makes sense for China as a whole.

<sup>6</sup> Chen Hongmou, *Peiyuantang oucun gao* 13.9a–14a; 33.17a–22b; 37.45a–49b; 38.18a–26b; and 45.14a–17b.

community granary loans in these provinces was, quite clearly, peasants. Targeting peasants as distinct from the urban dwellers mentioned by Nasutu, community granaries were the branch of the granary system that penetrated most deeply into the countryside. Together, urban and rural granaries served different social groups according to harvest conditions and market prices.

With a sense of the kinds of people fed, let us try now to estimate how many of them received granary reserves. Documentation on the numbers of people to whom grain was actually distributed is hard to come by, as few of these records appear to have survived. Nevertheless, it is possible, when grain was allocated specifically to the registered poor, to learn the total numbers of those in this category who received grain. In 1736, for instance, 6,996 adults and 2,234 children in Shandong each received enough grain (calculated at a rate of 0.3 *shi*/month for adults and half this figure for children) to feed them for two months.<sup>7</sup> If we assume a similar average amount of grain was distributed to adults and children in other provinces, we can, using the yearly provincial figures of distribution (when available), arrive at provincial estimates of the total number of people fed for a period of two months. The following table (13.1) uses a large selection of available reliable reports of provincial distributions by ever-normal granaries to estimate the number of people fed, assuming, in turn, that all recipients were adults (not very likely), that three quarters were adults (as is true in the Shandong example), and that roughly one-half were adults (assuming the average household receiving grain had two children and two adults). In the absence of precise population figures, we can only crudely estimate the number of people fed in years of large disbursements to be in the range of 2 to 10 percent of a provincial population. Even allowing for a combination of misreporting and malfeasance reducing by one half the actual amounts of grain reaching target populations (a percentage larger than even the most pessimistic accounts suggest), granary distribution would still have fed as much as 5 percent of a provincial population for more than 15 percent of the year. Distribution on this

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<sup>7</sup> HKSS (1739), 4.2 *zhong*, unpaginated.

Table 13.1. Estimated Numbers of People Fed by Granary Disbursals (for a Period of Two Months)<sup>a</sup>

Province/ Year	Amount of grain disbursed (in shi)	Numbers of people fed if		
		All adults <sup>b</sup>	3/4 adults <sup>c</sup>	1/2 adults <sup>d</sup>
<u>Fujian</u>				
1741	136,400	227,300	259,800	303,100
1742	630,000	1,050,000	1,200,000	1,400,000
1746	470,000	783,300	895,200	1,044,400
1747	230,000	383,300	438,100	511,100
<u>Guangdong</u>				
1742	330,000	550,000	628,600	733,300
1743	170,000	283,300	328,800	377,800
1748	140,000	233,300	266,700	311,100
<u>Jiangxi</u>				
1743	546,482	910,800	1,039,000	1,214,400
1744	200,000	333,333	381,000	444,400
1745	9,700	16,200	18,500	21,600
1746	63,000	105,000	120,000	140,000
1748	29,800	49,700	56,800	66,200
<u>Anhui</u>				
1762	545,207	908,700	1,038,500	1,211,600
1763	402,891	671,500	767,400	895,300
1765	584,874	974,800	1,114,000	1,299,700
1767	351,238	585,400	669,000	780,500
1768	398,997	665,000	760,000	886,700
1777	414,069	690,100	788,700	920,200
1778	377,967	629,900	719,900	839,900
1781	294,306	490,500	560,600	654,000
1784	377,488	629,100	719,000	838,900
1785	389,140	648,600	741,200	864,800
1786	509,402	849,000	970,300	1,132,000
1787	427,142	711,900	813,600	949,200
1792	88,657	147,800	168,900	197,000
<u>Guangxi</u>				
1742	326,533	544,200	622,000	725,600
1749	73,305	122,200	139,600	162,900
1751	394,466	657,400	751,400	876,600

Table 13.1, cont.

Province/ Year	Amount of grain disbursed (in shi)	Numbers of people fed if		
		All adults <sup>b</sup>	3/4 adults <sup>c</sup>	1/2 adults <sup>d</sup>
<u>Sichuan</u>				
1777	2,124	3,500	4,000	4,700
1778	300,000	500,000	571,400	666,700
1779	378,382	630,600	720,700	840,800
1783	0	0	0	0
1784	0	0	0	0
1785	0	0	0	0
1786	301,247	502,100	573,800	669,400
1787	194	300	400	400
<u>Hunan</u>				
1745	266,726	444,500	508,000	592,700
1751	736,495	1,227,500	1,402,800	1,636,700
1752	537,918	896,500	1,024,600	1,195,400
1753	238,792	398,000	454,800	530,600
1754	440,837	734,700	839,700	979,600
1755	311,947	519,900	594,200	693,200
1756	716,984	1,195,000	1,365,700	1,593,300
1759	310,588	517,600	591,600	690,200
1763	137,113	228,500	261,200	304,700
1764	199,278	332,100	379,600	442,800
1765	952,172	1,587,000	1,813,700	2,115,900
1767	158,712	264,500	301,300	352,700
1768	133,876	223,100	255,000	297,500
1773	108,426	180,700	206,500	240,900
1775	329,003	174,500	199,500	232,700
1778	451,810	753,000	860,600	1,004,000
1779	401,779	669,600	765,300	898,800
1783	99,791	166,318	190,100	221,800
1784	160,970	268,300	306,600	357,700
1785	226,331	377,200	431,100	503,000
1786	189,704	316,200	431,100	503,000
1787	402,562	670,900	766,800	894,600
1788	94,900	158,200	180,800	210,900
1789	175,089	291,800	333,500	389,100
1792	97,413	162,400	185,600	216,500
1793	97,730	162,900	186,200	217,200

**Source**

A selection of memorials from the CZCC record group and the *minshu gushu* series, both at the Number One Historical Archives in Beijing.

**Notes**

<sup>a</sup> Figures rounded to the nearest hundred.

<sup>b</sup> Assuming a rate of 0.3 *shi* per adult per month, or 0.6 *shi* for two months.

<sup>c</sup> Assuming a rate of 0.3 *shi* per adult per month, 0.15 *shi* per child per month, or an average 0.525 *shi* per person for two months.

<sup>d</sup> Assuming a rate of 0.3 *shi* per adult per month, 0.15 *shi* per child per month, or an average 0.45 *shi* per person for two months.

scale exceeds the expectations, often only implicit, of earlier scholarly assessments.

How do these rough estimates of the impact of granary distribution on consumption during the eighteenth century compare with the amounts of grain marketed? Wu Chengming has suggested a figure of about 10 percent for the proportion of grain consumption coming from markets.<sup>8</sup> If we compare this figure with our estimate of 5 percent of the people receiving 15 percent of their food supplies from granaries, state distribution could equal roughly 7 percent of marketed grain. The impact of granary distribution was not, however, limited to the people fed directly by the state. Since demand for grain is highly inelastic, a slight change in supply has a considerable effect on price. Granary disbursements therefore lowered market prices, benefiting even those who never received state grain, which was, after all, part of the officials' intentions.<sup>9</sup> State grain distribution supported people who would otherwise have been chronically undernourished, it dampened seasonal market fluctuations, and it formed a first line of defense against subsistence crises.

#### THE COSTS OF THE CIVILIAN GRANARY SYSTEM

How much did the establishment and operation of the granary system cost the government? This simple question is not one that can be answered very easily or precisely. To begin with, all ever-normal granary sales and loans, with the exception of allocations of relief grain, were replaced, in principle, either through purchases made with money from sales or through repayments on loans; for community and charity granaries, no government revenues were, theoretically, ever needed.

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<sup>8</sup> Wu Chengming, "Lun Qingdai woguo guonei shichang."

<sup>9</sup> A precise evaluation of the impact of granary disbursements on prices is difficult to make because we do not have examples for which we know the amounts of grain disbursed on a market, the price differential, and the equilibrium price after disbursements made their impact. Even if this information were available, increased private sales, perhaps from imports, could replace granary disbursements if the latter were not made, creating further uncertainties in any close assessment of the impact of disbursements on prices.

Hence, there were no regular budget items for the major costs of civilian granaries. The apparent annual expenses for the granary system consisted principally of the meager salaries of clerks who kept granary accounts and the transport and handling costs for grain mobilization and distribution. In reality, however, the granary system cost the government a good deal of additional money. Lacking regular annual reports on the costs of grain mobilization, transfer, and storage, it is necessary to estimate the range of possible costs for each of these items.

Additions to granary stocks in any given year can be divided into two components: (1) replacement grain paid for by previous sales or brought in as loan repayments; and (2) infusions of grain from outside sources—new contributions, diverted tribute, or purchases made with tax revenues. All the grain in the former category (and, indeed, the totality of the stocks available at any time) represents grain originally mobilized by some method in the latter. While it is impossible to know the proportions mobilized by each method, the general outlines can be sketched from information presented in Part I.

#### *Original Costs: Contributions and Taxes*

Contributions, whether for degrees or as surtaxes on the land, were the most important funding sources during the late seventeenth- and early eighteenth-century period of granary building. We can document 6.5 million *shi* of contributions claimed in five provinces before 1735; allowing for both the exaggeration of these figures and the absence of contribution data on other provinces in which some contributions are likely to have been collected during this period, contributions probably accounted for 6 to 9 million *shi*, or roughly 15 to 20 percent of original mobilizations. Turning to community granary growth in the Qianlong reign, contributions may have accounted for about 80 percent of the 5.5 million *shi* in rural granaries; this figure represents 10 percent of the original mobilizations. In other words, between a quarter and a third of all initial mobilizations were probably contributions.

From a twentieth-century perspective, contributions do not appear to be government revenue. But in earlier centuries, irregular revenues were important in many parts of the world; indeed, taxation in the West

evolved in part from customary contributions in the classical period.<sup>10</sup> For China, contributions for civilian granaries can be viewed in the broader perspective of the irregular revenues the state sometimes collected to finance various operations, notably military campaigns, large famine-relief operations, and public works. While it is generally known that contributions increased in the nineteenth century, it is less frequently remembered that they accounted for a significant portion of government revenues in certain earlier years: for instance, 42 percent and 39 percent of total revenues in 1731 and 1754, respectively, came from contributions.<sup>11</sup> Building up granary stocks was certainly one important irregular expenditure that contributions helped to meet.

Contributions provided funds specifically earmarked for granary stocks. Repeated access to this funding was important to the development of reserves. Ming granaries apparently had no comparable source of funding and were necessarily weaker because of this. Tang- and Song-period granaries did have a comparable source of revenues in the special tax levied for stocking charity granaries. The Qing system was more flexible, however, because in addition to resources specifically earmarked for granaries, it took advantage of tax funds originally intended for other uses.

The amount of tax monies used for “original” grain purchases—that is, purchases intended to increase reserves, not merely replace depleted stocks—was roughly 10 to 15 million taels.<sup>12</sup> Assuming that

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<sup>10</sup> Finley, *Politics in the Ancient World*, 35.

<sup>11</sup> Luo Yudong, *Zhongguo lijin shi*, 6–7, tabulates a series of annual totals of contributions and total Board of Revenue silver and copper collections between 1725 and 1853. Nineteenth-century contribution figures often account for more than 50 percent of the totals, but certain eighteenth-century figures, while relatively smaller, are in absolute terms still quite large. A complicating factor in any analysis comparing state revenues and expenditures is the Imperial Household Department (*neiwufu*), which mobilized and disbursed funds separately, but not independently, from the Board of Revenue. Until archival research is done on the Imperial Household Department’s operations, it will be difficult to understand clearly its relations with the Board of Revenue. For some English-language background, see Torbert, *Ch’ing Imperial Household Department*.

<sup>12</sup> This estimate is based on a total of 27 to 35 million *shi*, which represents the difference between a total of some 40 to 45 million *shi* and 10 to 13 million raised as

most initial purchases were made between 1700 and 1750, an annual average of 200,000 to 300,000 taels was probably spent directly on grain acquisitions. Inasmuch as the greater number of purchases was concentrated in the period between 1723 and 1748, the average for these years must have been higher. When sizable amounts of grain were to be purchased in a single province, the funds used could easily account for a quarter or more of the empirewide estimated average. For instance, the 1731 plan for Sichuan granaries to purchase 200,000 *shi* over three years was to be financed by 180,000 taels of silver from transit, salt, and tea revenues. Since the annual cost of 60,000 taels represented about 10 percent of the land-tax quota for Sichuan in the mid-eighteenth century, this sum must be considered a substantial expense for the provincial government.<sup>13</sup>

### *Replacement Costs*

Thus far, we have discussed only the costs of grain mobilization to increase reserves. In theory, of course, most grain disbursements were replaced through loan repayments or purchases utilizing revenues generated by granary sales. In fact, as we have seen, funding sources outside the granary system proper were often needed to rebuild stocks. Part of this funding was used to replace grain distributed as relief in accordance with statutory regulations. But the remainder compensated for the difficulty of restocking with the receipts from grain sales. During the early eighteenth century, we know that granaries in Shandong, Fujian, and Guangdong disbursed hundreds of thousands of *shi*, which were replaced by new infusions of grain via transfers, purchases with tax monies, and contributions. During the Qianlong reign, as our case study has shown, even normal granaries in Shandong continued to require funding beyond that provided by reduced-price sales. In Gansu and Shaanxi, moreover, we have seen that large-scale contribution

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contributions. If this 27 to 35 million were purchased at an average of 0.4 taels/*shi*, the cost would be between 10.8 and 14 million taels, a range we broaden slightly to arrive at 10 to 15 million taels.

<sup>13</sup> *WXTK*, 35.5184; Wang, *Estimate of Land-Tax Collection*, table 27.

campaigns were implemented, first to rebuild and then to increase total granary reserves. The use of outside sources of funding to replenish granary reserves was by no means limited to relatively poor provinces, let alone barren border regions.<sup>14</sup>

Refinancing granaries became even more important in the nineteenth century. Only protracted efforts to purchase grain over many years were able to stem, if not reverse, the decline of real reserves. In a number of provinces, reported purchases annually averaged nearly 100,000 *shi* for several years and in some cases even more. Others had lower annual restocking averages; but by continuing their restocking efforts over longer periods they were able to achieve larger overall restocking totals. It is inconceivable that these frequent and large purchases could have been made solely with the receipts of sales made in previous years, but we do not always know what sources of revenue were actually used. In Shandong we know that officials used some of the land tax retained by the province. For Anhui we have a breakdown of the funds to be used for the purchase, planned in 1828, of 279,353 *shi* over a number of years: the provincial treasury was to supply 245,590 taels; prefectural treasuries, 12,296 taels; and county treasuries, 20,920 taels. Silver from previous sales provided less than 9 percent of the total funds, only 26,685 of the 305,491 taels budgeted. While 14,200 taels of silver from reduced-price sales had already been used for other unspecified purposes, the total of less than 31,000 taels that would have been available if none of these funds had been otherwise used is still barely 10 percent of the amount of resources the state actually committed to the planned provincial restocking efforts in 1828.<sup>15</sup> As we saw in chapter 4, the actual results of these efforts fell far short of the targets. The 143,000 or so *shi* purchased between 1829 and 1834 constituted only 20 percent of the contemplated purchases. Yet, it was not lack of money that constrained Anhui's restocking operations, since funds for larger purchases, representing a consider-

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<sup>14</sup> See, for example, the transfers discussed in chapter 9, especially those involving Jiangxi displayed in table 9.4.

<sup>15</sup> Anhui governor Deng Tingzhen, ZP, CZCC: DG 8/9/17.

able portion of provincial and subprovincial revenues, were made available. Rather, the obstacles to fulfilling the program were structural—officials could not easily purchase grain below market prices, which had risen due to a series of mediocre harvests.

More successful restocking efforts are documented for Henan and Guangdong. The results of purchasing efforts in Henan have already been discussed in chapter 4; while we do not know what types of revenues were used to make these purchases, we do know that receipts from reduced-price sales were inadequate. In 1829, for instance, these receipts were enough to purchase 162,120 *shi*, but the target for restocking purchases over the coming years totaled 594,000 *shi*. Thus, nearly 75 percent of the funds for restocking had to come from outside the granary system itself.<sup>16</sup> In Guangdong, a combination of contributions, transit taxes, license fees, and receipts from reduced-price sales provided 738,000 taels to be allocated over a period of fifteen years beginning in 1814 at an annual average of 49,200 taels, to purchase more than 1,300,000 *shi*, of which nearly 660,000 had been purchased by 1819.<sup>17</sup>

The figures make clear that some of the grain in store in the second half of the eighteenth century and even more during the first half of the nineteenth century was secured at an additional cost to the government. We can estimate the costs of replacement by first estimating the amounts of grain disbursed annually and the proportions of restocking financed by receipts from sales. The difference between these figures indicates the additional resources put into the system, coming from contributions, tribute diversion, and treasury funds.

Estimating national average disbursements is difficult for several reasons. The great provincial variability of disbursements and only partial survival of documentation make generalizing difficult, and to make matters worse, the accounting system in many provinces did not distinguish current disbursements from outstanding deficits. We therefore must

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<sup>16</sup> Henan governor Yang Guozhen, ZP, CZCC: DG 9/10/2.

<sup>17</sup> Liang-Guang governor-general Ruan Yuan and Guangdong governor Kang Shaoyong, ZP, CZCC: DG 1/3/13.

estimate a broad range of average annual disbursements based on our more general evidence about the operations of the granary system. We propose a range of 2 to 5 percent for both our first (1650–1735) and third (1780–1850) periods, periods for which we have relatively little direct disbursement data. For our second period (1736–1779), we offer the range of 10 to 20 percent. In each case, the low figure assumes that a relatively large proportion of the disbursement figures represent outstanding balances, while the high points to the opposite situation. We further assume that first-period build-up created the equivalent of an annual average of 15 million *shi* for the years after 1700. An annual disbursement rate of 2–5 percent yields a total of 10.8 to 27 million *shi* for the entire period, at an annual rate of 300,000 to 750,000 *shi*. For the second period we assume an annual average total of 30 million *shi*. Disbursements amounting to 10–20 percent each year add up to a total of from 135 million (3 million/year) to 270 million (6 million/year). Finally, for the third period, based on the cycles of disbursements and restocking that we have described in chapter 4, we return to the 2–5 percent range in estimating the annual rate of disbursement. A generalized scenario from provincial examples would be the hypothetical case of a province with 2 million *shi* of reserves, from which 1 million is disbursed over ten years and restocking done, without any disbursements, over the subsequent five years. In the course of this fifteen-year cycle, therefore, 1 million is disbursed and replaced from a base of 2 million, meaning that the equivalent of roughly 3 percent of the 2 million is disbursed each year. Some provinces certainly distributed and restocked on a larger scale than this, while others did not. We can make a 2-percent annual disbursement our lowest estimate and make 5 percent our highest. If the annual average stocks are 30 million (discounting the paper average because of expected overreporting), then a disbursement range of 2–5 percent yields a period total of 42 million (600,000/year) to 105 million (1.5 million/year). Adding together our ranges for each of the three periods, we estimate the grand total of disbursements made between 1700 and 1850 to have been within the range of 180 to 300 million *shi*.

Even if 60 to 70 percent of the restocking was paid for by sales receipts in the first and third periods (a generous estimate), there still fell to the state the task of covering the other 30 to 40 percent. For the

second period, we assume receipts from sales paid for 70 to 80 percent of ever-normal granary disbursements and that the minimum of 10 percent of total reserves in community granaries did not cost the state anything (again, an assumption that favors a conservative estimate of replacement costs). With these assumptions and average prices per *shi* of 0.3 to 0.5 taels for the first period, 0.5 to 0.7 for the second, and 0.7 to 0.9 for the third, we can estimate the amount of additional monies pumped into the granary system for replacement grain: 1 to 5 million taels for the first period, 12 to 50 million for the second, and 9 to 38 million for the third; or, for the entire 150-year period, a total of 22 to 93 million taels. Of course, some of these resources came from contributions and diverted tribute. Considering contributions of some 7 million *shi* raised in five provinces during the 1730s and 1740s and later evidence from other provinces, we estimate that at least 10 million, if not 15 million, *shi* were restocked by contributions. Diverted tribute likely accounted for a similar level of resources.<sup>18</sup> The wide range of our general estimates for restocking reflects our limited data. Subsequent addition and multiplication of the estimates entails correspondingly greater uncertainty, yet a reasonable—in fact, conservative—estimate of costs is vital to an evaluation of the scale and significance of the granary system.

#### *Additional Costs: Spoilage and Transportation*

There are two more costs we must add to those already identified. First, the costs of spoilage must be estimated and brought into our analysis. In chapter 5 we noted the absence of a statutory rate of spoilage for civilian granaries but found rates of up to 1 percent allowed for other types of granaries; the rare evidence of actual spoilage we cited showed

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<sup>18</sup> For tribute we first assume that at least 20 percent of diverted tribute totalling 37 million *shi* (converted to unhusked equivalents) between 1662 and 1758, was used for granary restocking; if we assume that a minimum of 10 million *shi* was diverted between 1758 and 1850, a very conservative figure and, furthermore, that only 20 percent of this amount went to granary restocking, then we have a minimum of 10 million. But more grain tribute could have been diverted after 1758 and a higher percentage put into granaries both before and after this date. Therefore, 10 million is a minimum and 15 million a possible maximum.

levels of less than 5 percent. Yet the whole idea of turning over stocks every three years, a measure designed to minimize spoilage, strongly suggests that officials expected rates much higher than 5 percent annually. Because we seek to generate conservative estimates of the costs of the granary system, let us hypothesize that spoilage affected at least 1 to 5 percent of the stocks annually. Using the same estimates of grain prices and annual average stocks employed above, the replacement costs of grain lost to spoilage range from 9 to 70 million taels for the entire period under study. Actual costs of spoilage may well have been much higher.

Although usually hidden, transport costs, our second addition granary expense, could in fact amount to a considerable sum. Transferring grain among granaries within a province and shipping grain over long distances between provinces usually required either hiring private boats and crews or hiring people and animals to haul grain overland. Transport costs for granary transfers within a province often added noticeably to the cost of the grain. For instance, in Shandong a transport fee of 0.1 taels *shi*/100 *li* was paid using money from meltage fees. In 1736, 193 taels were spent moving 4,786 *shi*, an average of 0.04 taels/*shi*. If direct purchase costs were roughly 0.4 taels/*shi*, transport costs thus added about 10 percent. Transport costs on interprovincial transfers were, of course, much higher, on occasion more than doubling the total cost of the grain. For example, the 1753 shipment of 40,000 *shi* from Hubei and Hunan granaries, apparently to lower Yangzi provinces, cost Hubei and Hunan officials 26,337 taels, or nearly 0.66 taels/*shi*; this figure was almost certainly higher than the probable purchase cost of roughly 0.5 taels/*shi* of unhusked grain. Similarly, transport costs for a 1753 shipment of 150,000 *shi* from Sichuan to Jiangnan amounted to 102,000 taels, slightly more than 0.66 taels/*shi*. In both cases, these expenses were met, in part, with money from previous reduced-price sales. In the Sichuan case, such funds accounted for a little more than half the total required; the balance was secured from sales of extra-quota grain (8,000 taels) and from the 1753 salt and tea taxes (40,000 taels).<sup>19</sup>

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<sup>19</sup> *HKSS*, 20.7 *fen* and 20.2 *fen* 4.

When the route to be traveled was more arduous than normal, transport costs were considerably higher. For instance, the cost of hiring boats to carry 133,619 *shi* of the Hunan grain tribute to Guangxi in 1738 was 112,753 taels, more than 0.84 taels/*shi*.<sup>20</sup> While the schedules of transport fees used in each province are available, we have few aggregate figures on the amounts of money spent for transport costs.<sup>21</sup> Nevertheless, we have seen that transfers could be quite large in some years, so that transportation costs must also have been considerable.

We can estimate total transport-related expenses according to the following hypotheses. During our second period, the period of most active transfer of granary reserves and interprovincial purchases, let us conservatively assume an annual average of 100,000 *shi* moved over long distances at a cost of 0.66 taels/*shi*. Add to this another 100,000 *shi* moving over short distances, usually within provinces, at an annual cost of 0.1 taels/*shi*. Over the forty-five years of our second period, this would work out to transport costs of about 3.5 million taels. If we assume the average annual costs in the first period to have been only 10 percent of the second-period average (because at that time most mobilization and distribution was done locally) and the annual average in the third period to be 25 percent that of the second period, we arrive at a total of 5 million taels expended on transport of granary reserves. These estimates may be far too low, since we simply do not have adequate data to make confident estimates of long-distance transfers. A figure twice the 100,000 *shi* we have chosen for annual long-distance transfers might be as realistic.

### *Total Costs*

Adding together our estimates of all costs, we arrive at a range of 51 to 188 million taels for the cost of granary system operations. If we simplify and assign the costs to the period 1700 to 1850, the period during which most of the building and rebuilding of stocks was accomplished, we have an annual average of between 0.5 million and 1.25

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<sup>20</sup> *HKSS*, 4.2 *xia*.

<sup>21</sup> *Hubu zeli* (1850 ed.), 16.20a–29a.

million taels. If eighteenth-century revenues averaged between 60 and 80 million taels per year, our estimates of granary system costs account for roughly 0.5 to 2 percent of annually generated revenues. Since these cost estimates are consistently conservative, an even higher percentage is plausible. If military expenditures account for roughly half the budget and civilian administrative expenses another third, then granary expenditures, by our conservative calculations, would represent about 5 percent of the remaining expenditures. They could easily be twice this level.<sup>22</sup> For a state to spend such sums for this purpose on a regular basis for well over a century is likely unique in the early modern world.<sup>23</sup>

#### EVALUATING THE SYSTEM: BENEFITS, COSTS, AND BEYOND

The granary system clearly benefited many people and certainly cost the state a considerable sum of money. Was it worth the effort? Some eighteenth-century officials seriously questioned the activist policies that created and perpetuated the granary system. To review the main arguments presented earlier in this book, officials contended that: (1) there was no need for frequent government disbursements because in most years subsistence conditions were fine, moreover, merchants were able to balance supply and demand; (2) government purchases raised market

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<sup>22</sup> Budget estimates come from Lee's forthcoming book, *State and Economy in Southwest China, 1400 to 1800*, chapter 1.

<sup>23</sup> Data on the size of state expenditures appear infrequently in standard historical sources for the Qing dynasty, not to mention the sparser materials for earlier dynasties; see Zhang Naiqi, *Zhongguo caizheng zhidu shi*, 230–44, for a presentation of expenditures throughout Chinese history. Most studies of Chinese fiscal practices focus on the revenue half of finance and, more specifically, on land taxation; in English, the basic studies for the Ming-Qing period are Wang, *Land Taxation in Imperial China*, with its companion volume of tables, *Estimate of Land-Tax Collection*; and Huang, *Taxation and Governmental Finance*. On eighteenth-century expenditures, a recent article by Peng Yuxin, "Qingdai qianqi san da caizheng zhichu," provides figures on imperial household and official salary expenses, military expenditures, and water control costs. Culling both printed and archival sources, Peng's article offers a succinct statement on major expenditures of the eighteenth-century Qing state. Figures are also difficult to collect for other societies, a problem to be discussed in the final chapter.

prices and brought officials into competition with merchants; (3) non-market purchases by officials constituted a kind of harassment, which, along with the cost of purchases by officials, outweighed the benefits of government sales; and finally, (4) behind the cover of official mobilization and distribution of grain, officials made illicit profits.

Much of the eighteenth-century Chinese critique of granary operations is echoed in twentieth-century Western arguments against more general government intervention in markets. In brief, when price-setting markets allocate an economy's resources, products, and services, any political intervention that changes these allocations will produce some combination of higher costs and reduced outputs. There are two qualifications we can make to this line of argument. First, we should remember that even today markets for food supplies remain heavily influenced by governments—efforts to regulate production through price supports and to redistribute supplies globally to regions facing subsistence crises are recurring phenomena, which means modern states tolerate, indeed pursue, allocations that market principles identify as suboptimal. Second, political intervention need not necessarily adversely affect resource allocation evaluated in market terms. Consider the hypothetical situation in which state granary operations simply *replaced* efforts that would otherwise have been made privately. The state might actually have been a better manager of granary stores than private actors. First, government operations could capture economies of scale that come from dealing with bulky commodities. Second, through the state's system of grain price and harvest reporting, officials had better information about food supply conditions than was readily available to most private entrepreneurs. As a result, the state may well have been able to store more grain for less money than could private parties.

But even if the state might have been more efficient than private actors, there is little question that its repeated expenditures to subsidize operations meant that granary policies alone guaranteed more grain storage than would otherwise have been the case. Though we lack direct evidence of the scale of private grain storage, some measure of storage for consumption in future years undoubtedly took place among households that produced grain surpluses. Merchants with large inventories

of grain were also to be found. But because households varied considerably in their levels of grain storage, and merchants differed dramatically in the scale of their operations, it is difficult even to hazard a guess of the magnitude of private storage. In any case, state expansion of total stores is clearly suggested by the resources repeatedly pumped into the system. This point is, in fact, crucial. If the state's granary operations had been a profit-making self-supporting enterprise, officials would simply have been acting as substitutes for merchants, who would have stepped in had the state pulled out of the granary business. In other words, the total amount of storage would have been unaffected by state participation because both public and private actors obeyed the same economic logic.<sup>24</sup> Indeed, complaints against official activities essentially made this argument. But they were wrong. The state subsidized granary storage through its continuous allocation of funds. This created a redistribution of income because the people funding the granaries—tax-payers, especially the wealthy ones who were more likely to make contributions—overlapped only partially with those people receiving benefits from the system.<sup>25</sup>

There is the further question of what would have happened to eighteenth-century food supply conditions in the absence of government efforts, and what the larger economic effects of this change might have been. Here are two likely impacts: First, the real costs of subsistence borne by consumers would have risen because people would have paid more for their food. Second, the production shortfalls made up by government storage would have to have been met in some other way—either by private entrepreneurs if it were profitable to do so, or by increased private charity and expanded planting of food crops at the expense of nongrain cash crops. The latter possibility would have

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<sup>24</sup> Our understanding of this point was sharpened by Donald N. McCloskey, whom we thank for forcefully raising this issue more than once at a meeting on Chinese economic history organized by Lillian Li and Thomas Rawski in January 1987.

<sup>25</sup> Once again, our appreciation of this aspect of the system was raised by an economist, in this case, Peter Lindert, whom we thank for his gentle but persistent questioning on a number of occasions.

lowered the total market value of production and exchange as peasants pursued previously second-best alternatives made desirable by decline in government-sponsored subsistence.

Complementing the economic effects of the liquidation of the government granary system would have been the demographic impact. People who did not adequately expand their own food production to create a margin of safety would have faced a greater threat of starvation. Reduced granary holdings could have limited population growth. One might argue that China's vast population was hardly an asset, especially when viewed from the vantage point of late twentieth-century efforts to stimulate economic growth and limit population growth. Yet such a judgment is divorced from the perceptions of eighteenth-century leaders, who faced the political challenge of creating social order across an agrarian economy of considerable diversity. Our examination of benefits and costs helps us to appreciate what the state was able to achieve and at what price. This leads us to consider more generally the state's capacities and its commitments to action and intervention.

#### POLITICAL CAPACITIES AND COMMITMENTS: GRANARIES AND THE NATURE OF THE LATE IMPERIAL STATE

Our reconstruction of a large and complex granary system qualifies two opposing views of the late imperial state adopted implicitly or explicitly by most scholars. One view envisions a despotic state subject to the arbitrary whim and personalistic power of the emperor and his inner circle of advisors. The other finds a weak and ineffectual state centered around a clumsy and inefficient bureaucracy unable to do much of anything, let alone do it right.<sup>26</sup> The granary system forces us to take

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<sup>26</sup> The idea of the state's limited capacities for effective action comes from a number of sources. Most studies that show deviation from political principles also find the state failing to have much positive impact. Some scholars have stressed the constraints of premodern communications and technology and the small size of the formal bureaucracy, concluding that the state's impact on society was minimal. The opposing view of the state's autocratic power evolves from a focus on the highest levels of government, usually the emperor and close associates; the absence of Western-style law, with its explicit protection of individuals, impresses many scholars in its contrast with the Western heritage.

more seriously the paternalistic welfare ideology of Confucianism. The state did not merely want to intervene positively in people's lives, it actually succeeded in doing so. The granary system's impact leads us to question, as Pierre-Étienne Will has already done in his work on famine relief, the general theme of ineffectiveness that permeates much writing on the state.<sup>27</sup> The challenge posed by the granary example is to create a more precise delineation of what the late imperial state could do and wanted to do.

What the late imperial state wanted to do was clearly shaped by the traditions of food supply intervention outlined in chapter 1. But the specific policy choices made by individual emperors and their advisors were never exactly the same. These differences were in part shaped by ever-changing economic circumstances. By the eighteenth century, the successes and limitations of market expansion together encouraged state intervention in order to complement, extend, and substitute for commercial transactions. Policy choices were also closely linked to particular interpretations of the social responsibilities of rulers. Qing emperors targeted both urban and rural civilian populations for granary distribution and actively sought to extend the granary system across the empire. In comparison with the achievements of earlier dynasties, they served the needs of a greater variety of people, over a broader area, and for a longer time. Even so, there were clearly limits to the granary system's effectiveness.

The granary system's cycle of activity suggests that we identify the factors pushing for activist, interventionist government and contrast them to those counselling passive, perhaps even laissez-faire government. As a first approximation, we suggest that official attitudes toward the private sector and toward bureaucratic intervention jointly determined what types of activist and passive government were sought.

We have noted before that official opinions on market behavior shaped official decisions to intervene in food supply conditions. In eighteenth-century China there was considerable disagreement on this point. Those favoring some form of regulation also promoted granary

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<sup>27</sup> Will, *Bureaucracy and Famine*.

usage, while those critical of granaries also tended to believe that markets worked well enough on their own. Similarly, regarding the involvement of local elites, some officials advocated “regulation,” strongly pushing local elites into public service, others advocated “delegation,” leaving to the elites the initiatives and definitions of public activities. Looking at policies affecting rural grain reserves, it seems that mid-eighteenth-century officials believed in manipulating or regulating elite behavior to sustain community granaries, while late eighteenth- and early nineteenth-century officials more readily allowed elites to make decisions on rural granary construction and maintenance. By the mid-nineteenth-century, granary affairs had joined the more famous militia in that realm of semiprivate or quasi-public matters managed by local elites. After the Taiping Rebellion, what granary activity remained largely became part of what Mary Rankin has called the “public sphere.”<sup>28</sup>

Views of the private sector and of the official’s role in shaping private-sector activities also depended on one’s assessment of the efficacy of official action. If bureaucratic action was deemed effective, activism was at least possible. Opponents of granary distribution and official monitoring of community granaries, however, believed that official actions disrupted activities that were better left alone. Because Qing bureaucrats looked more often to individual performance than to the organizational structure that shaped performance, activist policies

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<sup>28</sup> See Rankin, *Elite Activism and Political Transformation*, especially 92–135. The idea of a public sphere emerging in China as a modern phenomenon, pushed back in Rankin’s argument from the very late nineteenth century to the 1860s, should be evaluated in terms of what has been written on the late Ming. Since the ancestors of the nineteenth-century gentry in the lower Yangzi areas studied by Rankin were busily engaged in welfare activities of a “public” nature in the late Ming, we must pinpoint more sharply what is new about the nineteenth-century case (see, for example, Mori Masao, “Jūroku-jūhachi seiki ni okeru kōsei to jinushi denko kankei”). Sorting out both the range of possible relationships between local officials and elites and the types and scales of “public” activities could be attempted for a longer period of time than is the current norm in order to create some effective empirical guidelines for identifying what is “modern” when we see it.

required that officials believe in Confucian zeal or at least responsiveness to severe control mechanisms.

This same stress on individual responsibility meant that technical and organizational problems were frequently construed as the product of moral failings.<sup>29</sup> This perspective resulted in two radically different reform strategies, each adopted at different times, to rectify the granary system. To resolve the ideological tension between the moral imperative to support the population and the plethora of putative abuses that attended efforts to accomplish this goal, officials could either stiffen controls to reduce abuses, as the Yongzheng and Qianlong emperors did, or reduce the scale and frequency of state efforts, as the Jiaqing emperor chose to do.<sup>30</sup> Thus, reform could mean either the expansion of efforts by an activist government or the calculated retreat of a more cautious one.

Distinct from general inclinations toward activist or passive forms of government, the emperor and his officials could make choices about the scale of intervention in specific areas. Some of these choices were undoubtedly related. For instance, the increasing commitment to the granary system that began in the 1680s and continued for the next century came after several decades during which officials could expect

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<sup>29</sup> This type of interpretation of organizational and bureaucratic problems of Chinese officials comes as no surprise; the inveterate stress on good men found institutional expression in rules controlling official behavior. Thomas Metzger argues that there was a fuzzy line between administrative shortcomings and crime in the Qing system, labeling the attitudes of officials a "probationary ethic." See his *Internal Organization of Ch'ing Bureaucracy*, 255–65, 276–87.

<sup>30</sup> This contrast of two polar approaches to reform considers reform as a problem of political choices. It differs from that offered by Zelin in her fine book, *The Magistrate's Tael*. Zelin conceives of reform as a structural response to a political problem distinct from policies focused on individual behavior. Analyzing the problem of using taxes to fund local governments, she argues that fiscal reform was weakened by the uncertainties of land-tax collection, and that reformers faced contradictory constraints: the need to pay for more local government services versus the desire not to burden the people with fiscal exactions. She stresses the structural features and contextual limitations of reform from the perspective of local officials. A similar approach to granary reform would miss the significance of political debate and choices.

recovery and expansion of arable land to create greater subsistence security. While officials certainly continued to pursue the opening of new land, as uncultivated land grew scarce and food supply increases correspondingly more difficult to achieve, storing grain for redistribution quite naturally took on greater appeal in the effort to ensure stable and adequate food supplies. The alternative policy choices form an important part of the context within which the granary system developed in Qing China. The granary system required both an activist commitment to government intervention and a belief that grain storage in particular was a worthy project.

The basic institutional logic behind the granary system between 1650 and 1850 derives from a combination of coercive controls and ideological commitments. The two together explain the organizational successes and limitations of the granary system and suggest more general themes to be pursued in the study of the Chinese state. The Kangxi-period system, lacking a well-developed set of formal control procedures, relied heavily on “good” officials to respond to imperial orders that were shaped by the emperor’s beliefs in Neo-Confucian paternalism. In contrast, the Yongzheng emperor articulated his orders more forcefully; he personally promoted policies of active interrelation to cope with subsistence problems. But he also chose to limit official involvement to those jobs he believed they could do well; skeptical of official abilities to monitor community granaries, he did not favor official surveillance. Systematic accounting and control procedures, implemented for some financial matters by this ruler, came to include granaries on a large scale during the Qianlong period, when the routinization of operations included regular bureaucratic efforts to maintain the system. The Qianlong emperor carried forward his father’s initiatives for roughly a decade before questioning the impact of government intervention on grain prices; following decisions to curb the state’s role, the system nevertheless began to expand once again after mid-century. In later decades the challenge of managing a large and complex system of reserves became more difficult. Skepticism about the usefulness of granary efforts accelerated the system’s decline from its former grandeur, but neither this attitude nor changing external conditions was enough to send the granary system into complete collapse until after

1850. Only the massive military demands of the mid-century rebellions succeeded in destroying it, much as military crises had undermined civilian grain storage in earlier dynasties. These political changes apply generally across provinces and macroregions and conform in broad measure to the concept of a dynastic cycle. We have also seen, however, that political priorities were shaped by the economic and political characteristics of different areas.<sup>31</sup>

Previous chapters of this book have described the operations of a granary system that mobilized, stored, moved, and distributed massive amounts of grain. Thousands upon thousands of tons were handled by the system during the two centuries under review. Parts I and III, stressing the temporal and spatial dimensions of the system, gave shape and texture to the features of this undeniably impressive program. Just how difficult it was to make it a success was made especially clear by the examination of constraints in Part II; in the face of such technical and organizational difficulties, a much more modest success would still constitute a real achievement. It remains now to link our knowledge of Qing granaries with late imperial history in general and, in the final chapter, to compare the Chinese case with others, an exercise that will underscore the significance of the Qing granary system.

#### GRANARIES AND SOCIAL-ECONOMIC CHANGE

The Ming-Qing period is often contrasted with the preceding era using one set of criteria, and with the succeeding one using another. In comparing the Ming-Qing with the preceding centuries of Song and Yuan rule, scholars have stressed three related developments: (1) the expansion of commercial production—cash crops, handicrafts, and trade; (2) the emergence of the gentry as the elite of local society; and (3) changes in state policies, especially fiscal practices, consonant with growing commercial production and changes in local social structures.<sup>32</sup> The dividing line between the Ming-Qing and modern periods

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<sup>31</sup> Our assessment complements well, we believe, Skinner's discussion of specific impacts of dynastic policies in "The Structure of Chinese History."

<sup>32</sup> For excellent summaries of the Chinese and Japanese scholarship of the 1950s that set

is drawn along the axis of a series of new political, economic, and cultural challenges that the Western powers posed for the Chinese. As Chinese officials addressed these new challenges, the state's ability to address old problems, such as unstable food supplies, clearly diminished. Our evaluation of granaries generally fits the division between Ming-Qing and modern history based on a shift from old to new problems, although, as we have seen, the decline in granary operations predates serious foreign troubles. More problematic is the task of relating changes in granary activities within the Ming-Qing period, and the differences between this and earlier periods, to a standard periodization scheme. How do the growth of commercial production, emergence of the gentry, and changing fiscal practices relate to the Qing development of granaries?

The growth of commercial production and the expansion of commercial grain circulation created a delicate balance between grain-producing and consuming areas ever vulnerable to fluctuating harvests.<sup>33</sup> As we have seen in previous chapters, the eighteenth-century granary system addressed the insecurities generated by this overall food supply situation, and so the state clearly did play a role in reducing subsistence insecurities generated by commercial expansion. The common view of commercial expansion as a private-sector phenomenon untouched by the hand of the state does not seem accurate in the case of the Qing.

What about the gentry? In two stimulating articles, Mori Masao has suggested that the gentry's responsibility for famine relief in the sixteenth century was taken over in the eighteenth century by the state and that the development of community granaries in the eighteenth century

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the stage for discussions of expanding commercial production, see essays by Saeki Yūichi and Tanaka Masatoshi in *Chūgoku shi no jidai kubun*, ed. Suzuki Shun and Nishijima Sadao. Japanese scholars have most forcefully developed analyses of the gentry; for a cogent and somewhat critical review of this literature, see Mori Masao, "Nihon no Min-Shin jidai shi kenkyū ni okeru kyōshinron ni tsuite." For an overview of changes in fiscal practices beginning in the Ming and extending into the early Qing, see Oyama Masaaki, "Fueki seido no henkaku"; a more exhaustive treatment is provided by Huang, *Taxation and Government Finance*.

<sup>33</sup> Wong, "Food Riots in the Qing Dynasty."

was both logical and necessary. What were the reasons for this shift from gentry to state sponsorship or relief? Mori argues that by the eighteenth century the gentry no longer met popularly held expectations vis-à-vis their ability to provide relief; the state was compelled, by dint of circumstances, to step in. While this line of reasoning helps explain the shift, it does not account for the overall increase in the scale of famine-relief efforts during the Qing dynasty. Why were community granaries “necessary”? Mori argues that the development of community granaries was necessary to ensure the stability of local social order.<sup>34</sup> His explanation falters, however, due to his failure to link his arguments about reduced gentry involvement in famine relief between the sixteenth and eighteenth centuries to his vision of the necessary development of community granaries. The development of community granaries was, in fact, contingent upon the actions of the gentry and the state and, most crucially, upon the relationship between them. This relationship hardly seems one in which state power becomes the tool of the gentry, a theme promoted by some recent Japanese scholarship.<sup>35</sup> The case of the granary system shows the state manipulating the gentry and other members of the local elite to support an institution that officials deemed important.

Finally, a few words on the issue of the state’s fiscal practices and its relationship to the economy in general. The development of the civilian granary system forms a counterpoint to the monetization of taxes initiated by the sixteenth-century Single Whip Reform and continued in the eighteenth century. Fiscal changes certainly reflected official awareness of the greater ease of collecting taxes in the form of money and the greater expenditure flexibility that money afforded. But

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<sup>34</sup> Mori Masao, “Jūroku-jūhachi seiki ni okeru kōsei to jinushi denko kankei,” and “Jūhachi seiki-nijū seiki no Kōsei shō nōson ni okeru shasō gisō ni tsuite no ichi kentō,” 639, for the idea of “necessity” guiding granary development.

<sup>35</sup> This thesis is advanced by an important book-length study of state power in the Ming-Qing period that concludes that the collapse of the *lijia* format of tax collection led to a de facto privatization of tax collection favoring the gentry. See Kawakatsu Mamoru, *Chūgoku hōken kokka no shihai kōzō*.

the state retained a considerable role in grain mobilization, storage, and distribution even as grain became less important as a form of tax payment. We have looked specifically at civilian granaries in this book, but military food supply concerns also involved the state in taxation, purchase, storage, and distribution of large amounts of grain. Involvement in food supplies is only part of the state's much larger economic role, one that scholars have only recently begun to evaluate carefully in light of our broader knowledge of private-sector economic changes during the late imperial period.<sup>36</sup>

The continued exploration of the Chinese state's economic role is itself only part of a larger project to refine our understanding of the Chinese state's commitments and capacities. We will learn much more about the state's roles and functions as we consider its various capacities—fiscal, organizational, ordinary, extraordinary, direct, and delegated—to implement its intentions. The significance of the granary system will become clearer once we know more about other state activities and can detail a broader picture of the Qing state's characteristics.

The limitations of our conceptualization of the Chinese state in late imperial times are related to the larger problem of understanding states generally. The dominant logic in many accounts of state formation stresses two aspects of power—physical control of territory and fiscal extraction of resources. The concentration of a coercive apparatus in state hands is held to be necessary both for sustaining social order internally and for defending this order against external threats. Policy instruments designed to command a portion of society's wealth are viewed as essential to the maintenance of the state.<sup>37</sup> Studies of

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<sup>36</sup> Other examples of the state playing a large role in economic matters include the mining and salt industries. This writer's ideas about relationships between the state and the economy have been shaped by discussions with James Lee. His forthcoming book on the southwest in late imperial China will highlight the state's importance to the economy.

<sup>37</sup> On these themes in early state formation, see Krader, *Formation of the State*, and Fried, *Evolution of Political Society*. A conventional emphasis on revenues over expenditures in discussions of state finance is reflected in a sweeping survey of fiscal history by Ardant, *Histoire financière de l'antiquité à nos jours*.

European state formation in the early modern period often revolve around the same foci as studies of early state formation. Studies of finance and the military are joined by works on bureaucracy and kingship. When scholars reflect on what goods or services states historically have actually provided their subjects, some consider the class or group interests a state serves to be primary, while others emphasize the role of some states in providing a legal framework for action.<sup>38</sup> The Chinese case suggests that preindustrial states could do much more. The Qing state created a granary system, that does not fall comfortably within our field of expectations about what the Chinese state was capable of achieving or what states more generally were seeking. Our brief survey of other state efforts to manage civilian food supplies, which constitutes our final chapter, suggests the historical and cultural uniqueness of such efforts in China.

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<sup>38</sup> The best single volume on the modern European state-making experience is Tilly, ed., *Formation of National States in Western Europe*; more than half of this substantial volume is devoted specifically to fiscal institutions and the roles of the military and police. An emphasis on the state as provider and enforcer of property rights emerges from the work of Douglass North and his associates; see North's *Structure and Change in Economic History*. From the perspective of what a state provides, North's analysis of property rights as the product of state action and a determining force behind different forms of economic organization yields the idea that individuals in different societies benefit to varying degrees from particular state definitions of property rights.

## Qing Granaries and World History

R. Bin Wong

Throughout history, many states have built granaries. A comparison of Chinese practices with those found in other parts of the world gives us a final frame of reference within which to assess the Qing-dynasty granary system. Necessarily brief, the comparisons drawn are often simply illustrative and occasionally only suggestive. Despite their limitations, however, they nonetheless serve to highlight those Qing-dynasty principles and policies shared by other states and those that are unique. A quick glance back to early imperial Chinese principles and policies sets the stage for comparisons with other parts of the world.

In China, civilian food supply insecurities provoked two distinct concerns. First, there was the reality of erratic harvests, giving rise to the principle of storing surpluses for times of need. Second, there were the difficulties of geographic imbalances of supply and demand, which were solved in part by merchants who transported grain from surplus to deficit areas. The Western Han state challenged merchants when it took over the distribution of grains and other goods to balance supply and demand for the good of the people and to make profits for the state.

Apart from the civilian clientele, the Han state also developed grain storage for its military troops, especially those garrisoned in frontier areas.<sup>1</sup> Turning to other parts of the world, we can readily find examples of state concern about grain transport and distribution, usually to provision cities; the Roman, Byzantine, and Ottoman cases are especially significant in this regard. We can also find examples of special policies implemented to supply military troops and so decrease their need to plunder the population; here again, the Ottoman Empire provides a particularly apt example. What we do not find are clear examples of state commitment to grain storage intended for rural producers, a commitment first expressed in classical Chinese texts and repeatedly acted upon in imperial times.

The Roman Empire was deeply committed to stabilizing urban food supplies. The classical Romans, after all, faced the challenge of provisioning a city of as many as one million people who were nourished by imports from far-flung parts of the empire. Rickman's study of Rome's corn supply delineates three periods of state efforts to mobilize grain for Rome, each distinguished by a particular set of institutional arrangements, yet all based on some combination of commercial transport and tax farming. Distribution within Rome involved both reduced-price sales and free allocations, either in times of scarcity or when the expanding empire acquired windfall booty. In 58 B.C., Roman citizens proper (and no one else) began to receive free corn distributions, a practice that continued sporadically into the third century A.D., when free allocations were converted into a dole for all the Roman poor, regardless of political status.<sup>2</sup>

Not surprisingly, official concern over the food supply of the Roman state centered upon Rome itself. As Davisson and Harper note, "Residents of other cities occasionally received benefactions from

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<sup>1</sup> For the idea of state distribution to stabilize supplies and make money for the state, first expressed in the Warring States period and then implemented in the Western Han, see Zhou Bodi, *Zhongguo caizheng shi*, 51, 111–13.

<sup>2</sup> Rickman, *Corn Supply of Ancient Rome*, 24, 27–28, 38, 58, 66, 92–93, 152–53, 170–72, and 208–9; and Finley, *The Ancient Economy*, 170–71.

wealthy citizens or were relieved by private generosity in times of want, but no other people enjoyed so regular a provision as those citizens of Rome on the list of the *annona*. By the end of the second century their number appears to have been some half-million persons.”<sup>3</sup> Food shortages were, according to MacMullen, the most common cause of rioting in Roman cities. Conventionally recorded as production failures rather than distribution difficulties, these scarcity crises did not elicit large-scale state intervention to relieve distress. People made do with local efforts.<sup>4</sup> Sharing comparable primitive agricultural techniques and poor transport across a large territory, the contemporary Qin and Han dynasties in China may have done a bit more to mitigate food supply insecurities than the Roman state. Recent scholarship has, for instance, stressed the sizable role of private enterprise in provisioning Rome.<sup>5</sup> Certainly, Chinese political principles admitted a broader role for the state in civilian food supply management. In any case, the collapse of the Roman Empire precluded the need for a Western state to address empirewide food supply issues. The Chinese state had just begun.

To the east of the fallen Roman Empire, the Byzantine state kept alive a European version of empire in which imperial virtue was rooted in a Christian vision of rule. Spiritual commitment to charity was expressed in philanthropic works undertaken by church and state, which were not as distinctly separate as they became in medieval western Europe. Private benefactors and monasteries joined in offering food to the needy. The provision of food to the poor was one aspect of efforts to promote social welfare; other activities included orphanages, hospitals, homes for the aged, and poor houses.<sup>6</sup> While Byzantine public

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<sup>3</sup> Davisson and Harper, *European Economic History*, 1: 205–6. Richard Duncan-Jones includes examples of *annona* outside of Rome as part of a more general list of rations and subsistence-allowance data that includes prices of grain; see *Economy of the Roman Empire*, 208–9.

<sup>4</sup> MacMullen, *Enemies of the Roman Order*; the quotation is on pp. 180–81; famines are discussed on pp. 249–52.

<sup>5</sup> Lionnel Casson, *Ancient Trade and Society*, 99.

<sup>6</sup> Constantelos, *Byzantine Philanthropy and Social Welfare*, 14, 15, 88, 90–91, 102, 113, 118–19, 121, 126, 131–32, 138–39, 141–43, 200, 207, 210, and 235.

storage and distribution of grain does not appear to have been on the scale of efforts mounted in the Roman Republic or Empire, the explicit targeting of the poor for relief may well have represented a change from state food distribution in classical Greek and Roman times, when, according to A. R. Hands, this type of social aid did not single out the poor. Hands's assessment of Roman social aid is corroborated by Duncan-Jones, who says of the imperial period, "State philanthropy was not a common feature of imperial policy, while the widespread munificence of private benefactors rarely had a charitable purpose."<sup>7</sup>

An ideology of charity was coupled in the Byzantine case to the less lofty realities of feeding cities. A fusion of charitable impulses and political policies also took place in China, where the twelfth-century development of community granaries by Zhu Xi and others relied upon the good will of people who contributed grain. When Zhu Xi articulated his calls for contributions in the vocabulary of Confucian sensibilities, he also created an alternative to Buddhist-inspired charitable activities of the previous several centuries.<sup>8</sup> The Byzantine state closely linked private charity and public policies in a manner similar to the Chinese, but as with the Roman efforts, Byzantine policies were limited to urban areas, while Chinese efforts continued to penetrate the countryside.

If we remain at the eastern end of the Mediterranean but move forward into the fifteenth and sixteenth centuries, the Ottoman Empire comes into view. We find an expanding agrarian empire in which military provisioning on the frontiers was a major problem, one that Chinese dynasties from the Qin and Han onward chronically confronted as well. Moreover, we find a state, again like China, seeking to control commerce in order to protect consumers and guard against speculation

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<sup>7</sup> Hands, *Charities and Social Aid*, 89–115; Duncan-Jones, *Economy of the Roman Empire*, 318.

<sup>8</sup> On Buddhist charity before the Song dynasty, see Gernet, *Les aspects économiques du bouddhisme*, 213–23. The charitable impulse of Buddhism was also felt in the late Ming; see Greenblatt, "Chu-hung and Lay Buddhism."

and hoarding, especially of staples.<sup>9</sup> In the Ottoman case, these consumers were principally in the capital.

Constantinople attracted a considerable flow of goods from across the Ottoman Empire, some of which were rigidly controlled by state rules and regulations. As Braudel puts it, “Without doubt, Constantinople drew continually on the inexhaustible riches of the empire, under a system organized by a meticulous, authoritarian and *dirigiste* government. The supply zones were chosen to suit the convenience of methods of transport, prices were fixed, and if necessary requisitioning was enforced.”<sup>10</sup> Indeed, the state took a direct role in the transport and distribution of food supplies, demonstrating a bureaucratic capacity and commitment comparable to Qing activities we have noted in earlier chapters.<sup>11</sup> Moslem beliefs—like Chinese beliefs—assigned the ruler a large role in stabilizing subsistence conditions. Moslem charity created soup kitchens in times of crisis and established permanent endowments with tax revenues to feed the poor. But, here again, only urban populations were targeted.<sup>12</sup>

Leaving the Middle East and following Islam’s route into South Asia, we can expect Islamic ideology to make the same demands on the state regarding the subsistence of its people. In some instances, these abstract ethical commitments clearly reinforced preexisting visions of proper government. Before the Bengal region was brought under Moghul domination in 1576, the Bengali king had been expected to distribute rice to those in want. Yet, while instances of food supply intervention by the Moghul state exist, state grain storage and food supply policies in general do not appear to have been well developed. Thus, in the great Bengal famine of 1770, it was landlords and aristocrats who organized food distribution and made available cheap

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<sup>9</sup> Inalcik, “Capital Formation in the Ottoman Empire.”

<sup>10</sup> Braudel, *The Mediterranean and the Mediterranean World*, 1: 351.

<sup>11</sup> See Murphey, “Food Supply Mechanisms in the Ottoman Empire.”

<sup>12</sup> Shaw, *History of the Ottoman Empire*, 1: 161. The same urban bias is also found in the Islamic parts of North Africa; see Rosenberger, “Réserve de grains.”

rice, rent remissions, and loans of seeds, cash, and grain.<sup>13</sup> All these activities, in which the state often took a leading role in China, were handled by private parties in Bengal. The absence of civilian granaries in the Moghul Empire, not to mention the weaker states existing before and after, was due less to lack of interest than to limited capacities to create a system of grain reserves.<sup>14</sup>

This swift review of several major empires reveals a range of food storage and distribution policies. Each of these societies was subject to uncertain supplies of food, and these states generally tried to address the problem. Indeed, we find political rituals associated with the production and distribution of food to be a feature of many cultures. In some instances, the ritual displays are only symbolic, as in the case of eighteenth-century Dahomey.<sup>15</sup> In other cases, like that of the Incas, the state was the principal storer of food and other goods as well.<sup>16</sup> In between symbolism void of material impact and massive intervention and control lies a continuum of possibilities, determined by a state's capacities and its commitment to alleviating food supply problems. There are at least three general reasons for this variation. First, not all states enjoyed the same capacities to initiate policies—their fiscal and organizational resources differed. It appears, for instance, that the Moghuls were less well-equipped than the Chinese, both financially and bureaucratically, to implement major subsistence policies.

Second, amid the many demands placed on all successful states to assert domestic control and defend their borders, rulers did not always rank subsistence policies highly. Empires like that of the Ottomans,

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<sup>13</sup> Greenough, *Prosperity and Misery in Modern Bengal*, 46, 50.

<sup>14</sup> The limitations of the state proper are suggested by the degree to which the basic task of revenue collection was farmed out to others who form the ruling class. The Moghul state had little formal infrastructure and autonomy and was necessarily limited in the range of activities it could successfully pursue. See Raychaudhuri, "The Mughal Empire."

<sup>15</sup> Dalton, ed., *Primitive, Archaic and Modern Economies*, 215.

<sup>16</sup> Earle and D'Altroy, "Upper Mantaro Valley, Peru"; Morris, "Economy of the Inca State." Though the state stored large amounts of grain, it did so according to Morris, not to stabilize civilian food supplies but rather for its own political purposes.

which committed significant time and effort to conquest and consolidation, had less bureaucratic energy and fewer fiscal resources to devote to subsistence issues than did states at peace with their neighbors. Indeed, Ottoman state practices elaborated upon earlier Islamic notions of the conquest imperative, which militated against integration of the state and conquered local societies. This disjunction was not conducive to the kind of social commitments made by the Chinese state.<sup>17</sup> Thus, while it is clear that military preoccupations loomed large in the Song and Ming dynasties, military concerns did not necessarily preclude activist civilian subsistence policies. The Song state remained committed to the maintenance of a granary system. In the Ming, however, we do not see the state investing significant effort in granary maintenance, even if subsistence policies remained more wide-ranging and effective than Ottoman practices.<sup>18</sup> In general, state opportunities and inclinations to pursue food supply policies were shaped by the shifting demands of other issues, while the allocation of scarce resources among competing objectives could always change with specific decisions. It is not surprising, therefore, that state-sponsored food supply management has an uneven history.

A third set of reasons political intervention in food supplies varied is more economic than political in origin. Since the decision to intervene was partially determined by alternative methods of storage, transfer, and distribution, we might expect the degree of state intervention to be inversely related to the presence of private trade and markets.<sup>19</sup>

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<sup>17</sup> For an overview of the Ottoman situation, see Itzkowitz, *Ottoman Empire and Islamic Tradition*; for the medieval period and a stimulating exploration of how the medieval Islamic polity differs from the Chinese, see Crone, *Slaves on Horses*, esp. 89–91.

<sup>18</sup> See the longer discussion of Song and Ming granaries in chapter 1.

<sup>19</sup> This idea is basic to Karl Polanyi's reading of the development of market economies: see *The Great Transformation*. His writings more generally form an alternative current to mainstream economic history (both old and new); his emphasis on nonmarket systems of allocation includes the concept of governments accumulating goods for storage at central locations and distributing them to selected groups of people. From his examples, however, it appears that it is principally "in-groups," that is, those who have some relationship to the state, who were the principal beneficiaries. Polanyi refers to "staple finance" as an

Perceptions of market operations clearly influenced granary policies in China. But before advancing a hasty conclusion, let us turn briefly again to Europe, where market development was accompanied by a free-market ideology, to look at how food supply policies and granaries fared under conditions that resembled Chinese conditions in important ways but were distinct in others.

When we departed western Europe at the collapse of the Roman Empire and headed east, first to the Byzantine and then to the Ottoman and Moghul empires, we left behind a region divided into a large number of very small political units, among which the Catholic church created common bonds. Within this fragmented political universe, the church became the principal institutional vehicle for food distribution to the needy. A single church with a common ideology guided charitable Christian actions throughout European civilization. Elaborated on principles first articulated by Aristotle in the fourth century B.C., Christian-based concepts of “just price” and concern for the poor influenced distribution policies in medieval towns, where regulations controlled prices, weights, and measures.<sup>20</sup> Complaints against engrossers and

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alternative to money finance, which at first blush may appear to be applicable to the Chinese granary situation, but since much of Chinese finance was monetized by the Qing period, and the granaries we have been examining were not principally used for paying privileged strata of the population, “staple finance” is not an appropriate concept. See Polanyi’s essays in *Primitive, Archaic and Modern Economies*, Dalton, ed., 185–88, 324. In another book, Polanyi theorizes that the use of market mechanisms to distribute food developed in classical democracies where the state did not itself organize food distribution; however, the inference that the state managed civilian food distribution in cases where markets did not develop to serve this function is unwarranted by evidence (see *Livelihood of Man*, 167). While Polanyi may well represent a challenge to conventional economic history, as Douglass North has argued, his framework does not stress the elements of choice actually available to a state governing a society with market exchange and hence offers little in the way of a frame of reference for evaluating the Chinese granary system (see North, “Markets and Other Allocation Systems in History: The Challenge of Karl Polanyi”).

<sup>20</sup> The best-known survey of the “just price” concept is de Roover’s “Concept of the Just Price.”

forestallers prompted authorities to defend the urban population's access to food.

The other principal political units to be absorbed in the process of national state formation between 1500 and 1800 were manors. In their ideal form, manors were self-sufficient communities characterized by relatively few and weak ties to other places. Food production, storage, and distribution tended to be localized. Administrators of towns, on the other hand, needed to ensure adequate imports of grain to feed their citizens. Mandating that wheat be part of a merchant's general imports to a town, compelling merchants to bring in grain during severe scarcities, and purchasing grain with taxes or public loans for sale within the town were among the measures employed by local authorities during this period to feed the urban populations.<sup>21</sup>

Most cities regulated private retail food sales. Special government offices, often called *annona* after the Classical institution, were set up in a number of sixteenth-century towns to monitor and supervise urban food supplies. Sometimes public warehouses stored grain purchased with public funds and operated at a financial loss.<sup>22</sup> The Italian city-states appear to have developed most systematically the practice of amassing public reserves to stabilize urban food supplies. Together with efforts at land reclamation, public grain stocks are described as "prophylactics against recurrent famine" in Brian Pullan's analysis of Venetian policies in the mid-sixteenth century. As he explains granary operations, "The municipality would purchase grains in the month or two after the harvest, when the seasonal cycle of prices was usually at its lowest point, and then release them on the market later in the harvest year, at modest prices sufficient only to cover its own costs and administrative expenses."<sup>23</sup> The *modus operandi* of these Italian granaries appears very much like that of Qing ever-normal granaries—buy and sell grain according to the seasonal cycle and serve as a buffer in

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<sup>21</sup> Hibbert, "Economic Policies of Towns," 177–78, 202–3.

<sup>22</sup> Braudel, *The Mediterranean and the Mediterranean World*, 1: 328–30, 346.

<sup>23</sup> Pullan, *Rich and Poor in Renaissance Venice*, 287–88, 294.

years of short harvests. The Italian case provides a further parallel to Chinese granaries in the establishment of grain reserves mobilized through contributions from the wealthy. In a number of towns, granaries called *monti dell'abbondanza* were formed in the sixteenth century to supply the poor with grain.<sup>24</sup> Though their origins were somewhat different from those of eighteenth-century community granaries in China, and the Italian granaries meant to serve a more urban population, both systems were motivated by notions of charity and social duty.

Within Italy, Romans appear to have eaten better than other city dwellers. Facilities for state storage of wheat, meat, and oil were finished by 1620, completing a program begun in the second half of the sixteenth century. According to Jacques Revel, "Early in the seventeenth century the system of the *Annona* was able to assure the city a more than adequate supply, for the chief foodstuffs at least." When severe shortages threatened the entire Italian peninsula in the mid-eighteenth century, the powers of the Roman *annona* vis-à-vis urban food supplies were expanded to include additional controls over commercial imports and retail distribution.<sup>25</sup> The relative advantage that inhabitants of Rome had enjoyed over those of other Italian cities in earlier centuries endured, though the policies achieving this advantage had changed.

The food supply concerns of larger centralizing states developed out of the issues faced by city-states. In Spain, granaries continued to be maintained into the eighteenth century. Storing rice, wheat, and other basic commodities to meet the needs of townspeople and to influence market exchange, this *alhondiga* system was also carried into the New World, where it played a stabilizing role in eighteenth-century Mexico.<sup>26</sup> In northwest Europe, the practice of maintaining public grain

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<sup>24</sup> A certain Dominican preacher, Oresetti de' Gherardi, traveled from town to town persuading the rich to give money for the establishment of these reserves (*ibid.*, 295–96).

<sup>25</sup> Revel, "A Capital City's Privileges," 47. For a more exhaustive treatment of the Roman *annona* system, see Revel, "Le grain de Rome et la crise de l'Annone."

<sup>26</sup> Ramos, *Fluctuaciones de Precios y Abastecimiento*, 133–36; Florescano, *Precios del maiz*, 43–67.

reserves was rarely a strong component of state policies. For instance, the Dutch economy, that expanding economic powerhouse of the seventeenth century, relied on commercial exchange to supply much-needed grain imports as its population turned to other types of production. The northern Netherlands, which had relied on Polish grain imports since the late sixteenth century, came by the late seventeenth to rely on surpluses from the southern Netherlands, and parts of France and England. Throughout this period, the state saw relatively little need to intervene directly in the mobilization or distribution of urban food supplies.<sup>27</sup>

The English and French cases tell a similar story of market networks expanding to feed growing cities, developing rural industries, and thriving military establishments. Neither England nor France included state granaries in its food supply policies.<sup>28</sup> Of the two, only the French gave serious consideration, if not effort, to establishing granaries, and this only after 1725, when a crude system of emergency reserves was created; the state bought and sold grain during short-term crises but maintained no permanent reserves. Whereas Chinese officials actively encouraged local people to use temples as temporary storage space until additional granaries could be built and existing ones enlarged, French officials only seem to have toyed with the idea of enlisting religious participation in grain storage. According to Steven Kaplan, "A plan to mobilize all the convents and monasteries in the kingdom into a network for funding grain storage never received serious implementation outside the Paris area and not even the capital could count on a modest state-sponsored reserve until the second half of the eighteenth century."<sup>29</sup> Not until Joseph-Marie Terray's tenure as controller-general of finance (1769–1774) does Kaplan find hints of the

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<sup>27</sup> De Vries, *Dutch Rural Economy*, 2, 71, 169, 171–72, 183, and 237.

<sup>28</sup> For a survey of changes in state intervention in food supply circulation that covers England and France, as well as other countries, see Tilly, "Food Supply and Public Order." I have referred to these changes in a comparison of European and Chinese food riots, "Les émeutes de subsistances."

<sup>29</sup> Kaplan, *Bread, Politics, and Political Economy*, 1: 9.

French state considering public granary reserves as a “permanent, ongoing adjunct to central subsistence policy.”<sup>30</sup> He places the state’s consideration of public granaries in the context of state policies toward the food supply:

For all its anxiety about subsistence, the state never elaborated a master-plan for lean years or fat. Directly on the supply side the government intervened as most Frenchmen lived, *au jour le jour*, sometimes massively, sometimes selectively, and always reluctantly. On the municipal level, the state encouraged the institutionalization of foresight, without, however, offering any serious material incentives for the establishment of granaries.<sup>31</sup>

While the poor continued to be a specific target of separate provisioning efforts, European governments generally contributed relatively little money or effort to finding longer-term solutions to their subsistence problems. Even through the eighteenth century, formal relief institutions organized by the Catholic church and informal relief procedures inspired by Catholic social philosophy carried most of the burden of providing for the poor.<sup>32</sup> Charity for the poor was distinct from policies for controlling urban food supplies.

There was no Chinese parallel to the European distinction between providing charity to the poor, the task of the church, and provisioning urban centers, the task of the state. At first glance this observation hardly seems necessary, given the absence in China of a corporately structured, economically prosperous and politically active church. But this distinction between Chinese and European political and religious contexts helps us understand the ideological framework within which Chinese food supply issues were approached.

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<sup>30</sup> *Ibid.*, 1: 89, and 2: 699.

<sup>31</sup> *Ibid.*, 1: 9.

<sup>32</sup> Gutton, *La société et les pauvres en Europe*, 97–157, 164–71; and Hufton, *The Poor of Eighteenth-Century France*, 131–218.

Charity and good works were highly valued in late imperial China.<sup>33</sup> The impetus to create community and charity granaries arose at least partially from the gentry and wealthy commoners recognizing their responsibility for the welfare of their less-fortunate neighbors. The state, at times, actively solicited the gentry and others with wealth, not simply to contribute funding for granaries but, also, in the case of community and charity granaries, to undertake direct management, with varying degrees of official monitoring and control. The institutional cleavage in Europe between Christian charity and political efforts to stabilize food supplies was spanned in the Chinese case by state granary efforts which included charitable actions. Charitable impulses in the Chinese case were politically transformed into expectations among the people that those with grain would in times of dearth distribute their reserves at lower prices and make loans. For the Chinese state, as appears to be broadly true of the Islamic states and the Byzantine Empire, pragmatic food supply management was entwined with notions of charity to create a policy of intervention that was simultaneously morally correct and politically expedient. In western Europe, where charity was the business of the church, state food supply policies lacked a strong ideological foundation.

This is not to say, of course, that emerging national states did not take the matter of food supply seriously. Charles Tilly has argued persuasively that western European states were indeed persistently concerned with food supply issues.<sup>34</sup> Expanding states created an expanding demand for food, especially for their armies, and remained as concerned with urban food supplies as their smaller predecessors. However, the European states assumed no major responsibility for rural

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<sup>33</sup> Two Japanese scholars have written long treatises on popular thought which include discussions of charity in the moral universe of late imperial society. See Sakai Tadao, *Chūgoku zensho no kenkyū*; and Okuzaki Yūji, *Chūgoku kyōshin jinushi no kenkyū*. Aspects of Sakai's voluminous labors are contained in his "Confucianism and Popular Educational Works." Locating the development of community granaries within this intellectual frame of reference, however, remains largely uncharted territory.

<sup>34</sup> Tilly, "Food Supply and Public Order."

landless laborers, the most important new source of increased demand for marketed food supplies before 1800. The European states' lack of concern for the subsistence needs of rural landless laborers simply continued a tradition that had evolved under different political and economic conditions in previous centuries. At the same time, the state's frequent failure to aid rural laborers was part of a larger set of ideological changes in which the primacy of private market exchange was increasingly affirmed by central governments at the expense of local political control over markets.

Chinese skepticism toward bureaucratic intervention was heightened by faith in market principles, but an uncontrolled market was never acknowledged to be a superior alternative to political intervention in all situations. Free markets were explicitly encouraged in regions that successfully attracted commercial imports and implicitly accepted more generally as state intervention declined in the late eighteenth century, as much for political reasons as economic ones. The Qing state never formally rejected its paternalistic responsibilities for subsistence management. European states did. Thus, when English laborers protested high prices and supply shortages, the state generally defended the interests of merchants engaged in large-scale, long-distance trade; in other words, merchants were allowed to buy and sell according to the market rationality of supply-and-demand conditions, regardless of the impact of these decisions on people in exporting areas.<sup>35</sup> When faced with similar struggles, the Chinese state mounted efforts to meet the claims of both local consumers and those in remote areas awaiting grain imports.<sup>36</sup> As we have seen in this book, the granary system

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<sup>35</sup> The shift in ideology is most passionately argued by E. P. Thompson in "The Moral Economy of the English Crowd in the Eighteenth Century." Capitalist expansion breaks down the resistance of previously self-sufficient and mutually isolated local economies. But the image works better for France than for England; Andrew Charlesworth's recent work has stressed the participation of English artisans and rural industrial workers rather than agricultural laborers and peasants; see his *Atlas of Rural Protest in Britain*, 63–71.

<sup>36</sup> See Wong, "Food Riots in the Qing Dynasty" and "Les émeutes de subsistance."

enabled the Chinese state to support grain exports without forsaking the needs of local consumers.

One might expect that the lack of a state granary system in Europe was compensated for by a more developed commercial grain trade, which obviated the need for governments to undertake mobilization, storage, transfer, and distribution of grain. In addition, one might assume that the so-called “agricultural revolution” diminished provisioning problems in Europe. But however important changes in production and distribution may have been, scholars also tell us that subsistence anxieties remained a fundamental preoccupation of the bulk of the European population through the eighteenth century. While killing famines like those of the sixteenth and seventeenth centuries no longer threatened eighteenth-century Europeans, the dangerous instability of food supplies informed their lives in much the same manner as it did those of their Chinese contemporaries. As Kaplan forcefully puts it, “The subsistence problem dominated life in old regime Europe in a merciless and unremitting way. No issue was more urgent, more pervasively felt, and more difficult to resolve than the matter of grain provisioning.”<sup>37</sup> European states failed to promote granaries and other food supply policies found in China to ease subsistence anxieties. This was a political choice rather than an economic decision. States have always had some flexibility to define the proper roles of political intervention and the times and places to exercise their powers.

European states chose to focus on urban provisioning to the virtual exclusion of rural landless labor. This decision resonated with priorities established centuries before that recognized the greater political importance of a few larger urban areas, and harmonized well with the development of capitalism. Faced with expanding markets for food supplies, most Chinese officials did not advocate giving markets free rein. For most of the two centuries examined in this book, the vast majority of Chinese bureaucrats recognized the importance of state intervention to help meet supply shortfalls in both urban and rural areas

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<sup>37</sup> Kaplan, *Bread, Politics and Political Economy*, xvi; see also Meuvret, *Le problème des subsistances*, 21–31.

in all parts of the empire. Thus, the European failure to form extensive granary networks, like the Chinese decision to create a vast one, was partly the result of policy preferences defined within distinctive ideological frames of reference.

Europe's specific political circumstances represent another set of reasons granaries were not developed. European states, as Tilly and others have stressed, were revenue-hungry, driven to extract resources by the pressing needs of warmaking.<sup>38</sup> Granaries may not have cost a lot, but they apparently required enough bureaucratic and fiscal resources to make them seem unnecessary for civilian populations. In fact, Prussia, which probably went further than any other eighteenth-century European state in developing government granaries, did so principally to feed military troops.<sup>39</sup> The eighteenth-century Chinese state did not face the same fiscal pressures or military challenges that European states did. Its fiscal surpluses, generated largely from land and labor taxes, contrast sharply with the chronic fiscal difficulties of early modern European states, which were routinely in debt and repeatedly at war. Scholars of Chinese history are usually quick to note recurring fiscal crises as a characteristic problem, often bringing a dynasty's collapse. They rarely note the equally clear evidence of periods when state coffers contained comfortable surpluses.<sup>40</sup> Food supply concerns form part of a larger contrast between European and Chinese states. European states often lacked both the capacity and the commitment necessary to establish and sustain granary reserves. Their state-making agenda did not include the kind of paternalistic concern that repeatedly motivated the Chinese. The early Qing rulers took seriously the welfare of the people; their activist and interventionist interpretation of Confucian ideology enhanced their claims to legiti-

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<sup>38</sup> The foremost expert on European fiscal issues is Gabriel Ardant. In English, see his "Financial Policy and Economic Infrastructure of Modern States and Nations." For more detail, see his *Histoire de l'impôt*. For this period put into a swiftly moving broad perspective, see his *Histoire financière de l'antiquité à nos jours*.

<sup>39</sup> Corni, "Grain Storage Policy in Eighteenth-Century Prussia."

<sup>40</sup> See Will, *Bureaucracy and Famine*, 289ff.

macy within the Chinese frame of reference. Amidst some variation in the activist policies each emperor favored, the state generally followed established practices of encouraging the opening of new lands and reclaiming abandoned fields by offering limited periods of tax-free cultivation; the state also sponsored irrigation and water-control projects to improve agricultural productivity and utilized a variety of techniques to relieve disaster victims.<sup>41</sup> Among its many efforts, the Qing granary system stands out as an impressive eighteenth-century achievement. Other empires may have expressed similar abstract ideals, but none appears to have implemented the kinds of policies successfully pursued by the Chinese. Compared to efforts in other parts of Eurasia, Qing achievements may well be unique. The desire and ability of eighteenth-century Chinese officials to create a civilian granary system is unexpected according to conventional views of pre-modern states. We therefore need to explore more carefully what states more generally wanted to do and what they were in fact able to create.

For those of us who primarily study China, the civilian granary system offers one of the few empirical baselines currently available to gauge the eighteenth-century state's capacities. The great size and complexity of the system suggest that the state did more than we generally credit it for, and the system's success gives us a more concrete foundation upon which to build our evaluation of dynastic decline. Granary operations themselves declined for two distinct reasons: first, because officials increasingly questioned the wisdom of trying to influence food supply conditions, and second, because the growing military threats toward the mid-nineteenth century resulted in increasingly tight fiscal and organizational constraints. That the system declined is not surprising. That it did not collapse more swiftly and completely is worth pondering. After all, demographic expansion meant that there were

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<sup>41</sup> The agricultural policies adopted by the Qing state were based on principles utilized by previous dynasties. Three works from the 1930s remain basic for an understanding of the long-standing tradition of Chinese governments to intervene in agriculture and food supply issues, namely, Feng Liutang, *Zhongguo lidai minshi zhengce shi*; Lang Qingxiao, *Zhongguo minshi shi*; and Deng Yunte, *Zhongguo jiuhuang shi*.

increasing numbers of people in socially and economically marginal positions who could not be easily ruled politically. And yet we find that officials in the 1800s were still able and willing to commit money and effort to building up granary reserves, despite a less pronounced belief in official activism. These efforts may have been less successful than those mounted in earlier decades; certainly, the obstacles faced were growing larger. But these facts should not blind us to the efforts that were made. By contemporary European standards, at least, the Chinese state still did a lot.

Recourse to European comparisons are, at least implicitly, basic to conventional evaluations of the Chinese state's accomplishments and failures in the nineteenth century. Much of what constitutes its perceived "failures" is its inability to cope with international problems created by contacts with the West. Although managing to quell the disorders of rebellion, the Chinese state failed to initiate a transformation toward modern society as defined by European achievements. Yet a comparison showing how the Chinese in one arena did more than European states reminds us that Chinese successes, no less than failures, are also vital to a sound understanding of China's entry into the modern world. The Western presence may conventionally define the beginning of China's modern era but the great challenge for students of Chinese history is to establish how native and foreign elements combined to form a compound that remains distinctly Chinese in the twentieth century. It is doubly ironic that we generally think to compare China with Europe when the two parts of Eurasia were growing more visibly different and becoming more closely connected. Comparisons from earlier centuries help to revise our understanding of modern changes.

By the nineteenth century, the divergence between material conditions in Europe and China became more pronounced. One aspect of European capitalism's triumph (though not necessarily its direct product) was the resolution of food supply problems. In the late nineteenth and early twentieth centuries, management of agricultural production, storage, and distribution became a complex art, one that is practiced today with varying degrees of success not only in Western Europe and North America, but throughout the world.

The Chinese state today continues to confront the problems of mobilizing, storing, and distributing grain, much as imperial governments did. Certainly, the political institutions and underlying philosophy motivating state activities in China today are different from those of dynastic times. Unlike the Qing state, which sought to sustain a stable agrarian empire, the current Chinese state is bent upon a process of modernizing transformation. Yet the continuities are also unmistakable.<sup>42</sup>

The Qing success in creating the conditions for an expanding population within a unified empire provides the present-day government with both a positive legacy and a cluster of problems few other countries face. The Qing granary system is an important piece of the late imperial legacy, and to the extent that it facilitated major demographic, territorial, and economic expansion during the eighteenth century, it too may have contributed to the difficulties contemporary China confronts. For if maintaining a large and prosperous empire was a difficult achievement in the eighteenth century, transforming this vast agrarian empire into an industrialized nation is an even greater challenge.

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<sup>42</sup> Wong, "Naguère et aujourd'hui."



## Appendix

# Tables of Civilian Granary Holdings in Qing China, 1741–1856

Except where otherwise noted, the figures in appendix tables A.1 and A.2 are all supposed to be “actual reserves” (*shizai*) and come from either the “memorials on population and granary holdings” (*minshu gushu zouzhe*) sent in by the provinces, or the “registers” (*qingce*) compiled by the Board of Revenue and reproducing the totals in the memorials.

The figures in table A.1 have been copied from the actual memorials that we have found in the Beijing and Taipei archives, both original vermilion-endorsed palace memorials (*zhupi zouzhe*), and duplicates made for the Grand Council files (*lufu zouzhe*). The five contributors to this volume have all participated in the collection of the data. We would like to thank Dr Sylvie Pasquet, of the Centre National de la Recherche Scientifique, Paris, who located and Xeroxed for us a considerable amount of memorials in the Taipei archives.

Table A.2, by contrast, is based on Board registers seen by James Lee, and, for a few additional data, Peter Perdue, at the Beijing Number One Historical Archives. We would like to thank Mr Ju Deyuan, of the Archives, who collected a number of uncatalogued registers for James Lee.

Table A.1. Civilian Granary Holdings in the *Minshu Gushu Zouzhe*, 1741–1793  
(in *Shi* of Unhusked Grain)

Year: (Chinese year:)	1741 (QL 6)	1742 (QL 7)	1743 (QL 8)	1744 (QL 9)	1745 (QL 10)	1746 (QL 11)	1747 (QL 12)
<b>Province</b>							
Fengtian	1,042,767						275,346
Zhili		1,719,300	1,778,842	1,640,726	2,409,502	1,927,353	
Anhui		917,357	718,643	855,800	1,196,962	1,264,840	1,076,935
Jiangsu		2,209,839	1,880,422				
Jiangxi		915,455					1,942,767
Zhejiang							
Fujian	1,360,423	854,799	1,230,486	1,335,123	1,761,726		2,098,521
Hubei		728,838	770,444			1,069,259	1,065,406
Hunan		1,133,794	1,100,171	1,578,727	1,637,568	1,256,141	
Shandong	2,721,584		2,196,330	1,933,223	2,249,990	2,354,431	1,573,889
Henan							
Shanxi	1,760,612		1,898,516	1,826,421	1,974,859	1,648,724	1,897,279
Shaanxi			3,175,591			3,345,355	3,185,393
Gansu		1,501,057	2,021,878	2,740,452		3,199,482	2,950,351
Wulumuqi							
Sichuan	2,540,177	2,764,546	2,533,927	2,617,756	2,703,810	2,713,289	
Guangdong	3,130,701	2,555,171		3,359,767	3,100,838	3,085,573	2,958,065
Guangxi		890,703	1,022,977		1,451,655		
Yunnan		1,014,590	974,615			1,039,770	1,007,430
Guizhou	1,155,837	1,226,849	1,211,805	1,265,555	1,303,353	1,366,667	
<i>Shilu</i> total:	31,721,903	29,620,652	29,620,652	32,088,937	35,586,613	35,054,814	32,738,410
Year: (Chinese year:)	1748 (QL 13)	1749 (QL 14)	1750 (QL 15)	1751 (QL 16)	1752 (QL 17)	1753 (QL 18)	1754 (QL 19)
<b>Province</b>							
Fengtian		657,621		330,532	516,758	668,961	801,791
Zhili		2,556,968	2,458,322	1,921,258	2,140,794	2,371,971	2,624,426
Anhui		864,970	993,024		594,353	658,687	1,170,443
Jiangsu	1,151,982 <sup>b</sup>				776,729	1,016,190	1,104,270
Jiangxi				1,265,181	1,242,617	1,691,976	
Zhejiang		1,425,084			426,543	972,293	848,571
Fujian	2,566,449 <sup>c</sup>	1,936,719	2,008,267	1,677,004	1,324,964	1,681,692	1,859,059
Hubei	76,585 [?]		1,045,962	609,566	789,506	828,240	1,181,970
Hunan			1,588,905	1,010,645	1,145,839	1,327,335	1,118,628
Shandong		1,229,000	1,611,181	1,729,527	1,094,398	1,297,663	1,373,343
Henan		3,089,797		3,358,894	3,328,396		3,087,975
Shanxi	2,242,089	2,083,710	2,111,110	2,005,466	1,913,920	1,675,127	1,854,224
Shaanxi	2,918,506		2,788,055	2,687,879	2,704,841	2,369,321	3,101,612
Gansu	2,735,588		2,627,629	3,121,050		3,541,446	4,191,159
Wulumuqi							
Sichuan	1,811,545	2,014,552	2,130,217	2,201,842	1,667,912	1,449,674	1,421,292
Guangdong	2,953,680 <sup>c</sup>	3,020,620	2,885,887	2,404,999	[2,281,193]	2,669,461	2,783,611
Guangxi		1,533,335	1,628,797	1,344,582	1,209,339	1,199,928	
Yunnan	1,107,753		1,146,217	1,099,817	1,132,772	1,182,536	1,224,660
Guizhou	507,010 <sup>c</sup>	860,000 <sup>d</sup>	1,398,713	1,327,635		1,229,329	1,231,246
<i>Shilu</i> total:	31,108,751	32,199,502	33,190,900	27,341,275	26,672,803	29,020,824	32,114,160

Table A.1, cont.

<b>Year:</b> <b>(Chinese year:)</b>	<b>1755</b> <b>(QL 20)</b>	<b>1756</b> <b>(QL 21)</b>	<b>1757</b> <b>(QL 22)</b>	<b>1758</b> <b>(QL 23)</b>	<b>1759</b> <b>(QL 24)</b>	<b>1760</b> <b>(QL 25)</b>	<b>1761</b> <b>(QL 26)</b>
<b>Province</b>							
Fengtian	396,940	465,627				319,621	
Zhili	2,806,016	2,682,530					
Anhui		507,786			1,649,676		
Jiangsu		643,304					
Jiangxi	1,717,712	1,169,991					
Zhejiang		1,113,427				1,854,573	
Fujian	2,090,468	2,344,921			2,112,389	2,628,333	
Hubei	1,430,581	773,307					
Hunan	1,297,187	906,338		1,488,520	1,623,811		
Shandong	1,702,903	1,568,646		1,665,705	1,965,320		
Henan	3,212,192	3,146,492				3,306,204	
Shanxi	1,851,949	1,525,563			1,209,952	1,080,000 <sup>e</sup>	
Shaanxi	3,342,280						
Gansu		3,337,863		2,350,740			
Wulumuqi							
Sichuan	1,710,682	1,775,063	1,973,816		2,321,247		
Guangdong	2,729,822	2,896,265			[2,535,100]	3,037,862	
Guangxi					1,339,017	1,547,069	
Yunnan		1,228,128			1,405,014		
Guizhou	1,874,914	1,850,984				1,953,066	
<i>Shilu</i> total	32,966,101	30,191,158	31,954,733	29,959,320	31,784,840	31,979,841	34,723,175

<b>Year:</b> <b>(Chinese year:)</b>	<b>1762</b> <b>(QL 27)</b>	<b>1763</b> <b>(QL 28)</b>	<b>1764</b> <b>(QL 29)</b>	<b>1765</b> <b>(QL 30)</b>	<b>1766</b> <b>(QL 31)</b>	<b>1767</b> <b>(QL 32)</b>	<b>1768</b> <b>(QL 33)</b>
<b>Province</b>							
Fengtian		627,847	757,825	816,993	576,850 <sup>k</sup>		319,621
Zhili		1,808,431	2,243,400	2,925,018	2,856,499 <sup>k</sup>	3,315,425	3,000,511
Anhui	1,263,636	1,505,559	1,358,972 <sup>g</sup>	1,073,529		1,107,978	1,108,434
Jiangsu		1,086,965	1,138,767	1,073,529 <sup>k</sup>		1,101,875	1,094,013
Jiangxi		2,038,559	2,009,369	1,540,647	2,073,489 <sup>k</sup>	2,020,415	1,889,449
Zhejiang		1,809,873	1,623,553	1,327,125	810,974 <sup>k</sup>	2,165,319	2,111,770
Fujian		3,009,387	2,908,598	2,867,095 <sup>i</sup>		2,760,552	
Hubei		1,448,418	1,510,778	876,463	1,441,582 <sup>k</sup>	1,303,078	868,708
Hunan		1,864,942	1,811,585	1,057,955	1,970,886 <sup>k</sup>	1,812,167	1,863,167
Shandong		1,637,351	2,070,058	2,196,262 <sup>j</sup>		1,940,994	1,831,311
Henan	3,373,639	3,246,657	3,325,775	3,430,627 <sup>l</sup>		3,927,601	4,132,009
Shanxi		1,717,292	1,871,976	1,998,159	2,882,906 <sup>k</sup>	2,249,859	2,245,469
Shaanxi		2,454,905	2,770,470	2,675,924 <sup>m</sup>		3,470,524	3,761,178
Gansu		1,775,700 <sup>f</sup>	1,068,634			2,078,218	3,770,218
Wulumuqi						1,059,580	
Sichuan	2,470,124	2,569,392	2,685,029	2,685,447	2,756,955 <sup>k</sup>	2,846,836	2,897,085
Guangdong		[3,082,053]	2,904,378	3,324,047 <sup>k</sup>	[3,159,485]	3,117,563	2,966,135
Guangxi		1,511,617	1,580,681	1,498,821	1,638,397		1,330,865
Yunnan	[1,480,741]	1,459,560	1,466,896	1,440,401 <sup>n</sup>	[1,417,956]	1,487,156	1,520,309
Guizhou		1,426,832	1,546,580	1,464,242	1,795,684 <sup>k</sup>	1,758,786	1,756,044
<i>Shilu</i> total:	34,093,273	34,043,612	34,698,843	33,389,684	36,962,436	38,619,224	39,969,741

Table A.1, cont.

Year: (Chinese year:)	1769 (QL 34)	1770 (QL 35)	1771 (QL 36)	1772 (QL 37)	1773 (QL 38)	1774 (QL 39)	1775 (QL 40)
<b>Province</b>							
Fengtian					738,880		981,540
Zhili					2,469,746		2,320,370
Anhui					1,948,509		1,260,693
Jiangsu					1,439,946		1,120,241
Jiangxi					1,990,032		1,910,509
Zhejiang							2,102,857
Fujian					2,805,894		
Hubei					1,880,942		1,082,459
Hunan					1,974,325		1,760,229
Shandong			1,885,179		2,025,561		1,980,983
Henan	4,146,682			2,425,615 <sup>p</sup>	4,628,903 <sup>q</sup>		4,609,253
Shanxi					2,322,902		
Shaanxi					3,312,379		3,180,353
Gansu	3,668,654						3,789,586
Wulumuqi							
Sichuan	2,950,732	2,489,179 [?]			2,463,410		2,217,351
Guangdong						[3,155,848]	3,274,861
Guangxi	1,751,238	1,416,435 <sup>o</sup>					1,703,314
Yunnan					1,695,982		1,582,252
Guizhou	1,744,074				1,745,804		1,686,384
<i>Shilu</i> total:	37,579,703	35,793,437	38,097,045	37,872,349	41,249,012		30,958,090
<b>Year:</b> (Chinese year:)	<b>1776</b> (QL 41)	<b>1777</b> (QL 42)	<b>1778</b> (QL 43)	<b>1779</b> (QL 44)	<b>1780</b> (QL 45)	<b>1781</b> (QL 46)	<b>1782</b> (QL 47)
<b>Province</b>							
Fengtian		1,106,892	1,103,242	932,181	902,333	937,691	649,001
Zhili		2,660,199	2,399,965	2,432,367		3,451,328	1,960,288
Anhui	535,950	1,346,354	1,774,544	1,000,563	1,041,296	1,369,699	
Jiangsu	1,011,221	1,278,590	1,383,276	1,106,818		1,176,787	947,274
Jiangxi			1,894,020	1,622,641	1,759,824	1,750,880	1,796,074
Zhejiang		2,291,774	2,321,359	2,062,456	2,158,175		2,293,983
Fujian		2,971,707	2,963,135	3,039,461	2,875,077	2,710,578	
Hubei		1,674,812	1,718,931	930,833	1,138,031	1,663,316	1,775,516
Hunan		1,992,381	1,648,686	1,288,074	1,926,394		
Shandong		2,535,991	1,951,454	2,374,107	2,389,390	2,366,932	1,418,997
Henan	3,465,985	4,643,041 <sup>r</sup>	4,578,559	4,672,640	4,355,037 <sup>t</sup>	4,592,990 <sup>u</sup>	4,639,121 <sup>w</sup>
Shanxi		2,223,818	1,945,553	1,962,146	2,166,194	2,225,302 <sup>v</sup>	2,236,762 <sup>y</sup>
Shaanxi		3,905,096	2,944,124	2,728,817	2,858,428	3,338,625	3,402,654
Gansu		3,747,303 <sup>s</sup>	3,394,124	3,660,682	2,824,921	2,042,072	2,776,739
Wulumuqi		244,245		588,371	592,768	[660,457]	704,326
Sichuan	[2,247,389]	2,304,585	2,943,281	3,044,403			[3,631,926]
Guangdong	[3,138,719]	3,117,003	[2,151,283]	3,299,494	[3,344,148]	3,233,712	[3,273,936]
Guangxi	1,719,083	1,508,964	1,182,108	1,603,716	1,781,269	1,800,004	
Yunnan		1,690,989	1,695,773	1,743,551	1,746,040	1,723,856	1,723,670
Guizhou	1,611,000	1,444,202	1,295,915	1,195,070	1,257,689	1,594,747	1,748,856
<i>Shilu</i> total:	40,302,592	41,454,324	39,457,889	28,872,958	37,725,569	40,219,849	41,739,433

Table A.1, cont.

Year: (Chinese year:)	1783 (QL 48)	1784 (QL 49)	1785 (QL 50)	1786 (QL 51)	1787 (QL 52)	1788 (QL 53)	1789 (QL 54)
<b>Province</b>							
Fengtian	633,709	791,101	869,085				
Zhili	2,050,320	2,630,259	2,329,998	2,425,407	2,462,534	2,654,703	
Anhui		1,383,794	1,393,576	1,067,356	1,023,516		
Jiangsu	989,502	1,080,931	1,290,992	848,313	900,439		1,287,501 <sup>ad</sup>
Jiangxi	1,748,840	1,407,747	1,713,300	1,695,961	1,457,034		
Zhejiang	2,415,682	2,328,521	2,312,465	920,087	1,304,269		
Fujian	2,717,221	2,857,000	2,669,485	2,751,987	2,219,126		
Hubei	1,845,558	1,741,593	1,695,098	752,648 <sup>z</sup>	851,804	1,549,290	1,393,816
Hunan	2,107,800	2,042,009	2,024,354	1,879,437	1,676,772	2,142,132	2,066,193
Shandong	1,365,251	1,308,943	1,192,670	718,096	909,252	1,342,578	
Henan	4,637,009	4,644,318	2,396,612	1,947,921 <sup>aa</sup>	2,684,901 <sup>ab</sup>	2,038,877 <sup>ac</sup>	2,257,460 <sup>ac</sup>
Shanxi	2,422,538 <sup>y</sup>	1,761,554	1,605,777	1,718,451	1,702,735		
Shaanxi	3,408,154	2,529,704	2,426,581	2,795,536	2,998,373		
Gansu		2,590,042	3,154,006	2,844,217			
Wulumuqi		627,064 <sup>x</sup>					
Sichuan	3,646,099	3,668,202	3,693,928	3,403,982	3,727,943		
Guangdong	3,252,617	[3,311,257]	3,334,699	3,212,260	3,257,948		
Guangxi	1,831,056	1,823,242	1,804,096	1,940,297	1,471,753		
Yunnan	1,711,376	1,703,254	1,723,616	1,727,389	1,728,217	1,727,920	1,726,940
Guizhou	1,682,713	2,529,709 <sup>y</sup>	1,623,202	1,602,169	1,500,869		
<i>Shilu</i> total:	41,349,831	39,827,316	39,175,630	37,464,154	37,556,978	42,494,194	43,209,918
<b>Year:</b> (Chinese year:)	<b>1790</b> (QL 55)	<b>1791</b> (QL 56)	<b>1792</b> (QL 57)	<b>1793</b> (QL 58)			
<b>Province</b>							
Fengtian							
Zhili			1,712,999				
Anhui			1,713,493	2,204,330			
Jiangsu			1,422,081				
Jiangxi			1,774,483	1,715,026			
Zhejiang			2,673,795	2,722,386			
Fujian			1,769,034	1,963,889			
Hubei			1,909,317	2,086,023			
Hunan			2,119,393	2,124,051			
Shandong			1,978,372				
Henan			3,805,574				
Shanxi			1,805,651				
Shaanxi				2,191,910			
Gansu			4,832,431	4,058,902			
Wulumuqi							
Sichuan				4,602,733			
Guangdong		[3,561,200]	3,579,092				
Guangxi			1,830,963	1,829,123			
Yunnan			1,687,336				
Guizhou			1,749,743	1,809,250			
<i>Shilu</i> total	45,486,610	45,752,581	45,643,551	44,185,923			

Table A.1, cont.

### Sources

The *Shilu* totals (without provincial breakdown) are found in *Gaozong shilu* at the end of each year.

Except where otherwise noted, all the provincial figures are based on the “memorials on population and granary holdings” (*minshu gushu zouzhe*) that were sent to the throne, theoretically in the eleventh month, during most of the Qianlong reign. The location of the memorials is indicated below by order of the provinces as cited in the table and by chronological order. As all the memorials are from the Qianlong (QL) period, the latter is not specified in dates and accession numbers. Dates are given by [Qianlong] year/month/day. The following abbreviations are used:

*GZD*: *Gongzhongdang* (palace memorials collection in the Old Palace Museum, Taipei). All *GZD* memorials being “vermilion endorsed” originals, or *zhupi zouzhe* (ZP), the mention ZP is omitted. The date of ZP memorials is the date of redaction. The accession number (referring to the Qianlong reign) is indicated.

*JJCD*: *Junjichu dang* (Grand Council archives collection in the Old Palace Museum, Taipei). All *JJCD* memorials being duplicates of original memorials, or *lufu zouzhe* (LF), the mention LF is omitted. The date of LF memorials is the date of the rescript. The accession number (referring to the Qianlong reign) is indicated.

*CZCC*: *Caizheng cangchu* (fiscal affairs: granaries) record group in the Number One Historical Archives, Beijing. There are no accession numbers. The nature of the memorial used (ZP or LF) is indicated.

*NZBJ*: *Neizheng baojing* (domestic affairs: public security) record group in the Number One Historical Archives, Beijing. There are no accession numbers. The nature of the memorial used (ZP or LF) is indicated.

### Fengtian

7/9/6, *NZBJ* (ZP) (for 1741); 12/12/13, *NZBJ* (ZP); 14/11/15, *NZBJ* (ZP); 16/11/29, *GZD* 000860; 17/11/27, ZP reproduced in *Shiliao xunkan*, 19 (1930); 18/11/26, *GZD* 005183; 19/11/22, *GZD* 008125; 20/11/19, *GZD* 010885; 21/11/8, *GZD* 013278; 25/11/4, *NZBJ* (ZP); 28/11/15, *GZD* 016338; 29/11/21, *GZD* 019154; 30/11/26, *GZD* 021952; 33/11/18, *GZD* 026483; 38/11/22, *GZD* 027195; 40/12/7, *NZBJ* (LF); 42/11/25, *GZD* 033410; 43/11/11, *GZD* 036743; 44/11/19, *NZBJ* (ZP); 45/11/21, *JJCD* 029046; 46/11/22, *GZD* 040008; 47/11/20, *GZD* 043229; 48/11/29, *GZD* 046623; 49/12/6, *NZBJ* (LF); 50/11/27, *NZBJ* (LF)

### Zhili

7/11/29, *CZCC* (ZP); 8/11/29, *CZCC* (ZP); 9/11/29, *CZCC* (ZP); 10/11/29, *CZCC* (ZP); 11/11/30, *CZCC* (ZP); 14/11/26, *NZBJ* (ZP); 15/12/6, *CZCC* (ZP); 16/12/12, *GZD* 000955; 17/12/14, *GZD* 003142; 18/12/12, *GZD* 005380; 19/12/21, *GZD* 008383; 20/12/22, *GZD* 011120; 21/12/23, *GZD* 013676; 28/12/11, *GZD* 016564; 29/12/12, *GZD* 019334; 30/12/7, *GZD* 022043; 32/12/12, *GZD* 023616; 33/12/5, *GZD* 026661; 38/12/3, *GZD* 027318; 40/12/8, *CZCC* (ZP); 42/11/22, *GZD* 033371 (or 42/11/24, *NZBJ* [LF]); 43/11/29, ZP reproduced in *Shiliao xunkan*, 21 (1930); 44/11/17, *NZBJ* (ZP); 46/12/8, *GZD* 040257; 47/11/27, *GZD* 043360; 48/11/30, *GZD* 046643; 49/11/23, *NZBJ* (LF); 50/12/1, *NZBJ* (LF); 51/11/28, *NZBJ* (LF); 52/11/29, *NZBJ* (LF); 53/11/24, *GZD* 055760; 57/12/15, *NZBJ* (LF)

### Anhui

8/8/3 [for 1742?], *CZCC* (ZP); 8/12/20, *CZCC* (ZP); 9/11/30, *CZCC* (ZP); 10/12/21, *CZCC* (ZP); 11/11/29, *CZCC* (ZP); 12/12/1, *NZBJ* (ZP); 14/11/28, *NZBJ* (ZP); 15/11/27, *CZCC* (ZP); 17/11/26, *GZD* 002980; 18/11/29, *GZD* 005225; 19/12/13, *GZD* 008299; 21/12/10, *GZD* 013544; 24/12/6, *CZCC* (ZP); 28/1/12 [for 1762], *GZD* 013991; 28/11/24, *GZD* 016395; 29/11/24, *GZD* 019175; 30/11/24, *GZD* 021943; 32/11/28, *GZD* 023463; 33/11/29, *GZD* 026602; 38/12/2, *GZD* 027307; 41/11/22, *CZCC* (ZP); 42/11/28, *GZD* 033459 (or 42/12/11, *CZCC* [LF]); 43/11/22, *GZD* 036870; 44/11/12, *NZBJ* (ZP); 45/11/20, *CZCC* (ZP); 46/11/18, *GZD* 039920; 49/12/4, *NZBJ* (LF); 50/11/27, *NZBJ* (LF); 51/11/24, *GZD* 049448; 52/12/3, *NZBJ* (LF); 57/12/5, *NZBJ* (LF); 58/11/21, *CZCC* (ZP)

Table A.1, cont.

*Jiangsu*

8/10/5 [for 1742], *NZBJ* (ZP); 9/2/17 [for 1743], *NZBJ* (ZP); 14/4/7 [for 1748], *NZBJ* (ZP); 17/12/20, *GZD* 003185; 19/4/22 [for 1753], *GZD* 006290; 20/1/4 [for 1754], *GZD* 08445; 21/12/26, *GZD* 013694; 28/12/2, *GZD* 016480; 29/12/1, *GZD* 019224; 30/11/30, *GZD* 021981; 32/11/24, *GZD* 023433; 33/11/30, *GZD* 026608; 38/12/2, *GZD* 027307; 40/12/4, *CZCC* (ZP); 41/12/18, *NZBJ* (LF); 42/11/9, *GZD* 033110 (or 42/11/19, *NZBJ* [LF]); 43/11/7, *GZD* 036684; 44/11/20, *NZBJ* (ZP); 46/11/27, *GZD* 040068; 47/11/20, *GZD* 043248; 48/11/26, *GZD* 046598; 49/11/16, *NZBJ* (LF); 50/12/16, *NZBJ* (LF); 51/12/5, *NZBJ* (LF); 52/12/12, *NZBJ* (LF); 54/11/16, *JJCD* 028973; 57/12/18, *NZBJ* (LF)

*Jiangxi*

7/12/4, *NZBJ* (ZP); 12/12/7, *NZBJ* (ZP); 16/12/18, *GZD* 001014; 17/12/7, *GZD* 003074; 18/12/17, *GZD* 005433; 20/11/28, *GZD* 010880; 21/12/10, *GZD* 013534; 28/11/22, *GZD* 016381; 29/11/27, *GZD* 019204; 30/12/9, *GZD* 022066; 32/12/19, *GZD* 023700; 33/12/21, *GZD* 026878; 38/12/7, *GZD* 027382; 40/12/7, *CZCC* (ZP); 43/11/19, *GZD* 036828 and 43/11/19, *GZD* 036829; 44/11/19, *NZBJ* (ZP); 45/11/16, *JJCD* 029128; 46/11/17, *GZD* 039907; 47/11/12, *GZD* 043111; 48/11/14, *GZD* 046437; 49/12/5, *NZBJ* (LF); 50/12/9, *NZBJ* (LF); 51/11/22, *GZD* 049435 (or 51/12/19, *NZBJ* [LF]); 52/12/2, *NZBJ* (LF); 57/12/4, *NZBJ* (LF); 58/11/15, *CZCC* (ZP)

*Zhejiang*

14/11/16, *NZBJ* (ZP); 17/12/8, *GZD* 003087; 18/12/4, *GZD* 005266; 19/12/4, *GZD* 008222; 21/12/2, *GZD* 013448; 25/11/25, *NZBJ* (ZP); 28/11/29, *GZD* 016455; 29/11/24, *GZD* 019168; 30/11/21, *GZD* 021897; 32/11/24, *GZD* 023438; 33/11/30, *GZD* 026615; 40/12/2, *CZCC* (ZP); 42/12/1, *GZD* 033499 (or 42/12/16, *NZBJ* [LF]); 43/11/24, *GZD* 036899; 44/11/2, *NZBJ* (ZP); 45/11/28, *JJCD* 029216; 47/11/27, *GZD* 043344; 48/12/5, *GZD* 046716; 49/12/22, *NZBJ* (LF); 50/12/24, *NZBJ* (LF); 51/12/2, *GZD* 049525 (or 51/12/19, *NZBJ* [LF]); 52/12/18, *NZBJ* (LF); 57/12/14, *NZBJ* (LF); 58/11/28, *CZCC* (ZP)

*Fujian*

7/9/28 [for 1741], *NZBJ* (ZP); 7/12/15, *NZBJ* (ZP); 8/12/4, *CZCC* (ZP); 9/12/5, *CZCC* (ZP); 10/12/7, *CZCC* (ZP); 12/12/12, *NZBJ* (ZP); 14/11/28, *NZBJ* (ZP); 15/11/28, *CZCC* (ZP); 16/11/17, *GZD* 000775; 17/11/21, *GZD* 002934; 18/11/24, *GZD* 005166; 19/11/29, *GZD* 008186; 20/11/15, *GZD* 010787; 21/11/16, *GZD* 013357; 24/11/10, *CZCC* (ZP); 25/11/16, *NZBJ* (ZP); 28/11/3, *GZD* 016224; 29/11/12, *GZD* 019075; 30/11/8, *GZD* 021806; 32/11/10, *GZD* 023302; 38/11/17, *GZD* 027128; 42/11/12, *GZD* 033208 (or 42/12/10, *NZBJ* [LF]); 43/11/12, *GZD* 036751; 44/11/16, *NZBJ* (ZP); 45/11/16, *NZBJ* (ZP); 46/11/9, *GZD* 039764; 48/11/10, *GZD* 046384; 49/12/3, *NZBJ* (LF); 50/12/11, *NZBJ* (LF); 51/12/18, *NZBJ* (LF); 52/12/25, *NZBJ* (LF); 57/11/29, *NZBJ* (LF); 58/11/7, *CZCC* (ZP)

*Hubei*

7/12/21, *NZBJ* (ZP); 8/12/18, *CZCC* (ZP); 11/12/28, *CZCC* (ZP); 12/12/21, *NZBJ* (ZP); 13/12/8, *CZCC* (ZP); 15/12/5, *CZCC* (ZP); 16/12/7, *GZD* 000907; 17/12/5, *GZD* 003070; 18/12/30, *GZD* 005559; 19/11/24, *GZD* 008146; 20/11/23, *GZD* 010841; 21/11/27, *GZD* 013417; 28/12/19, *GZD* 016674; 29/12/22, *GZD* 019415; 30/12/21, *GZD* 022192; 32/11/21, *GZD* 023411; 33/11/24, *GZD* 026451; 38/11/26, *GZD* 027229; 40/11/29, *CZCC* (ZP); 42/11/18, *GZD* 033308 (or 42/12/10, *NZBJ* [LF]); 43/11/22, *GZD* 036871; 44/11/10, *NZBJ* (ZP); 45/11/19, *JJCD* 029031; 46/11/7, *GZD* 039746; 47/11/28, *GZD* 043372; 48/11/26, *GZD* 046579; 49/12/15, *NZBJ* (LF); 50/12/23, *NZBJ* (LF); 51/12/18, *GZD* 049728 (or 52/3/18, *NZBJ* [LF]); 52/12/28, *NZBJ* (LF); 53/12/15, *GZD*; 54/11/22, *GZD*; 57/12/17, *NZBJ* (LF); 58/11/16, *CZCC* (ZP)

Table A.1, cont.

*Hunan*

7/11/27, CZCC (ZP); 8/12/5, CZCC (ZP); 9/12/6, CZCC (ZP); 10/11/29, NZBJ (ZP); 11/12/1, CZCC (ZP); 15/12/10, CZCC (ZP); 16/12/15, GZD 000983; 17/12/3, GZD 003037; 18/11/29, GZD 005221; 19/11/24, GZD 008139; 20/12/16, GZD 011066; 21/12/7, GZD 013516; 23/12/9, CZCC (ZP); 24/12/5, GZD; 28/11/26, GZD 016420; 29/12/1, GZD 019226; 30/11/24, GZD 021935; 32/11/21, GZD 023391; 33/11/24, GZD 026529; 38/11/10, GZD 027060; 40/12/2, CZCC (ZP); 42/11/18, GZD 033306; 43/11/27, GZD 036927; 44/11/9, GZD 038906; 45/11/27, CZCC (ZP); 48/11/15, GZD 046448; 49/12/5, NZBJ (LF); 50/12/9, NZBJ (LF); 51/12/9, NZBJ (LF); 52/11/15, GZD 052391 (or 52/12/10, NZBJ [LF]); 53/-/, GZD; 54/-/, GZD; 57/12/4, NZBJ (LF); 58/11/19, CZCC (ZP)

*Shandong*

7/2/11 [for 1741], NZBJ (ZP); 7/11/29, CZCC (ZP); 8/12/11, CZCC (ZP); 9/12/10, CZCC (ZP); 10/12/13, CZCC (ZP); 11/12/20, CZCC (ZP); 12/12/24, NZBJ (ZP); 15/3/9 [for 1749], CZCC (ZP); 15/12/19, CZCC (ZP); 16/11/28, GZD 000841; 17/12/9, GZD 003093; 18/12/15, GZD 005402; 19/12/15, GZD 008311; 20/12/3, GZD 019023; 21/12/2, GZD 013458; 23/12/23, CZCC (ZP); 24/12/3, CZCC (ZP); 28/12/3, GZD 016501; 29/12/2, GZD 019242; 30/12/3, GZD 022012; 32/11/20, GZD 023382; 33/11/20, GZD 026497; 36/11/29, JJCD 015366; 38/11/24, GZD 027215 (or 38/11/28, NZBJ [LF]); 40/11/30, NZBJ (LF); 42/11/30, GZD 033483 (or 42/12/6, NZBJ [LF]); 43/11/29, GZD 036977; 44/11/29, JJCD 025644; 45/11/28, JJCD 029053; 46/11/25, GZD 040042; 47/12/2, GZD 043410; 48/11/26, GZD 046602; 49/12/6, NZBJ (LF); 50/12/5, NZBJ (LF); 51/12/3, GZD 049532 (or 51/12/9, NZBJ [LF]); 52/12/21, NZBJ (LF); 53/12/17, GZD 056058; 57/12/15, NZBJ (LF)

*Henan*

14/11/12, NZBJ (ZP); 16/12/17, GZD 001000; 17/11/23, GZD 002952; 19/11/27, GZD 008153; 20/12/20, GZD 011103; 21/12/13, GZD 013574; 25/11/20, NZBJ (ZP); 27/12/7, CZCC (ZP); 28/12/15, GZD 016636; 29/12/15, GZD 019348; 30/12/1, GZD 021996; 32/12/6, GZD 023676; 33/12/5, GZD 026669; 34/12/7, NZBJ (ZP); 37/12/15, JJCD 019017; 38/11/15, GZD 027100; 40/12/2, CZCC (ZP); 41/12/13, CZCC (ZP); 42/11/28, GZD 033444; 43/11/30, GZD 036991; 44/11/29, NZBJ (ZP); 45/12/1, JJCD 029086; 46/12/3, GZD 040174; 47/12/1, GZD 043390; 48/11/29, GZD 046634; 49/12/6, NZBJ (LF); 50/12/6, NZBJ (LF); 51/12/7, NZBJ (LF); 52/12/10, NZBJ (LF); 53/11/18, GZD 055669; 54/11/17, GZD; 57/11/24, NZBJ (LF)

*Shanxi*

19/11/29, GZD 008175; 20/12/10, GZD 010980; 21/11/16, GZD 013349; 24/4/13, CZCC (ZP); 28/11/9, GZD 016269; 29/11/8, GZD 019034; 30/11/28, GZD 021968; 32/11/30, GZD 023473; 33/11/24, GZD 026539; 38/11/27, GZD 027253; 42/11/18, GZD 033316 (or 42/11/24, NZBJ [LF]); 43/11/29, GZD 036959; 44/11/28, NZBJ (ZP); 45/11/27, CZCC (ZP); 46/11/19, GZD 039937; 47/11/26, GZD 043332; 48/11/25, GZD 046565; 49/11/26, NZBJ (LF); 50/12/2, NZBJ (LF); 51/12/5, NZBJ (LF); 52/11/30, GZD 052588 (or 52/12/7, NZBJ [LF]); 57/12/20, NZBJ (LF)

*Shaanxi*

8/12/5, CZCC (ZP); 9/12/29, CZCC (ZP); 11/12/9, CZCC (ZP); 12/12/9, NZBJ (ZP); 13/12/22, CZCC (ZP); 15/12/15, CZCC (ZP); 16/12/20, GZD 001040; 17/12/13, GZD 003132; 18/12/9, GZD 005322; 19/12/21, GZD 008377; 21/1/20 [for 1755], GZD 013838; 28/12/11, GZD 016586; 29/11/30, GZD 019220; 30/12/8, GZD 022051; 32/11/24, GZD 023421; 33/11/26, GZD 026560; 38/12/4, GZD 027333; 41/4/25 [for 1775], CZCC (ZP); 42/11/22, GZD 033361; 43/11/18, GZD 036818; 44/11/19, NZBJ (ZP); 45/11/27, CZCC (ZP); 46/11/20, GZD 039951; 47/11/22, GZD 043270; 48/11/29, GZD 046630; 49/12/13, NZBJ (LF); 50/12/12, NZBJ (LF); 51/11/25, GZD 049455 (or 51/12/11, NZBJ [LF]); 52/12/15, NZBJ (LF); 58/11/27, CZCC (ZP)

Table A.1, cont.

*Gansu*

8/1/21 [for 1742], *CZCC* (ZP); 8/12/19, *CZCC* (ZP); 9/12/22, *CZCC* (ZP); 11/12/21, *CZCC* (ZP); 12/12/24, *NZBJ* (ZP); 13/12/17, *CZCC* (ZP); 15/12/18, *CZCC* (ZP); 16/11/26, *GZD* 000831; 18/11/15, *GZD* 005086; 19/12/16, *GZD* 008317; 21/11/22, *GZD* 013385; 23/12/7, *CZCC* (ZP); 28/11/11, *GZD* 016297; 29/12/11, *GZD* 019320; 32/12/7, *GZD* 023541; 33/12/12, *GZD* 026748; 34/12/3, *NZBJ* (ZP); 40/12/20, *CZCC* (ZP); 42/11/25, *GZD* 033411 (or 42/12/5, *NZBJ* [LF]); 43/12/2, *GZD* 037016; 44/12/20, *JJCD* 025865; 45/12/4, *JJCD* 029382; 47/11/20 [for 1781 and 1782], *GZD* 043225; 49/12/10, *NZBJ* (LF); 50/12/15, *NZBJ* (LF); 51/12/20, *NZBJ* (LF); 57/12/9, *NZBJ* (LF); 58/11/29, *CZCC* (ZP)

*Wulumuqi (Xinjiang)*

43/3/23 [for 1777], *NZBJ* (LF); 45/1/- [for 1779], *JJCD* 026509; 45/12/24, *JJCD* 029351; 48/1/13 [for 1782], *NZBJ* (LF); 49/12/19, *NZBJ* (LF)

*Sichuan*

7/1/22 [for 1741], *CZCC* (ZP); 7/11/14, *CZCC* (ZP); 8/11/17, *CZCC* (ZP); 9/11/15, *CZCC* (ZP); 10/11/22, *CZCC* (ZP); 11/11/22, *CZCC* (ZP); 13/11/22, *CZCC* (ZP); 14/11/28, *NZBJ* (ZP); 15/11/26, *CZCC* (ZP); 16/11/17, *GZD* 000770; 17/12/2, *GZD* 003017; 18/11/9, *GZD* 005027; 19/12/17, *GZD* 008338; 20/12/9, *GZD* 010961; 21/12/19, *GZD* 013628; 23/1/29 [for 1757], *NZBJ* (ZP); 24/12/27, *CZCC* (ZP); 27/12/4, *CZCC* (ZP); 28/12/8, *GZD* 016550; 29/12/12, *GZD* 019332; 30/12/15, *GZD* 022120; 32/12/1, *GZD* 023486; 33/11/13, *GZD* 026423; 34/12/15, *NZBJ* (ZP); 35/11/12, *JJCD*; 38/11/22, *GZD* 027163; 40/12/9, *NZBJ* (LF); 42/11/19, *GZD* 033322 (or 42/12/16, *NZBJ* [LF]); 43/11/10, *GZD* 036732; 44/11/6, *NZBJ* (ZP); 48/11/22, *GZD* 046533; 49/12/5, *NZBJ* (LF); 50/12/11, *NZBJ* (LF); 51/12/16, *NZBJ* (LF); 52/12/10, *NZBJ* (LF); 58/11/16, *CZCC* (ZP)

*Guangdong*

7/7/24 [for 1741], *NZBJ* (ZP); 7/11/11, *CZCC* (ZP); 9/12/8, *CZCC* (ZP); 10/11/22, *NZBJ* (ZP); 11/11/21, *CZCC* (ZP); 12/12/3, *NZBJ* (ZP); 13/11/28, *CZCC* (ZP); 14/11/26, *NZBJ* (ZP); 15/11/26, *CZCC* (ZP); 16/11/21, *GZD* 000808; 18/11/27, *GZD* 005192; 19/11/29, *GZD* 008172; 20/11/20, *GZD* 010820; 21/12/5, *GZD* 013492; 25/11/16, *NZBJ* (ZP); 29/11/9, *GZD* 019050; 32/11/8, *GZD* 023298; 33/11/14, *GZD* 026428; 40/12/12, *NZBJ* (LF); 42/11/10, *GZD* 033160 (or 42/12/10, *NZBJ* [LF]); 44/11/10, *NZBJ* (ZP); 46/11/4, *GZD* 039716; 48/11/15, *GZD* 046455; 50/12/4, *NZBJ* (LF); 51/11/10, *GZD* 049363 (or 51/12/18, *NZBJ* [LF]); 52/12/19, *NZBJ* (LF); 57/12/20, *NZBJ* (LF)

*Guangxi*

7/11/19, *CZCC* (ZP); 8/11/16, *NZBJ* (ZP); 10/11/20, *NZBJ* (ZP); 14/11/20, *NZBJ* (ZP); 15/11/20, *CZCC* (ZP); 16/11/27, *GZD* 000838; 17/11/17, *GZD* 002911; 18/11/27, *GZD* 005193; 24/12/2, *NZBJ* (LF); 25/11/4, *NZBJ* (ZP); 28/11/11, *GZD* 016293; 29/11/29, *GZD* 019218; 30/11/7, *GZD* 021790; 33/11/7, *GZD* 026372; 35/2/18 [for 1769], *CZCC* (ZP); 35/11/15, *JJCD* 012806; 40/12/11, *NZBJ* (LF); 41/11/20, *CZCC* (ZP); 42/10/20, *GZD* 032888 (or 42/12/18, *NZBJ* [LF]); 43/11/6, *GZD* 036654; 44/11/-, *JJCD* 025386; 45/10/20, *JJCD* 028838; 46/10/14, *GZD* 039523; 48/10/18, *GZD* 046094; 49/11/22, *NZBJ* (LF); 50/11/28, *NZBJ* (LF); 51/12/7, *NZBJ* (LF); 52/11/25, *NZBJ* (LF); 57/12/11, *NZBJ* (LF); 58/11/15, *CZCC* (ZP)

Table A.1, cont.

Yunnan

7/11/17, CZCC (ZP); 8/12/20, CZCC (ZP); 11/12/21, CZCC (ZP); 12/12/20, NZBJ (ZP); 13/12/18, CZCC (ZP); 15/12/16, CZCC (ZP); 16/12/7, GZD 000917; 17/12/11, GZD 003117; 18/12/20, GZD 005463; 19/12/11, GZD 008272; 21/12/20, GZD 013633; 24/12/21, CZCC (ZP); 28/11/27, GZD 016441; 29/11/12, GZD 019069; 30/12/1, GZD 021990; 32/11/11, GZD 023308; 33/11/6, GZD 026346; 38/11/4, GZD 026976; 40/12/11, NZBJ (LF); 42/10/20, GZD 032891 (or 42/11/29, NZBJ [LF]); 43/10/28, GZD 036590; 44/9/15, JJCD 025200; 45/10/26, JJCD 028962; 46/11/7, GZD 039740; 47/10/28, GZD 042900; 48/11/7, GZD 046313; 49/12/8, NZBJ (LF); 50/12/7, NZBJ (LF); 51/10/18, GZD 049165 (or 51/11/27, NZBJ [LF]); 52/10/18, GZD 052065 (or 52/11/28, NZBJ [LF]); 53/10/26, GZD 055396; 54/10/29, GZD 058653; 57/12/16, NZBJ (LF)

Guizhou

6/11/23, NZBJ (ZP); 7/11/24, NZBJ (ZP); 8/11/24, CZCC (ZP); 9/11/24, CZCC (ZP); 10/11/25, NZBJ (ZP); 11/-/-, Record Group 4, Box 1864, Doct. 6 (ZP); 15/11/24, NZBJ (ZP); 16/11/11, GZD 000736; 18/12/4, GZD 005276; 19/12/5, GZD 008227; 20/11/15, GZD 010773; 21/11/12, GZD 013335; 25/11/15, NZBJ (ZP); 28/11/29, GZD 016454; 29/11/22, GZD 019159; 30/11/21, GZD; 32/11/15, GZD 023347; 33/11/12, GZD 026425; 34/11/20, JJCD 011324; 38/11/17, GZD 027125; 40/12/12, NZBJ (LF); 42/11/10, GZD 033140; 43/11/15, GZD 036789; 44/11/20, NZBJ (ZP); 46/1/- [for 1780], JJCD 029425; 46/11/21, GZD 039956; 47/11/11, GZD 043089; 48/11/10, GZD 046383; 49/12/11, NZBJ (LF); 50/12/14, NZBJ (LF); 51/12/6, NZBJ (LF); 52/12/4, NZBJ (LF); 57/12/18, NZBJ (LF); 58/11/10; CZCC (ZP)

Notes

<sup>a</sup> The following editorial policies have been followed in this table: (1) For each province/year, one sole figure is given; when the original memorial did not propose a total, we have recalculated it; the number of figures (types of granaries) entering into a total varies with the province and with the year: see table 8.3 for details. (2) Some memorials give figures expressed in units other than the regular *shi* of *gu*; for the sake of consistency, we have converted them in *shi* of *gu*, following the rules outlined in chapter 8 above; figures which have been converted, or totals including figures which have been converted, are written in *italics* in the table. (3) In some cases (closed accounting), it is possible to reconstruct the *shizai* figure of a year without memorial but followed by a year with a memorial. Such reconstructed figures are written between square brackets in the table.

<sup>b</sup> Including transfers from Jiangxi (396,358 *shi*) and Hunan (200,000 *shi*), and a special reserve at Chongming.

<sup>c</sup> Figure of present reserves (*xiancun zhi gu*), adopted as a target. See 1748 edict in *HDSL* (1818 ed.), 159.14b–15a. The Guangdong figure in the edict is 2,953,661.

<sup>d</sup> Figure “presently in store,” according to Governor Aibida quoted in *Gaozong shilu*, 329.2 (QL 13/11/16), in *QSLGZJ*, 222.

<sup>e</sup> Figure in *WXTK*, 37.5202, presented as “evernormal grain actually in store in the year-end report.”

<sup>f</sup> *WXTK*, 37.5205–5206, gives the following figure for Gansu, 1763: 1,863,388 *shi* (including community granaries). Like all the *WXTK* figures quoted below, it is a year-end (*zouxiao*) figure.

<sup>g</sup> *WXTK, ibid.*, gives 1,740,993 *shi* for Anhui, 1764 (including community granaries).

<sup>h</sup> *WXTK, ibid.*, gives 2,071,458 *shi* for Jiangsu (including community and salt charity granaries).

<sup>i</sup> *WXTK, ibid.*, gives 2,782,375 *shi* for Fujian, 1765 (including community granaries).

<sup>j</sup> *WXTK, ibid.*, gives 2,749,353 *shi* for Shandong, 1765 (including community granaries).

<sup>k</sup> Source: *WXTK, ibid.* (year-end *zouxiao* total).

<sup>l</sup> *WXTK, ibid.*, gives 3,675,801 *shi* for Henan, 1765 (including community granaries and *caogu cang*).

<sup>m</sup> *WXTK, ibid.*, gives 2,777,480 *shi* for Shaanxi, 1765.

<sup>n</sup> *WXTK, ibid.*, gives 1,414,251 *shi* for Yunnan, 1765.

<sup>o</sup> Evernormal granaries only.

<sup>p</sup> Evernormal and charity granaries only.

<sup>q</sup> All granaries. *GZD* 027228, of 38/11/25, gives a figure of 2,433,963 *shi*, including evernormal and charity granaries only.

<sup>r</sup> All granaries. *GZD* 033505, of 42/12/2, gives a figure of 2,504,774 *shi*, including evernormal, community and charity granaries only.

## Table A.1, cont.

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<sup>s</sup> There is a difference of a few *shi* between the ZP and the LF.

<sup>t</sup> All granaries. *JJCD* 028929, of 45/11/22, gives a figure of 1,635,106 *shi*, including evernormal, community and charity granaries only.

<sup>u</sup> All granaries. *GZD* 040175, of 46/12/3, gives a figure of 2,063,514 *shi*, including evernormal, community and charity granaries only.

<sup>v</sup> In addition to the evernormal and community figures, the memorials for 1781, 1782, and 1783 mention an “extra reserve” (*lingkuan cunzhu*) amounting to 23,000 *shi*.

<sup>w</sup> All granaries. *GZD* 043501, of 47/12/8, gives a figure of 1,805,164 *shi*, including evernormal, community and charity granaries only.

<sup>x</sup> *NZBJ*, of 50/7/21 (LF), gives a corrected figure taking into account some places which were too afar to send their figures in time. The new total is 676,165 *shi*.

<sup>y</sup> Does not include the figure of reserves in husked grain (*mi*), which is illegible.

<sup>z</sup> The LF memorial quoted in the sources presents a slight variant: 750,805 *shi*.

<sup>aa</sup> All granaries. *GZD* 048862, of 51/11/16, gives a figure of 1,126,089 *shi*, including evernormal, community and charity granaries only.

<sup>ab</sup> All granaries. *GZD* 052440, of 52/11/20, gives a figure of 1,669,443 *shi*, including evernormal, community and charity granaries only.

<sup>ac</sup> Evernormal, community and charity granaries only. Compare the larger figures, probably corresponding to all granaries, in table A.2.

<sup>ad</sup> Evernormal reserves (like the other years); *GZD* 058933, of 54/11/24, gives a figure of “total reserves” amounting to 1,389,159 *shi*.

Table A.2. Civilian Granary Holdings in the *Quanguo Fensheng Minshu Gushu Gingce*, 1786–1856 (in *Shi* of Unhusked Grain)

Year: (Chinese Year:)	1786 (QL 51)	1787 (QL 52)	1788 (QL 53)	1789 (QL 54)	1790 (QL 55)	1791 (QL 56)	1792 (QL 57)
<b>Province</b>							
Fengtian	490,765	473,306	486,880	203,789	250,996	300,619	
Jilin	8,266	7,963	7,710	7,300	6,547	6,148	
Zhili	2,425,356	2,462,534	2,654,703	2,616,792	2,055,624	1,930,035	
Anhui	1,067,356	1,243,924	1,815,876	2,118,907	2,192,443	2,345,535	
Jiangsu	848,313	900,439	1,264,647	1,476,546	1,408,612	1,410,435	
Jiangxi	1,695,961	1,457,034	1,643,771	1,679,039	1,782,698	1,794,100	
Zhejiang	2,175,842	2,153,557	2,388,709	2,737,763	2,632,204	2,805,858	
Fujian	2,751,987	2,219,126	2,095,892	1,566,954	1,582,889	1,550,491	
Hubei	740,778	820,704	1,549,290	1,293,895	1,655,877	1,892,766	
Hunan	1,879,435	1,676,791	2,142,115	2,064,495	2,073,446	2,114,500	
Shandong	718,096	909,252	1,342,578	1,981,928	2,139,750	2,136,155	
Henan	1,947,921	2,684,901	3,453,810	3,892,124	3,875,879	4,038,653	
Shanxi	1,718,451	1,702,735	1,716,177	1,843,337	2,524,414	2,232,135	
Shaanxi	2,795,536	2,998,373	3,043,284	3,036,756	3,101,865	3,218,269	
Gansu	2,844,217	3,226,677	3,634,273	3,164,224	4,427,999	3,924,106	
Wulumuqi	740,576	823,572	816,940	786,238	889,996	920,980	
Sichuan	3,403,982	4,040,879	3,973,287	4,040,879	4,078,919	4,092,191	
Guangdong	3,285,430	3,289,741	3,346,054	3,552,580	3,574,265	3,586,682	
Guangxi	1,740,297	1,471,753	1,668,129	1,787,568	1,815,090	1,834,009	
Yunnan	1,718,733	1,717,908	1,718,428	1,717,601	1,718,546	1,706,257	
Guizhou	1,602,169	1,500,869	1,681,594	1,641,334	1,698,732	1,870,566	
<i>Shilu</i> total:	37,464,154	37,556,978	42,494,194	43,209,918	45,486,610	45,752,581	45,643,551

Year: (Chinese Year:)	1793 (QL 58)	1794 (QL 59)	1795 (QL 60)	1796 (JQ 1)	1797 (JQ 2)	1798 (JQ 3)	1799 (JQ 4)
<b>Province</b>							
Fengtian		516,927	556,831				
Jilin		5,196	4,910				
Zhili		1,461,767	2,006,988				
Anhui		2,202,250	2,183,746				
Jiangsu		1,443,046	1,408,732				
Jiangxi		1,725,345	1,638,909				
Zhejiang		2,788,184	2,580,905				
Fujian							
Hubei		2,061,996	2,069,177				
Hunan							
Shandong		2,035,458	1,744,824				
Henan		3,659,004	3,550,471				
Shanxi		2,189,023	2,140,693				
Shaanxi		2,435,858	2,095,042				
Gansu		3,552,792	3,385,390				
Wulumuqi		956,262	986,045				
Sichuan		4,636,404	4,541,350				
Guangdong		3,598,254	3,399,335				
Guangxi		1,831,801	1,816,087				
Yunnan		1,641,648	1,627,953				
Guizhou		2,015,565	2,015,779				
<i>Shilu</i> total:	44,185,923	45,003,397	39,753,175	37,206,535	31,335,999	30,757,762	31,380,799

Table A.2, cont.

<b>Year:</b> <b>(Chinese Year:)</b>	<b>1800</b> <b>(JQ 5)</b>	<b>1801</b> <b>(JQ 6)</b>	<b>1802</b> <b>(JQ 7)</b>	<b>1803</b> <b>(JQ 8)</b>	<b>1804</b> <b>(JQ 9)</b>	<b>1805</b> <b>(JQ 10)</b>	<b>1806</b> <b>(JQ 11)</b>
<b>Province</b>							
Fengtian							
Jilin							
Zhili							
Anhui							
Jiangsu							
Jiangxi							
Zhejiang							
Fujian							
Hubei							
Hunan							
Shandong							
Henan							
Shanxi							
Shaanxi							
Gansu							
Wulumuqi						1,353,630 <sup>a</sup>	
Sichuan							
Guangdong							
Guangxi							
Yunnan							
Guizhou							
<i>Shilu</i> total:	29,575,296	30,483,879	31,184,052	30,548,273	29,706,247	29,411,999	28,113,030

<b>Year:</b> <b>(Chinese Year:)</b>	<b>1807</b> <b>(JQ 12)</b>	<b>1808</b> <b>(JQ 13)</b>	<b>1809</b> <b>(JQ 14)</b>	<b>1810</b> <b>(JQ 15)</b>	<b>1811</b> <b>(JQ 16)</b>	<b>1812</b> <b>(JQ 17)</b>	<b>1813</b> <b>(JQ 18)</b>
<b>Province</b>							
Fengtian						244,165	165,549
Jilin						586	359
Zhili						736,318	610,131
Anhui						1,728,980	1,719,033
Jiangsu						1,222,233	1,219,777
Jiangxi						1,496,473	1,771,630
Zhejiang						2,396,233	2,575,374
Fujian						1,584,837	1,627,776
Hubei						880,731	1,004,476
Hunan						2,145,700	2,152,548
Shandong						1,543,094	1,524,193
Henan						3,202,935	2,782,795
Shanxi						1,590,139	1,693,045
Shaanxi						1,670,177	1,806,186
Gansu						1,095,302	1,212,865
Wulumuqi						1,051,682	725,740
Sichuan						4,470,973	4,495,691
Guangdong						3,379,801	3,481,953
Guangxi						1,829,914	1,844,137
Yunnan						1,321,223	1,325,859
Guizhou						1,581,917	1,593,115
<i>Shilu</i> total:	30,218,182	30,483,879	33,528,853	31,443,177	33,390,605	33,588,585	33,704,468

Table A.2, cont.

Year: (Chinese Year:)	1814 (JQ 19)	1815 (JQ 20)	1816 (JQ 21)	1817 (JQ 22)	1818 (JQ 23)	1819 (JQ 24)	1820 (JQ 25)
<b>Province</b>							
Fengtian			155,191	278,458		360,645	313,049
Jilin			8,894	21,044		41,360	43,914
Zhili			630,343	815,538		840,699	845,017
Anhui			1,687,824	1,807,333		1,904,037	2,093,625
Jiangsu			975,737	1,052,204		1,110,837	1,065,699
Jiangxi			1,664,863	1,668,476		1,771,434	1,778,548
Zhejiang			2,384,154	2,558,772		2,694,187	2,678,188
Fujian							
Hubei			898,253	991,644		1,405,921	1,413,934
Hunan			2,011,051	2,042,448		2,061,964	2,048,906
Shandong			1,722,704	1,627,560		1,812,255	1,779,012
Henan			3,019,478	3,303,404		3,295,032	3,122,777
Shanxi			1,857,585	1,898,311		1,760,795	1,758,646
Shaanxi			1,786,437	2,120,297		2,179,843	2,120,955
Gansu						1,443,370	1,510,735
Wulumuqi			771,775	791,337		803,739	799,407
Sichuan			4,513,197	4,565,155		4,617,724	4,656,074
Guangdong			3,622,894	3,626,790		3,632,723	3,627,937
Guangxi			1,744,130	1,747,189		1,745,837	1,750,846
Yunnan			1,324,763	1,284,682		1,264,420	1,284,846
Guizhou			1,851,759	1,897,059		2,020,819	2,020,972
<i>Shilu total:</i>	30,802,869	30,802,869	32,651,043	34,097,710	35,563,144	36,773,554	36,713,138

Year: (Chinese Year:)	1821 (DG 1)	1822 (DG 2)	1823 (DG 3)	1824 (DG 4)	1825 (DG 5)	1826 (DG 6)	1827 (DG 7)
<b>Province</b>							
Fengtian	233,164	230,658	120,494	133,570		191,540	217,102
Jilin	33,487	36,253	28,894	41,363		39,221	32,158
Zhili	860,031	854,014	645,023	576,622		553,732	910,638
Anhui	1,889,911	1,875,292	1,858,470	1,796,941		1,776,293	1,764,383
Jiangsu						389,866	382,210
Jiangxi	1,774,503	1,750,144	1,769,059	1,726,136		1,738,728	1,745,159
Zhejiang	2,296,604	2,497,172	2,460,029	2,147,143		2,261,962	2,277,912
Fujian			1,117,000 <sup>b</sup>	1,134,000 <sup>b</sup>	1,178,000 <sup>b</sup>	1,153,077	
Hubei	1,419,046	1,514,109	1,525,183	1,513,389		1,540,205	957,065
Hunan	2,044,749	2,059,505	2,082,382	1,750,980		1,045,081	996,607
Shandong	1,869,808	1,837,129	1,774,635	810,118		799,093	877,712
Henan	3,091,665	3,106,296	328,972	324,032		2,900,909	3,056,990
Shanxi	1,856,000	1,820,531	1,812,266	1,827,514		1,761,128	1,769,750
Shaanxi	2,194,335	2,216,249	2,267,562	2,324,246		2,210,686	2,140,931
Gansu	1,479,017	1,444,052	1,451,642	1,429,548		1,315,892	1,289,216
Wulumuqi	802,002	808,960	810,207	796,778		849,998	654,788
Sichuan	4,659,832	4,663,810	4,664,614	4,666,726		4,677,177	4,033,759
Guangdong	3,623,383	3,657,095	3,621,867	3,405,743		3,636,083	3,637,130
Guangxi	1,723,412	1,735,523	1,748,096	1,743,850		1,752,157	1,750,544
Yunnan	1,272,759	1,227,142	1,225,799	1,248,089		1,246,168	1,246,642
Guizhou	1,886,292	2,021,308	2,021,464	2,021,665		2,021,955	1,819,061
<i>Shilu total:</i>	35,120,009	35,355,249	34,896,666	32,884,462	32,610,160	32,702,483	31,552,769

Table A.2, cont.

<b>Year:</b> <b>(Chinese Year:)</b>	<b>1828</b> <b>(DG 8)</b>	<b>1829</b> <b>(DG 9)</b>	<b>1830</b> <b>(DG 10)</b>	<b>1831</b> <b>(DG 11)</b>	<b>1832</b> <b>(DG 12)</b>	<b>1833</b> <b>(DG 13)</b>	<b>1834</b> <b>(DG 14)</b>
<b>Province</b>							
Fengtian	249,801	184,014	122,116	157,991	126,934	159,142	170,784
Jilin	33,939	21,164	27,636	21,281	23,940	23,076	22,719
Zhili	906,588	980,260	996,676	994,197	950,806	855,880	790,362
Anhui	1,752,412	1,744,539	1,738,147	1,720,745	1,700,824	1,690,413	1,687,733
Jiangsu	402,697	388,607	384,304	361,048	306,868	300,629	291,028
Jiangxi	1,758,327	1,649,706	1,776,703	1,655,322	1,595,736	1,603,179	1,403,180
Zhejiang	2,315,604	2,226,115	2,288,835	2,265,646	2,403,483	1,902,897	1,838,378
Fujian							
Hubei	1,077,688	1,147,943	1,201,347	1,149,089	924,774	718,606	553,253
Hunan	1,142,291	1,161,934	1,798,654	1,157,696	1,136,827	1,010,113	1,004,520
Shandong	976,549	1,024,826	1,108,594	1,147,400	1,180,941	1,040,142	1,048,213
Henan	3,282,740	3,355,641	3,375,518	3,355,310	3,327,661	2,773,789	2,959,087
Shanxi	1,793,530	1,864,124	1,904,967	1,939,495	1,931,437	1,735,739	1,721,623
Shaanxi	2,156,535	2,344,406	2,163,496	2,177,468	2,326,304	2,136,093	2,075,810
Gansu	1,922,129	2,504,558	2,635,509	2,710,754	1,929,586	1,857,011	1,838,309
Wulumuqi	647,717	593,129	559,143	475,633	525,091	531,623	540,325
Sichuan	4,046,603	4,047,744	4,041,891	4,025,334	3,927,895	3,922,573	3,855,948
Guangdong	3,625,628	3,639,996	3,598,922	3,422,547	3,338,274	3,358,001	3,310,274
Guangxi	1,758,212	1,758,749	1,734,382	1,726,334	1,726,327	1,732,519	1,733,524
Yunnan	1,247,402	1,247,880	1,248,101	1,241,500	1,243,036	1,243,841	1,196,962
Guizhou	1,885,853	1,920,815	1,949,220	1,981,491	1,967,804	1,959,441	1,872,728
<i>Shilu total:</i>	32,982,254	33,806,160	34,054,172	33,686,342	32,234,557	30,555,715	29,914,776

<b>Year:</b> <b>(Chinese Year:)</b>	<b>1835</b> <b>(DG 15)</b>	<b>1836</b> <b>(DG 16)</b>	<b>1837</b> <b>(DG 17)</b>	<b>1838</b> <b>(DG 18)</b>	<b>1839</b> <b>(DG 19)</b>	<b>1840</b> <b>(DG 20)</b>	<b>1841</b> <b>(DG 21)</b>
<b>Province</b>							
Fengtian	149,218	66,758	79,156	112,259	156,054	193,562	141,094
Jilin	22,818	22,772	22,746	22,751	22,667	22,805	29,576
Zhili	810,463	816,988	783,710	767,223	751,951	761,521	760,185
Anhui	1,679,830	1,674,945	1,677,190	1,685,557	1,830,866	1,830,866(?)	1,830,866(?)
Jiangsu	302,358	307,921	355,278	442,991	506,726	507,106	497,406
Jiangxi	1,562,724	1,524,590	1,587,110	1,571,168	1,700,635	1,682,875	1,683,312
Zhejiang	1,976,059	1,939,035	2,059,474	2,254,718	2,377,980	2,329,571	2,219,936
Fujian							
Hubei	656,917	515,599	670,889	801,971	869,584	1,292,158	804,106
Hunan	1,026,561	1,027,109	1,107,515	1,190,814	1,216,025	1,241,002	1,248,440
Shandong	998,686	911,142	909,820	916,100	917,924	1,099,838	1,108,607
Henan	3,027,244	3,047,438	3,074,482	3,080,955	3,099,445	3,019,645	3,093,635
Shanxi	1,774,857	1,610,999	1,530,080	1,513,770	1,636,140	1,629,126	1,725,267
Shaanxi	2,120,832	1,870,859	1,965,396	1,892,702	1,922,689	1,988,059	2,055,470
Gansu	1,790,451	1,754,711	1,769,245	1,783,131	1,759,708	1,840,428	1,833,519
Wulumuqi	526,282	474,366	488,602	494,131	558,789	656,393	659,095
Sichuan	3,878,946	3,882,632	3,940,313	3,940,780	3,912,238	3,881,617	3,968,460
Guangdong	3,352,728	3,361,043	3,394,311	3,404,897	3,417,507	3,430,268	3,435,789
Guangxi	1,729,189	1,737,187	1,742,430	1,743,699	1,746,946	1,745,845	1,742,122
Yunnan	1,189,044	1,190,158	1,205,846	1,204,274	1,203,941	1,210,119	1,214,683
Guizhou	1,957,776	1,939,813	1,989,907	2,004,898	2,007,580	2,007,813	2,009,963
<i>Shilu total:</i>	30,531,982	29,676,074	30,350,315	30,828,804	31,615,400	32,369,625	32,061,540

Table A.2, cont.

Year: (Chinese Year:)	1842 (DG 22)	1843 (DG 23)	1844 (DG 24)	1845 (DG 25)	1846 (DG 26)	1847 (DG 27)	1848 (DG 28)
<b>Province</b>							
Fengtian	63,870	83,393	113,603	128,332	134,890	144,228	189,459
Jilin	29,713	29,672	35,833	35,640	35,425	35,378	35,465
Zhili	762,765	762,833	766,172	773,141	710,455	685,157	659,393
Anhui	1,763,631	1,760,155	1,758,657	1,758,086	1,758,806	1,751,186	1,741,786
Jiangsu	466,680	456,689	491,285	507,804	537,838		
Jiangxi	1,543,563	1,543,671	1,550,342	1,553,890	1,555,007	1,541,465	1,536,610
Zhejiang	2,211,670	2,238,552	2,066,792	1,918,552	1,885,000 <sup>b</sup>		
Fujian							
Hubei	746,581	637,742	1,103,188	1,019,719	1,071,400	1,095,369	1,109,522
Hunan	1,570,732	1,543,599	1,573,893	1,670,329	1,719,733	1,736,104	1,706,815
Shandong	1,160,518	1,152,026	1,216,542	1,287,563	1,318,030	1,314,149	1,302,769
Henan	3,040,858	2,838,943	2,654,305	2,601,412	2,604,409	2,454,576	2,321,866
Shanxi	1,758,640	1,791,573	1,828,871	1,789,379	1,779,652	1,637,179	1,672,135
Shaanxi	2,057,676	2,118,726	2,159,078	2,237,835	2,266,913	2,200,218	1,918,638
Gansu	1,913,524	1,943,615	1,937,066	1,912,758	1,920,104	1,893,571	1,874,030
Wulumuqi	684,917	716,279	701,231	699,119	760,363	767,903	775,955
Sichuan	3,972,722	3,980,314	3,988,869	3,989,872	3,989,872(?)	3,990,374	3,990,816
Guangdong	3,436,165	3,442,872	3,446,696	3,442,769	3,431,643	3,433,185	3,438,747
Guangxi	1,750,251	1,746,684	1,750,128	1,748,886	1,745,998	1,751,790	1,752,844
Yunnan	1,210,402	1,215,330	1,220,849	1,212,168	1,243,710	1,220,908	1,222,506
Guizhou	2,005,142	2,015,279	2,015,406	2,014,473	2,024,556	2,024,742	2,024,920
<i>Shilu</i> total:	32,149,030	32,018,021	32,379,814	32,301,218	32,493,301	31,503,125	29,274,284

Year (Chinese year:)	1849 (DG 29)	1850 (DG 30)	1851 (XF 1)	1852 (XF 2)	1853 (XF 3)	1854 (XF 4)	1855 (XF 5)
<b>Province</b>							
Fengtian	114,422	145,803	183,590	217,381	128,462	150,901	181,610
Jilin	35,529	35,761	36,512	35,896	36,435	36,674	36,817
Zhili	601,529	612,715	640,450	656,380	659,550	595,246	440,190
Anhui	1,675,625	2,529,672	2,529,672	2,529,672			
Jiangsu			231,618	218,626			
Jiangxi	1,232,853	1,232,060	1,155,076	1,166,685	1,108,723	1,152,121	1,105,779
Zhejiang			563,613	559,734	551,527	512,016	506,200
Fujian							
Hubei	858,012	650,089	633,252				
Hunan	1,190,655	1,212,608	1,246,847				
Shandong	828,792	836,240	881,637	859,192	777,535	764,454	754,824
Henan	2,336,215	2,350,098	1,240,032	1,213,494	1,214,776	1,209,274	1,206,250
Shanxi	1,617,348	1,615,977	1,669,787	1,662,124	1,693,778	1,648,407	1,621,809
Shaanxi	2,230,952	2,387,960	2,444,822	2,408,145	2,513,652	2,831,556	2,479,840
Gansu	1,888,293	1,260,417	1,248,157	1,288,286	1,282,153	1,029,767	1,076,090
Wulumuqi	789,788	1,077,613	915,990	703,304	735,029	746,495	
Sichuan	3,968,610	3,963,920	3,951,928	3,996,759	3,016,701	3,027,844	3,025,382
Guangdong	3,435,148	3,439,925	2,710,230	2,727,380	2,734,334		
Guangxi	1,746,451	1,751,129	1,749,723	1,751,606	1,757,747	1,747,432	1,573,584
Yunnan	1,158,421	1,155,730	1,157,338	1,173,713	1,182,182	1,191,471	1,196,314
Guizhou	1,906,294	1,907,799	1,921,219	2,026,090	2,026,398(?)	2,026,398(?)	431,086
<i>Shilu</i> total:	25,726,606	27,492,420	27,111,502	24,222,537	20,683,797	18,103,566	15,204,599

Table A.2, cont.

Year: (Chinese Year:)	1856 (XF 6)
<b>Province</b>	
Fengian	214,607
Jilin	37,015
Zhili	414,641
Anhui	
Jiangsu	
Jiangxi	570,962
Zhejiang	503,452
Fujian	
Hubei	
Hunan	
Shandong	743,659
Henan	1,203,607
Shanxi	1,639,710
Shaanxi	2,813,135
Gansu	1,083,053
Wulumuqi	516,387
Sichuan	3,006,998
Guangdong	
Guangxi	
Yunnan	
Guizhou	
<i>Shilu</i> total:	13,435,839

**Sources**

All the figures in this table have been copied in the *Quanguo fensheng minshu gushu qingce* (National registers of population and granary holdings arranged by provinces) kept at the Number One Historical Archives, Beijing, either from the *Huangce* record group, *wen* numbers 497, 965–998 and 6698, or from a number of uncatalogued registers for the years 1813, 1817, 1821–1824 and 1826–1830.

**Notes**

<sup>a</sup> Source: *Sanzhou jilüe*, 3.99. It is not possible to know whether this figure is a *minshu gushu* figure or reproduces a year-end *zouxiao* report. It may refer to either 1804 or 1805.

<sup>b</sup> Figures rounded to the nearest thousand.



# Glossary

Counties and prefectures for which gazetteers appear in the Bibliography are not included here.

## A

Aertai 阿爾泰  
Agui 阿桂  
Aligun 阿里袁  
Alinbao 阿林保  
Alou 阿陋  
Ami 阿迷  
Asiha 阿思哈  
Aibida 愛必達  
Anhua 安化  
An Lushan 安祿山  
Annan 安南  
Anning 安寧  
Anping 安平  
Anqiu 安邱  
an shu jieshou 按數接收  
Anshun 安順

an tian pai gu 按田派穀  
Anxiang 安鄉  
Anyang 安陽  
ang 昂  
ao 廌  
aodi 廌底

## B

Bazhai 八寨  
bai 稗  
Baiyan 白鹽  
Bai Zhongshan 白鐘山  
bao 保  
baogu 包穀  
baojia 保甲  
baojie 報結

Baojing 保靖  
 baolan 包攬  
 baomai 包買  
 Baoning 寶寧  
 Baoqing 寶慶  
 Baoshan 保山  
 baoxiao 報銷  
 baozheng 保正  
 Beicang 北倉  
 bei Guangdong 備廣東  
 Beihenuo 貝和諾  
 bei minjian huanji zhi xu 備民間  
 間緩急之需  
 bei pangren shougao 被旁人  
 人首告  
 bennian 本年  
 ben nianfen 本年分  
 benyuan jing fang gujia, min  
 qian wei wan 本員經放穀  
 價,民欠未完  
 Bi 費  
 Bijie 畢節  
 Bi Yuan 畢沅  
 bianmancang 便民倉  
 bianse 變色  
 biao 表  
 Bin 濱  
 Binchuan 賓川  
 binglu 兵錄  
 bing wu caimai zhi kuan 並無  
 採買之款  
 bingxiang 兵餉  
 bing xiaomai zhe gu 並小麥  
 折穀  
 bo gei 撥給

Boji 博濟  
 Boping 博平  
 Boshan 博山  
 Boxing 伯興  
 bu ban 不辦  
 bujia 部價  
 buqi 補苴  
 bushi pancha 不時盤查  
 bu ying zhonggong 不應重  
 公

C

caimai 採買  
 cang 倉  
 cang'ao 倉廩  
 Cang'ao yi 倉廩議  
 cangchu 倉儲  
 cangchu haozhe 倉儲耗折  
 cangchu jiaodai 倉儲交代  
 cangdou 倉斗  
 cangdou shi 倉斗石  
 cang'e yingzhu gu 倉額應貯  
 穀  
 cangfeiyin 倉費銀  
 canghu 倉斛  
 cangshi 倉石  
 cangshu 倉書  
 Cao 曹  
 caogucang 漕穀倉  
 Caozhou 曹州  
 Celeng 策楞  
 ce liu lan 冊留覽  
 chadui 查對

- Chaling 茶陵  
 cha wu kuikong 查無虧空  
 chang 廠  
 Chang'an 長安  
 Changjun 常鈞  
 Changle 昌樂  
 Changlin 長麟  
 Changlu 長蘆  
 Changming 常明  
 changpingcang 常平倉  
 changpingcang cuntiao dingli  
 常平倉存糶定例  
 changpingcang echu 常平倉  
 額儲  
 Changpingcang gu zhangcheng  
 shu 常平倉穀章程疏  
 changpingcang mi 常平倉米  
 changping guben 常平穀本  
 changping gushu 常平穀數  
 changping jichu 常平積儲  
 Changqing 長清  
 Changshan 長山  
 Changyi 昌邑  
 Changzhai 長寨  
 Changzhou 常州  
 Chaocheng 朝城  
 chexiu 拆修  
 Chen 陳  
 chenchen xiangyin 陳陳相因  
 Chen Dashou 陳大受  
 chengu 陳穀  
 Chen Hongmou 陳宏謀  
 Chen Huizu 陳輝祖  
 Chen Jiyi 陳繼義  
 Chen Qi 陳祁  
 cheng 成  
 chengban 承辦  
 Chengbu 城步  
 Chengge 成格  
 Chenggong 呈貢  
 Chengjiang 激江  
 Chengning 成寧  
 chengse 成色  
 Cheng Tao 程燾  
 Chengwu 城武  
 chengxiu 承修  
 Cheng Yucai 程裔采  
 chimai you an 遲買有案  
 Chiping 荏平  
 chonggong 充公  
 chouban 籌辦  
 choupan 抽盤  
 chubei 儲備  
 chu chen yi xin 出陳易新  
 chujie 出結  
 Chuxiong 楚雄  
 chu yuanbao xubao tiaojie 除  
 原報續報糶借  
 chuan'gen 串根  
 chuangu 創舉  
 congqian 從前  
 cui 催  
 Cui Yingjie 崔應階  
 cun Gong 存公  
 cun Gong yinliang 存公銀兩  
 cun Gong 存穀  
 cunliucang 存留倉

## D

- Dading 大定  
 dadou 大豆  
 Daguan 大關  
 dahu you gu zhi jia 大戶有  
     穀之家  
 Dali 大理  
 dalu 大路  
 damai 大麥  
 Datang 大塘  
 Dayao 大姚  
 Dayou cang 大有倉  
 Daxing 大興  
 dadou 大豆  
 Dai Junyuan 戴均元  
 daimai 代買  
 dai wei choumai 代爲籌買  
 Dai Zhi 戴芝  
 Danjiang 丹江  
 dao 盜  
 daogu 稻穀  
 daoku 道庫  
 Daozhou 道州  
 Defu 德福  
 Deping 德平  
 Dezhou 德州  
 Dengchuan 鄧川  
 Dengzhou 登州  
 Deng Tingzhen 鄧廷楨  
 di 地  
 dibao 地保  
 diding 地丁  
 diding yin 地丁銀  
 difang 地方  
 digun 地棍  
 di jin yi qian 地饉易歉  
 dian 佃  
 Dingchang 定長  
 ding'e 定額  
 Dingfan 定番  
 dingjia 定價  
 dingshu 丁書  
 Dingtao 定陶  
 Dingyuan 定遠  
 Dong'a 東阿  
 Dong'an 東安  
 dongbo 動撥  
 Dongchuan 東川  
 Dong Jiaozeng 董教增  
 Dongping 東平  
 dongque 動缺  
 Dongsi cang 東司倉  
 Dongting 洞庭  
 dong xiang 動項  
 dongxun 東巡  
 dongyong 動用  
 dongyong ji jienian minqian  
     動用及屆年民欠  
 dou<sup>a</sup> 斗  
 dou<sup>b</sup> 豆  
 douji 斗級  
 dou shi xukai cezi, menhun  
     zaobao 都是虛開冊子，  
     蒙混造報  
 douxue 竇穴  
 Dujiang 都江  
 Dushan 獨山  
 Duyun 都勻

duan bu gan shao cun qishi 斷  
不敢少存歧視  
duanfa 短發  
duanjia 短價  
duanshao 短少

## E

e 額  
Ebao 鄂寶  
Ebi 鄂弼  
Echang 鄂昌  
echu 額儲  
ecun 額存  
Eertai 鄂爾泰  
ejia 額價  
Ejia 磬嘉  
Elebu 額勒布  
Emida 鄂彌達  
Erongan 鄂容安  
e shaonian 惡少年  
ewai 額外  
ewai beizhu 額外備貯  
ezhu 額貯  
En 恩  
En'an 恩安  
Enle 恩樂

## F

Famin 法敏  
Fan 范  
fanju 繁劇

fanju zhi di 繁劇之地  
fanku 藩庫  
Fan Li 范蠡  
Fan Shishou 范時綬  
fan suike zouxiao 凡歲課奏  
銷

Fang Bao 方苞  
Fang Guancheng 方觀承  
Fang Shijun 方世儁  
Fang Weidian 方維甸  
fei 費  
Feicheng 肥城  
fei qu min yi zi feng 非取民  
以自豐  
feisa 飛灑  
fempai 分派  
fengchuang 風窗  
Feng Guangyu 馮光裕  
Fenghuang 鳳凰  
fengnian beichu 豐年備儲  
Feng Qian 馮鈐  
feng wen 奉文  
Fengxiang 鳳翔  
fengxing bu li 奉行不力  
Fengyang 鳳陽  
Fu 鄙  
fucang 府倉  
fucang gaigui shouyi jingli 府  
倉改歸首邑經理  
fucang guibing gu 府倉歸併  
穀  
Fuchashan 富察善  
fugu 府穀  
Fukang'an 福康安  
fuku 府庫

Fulehun 富勒渾  
 Fumin 富民  
 Funihan 富尼漢  
 Funing 阜寧  
 Fushan 福山  
 fushou 浮收  
 fuxiao 浮銷  
 Fuzhou 福州  
 fuzhu 附貯

## G

gaigui shouyi guanli 改歸首  
 邑管理  
 Gaoheng 高恒  
 gaoliang 高粱  
 Gaojin 高晉  
 Gaomi 高密  
 Gaotang 高唐  
 Gao Tingshu 高廷樞  
 Gaoyuan 高苑  
 ge 合  
 gecang 各倉  
 gecang gu 各倉穀  
 gesheng cang'ao 各省倉廩  
 gezhi liuren 革職留任  
 gengdian nongmin 耕佃農民  
 gongben 工本  
 gongbu 工部  
 gongliao 工料  
 gongxiang 公項  
 gu 穀  
 gujia 穀價  
 gu jian shang nong 穀賤傷農  
 guzhong 穀盅  
 Guzhou 古州  
 Guan 冠  
 Guancheng 觀城  
 guangu 官穀  
 Guantao 館陶  
 guan wei zhu zhi 官爲主之  
 guanwu 官物  
 guanyicang 關義倉  
 guanzhuang 官莊  
 Guanzi 管子  
 Guangfengcang 廣豐倉  
 Guanghou 廣厚  
 guanghuicang 廣惠倉  
 Guangji 廣濟  
 Guanglusi shaoqing 光祿寺  
 少卿  
 Guangnan 廣南  
 Guangshun 廣順  
 Guangtong 廣通  
 Guangxi 廣西  
 Guang yicang 廣義倉  
 Guangzhou 廣州  
 Gui 貴  
 guibing 歸併  
 Guiding 貴定  
 Guihua 歸化  
 guikuan 歸款  
 Guiliang 桂良  
 Guiyang 貴陽  
 gui yu difangguan shouzhu 歸  
 於地方官收貯  
 Guizhu 貴筑  
 Guotai 國泰  
 Guo Yiyu 郭一裕

## H

Haifeng 海豐  
 haijin 海禁  
 Haiyang 海陽  
 Han Feng 韓封  
 Han Kejun 韓克均  
 Hankou 漢口  
 Hanyang 漢陽  
 Hanzhong 漢中  
 hanghu 行戶  
 Hangzhou 杭州  
 haomi 耗米  
 Hao Shuo 郝碩  
 Hefei 合肥  
 Hejian 河間  
 Heqizhong 和其衷  
 Heqing 鶴慶  
 Hequ 和曲  
 Heshen 和珅  
 Heshunwu 和舜武  
 Hexi 河西  
 Heyang 河陽  
 He Yucheng 何裕城  
 Heze 荷澤  
 heidou 黑豆  
 Heiyan 黑鹽  
 Hengwen 恒文  
 Hongwu 洪武  
 huban 護板  
 Hu Baoquan 胡寶琮  
 hubu 戶部  
 Hu Jitang 胡季堂  
 Hu Linyi 胡林翼  
 hulu 戶錄

hupan jiebao 互盤結保  
 huying bu ling 呼應不領  
 Hu Yinglong 胡應龍  
 Huzhou 湖州  
 huahu 花戶  
 huanmai 緩買  
 Huang 黃  
 huangce 黃冊  
 huangdou 黃豆  
 Huang Jian 黃檢  
 Huang Kerun 黃可潤  
 Huangmei 黃梅  
 huangmi 黃米  
 Huangping 黃平  
 Huang Tinggui 黃廷桂  
 Hui (king of Liang) 梁惠王  
 huikao fu 會考府  
 Huiling 惠齡  
 Huimin 惠民  
 Huize 會澤  
 Huizhou 徽州  
 huohao 火耗  
 huoque 豁缺

## J

ji<sup>a</sup> 稷  
 ji<sup>b</sup> 集  
 Jicha cangchu 稽查倉儲  
 jichu 積儲  
 Jimo 即墨  
 Jinan 濟南  
 Jining 濟寧  
 Jiqing 吉慶

- Jiyang 濟陽  
 jizhu 積貯  
 jizhu (entrusted storage)  
   寄貯  
 jizhu gu 積貯穀  
 Jizhu tiaotian 積貯條件  
 jiading 家丁  
 jiamai zhuozhu gu 加買酌貯  
   穀  
 Jiexiang 嘉鄉  
 Jiaxing 嘉興  
 jiazeng 加增  
 jiazhu 加貯  
 jiazhu gu 加貯穀  
 jian 間  
 jiancang 監倉  
 Jianchuan 劍川  
 jiangu 監穀  
 jiangucang 監穀倉  
 jianhao 減耗  
 Jian Lai fu Xicang ji 建萊府  
   西倉記  
 jianmi 尖米  
 jianpan weiyuan 監盤委員  
 jianse 減色  
 Jian shecang yi 建社倉議  
 jiansheng 監生  
 Jianshui 建水  
 jianxu duyi 奸胥蠹役  
 Jianyi changping cang ao 建  
   議常平倉廩  
 Jiang Bing 蔣炳  
 Jiangchuan 江川  
 Jianghua 江華  
 Jiangling 江陵
- Jiangning 江寧  
 Jiang Pu 蔣溥  
 Jiang Sheng 姜晟  
 Jiangxia 江夏  
 jiaodai 交代  
 Jiao 膠  
 jiegu huahu 借穀花戶  
 Jieliu caoliang yi chong jizhu  
   zhazi 截留漕糧以充積  
   貯筭子  
 jienian 屆年  
 jieshou qingchu cejie 接收清  
   楚册結  
 Jin 錦  
 jincang shouhao 進倉收耗  
 Jinping 錦屏  
 jinshi 進士  
 jintie 津貼  
 Jinxiang 金鄉  
 jin yile 近抑勒  
 Jingdong 景東  
 jingdou 京斗  
 jingdou gu 京斗穀  
 jingdou liang 京斗糧  
 jingdou shi 京斗石  
 jingji 經紀  
 jingshi<sup>a</sup> 經世  
 jingshi<sup>b</sup> 京石  
 Jing Tong cang'ao 京通倉廩  
 jiuguan 舊管  
 Jiujiang 九江  
 Ju 莒  
 juren 舉人  
 juxing maowei juzou 遽行冒  
   味具奏

Juye 鉅野  
 juangu 捐穀  
 juangucang 捐穀倉  
 juanjian 捐監  
 juanjiancang 捐監倉  
 juanmai 捐買  
 juanna 捐納  
 juanna juanshu gu 捐納捐  
 輸穀  
 juanshu 捐輸  
 juanyicang 捐義倉  
 juanzeng 捐增  
 junxiu 俊秀  
 junyun tanpai 均勻攤派  
 jun zhan shihui 均沾實惠

## K

Kaerjishan 喀爾吉善  
 Kaning'a 喀寧阿  
 Kai 開  
 kaichu 開除  
 Kaihua 開化  
 Kaitai 開泰  
 Kaiyuan 開原  
 Kang Shaoyong 康紹鏞  
 keshang 客商  
 keyi ji changping zhi bu ji 可  
 以濟常平之不及  
 ke ying sheng 可應生  
 kong fang minshi 恐防民食  
 Kong Shangren 孔尚仁  
 Kong Yuxun 孔毓珣  
 kouliang 口糧

kucang 庫倉  
 kuqiao 苦蕎  
 Kuichang 奎昌  
 kuikong 虧空  
 kuique 虧缺  
 Kuishu 夔舒  
 Kunming 昆明  
 Kunyang 昆陽

## L

Lai Chao 來朝  
 Laiwu 萊蕪  
 Laiyang 萊陽  
 Laizhou 萊州  
 lanjie 濫借  
 Lanshan 蘭山  
 Lanzhou 蘭州  
 Langdai 郎岱  
 Langgan 琅玕  
 Langqiong 良穹  
 Langyan 琅鹽  
 Le'an 樂安  
 Lebao 勒保  
 ledi 勒羅  
 Leerjin 勒爾謹  
 Leling 樂陵  
 lepai 勒派  
 leshu 樂輸  
 leiji 累及  
 li 里  
 Li Ben 李本  
 Libo 荔波  
 Licheng 歷城

Li Diantu 李殿圖

Li Feng 李封

Li Fu 李紱

Li Hongbin 李鴻賓

Li Hu 李湖

lijia<sup>a</sup> 里甲lijia<sup>b</sup> 例價

Lijiang 麗江

Lijin 利津

Li Kui 李愷

linian shecang gu 歷年社蒼穀

Liping 黎平

Li Shijie 李世傑

Li Shiyao 李侍堯

Li Wei 李衛

Li Xiqin 李錫秦

Li Yinpei 李因培

Lizhou 澧州

liang 糧

Liang Baochang 梁寶常

Liangchu dao 糧儲道

Liangqing 良卿

liangtun 糧囤

Liang Zhongjing 梁中靖

Liang Zhuhong 梁燾鴻

Liaocheng 聊城

Liaoyang 遼陽

Lin'an 臨安

Linqing 臨清

Linqi 臨朐

Linyi 臨邑

Lin Zexu 林則徐

Linzi 臨淄

ling jia caimai beizhu gu 領  
價採買備貯穀

Lingling 零陵

Liubu chufen zeli 六部處分  
則例liu chong que'e maibu zhi xu  
留充缺額買補之需

Liu E 劉峨

Liu Quanzhi 劉權之

Liu Yong 劉墉

Liu Zao<sup>a</sup> 劉慥Liu Zao<sup>b</sup> 劉藻

Longli 龍里

Longling 龍陵

Longquan 龍泉

Longshan 龍山

Longyang 龍陽

Ludian 魯甸

Lufeng 祿豐

Luliang 陸良

Lunan 路南

Luquan 祿勸

Lu Yao 陸燿

Lu Zhongren 陸忠仁

Lu Zhuo 盧焯

Lü Kun 呂坤

Luoci 羅次

Luohu 羅斛

Luoping 羅平

Luoyang 洛陽

## M

Maha 麻哈

Malong 馬龍

mai 麥

maibu canggu 買補倉穀  
 maibu yi shi, ban chu guo'en,  
     ban zi minli 買補一事,  
     半出國恩,半自民力  
 maibu yunfei 買補運費  
 Mailaxun 邁拉遜  
 maogu 毛穀  
 meibian 霉變  
 meibian zhi chu 霉變之處  
 Meitan 湄潭  
 Menghua 蒙化  
 Mengyin 蒙陰  
 Mengzi 蒙自  
 mi 米  
 michang 米場  
 mi feng 彌縫  
 migu 米穀  
 mi gu zaliang zhe gu 米穀雜  
     糧折穀  
 Mile 彌勒  
 mian 麵  
 mian jiaodui zhi fan 免較兌  
     之煩  
 Mianning 緬寧  
 Miao 苗  
 Min Eyuan 閔鄂元  
 minjia 民價  
 minjian jichu 民間積儲  
 minqian 民欠  
 minshu gushu zouzhe 民數穀  
     數奏摺  
 Mingde 明德  
 Mingshan 明善  
 Mingtong 銘通

Mingxing 明興  
 mou duo 謀奪  
 muyou 幕友

## N

Nasutu 那蘇圖  
 Nayancheng 那顏成  
 nai yiding zhi li 乃一定之理  
 Nan'an 南安  
 nanliang 南糧  
 Nanning 南寧  
 Nanzhao yeshi 南詔野史  
 nei 內  
 nei chu dongyong ji jienian  
     minqian gu 內除動用及  
     屆年民欠穀  
 nei chu genian jiuqian ji ben-  
     nian jietiao 內除各年舊  
     欠及本年借糶  
 neiwufu 內務府  
 nian qing nian kuan 年清年  
     款  
 nianshi 碾試  
 nie ci 捏詞  
 Ning 寧  
 Ning'er 寧洱  
 Ninghai 寧海  
 Ningyang 寧陽  
 Ningyuan 寧遠  
 Niu Jian 牛鑑  
 nuoyi 挪移  
 nuoyong 挪用

## P

paidan 派單  
 pailei xiaomin 派累小民  
 pailing xianshu you tian zhi  
     hu, an mou chu qian 派令  
     縣屬有田之戶,按畝出錢  
 paimai 派買  
 paimai raomin 派買擾民  
 pancha 盤查  
 pancha cangku 盤查倉庫  
 pancha cangliang 盤查倉糧  
 panliang 盤糧  
 panliang zhehao 盤糧折耗  
 panliang zhejian 盤糧折減  
 panqing jiebao 盤清結報  
 Pan Siju 潘思渠  
 peidian 賠墊  
 peijie 賠解  
 peiyong 賠用  
 peizhi 賠支  
 Pei Zongxi 裴宗錫  
 Peng Jiaping 彭家屏  
 Penglai 蓬萊  
 Peng Shukui 彭樹葵  
 pilu 僻路  
 piao 票  
 piaodi 票地  
 piaoshang 票商  
 Pingdu 平度  
 pingtiao 平糶  
 Pingyi 平彝  
 Pingyin 平陰  
 Pingyuan (Shandong) 平原  
 Pingyuan (Guizhou) 平遠

Pingyue 平越

Pu 濮

Pu'an 普安

pudian 鋪墊

Puding 普定

Puer 普洱

pujitang 普濟堂

Pu Lin 浦霖

Pushi 浦市

Putai 蒲台

Puzhou 蒲州

## Q

Qidong 齊東

Qihe 齊河

qicang 旗倉

qilong 氣籠

qilou 氣樓

Qimen 祁門

Qishan qi 琦善

qita zhouxian bu de tongrong

其他州縣不得通融

qitong 氣筒

qitou aodi 氣頭廐底

Qixia 棲霞

qian<sup>a</sup> 欠qian<sup>b</sup> 錢

qiangu 錢穀

qianliang jiaodai 錢糧交代

Qian Qi 錢琦

qianquan 欠券

Qianxi 黔西

- Qianyang 黔陽  
 qiang wei sanpai 強爲散派  
 qiangxing paimai 強行派買  
 qiao 蕎  
 qiaocheng canggu chujie 巧  
 稱倉鼓出借  
 Qiao Xueyin 喬學尹  
 qiao zhe mi 蕎折米  
 qiaozi 蕎子  
 qinfeng gu 欽奉穀  
 qinshi 侵蝕  
 qinwang pancha 親往盤查  
 qingce 清冊  
 qingcha 清查  
 qingcha an 清查案  
 Qingcheng 青城  
 qingdou 青豆  
 Qingduan 慶端  
 Qingfu 慶復  
 Qing ge zhisheng xing chang-  
 ping juangu shu 請各直省  
 行常平捐穀疏  
 Qingjiang 清江  
 qingke 青稞  
 Qingli changping yanyi deng  
 gu 清理常平鹽義等穀  
 qingmiao fa 青苗法  
 Qingmiao shecang yi 青苗  
 社倉議  
 Qingping 清平  
 qing qi jiaodai 清其交代  
 Qingquan 清泉  
 Qingxi 清谿  
 Qingyuan 清苑  
 Qingzhen 清鎮  
 Qingzhou 青州  
 Qiu 邱  
 Qiubei 邱北  
 Qiu Jiawei 邱家煒  
 Qufu 曲阜  
 Qujing 曲靖  
 Quzhou 衢州  
 Quanbao 全保  
 quan cheng feiwu 全成廢物  
 quanjuan shegu 勸捐社穀  
 Quankui 全魁  
 quanliang 權量  
 Quan she yi cang zhangcheng  
 shu 勸社義倉章程疏  
 quan wei chujie 權爲出結  
 queduan 缺短  
 quegu 缺穀  
  
 R  
 Renhuai 仁懷  
 reng gui cang zhu 仍歸倉  
 貯  
 Rizhao 日照  
 Rong 融  
 Rongcheng 榮成  
 Ruan Yuan 阮元  
  
 S  
 Sazai 薩載  
 Saileng'e 塞楞額  
 Sanbao 三寶

- sancang 散倉  
 Sanjiaotun 三腳屯  
 sanjie liang shengri zhi siqing  
 三節兩生日之私情  
 Sanshui 三水  
 Sang Hongyang 桑弘羊  
 Sangzhi 桑植  
 Sebuxing'e 色卜星額  
 Shashi 沙市  
 shan 穆  
 Shan 單  
 Shanhua 善化  
 Shanzhou 陝州  
 shangcang 商倉  
 Shanghai 上海  
 Shanghe 商河  
 shangshecang 商社倉  
 shangshugu 商輸穀  
 shecang 社倉  
 Shecang baojia xiang jingwei  
 shu 社倉保甲相經緯疏  
 shecang bing yicang guibing gu  
 社倉並義倉歸併穀  
 she dian zhi juxiang dazhen 設  
 店之巨鄉大鎮  
 shefu 社副  
 sheli changpingcang 設立常  
 平倉  
 She 歙  
 shezhang 社長  
 shenshi 紳士  
 Shen Shifeng 沈世楓  
 sheng 升  
 shengcang 省倉  
 sheng dou hu 升斗斛  
 shengyuan 生員  
 shi 石  
 Shibing 施秉  
 shicha 失察  
 shicheng laomi 十成老米  
 shicun gu 實存穀  
 Shidai 石埭  
 shidou 市斗  
 Shier guan 十二關  
 Shiliha 石禮哈  
 shi maibu wei weitu 視買補  
 爲畏途  
 Shiping 石屏  
 Shiqian 石阡  
 shiye 世業  
 Shi Yiang 史奕昂  
 shiyingcun 實應存  
 shizai 實在  
 shizai cuncang 實在存倉  
 shizhu 實貯  
 shizhu juanshu gu 實貯捐  
 輸穀  
 Shizong 師宗  
 Shouguang 壽光  
 shouliang shangcang 收糧上  
 倉  
 Shouzhang 壽長  
 shu 黍  
 shugucang 輸穀倉  
 shuhao 鼠耗  
 Shulin 書麟  
 Shuai Nianzu 帥念祖  
 Shuicheng 水城  
 shuici 水次  
 Shunning 順寧

Shuntian 順天  
 Shuose 碩色  
 si 私  
 sili kuiduan yueyi 私立虧短  
   約議  
 Simao 思茅  
 Sinan 思南  
 Sishui 泗水  
 sixia 私下  
 sixing daomai 私行盜賣  
 Sizhou (Anhui) 泗州  
 Sizhou (Guizhou) 思州  
 sizhu 四柱  
 Song Bangsui 宋邦綏  
 Songfu 嵩孚  
 Songjun 松筠  
 Songming 嵩明  
 su 粟  
 Suchang 蘇昌  
 Sucheng'e 蘇成額  
 sugu 粟穀  
 sumi 粟米  
 Suzhou 蘇州  
 Suide 綏德  
 suidi zoubao an 歲底奏報案  
 Suiyang 綏陽  
 Sun Erzhun 孫爾準  
 Sun Jiagan 孫嘉淦  
 Sun Yongqing 孫永清  
 Sun Yuting 孫玉庭  
 suo 所  
 suoyi guzi duanshaole 所以  
   穀子短少了

## T

Talang 他郎  
 Taian 泰安  
 Taibu 台布  
 Taigong 台拱  
 Taihe 泰和  
 Taiping 太平  
 Tancheng 郟城  
 tanta 坍塌  
 tangbu 堂簿  
 Tangyi 堂邑  
 taowang 逃亡  
 Tao Zhu 陶澍  
 tepai dachen 特派大臣  
 Teng 滕  
 Tengyue 騰越  
 tianchuang 天窗  
 tianfu 田賦  
 Tianjin 天津  
 Tianmen 天門  
 Tian Wenjing 田文鏡  
 Tianzhu 天柱  
 tiaomai cangchu 糶賣倉儲  
 tiaoque gu 糶缺穀  
 tiaosan 糶三  
 Tiebao 鐵保  
 Tieling 鐵嶺  
 tieshui 鐵稅  
 ting 廳  
 Tongchang shiyi shitiao 統  
   廠事宜十條  
 Tongguan 潼關  
 Tonghai 通海  
 tongpan 通判

Tongren 銅仁  
 tongrong 通融  
 tongrong bobu 通融撥補  
 tongrong zhuoban 通融酌辦  
 tongsheng gu 通省穀  
 tongzhi 同知  
 Tongzhou (Zhili) 通州  
 Tongzhou (Shaanxi) 同州  
 Tongzi 桐梓  
 Tuerbing'a 圖爾炳阿  
 tuhao digun 土豪地棍  
 tunliang 屯糧  
 Tuoendo 託恩多  
 Tuoyong 託庸

## W

wacao aofang 瓦草廩房  
 wai 外  
 waishang 外商  
 wandou 豌豆  
 Wan Gongzhen 萬貢珍  
 wan rou bu chuang 剜肉補瘡  
 wanshi cangchu 玩視倉儲  
 wang 網  
 Wang Anguo 王安國  
 Wang Anshi 王安石  
 Wang Danwang 王亶望  
 Wang Huizu 汪輝祖  
 Wang Mo 王謨  
 Wang Rou 王柔  
 Wang Shiren 王仕仁  
 Wang Tingzan 王廷贊

Wang Weiqing 王瑋慶  
 Wang Zhiyi 汪志伊  
 wei 衛  
 Wei 濰  
 Wei (riv.) 衛  
 Wei Dingguo 魏定國  
 wei li si pai 違例私派  
 weimai gu 未買穀  
 Weining 威寧  
 Weixi 維西  
 weiyuan 委員  
 Weiyuan 威遠  
 Wei Yuan 魏源  
 Wei Zhezhi 衛哲治  
 Wendeng 文登  
 wenrun 溫潤  
 Wenshan 文山  
 Wenshang 汶上  
 Wenzhou 溫州  
 Weng'an 夔安  
 Wuchang 武昌  
 Wucheng 武城  
 Wuchuan 婺川  
 Wudashan 吳達善  
 Wuding 武定  
 Wugang 武岡  
 wuji 無幾  
 wu ke zhuozhui 無可著追  
 Wumeng 烏蒙  
 Wu Wenrong 吳文鎔  
 Wu Xiongguang 吳熊光  
 Wuyang 舞陽  
 wuyezhe 無業者  
 wuye zhi ren 無業之人

## X

Xi'an 西安  
 xice 細冊  
 Xi'e 薺  
 Xiajiang 下江  
 Xiajin 夏津  
 xiancun zhi gu 現存之穀  
 Xianfu 先福  
 xianzai 現在  
 xiang 鄉  
 Xiang (Riv.) 湘  
 xiangbao 鄉保  
 xiangdi 鄉地  
 xianglao 鄉老  
 xiangli 鄉里  
 Xiangyin 湘陰  
 xiaomai 小麥  
 xiaomi 小米  
 xiepan 協盤  
 Xie Qikun 謝啓昆  
 Xin 莘  
 Xincheng 新城  
 Xinning 新寧  
 Xiping 新平  
 xinshou 新收  
 Xintai 新泰  
 Xinxing 新興  
 Xing'an 興安  
 xingjian 興建  
 Xingyi 興義  
 Xiong Mei 熊枚  
 Xiong Xuepeng 熊學鵬  
 xiugai 修蓋  
 xiuqi 修葺

Xiuwen 修文  
 Xugou 徐溝  
 Xu Ji 徐績  
 xumai 續買  
 Xu Qi 徐杞  
 Xu Rong 許容  
 Xuzhou 徐州  
 Xuanwei 宣威  
 xunbi 徇庇  
 Xundian 尋甸  
 xunsi 徇私  
 xunyin zhejia 徇隱折價  
 Xunzhou 潯州

## Y

Yaertu 雅爾圖  
 yahang 牙行  
 Yan'an 延安  
 yanjia heshi 嚴加覈實  
 yanjin tunji zaogu 嚴禁囤積  
 槽穀  
 yanpiao yicang 鹽票義倉  
 Yan Ruilong 嚴瑞龍  
 yanshecang 鹽社倉  
 Yan Sisheng 晏斯盛  
 yanyicang 鹽義倉  
 Yanzhou 兗州  
 Yanggu 陽穀  
 Yang Guozhen 楊國楨  
 Yang Kui 楊魁  
 yang min 養民  
 Yang Mingshi 楊名時  
 Yang Xifu 楊錫紱

- Yangxin 陽信  
 Yang Yingju 楊應琚  
 Yang Zhaojin 楊昭謹  
 Yang Zhixin 楊志信  
 Yao 姚  
 Yaoan 姚安  
 Yao Chenglie 姚成烈  
 Ye Shaokui 葉紹棊  
 Yi (Yanzhou pref.) 嶧  
 Yi (Laizhou pref.) 掖  
 Yi 夷  
 yi benyi zhi yingyu wei benyi  
 zhi bobu 以本邑之盈餘  
 爲本邑之撥補  
 yicang 義倉  
 Yicang guitiao 義倉規條  
 yicang jichu 義倉積儲  
 yidan 議單  
 yiding 議定  
 Yidu 益都  
 yi'e gu 溢額穀  
 yigu<sup>a</sup> 溢穀  
 yigu<sup>b</sup> 義穀  
 yi jiuqian zuo xinling 以舊  
 欠作新領  
 Yiliang 宜良  
 yi mai wei jiao 已買未交  
 Yimen 易門  
 Yimin 夷民  
 yipai xianghu, qiangshou fu-  
 min 抑派鄉戶，強授  
 富民  
 Yisang'a 伊桑阿  
 Yi shecang yu gu yitong shu  
 議社倉與古異同疏  
 yishi mai nan zushu 一時  
 買難足數  
 Yishui 沂水  
 yitian 義田  
 yi tiaojie wei ming, yanshi kui-  
 kong 以糶借爲名，掩飾  
 虧空  
 yi zhese zuo bense 以折色  
 作本色  
 yizheng 滉蒸  
 Yizhou 沂州  
 yindi 引地  
 Yinjishan 尹繼善  
 Yinjiang 印江  
 yinshang 引商  
 yinshe 隱射  
 yinshi you tian zhi jia 殷實  
 有田之家  
 yin yi fei shi 因噎廢食  
 yingcun 應存  
 yingcun gu 應存穀  
 ying'e liangjia 盈額糧價  
 yingjian 營建  
 yingjuan gu 應捐穀  
 ying wuyong kouchu 應無庸  
 扣除  
 yingyu gu 盈餘穀  
 yingyu liangjia 盈餘糧價  
 yingyu yin 盈餘銀  
 yingyun caoliang 應運漕糧  
 yingyun shengxi 營運生息  
 Yingzhou 穎州  
 Yongbei 永北  
 Yongchang 永常  
 Yongchang (pref.) 永昌

- Yongcong 永從  
 Yongfeng 永豐  
 Yongji cang 永濟倉  
 Yongming 永明  
 Yongning 永寧  
 yongningcang 永寧倉  
 Yongping 永平  
 Yongshan 永善  
 You 攸  
 you an 有案  
 you di zhi hu 有地之戶  
 you gu zhi jia 有穀之家  
 you li ze chong, wu li ze tui  
 有力則充, 無力則退  
 youming wushi 有名無實  
 youming xianshi 有名鮮實  
 yubeicang 預備倉  
 yubei cangchu 預備倉儲  
 Yucheng 禹城  
 Yude 玉德  
 Yulin 榆林  
 Yu Minzhong 于敏中  
 Yuping 玉屏  
 Yuqing 餘慶  
 Yutai 魚台  
 Yuxue liangjia 雨雪糧價  
 yuanbao 原報  
 yuan'e 原額  
 yuanjia bu fu 原價不敷  
 Yuanjiang 元江  
 Yuanmou 元謀  
 Yue 越  
 Yue Jun 岳濬  
 Yuekou 岳口  
 Yuezhou 岳州  
 Yun 雲  
 Yuncheng 鄆城  
 yunding 運丁  
 Yunlong 雲龍  
 Yunnan fu 雲南府  
 yunsuan 勻算  
  
 Z  
  
 zaliang 雜糧  
 zang fu yu min 臧富於民  
 zecheng 責成  
 Zhanhua 霑化  
 Zhanyi 霑益  
 Zhang Chaorui 張朝瑞  
 Zhang Chengji 張誠基  
 Zhang Guangsi 張廣泗  
 Zhang Kai 張楷  
 Zhangqiu 章邱  
 Zhang Ruozhen 張若震  
 Zhang Yinghan 張映漢  
 Zhang Yunsui 張允隨  
 Zhao 趙  
 Zhao Bingyan 趙炳言  
 Zhao Cheng 趙城  
 zhao di'an chazao 照底案查  
 造  
 Zhao Hongxie 趙宏燮  
 Zhao Shenqiao 趙申喬  
 Zhao Shenzhen 趙慎畛  
 Zhaotong 昭通  
 Zhaoyuan 招遠  
 zhejia cunku 折價存庫  
 Zhejiang qinglisi 浙江清理司

zhe jia ru ji 折價入己

Zhen'an 鎮安

Zhenfeng 貞豐

Zhenjiang 鎮江

Zhennan 鎮南

Zhenning 鎮寧

Zhenxiong 鎮雄

Zhenyuan (Yunnan) 鎮沅

Zhenyuan (Guizhou) 鎮遠

Zheng'an 正安

Zheng Dajin 鄭大進

zhenghao 正耗

zhengqi 蒸氣

zhengsushi 整俗使

zhili zhou 直隸州

zhili ting 直隸廳

zhi tianxia zhi jingfei 治天

下之經費

Zhongdian 中甸

zhongdong 中冬

zhongmi 中米

zhongnong gu 重農穀

Zhongyin 鍾音

Zhoucun 周村

Zhou Laibu 周來部

Zhou li 周禮

zhoupan 州判

Zhou Renji 周人驥

Zhou Shi 周枳

zhoutong 州同

Zhou Xuejian 周學健

Zhucheng 諸城

zhugu 貯穀

Zhu Gui 朱珪

Zhu Lunhan 朱倫瀚

Zhu Xi 朱熹

Zhu Xun 朱勳

Zhu Youtang 朱祐樞

zhuang 莊

Zhuntai 準泰

Zhuoding shezhang zhang-

cheng shu 酌定社長章程疏

zhuoliu gu 酌留穀

zi 咨

Zichuan 淄川

zifeng tougui 自封投櫃

zi nan qingyi 自難輕議

Ziyang 滋陽

zizhui 咨追

zongcang 總倉

zongjie 總結

Zou 鄒

Zouping 鄒平

zouxiao 奏銷

zouxiao'an 奏銷案

zouxiaoce 奏銷冊

zouzhe 奏摺

zushucang 足庶倉

zui qi kuiquezhe 罪其虧缺者

Zunyi 遵義

Zuo Fu 左輔

# Bibliography

## Archival Sources

The archival sources used for this book are largely held in two major archives, the Number One Historical Archive in Beijing and the National Palace Museum in Taipei. Two record groups in Beijing were most commonly consulted, the *Caizheng cangchu* 財政倉儲 (fiscal affairs: granaries) category and the *Minshu gushu* 民數穀數 (population and granary holdings) memorials. The latter are found either in the *Caizheng cangchu* category or in the *Neizheng baojing* 內政保警 (Domestic affairs: public security) category. Some memorials from the *Nongye tunken gengzuo* 農業屯墾耕作 (agriculture: reclamation and soil cultivation) category have also been used. References to the *Caizheng cangchu* (CZCC), *Neizheng baojing* (NZBJ), and *Nongye tunken gengzuo* (TKGZ) memorials usually give the name and position of the memorialist, the nature of the memorial, whether an original (ZP for *zhupi zouzhe* 硃批奏摺) or a copy (LF for *lufu zouzhe* 錄付奏摺), the category, possibly the bundle or box, and the date: thus, Jiangsu Governor Xu Shilai, ZP, CZCC: QL 5/11/20. The title and/or name of the memorialist and the date are omitted if they have already been mentioned in the text, or if the information is missing from our notes.

The Taipei collection of memorials comprises two broad categories, namely, the *Gongzhongdang* 宮中檔 (Palace archives), which are all vermilion-endorsed originals (ZP), and the *Junjichu dang* 軍機處檔 (Grand Council archives), which are all copies (LF). Most citations follow the same pattern as above, giving the memorialist's name and position, the nature of the memorial, the category (*GZD* and *JJCD* respectively), the reign and accession number, and the date: thus, Shaanxi Governor Bi Yuan, ZP, *GZD*: QL 039519 (46/10/13).

In addition to the memorials in the archives, a subset has been published in Taipei and more recently in Beijing. The Taipei archives have published memorials used in this book from the Kangxi and Yongzheng reigns in volumes entitled *Gongzhongdang Kangxi (Yongzheng) chao zouzhe* 宮中檔康熙(雍正)朝奏摺 (National Palace Museum, 1977–1980). The Beijing archives have published for the Kangxi reign a group of documents entitled *Kangxi chao Hanwen zhupi zouzhe huibian* 康熙朝漢文硃批奏摺彙編 (Dang'an chubanshe, 1984).

The Taipei archives also house some other sources used in this study. One large set of documents, the *Huangchao shihuo zhi* 皇朝食貨志, appears to be draft materials collected at various dates and with various chapter-arrangements for the writing of the “Food and Money” chapter of the Qing dynastic history. We would like to thank Lillian Li for having made a Xerox copy of it available to us. Another set, entitled *Huke shishu* 戶科史書, is a record of memorials passing through the Board of Revenue. We have also quoted from a manuscript entitled *Jiangnan Jiangning dengchu chengxuan buzhengshisi zaocheng hubu ziqu Huidian an nei zi Qianlong si yi nian qi zhi Jiaqing liu nian zhi jizhu qingce* 江南江寧等處承宣布政使司造呈戶部咨取會典案內自乾隆四一年啓至嘉慶六年止積貯清冊, which reproduces documents on grain storage from the *Huidian shili* files, covering the period 1776–1801, communicated by the *hubu* to the Nanjing provincial treasurer. The *Quanguo fensheng minshu gushu qingce* 全國分省民數穀數清冊 (National registers of population and granary holdings arranged by province) have been collected from the Beijing Number One Archives by James Lee.

Finally, we have occasionally used the *Junjichu shangyudang* 軍機處上諭檔, a sort of log book prepared for the perusal of the Grand Council and presenting edicts and related materials on a day by day basis, parts of which exist both in the Beijing and in the Taipei archives.

### Gazetteers

Note: XZ stands for *xianzhi* 縣志 (county gazetteer), ZZ for *zhouzhi* 州志 (department gazetteer), FZ for *fuzhi* 府志 (prefecture gazetteer), and TZ for *tongzhi* 通志 (provincial gazetteer).

- Baling* XZ 巴陵, 1872.  
*Baoqing* FZ 寶慶, 1849.  
*Caozhou* FZ 曹州, 1756.  
*Changsha* FZ 長沙, 1746.  
*Changsha* XZ 長沙, 1810, 1870.  
*Changyi* XZ 昌邑, 1742.  
*Chenzhou* FZ 辰州, 1765.  
*Cili* XZ 慈利, 1932.  
*Dongchang* FZ 東昌, 1808.  
*Guiyang* ZZ 桂陽, 1867.  
*Guizhou* TZ 貴州, 1741  
*Hengshan* XZ 衡山, 1823.  
*Hengyang* XZ 衡陽, 1761, 1820.  
*Hunan* TZ 湖南, 1756, 1820, 1885.  
*Huarong* XZ 華容, 1882.  
*Huangzhou* FZ 黃州, 1884.  
*Huizhou* FZ 徽州, 1827.  
*Jimo* XZ (*xuxiu*) 即墨, 1872.  
*Jinan* FZ 濟南, 1839.  
*Jiyang* XZ 濟陽, 1765.  
*Jianning* XZ 建寧, 1919.  
*Jiao* ZZ 膠, 1845.  
*Jinning* ZZ 晉寧, 1840.  
*Laizhou* FZ 萊州, 1740.  
*Liling* XZ 醴陵, 1870.

- Li ZZ* 禮, 1874.  
*Linqing zhili ZZ* 臨清, 1785.  
*Linxiang XZ* 臨湘, 1871.  
*Ling XZ* 陵, 1841.  
*Liuyang XZ* 瀏陽, 1874.  
*Ningxiang XZ* 寧鄉, 1867.  
*Pingjiang XZ* 平江, 1874.  
*Qiyang XZ* 祁陽, 1765.  
*Qingping XZ* 清平, 1798.  
*Qingquan XZ* 清泉, 1869.  
*Qingzhou FZ* 青州, 1859.  
*Shaanxi TZ* 陝西, 1735 (Reprint, Taipei: Huawen shuju, 1969).  
*Shandong TZ* 山東, 1915 (Reprint, Taipei: Huawen shuju, 1969).  
*Shaoyang XZ* 邵陽, 1877.  
*Taian FZ* 泰安, 1760.  
*Tancheng XZ* 郟城, 1763, 1810 (Undated Republican editions).  
*Taoyuan XZ* 桃源, 1824, 1892.  
*Tongcheng XZ* 通城, 1763 (Undated Republican edition).  
*Wuling XZ* 武陵, 1861.  
*Xiangtan XZ* 湘潭, 1818, 1899.  
*Xiangxiang XZ* 湘鄉, 1816.  
*Xinhua XZ* 新化, 1872.  
*Xintian XZ* 新田, 1812.  
*Xupu XZ* 溆浦, 1868.  
*Yanzhou FZ* 兗州, 1770.  
*Yi XZ* 掖, 1758.  
*Yiyang XZ* 益陽, 1874.  
*Yizhou FZ* 沂州, 1760.  
*Yongshun FZ* 永順, 1763.  
*Yongzhou FZ* 永州, 1693, 1764, 1867.  
*Yuqing XZ* 餘慶, 1718.  
*Yuanling XZ* 沅陵, 1872.  
*Yuezhou FZ* 岳州, 1746.  
*Yunnan TZ* 雲南, 1576, 1835, 1894.

*Zhijiang XZ* 芷江, 1839.

*Zhucheng XZ* 諸城, 1764.

**Other Primary Sources and Reprint Collections (Arranged by Title)**

*Da Qing huidian* 大清會典 (Collected statutes of the Qing dynasty). 1690 and 1899 editions.

*Da Qing huidian shili* 大清會典事例 (Precedents and regulations supplementing the Collected statutes). 1764, 1818, and 1899 editions.

*Da Qing huidian zeli* 大清會典則例 (Precedents and regulations supplementing the Collected statutes). 1764 ed.

*Daxue yanyi bu* 大學衍義補 (Supplement to the Exposition of the Great Learning). By Qiu Jun 丘濬. 1488. Reprint, Taipei: Zhongwen chubanshe, 1979.

*Fuhui quanshu* 富惠全書 (A complete book concerning happiness and benevolence). By Huang Liuhong 黃六鴻. 1694 preface. Japanese edition by Obata Yukihiro 小畑行簡 (1850), reprinted with an introduction by Yamane Yukio 山根幸夫, Tokyo: Kyūko shoin, 1974.

*Gaozong shilu* 高宗實錄 (Veritable records of the Gaozong [Qianlong] emperor).

*Henan geshu changpingcang Daoguang nianjian zhenghuan maibu gushu caoce* 河南各屬常平倉道光年間征還買補穀數草冊 (A draft register of returns and purchases to all the evernormal granaries of Henan during the Daoguang reign). Undated manuscript, Beijing National Library.

*Hubu zeli* 戶部則例 (Regulations of the Board of Revenue). 1776, 1831, 1850, and 1865 editions.

*Hunan shengli cheng'an* 湖南省例成案 (Legal cases from Hunan). 1820.

*Hunan wenzheng* 湖南文征 (Essays from Hunan). Ed. Luo Ruhuai 羅汝懷. 1872.

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- Huangchao jingshi wen xubian* 皇朝經世文續編 (Our august dynasty's writings on statecraft, continued). Comp. Sheng Kang 盛康 . 1897. Reprint, Taipei: Wenhai chubanshe, 1972.
- Huangchao jingshi wen xubian* 皇朝經世文續編 (Our august dynasty's writings on statecraft, continued). Comp. Ge Shijun 葛士澐 . 1888. Reprint, Taipei: Wenhai chubanshe, 1972.
- Huangzheng congshu* 荒政叢書 (A collection of works on famine relief). Comp. Yu Sen 俞森 . 1690.
- Jifu yicang tu* 畿輔義倉圖 (Maps of charity granaries in Zhili). Comp. Fang Guancheng 方觀承 . 1753. Reprint, Taipei: Chengwen chubanshe, 1969.
- Mulingshu jiyao* 牧令書輯要 (Essentials from the Book for Magistrates). Comp. Xu Dong 徐棟, ed. Ding Richang 丁日昌 . 1869 preface. Shanghai: Tushu jicheng, 1896.
- Mutang chuji* 穆堂初集 (Collected works from the Hall of Solemnity, first series). By Li Fu 李紱 . 1740.
- Nongzheng quanshu jiaozhu* 農政全書校注 (Annotated edition of "A complete book of agricultural policies"). By Xu Guangqi 徐光啓 . Annotations by Shi Shenghan 石聲漢 . Shanghai: Guji chubanshe, 1979.
- Peiyuantang oucun gao* 培遠堂偶存稿 (Manuscript remains from the Peiyuan Hall). By Chen Hongmou 陳宏謀 . 1763.
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- Qingdai lizhi congtan* 清代吏治叢談 (Stories on Qing officials). Comp.  
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related to Guizhou from the Qing Veritable records). Guiyang:  
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records). Comp. Shandong Shifan daxue Zhongguo jindai shi yanjiushi  
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magistrate). By Ruan Benyan 阮本焱 . 1887 preface. Reprint, Taipei:  
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emperor).
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Xinjiang]). Comp. Hening 和寧 , 1805 preface. Facsimile of manu-  
script, Taipei: Chengwen chubanshe, 1968.

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