

Chapter 1

Issues and Approaches

This book examines the expansion and contraction of the market in China's preindustrial economy and their impact on living standards and social welfare. It focuses on two interrelated theoretical issues: the relationship between the market and growth in a traditional economy—namely, increases in agricultural productivity—and the importance of the market in maintaining a higher living standard. In other words, the question raised here is whether there was an alternative mechanism in a preindustrial society other than the market that could either increase the efficiency of production or promote the economic welfare of the commoners.

Underlying this inquiry is the relationship between freedom and welfare in a traditional economy. The rise of a market economy in an agrarian society is usually associated with a shift from a prevailing self-sufficient mode in agricultural production to a market-driven production mode in which commercialization stimulates farmers' efforts to combine land, labor, and capital to maximize productivity. Such progress could not happen until farmers—the majority of the population—gained freedom to migrate and choose their careers, secured private property rights, and gained easy access to information about the market. It is safe to assume that only when an individual is legally or customarily entitled to exercise his negotiating rights at the marketplace would he have strong incentives to produce for the market. In short, market expansion is closely linked to institutional changes that would allow an ordinary farmer to possess more freedom and have access to move up the social status hierarchy. Yet, this institutional linkage in a traditional economy may be strong or weak in different cultural and social contexts. On the other hand, the fact that inequality always coexists with market expansion even in a preindustrial economy leads to a moral issue: Did the few benefit at the expense of the majority? Is it possible for the majority of the peasants, who lived a life much less monetized and distanced from the market mechanism in comparison to a modern individual, to advance their social and economic status through an alternative path based on a self-sufficient mode?

This study aims to demonstrate the role a market plays in economic development and social welfare through a comparison between the market-driven case and the alternative case—a command economy system. The expansion and contraction of the Chinese market economy in the five centuries between 1000 and 1500 offer historians a rare chance to compare two opposite modes of preindustrial economic systems—a market-driven mode in the Song era and the anti-market, self-sufficient mode in the early Ming era—and their greatly different impacts on productivity and living standards

per se. Employing the latter as a counterfactual model, a preliminary claim on the important role of the market expansion in preindustrial China's development can be firmly established.

Until very recently, most scholars would have considered such a question impracticable. Economists typically differentiate between economic expansion due to population growth, which implies no increase in living standards and economic growth due to technical innovations, which is often associated with increases in outputs per capita. Due to the lack of technical innovations and capital investments, the preindustrial economy, which is by and large an agrarian economy, is typically characterized either by stagnation or a decline in living standards, and therefore there was no substantial difference in the performance of the economies across the countries until the Industrial Revolution.

Yet empirical studies of economic development in late medieval and early modern Europe raise serious doubts about this Malthusian view. Scholars now argue for premodern economic growth, also known as Smithian growth, which is believed to have occurred due to increased specialization that could be further attributed to market expansion.¹ The recent debate on the divergence between China and Europe, especially on the different living standards during the eighteenth century between Jiangnan, the core area of the Lower Yangtze, and Britain highlights the important role of the market in driving growth in preindustrial societies of both ends of the Eurasian continent.² The Californian School, a group of revisionists in eighteenth-century Chinese economic history, use Jiangnan as an example to prove that the market did play a similar role in China as in preindustrial Western Europe in raising the living standards of rural households. Despite fragmentary quantitative evidence and certain conflicting arguments, most scholars in the China-Europe divergence debate assert that in seventeenth- and eighteenth-century China, "property rights were as secure as those in Europe and markets as efficient," a prerequisite to preindustrial growth, and come to agree that growth did happen across the countries at the two ends of the Eurasian continent.³ The reconstruction of Chinese rural household income and farm productivity based on the information from agricultural treatises further leads to a tentative yet important conclusion that Jiangnan's living standards were no lower than those in England, with the latter showing the highest level in early modern Europe.⁴ However, this East-West comparison has to face challenges not only from difficulties in measuring the standard of living in the past but also from the great divergence among different regions within a country such as China. It rather reveals "the highly complex and diverse pattern of the standard of living in the pre-industrial period" and therefore calls for much more empirical research on areas of growth in China's traditional economies.⁵

The complexity of this debate is compounded by the fact that during this period, China's domestic economy developed unevenly both spatially and temporally, and yet at the same time China was the largest market economy in the world from the eleventh century to the early eighteenth century. China contributed roughly one-sixth to one-third of the estimated total products to the world economy.⁶ And yet, surprisingly, this once leading market economy did not pioneer the transformation into an industrial economy. Instead, it soon lagged behind and became backward as the European powers industrialized, a process that rapidly widened the GDP per capita gap between Western

Europe and the rest of the world. China's early yet ephemeral economic success and the late yet rapid rise of the West concern many scholars who are keen to identify the foundation and sources of economic growth in traditional societies.

The central piece of the great divergence debate is preindustrial growth driven by market expansion. Preindustrial growth in Chinese history often refers to technical innovations and economic growth in two particular periods. The first occurred in Song China, or the *medieval* economic revolution, as Elvin proposes in his qualitative study of Chinese economic history, which manifested itself in innovations and growth in farming, water transportation, money and credit, market structure and urbanization, and finally science and technology.⁷ The second occurred as the market economy revived after 1500 and led to the subsequent development in urbanization and agricultural productivity.

The preindustrial growth theory refers to two lines of reasoning: market expansion and the consequential development in various sectors of the economy that raised productivity and promoted the standard of living. For both lines of reasoning, economic data is crucial for researchers to gauge the mechanism and size of the market, which is necessary to further assess the influence of market expansion on welfare. Without quantitative evidence, economic historians would likely make an assertion rather than a sound argument. Unfortunately, as my review shows, there is little quantitative evidence available to buttress such empirical research when researchers focus on post-1500s China alone. This is a long-standing obstacle in understanding China's historical economy.

In the succeeding sections, I follow two lines of reasoning, namely, market expansion and agricultural productivity, to review relevant studies in the current literature. At the end of this chapter, I put forward a coherent framework to study the role of the market in preindustrial China by comparing the two economic systems in Song (960–1275) and early Ming eras. I aim to explore the role of the market in sustaining growth and promoting welfare in the five centuries that precede the great divergence. It compares the market expansion in the eleventh century with the rise of a command economy in the first century of the Ming dynasty. A comprehensive framework is thus needed to define and observe the efficiency of the specific economic system in the market versus command economy comparison. Furthermore, in the former case, despite economic development, inequality became a serious issue that attracted attention from the government and Confucian literati. In a striking contrast, China became an egalitarian society in the early Ming era because Zhu Yuanzhang, the founder of the Ming dynasty, purged the big landowners and merchants in the Lower Yangtze and confiscated their property and estates. The comparison also considers the farmer in a market society with his counterpart in an egalitarian society: Did the market increase household income for an ordinary farmer or even help to reduce the extent of inequality in rural areas? Did the members of the rural community, now being significantly disconnected from the market, benefit from the egalitarian society scheme enforced by the early Ming court? All these important questions are explored in this book. Fortunately, I have found rich and reliable data for most of this period. Based on this advantage, this comparative study thoroughly investigates three fundamental areas: changes in the size and structure of domestic markets, changes in China's agricultural productivity, and changes in real income (real wages, household incomes, etc.).

Depicting Market Expansion in Preindustrial China

A historical inquiry into preindustrial economic growth driven by market expansion should consider many institutional and technical factors, such as water transportation, money stocks, and taxation. Without these supporting factors, the market could hardly perform an important role in integrating an originally isolated agrarian economy and becoming a strong incentive for farmers to improve technologies and increase investments to achieve greater output. The rise of a market economy is also dependent on institutional innovations, which would lead to reduced transaction costs and make trade feasible for the population. A market-friendly government is a prerequisite to transform a traditional economy by protecting private property rights, permitting commoners to migrate, offering free choice of careers, providing sufficient money supply, and investing in transportation projects to ensure the free flow of labor, capital, and goods within the country.

In reality, progress was always complicated by the very slow and often conflicting evolution of the market economy in the two millennia of imperial China. Although the existence of the market in China can be traced back to the Warring States period, the role of the market had been greatly constrained by all kinds of social and economic factors, such as the prohibition of free migration, slavery and indentured laborers, and the aristocratic landownership. Moreover, a barter economy dominated, and silk textiles were identified as the main medium of exchange over many centuries until the An Lushan Rebellion (755–763 AD; the Rebellion hereafter).

The central question for the study of Chinese economic history is to trace when and how the market first transformed the Chinese economy and society. This must be a point in Chinese history when the market gained overwhelming influence in society by expelling barter exchanges from many important economic activities and by linking local markets into an integrated system through interregional trade. Also, at this point the market economy became self-sustainable in the long run and could not be arbitrarily averted by internal challenges, such as institutional irregularities, and external shocks, such as nomadic invasions as well as natural disasters.

For almost a century, scholars have been divided into two camps: proponents of the Tang-Song transformation favor a major turning point around 1100, while proponents of the Ming-Qing transformation argue for 1550 as the major turning point.⁸ As early as the 1910s, Japanese scholars, especially those of the Kyoto School, had already argued that the Tang-Song transformation made China a “modern” civilization centuries before Europe by emancipating bondsmen to become free farmers and accelerating market development. This “early modern (*kinsei*) China” paradigm, also called the Naito-Miyazaki hypothesis of the Tang-Song transformation, was a watershed in twentieth-century Chinese historiography. These Kyoto scholars launched a severe attack on the Eurocentric paradigm by arguing explicitly for a “Song Renaissance,” an all-embracing transformation in almost every economic, social, and political field that occurred three centuries earlier than the European Renaissance.

Other scholars have argued that transformation of such magnitude only occurred at a national level four centuries later in the sixteenth century; some even contended its late arrival in the eighteenth century. Soon after the end of the Second World War, Fu Yiling (1956, 1957), for instance, called attention to the transformative role of market forces—the concurrence of markets, urbanizations, and the rise of merchant groups—

in mid- and late Ming China. Fu's work influenced Chinese historians so profoundly that market towns and merchants subsequently became the central foci of Ming-Qing economic history.⁹

For historians of the People's Republic of China and younger generations of historians in Japan who were inspired by popular Marxist theories and approaches, the emergence of a market economy in the sixteenth century marked a new era in Chinese history, which they named the "sprouts of Chinese capitalism (*ziben zhuyi mengya*)." This approach recognized China's preindustrial market development, but it still showed that it followed closely behind the rise of a market economy in Western Europe. For these scholars, adapting the Tang-Song transformation paradigm would contradict the linear development theory assumed by many Marxist historians: If China was the first country transformed by the market, why did industrial capitalism fail to follow? Although both paradigms aim to reject the stagnant image of China described by Western historians ever since the Enlightenment, they differ substantially from each other. How to reconcile these two paradigms has subsequently become one of the major issues for the study of Chinese economic history.

G. William Skinner's model of a macro-regional marketing system integrated the two transformations into a story of continuous development of rural markets. Skinner proposed that China was "more of division than of unity," and that to explain "the complexity of pre-industrial China's structure," one should focus on rural markets as the basic unit of traditional Chinese society. He further argued that commercialization in agriculture was driven by ever-intensifying rural marketing networks because the market made it convenient for peasants to exchange goods and services. In his ideal pattern, the location of a central place in a market network is determined by topography and to some extent the demand density (the distribution of demand and purchasing power, and equal transportation facility in all directions). Assuming all other variables are equal, the demand density is finally determined by population density, a major dynamic source for the making of a market network.¹⁰

The two major concepts of Skinner's model, the hierarchical structure of Chinese society and bureaucratic administration, and the distinction between "core" and "periphery" in a macro region,¹¹ have gained tremendous acceptance throughout the field as they undermined the myth of China as a unified and homogeneous empire and encouraged the boom of regional studies.¹² Despite the success of the Skinner model in defining the spatial and social context of economic growth in preindustrial China, the concept of rural markets lacks the support of quantitative evidence necessary to accurately define, not to mention truly explain, the sources of preindustrial economic growth. Unlike other studies that followed the neoclassical economic models, such macroeconomic indicators as prices, trade and transportation, wages and incomes, and taxation were entirely absent from the Skinnerian model. When applied to long-term changes in the economy at the aggregate level, especially changes in the structure of the market economy, the explanatory power of Skinner's model is severely challenged. All of his principal concepts, such as autonomous macro regions, the proposed relation between the cores and peripheries, and the formation of rural markets, can hardly be validated by empirical data.¹³

Skinner was keen to identify developments in commerce and urbanization during both the Tang-Song and the Ming-Qing transformations, two economic cycles he named "the medieval urban revolution" and the "late imperial urban development," respectively.

Yet his interpretation of the relationship between these two cycles is ambiguous and even paradoxical. On the one hand, he suggested that the burgeoning of market towns during the Tang-Song transformation period was confined to the Lower Yangtze region and that this phenomenon extended to the entire country during the Ming-Qing periods. Therefore, urban development at the latter stage was “more mature” and “more integrated.”¹⁴ However, this suggestion was not supported by any quantitative evidence. On the other hand, by comparing the rate of urbanization in the eleventh century with that of the mid-nineteenth century, he concluded that the level of urbanization achieved in the most advanced regions, probably in many other regions, too, were higher in the medieval era than in late imperial times.¹⁵ The rate of urbanization in traditional societies is important as it indicates the ratio between the nonagricultural and agricultural sectors and speaks directly to preindustrial growth. This is certainly a paradox when he claims that more mature and integrated urbanization only occurred after the Song dynasty when the estimated rate of urbanization during that era was lower.¹⁶

The paradox in Skinner’s account of the two transformations and their relationship can be traced back to a problematic interpretation of the market structure in imperial China. The markets in a traditional economy, as indicated by some empirical research, showed a complicated structure: The large numbers of towns and rural markets lay at the bottom of the market hierarchy, followed by intraregional trade and small city-based commerce, and, finally, long-distance trade and urban consumption at large cities were at the top of the hierarchy.¹⁷ The importance of these markets follows a descending order in this hierarchy, and most standard textbooks focus on long-distance trade and large cities.

However, for Skinner, the study of trade means the study of rural markets. The number of markets and towns is generally assumed to be either equivalent to or as important as the size of trade itself. Following this logic, much effort was spent extracting records preserved in gazetteers to prove an increasing number of rural markets in China from 1550 to the twentieth century: Rural markets were recorded in the late Ming as numbering 6,674, and the figure continued to climb until it reached 18,645 in the eighteenth century, a nearly threefold increase within a span of two hundred years.¹⁸ Such a phenomenal increase is often cited as strong evidence to demonstrate the unprecedented development of the market economy.

In reality, comparing the number of rural markets at the national level between Song and Ming eras merely documents the increase in the number of rural marketplaces. According to state registrations in the Song period, the number of rural markets in the eleventh century already amounted to 20,606,¹⁹ but it would be absurd to conclude that trade volume in the Song period was three times larger than the late sixteenth century. The number of markets alone cannot determine the actual volume of goods traded. The only conclusion one can derive from this comparison is that trade in both the eleventh and eighteenth century benefited immensely from the increased number of rural markets.²⁰ A survey measuring long-term changes in the size of long-distance trade during the Song and Ming eras, which is much more important to understanding economic history, is completely missing from these studies.²¹

It is not surprising that scholars have for decades felt the need to develop a comprehensive framework to link and explain the two transformations, the Tang-Song transformation and the Ming-Qing transformation, in late imperial China. Both Elvin and Skinner raised such questions as continuity and/or difference between these two eras.

The Skinner model is by nature a social history approach and cannot exactly predict long-term changes in the size and structure of the market economy. Nor is it able to demonstrate key indicators of a rapidly expanding market economy such as specialization in production and the decline in transaction costs. These tantalizing gaps in current research call for an economic approach to study the expansion and contraction of the market in late imperial China. Building on previously documented development of market towns, this economic study focuses on changes in the volume of major goods traded in domestic markets, development in water transport, and the fluctuation of money stocks at the aggregate and per capita levels.

The path-breaking yet lamentably unfinished work of Robert Hartwell, a grand survey of the full cycle of macro-regional changes in China from 750 to 1550, also alerted researchers to long-term changes in the Chinese economy in the Song-Yuan-Ming eras.²² Although this analytical framework appears promising, Hartwell's survey is largely an unfinished project because he, like Skinner, offers few thoughts on how the market mechanism affected the structural transformation of the economy and society at the macro level, especially how the market was at work via prices and wages.²³ He identifies demographic changes, for instance, as the only key variable for the pattern of regional development and even for the making of the Tang-Song and Ming-Qing transformations in general. In his explanation, population is treated as both a cause for and an outcome of long-term changes in the macro-regional economies over centuries.²⁴ To avoid this tautology, a complete picture of the pre-1500 Chinese market economy must be reconstructed to help the reader identify major trends in the Chinese economy by providing a nationwide survey of long-term changes both in the market and in living standards.

Measuring Agricultural Productivity

The exploration of the relationship between the market and welfare inevitably leads us to the assessment of the performance of the market economy. All this is related to the living standard issue. Narrowly defined, a better-off economic situation often refers to both a rising trend in income and real wages and a more equal distribution of wealth. From a broadly defined perspective, it includes a wider range of improvements such as longer life expectancy, easy access to medical care, and increased rates of urbanization and literacy.²⁵ Furthermore, if there is a positive relationship between improved welfare and freedom in a preindustrial economy, the market would play a decisive role in promoting the well-being of farmers.

In empirical research, the gauging of welfare has been often replaced with improvements in productivity. Given the absence of direct and systematic evidence on Chinese living standards in the past and the predominantly rural nature of the Chinese economy and society, most historians have used changes in agricultural productivity as a proxy for measuring living standards. Presumably, preindustrial growth caused by market expansion would raise per capita outputs and, by implication, a higher living standard. The primary concern is whether the marginal product of labor input in agriculture would exceed the substance cost. This concern remains a core issue in our exploration, and we must question whether the total cultivated acreage or farm yield per acre was growing proportionately to population growth in imperial China.²⁶

Perkins proposed three key variables to account for agricultural development: per capita output, population, and cultivated acreage. His overall conclusion was that per capita output in China, and therefore Chinese living standards, remained roughly stable over the six centuries from 1368 to 1968. Expansion of aggregate acreage and the increase in farm yields per acre, in other words, was able to sustain a tenfold increase in population from 65 million to 647 million.²⁷ Nonetheless, Perkins frankly acknowledges that his observation was limited by the lack of quantitative evidence available for the centuries between 1450 and 1850. His work chiefly reinforced and exemplified the influential theory by Ester Boserup on the relationship between population growth and economic development.²⁸ Like Boserup, Perkins assumes that for many centuries of Chinese history, demands from increases in population determined the aggregate output and methods of agricultural productions. Yet Perkins's trajectory is flawed by his assumption of constant per head grain consumption. Some scholars are beginning to draw opposite observations based on their studies of the same region, Jiangnan.²⁹

It is necessary to summarize the agricultural productivity research achieved over the past half century. First, there is a departure from supply fundamentalism, which not only uses cereal outputs per unit of land as the key criterion for agricultural development but also presumes the increase in farm yields per acre was the single cause for other important changes in the economy and society, to eco-agricultural history. Second, the lack of data on population and land acreage for most periods of late imperial China greatly weakened the explanatory power of these research studies. In the following, I will first review supply fundamentalism. My review concentrates on two lines of argument, Marxist productivity determinism and the Ricardo-Malthusian model; both present a linear explanation by focusing exclusively on technical innovations as the basis of explanation. Finally, I will evaluate the contributions and weaknesses of an eco-agricultural history approach that has been widely adopted by revisionists in the studies of the Lower Yangtze's economic development after 1980. These studies highlight the important role of the market in the rise of intensive farming and greatly advance our understanding of the complicated relationship between population growth, market expansion, and the spread of technical innovations.

Supply fundamentalism—agricultural fundamentalism in particular—views preindustrial economic growth more or less as progress determined only by supply, especially by the increase in farm yield per acre or per capita. Although this type of agricultural fundamentalism can be found in the studies of European economic history, scholars in China originally borrowed the theory from a Marx-Malthusian framework. The fundamental principle of Marxism believes that the relations of production must depend on and be decided by the forces of production, especially productivity represented in technological equipment and knowledge. The Malthusian narrative shares a common view that, due to the diminishing return on the increases of labor inputs and the stagnation of technology, accelerated population growth would inevitably obstruct growth in a traditional economy and lead wages even below the level of subsistence wage. In these productivity- and technology-oriented studies, a reader often finds the role of the market is missing from the discussion—only progress in technology productivity is assumed to be the driving force for human development and a worthy subject for research.

In the People's Republic of China, many pro-Marxist scholars view agricultural productivity as the only causative factor that contributed to population growth,

development in trade and the handicraft industry, and even structural change in state tax revenue. In his all-inclusive hypothesis of preindustrial China's social, financial, and cultural changes, the historian Meng Wentong argued that there is a linear relationship between the production capacities of a farmer (as represented by farm yields per acre) and the rates of land tax. The long-term changes in farm yields per acre also determined the pattern of tax mechanism and military establishment for each period of Chinese history.³⁰

The weakness in Meng's theory—and many similar explanations—lies in its purely mechanical causal understanding of agricultural productivity.³¹ While it is inevitable for researchers to depend on widely scattered statistical evidence on agricultural productivity in preindustrial China, it is crucial that scholars remember that such evidence is highly localized and varied greatly within China's heterogeneous economic systems. In reality, there were great discrepancies in farm yields not only across regions but also within a region due to varying capital investment, quality of seeds and tools, weather conditions, access to the market, among other factors. Given the great ecological diversity within China's continental empire, the idea of a uniform standard in per acre farm yields, as suggested for agriculture in China century by century, is unacceptable to a modern researcher. With great diversity in mind, it is impossible to determine any definitive corresponding relationship between productivity and institutional changes in a single direction.

Those scholars who attempt to provide a nationwide average of per acre farm yields also face enormous difficulties caused by the poor quality of empirical data. Among the three key criteria, namely, population growth, cultivated acreage, and per capita/per acre farm yields, data on Chinese population is relatively rich in information but also laden with obvious errors. Official Ming national demographic figures after 1393, for example, show abnormally slight changes and only accounted for a minor portion of the entire population. The number of the officially registered aggregate population, for instance, declined slightly from 60 million in 1393 to 56 million in 1602. Given nearly three centuries of unification and peace, it is hard to believe such population stagnation really occurred.

Marxist historians also fail to recognize the importance of promarket institutions, be they property rights to land, money supply, or the role of the state, for preindustrial growth. Anti-market policies implemented by Zhu Yuanzhang, for instance, are interpreted as a necessary step that effectively led to economic recovery decades later. Despite the fact that the early Ming emperors not only disfavored local elite (often the literati and wealthy) but also put restrictions on the work and life of commoners, scholars still tend to believe that any policy enforced by Zhu Yuanzhang was aimed to recover the economy by protecting farmers and encouraging agricultural production.³² In their narratives, they applaud the adoption of the *lijia*, the self-sufficient mode exerted by Zhu Yuanzhang to replace the government as the basic social and economic unit, cheer the military farm and involuntary migration, and remain indifferent to those anti-market measures. Yet for the first half of the fifteenth century, the economy was still in decline. It was around 1500 that the economy eventually came out of crisis and the market resurged. It took more than a century for the economic revival to take place, a period much longer than expected. One may doubt whether these anti-market measures could really benefit an ordinary farmer. In a command economy system, the central power is able to purge the elite group and deprive the important right of commoners at the same time. An expansion in the economy beyond agriculture such as urban industries and consumption

or an increase in the wealth other than land, though hated by Zhu Yuanzhang, is not necessarily bad to agricultural development. As a farmer gains an important part of his income from producing for the market, he likely concentrates production resources such as capital and materials on a specific product. Both the individual farmer and the economy benefit from such development. The anti-market measures will simply prevent a farmer from doing so by blocking the channel between agriculture and commerce.

The prevailing Ricardo-Malthusian explanation constitutes another line of agricultural fundamentalism in the current literature on Chinese economic history. Population growth would necessarily raise aggregate demand for food. The increase of cereal production could be met by either the expansion of land under cultivation or the increase in per acre farm yields, or both. The key proposition of the Ricardo-Malthusian theory is that population growth would inevitably exceed the expansion of acreage and improvements in farming practices that are needed to increase farm yields per acre. Taking a pessimistic view of technical innovations and capital inputs in preindustrial society, these scholars assert that a decline in marginal return of labor input is unavoidable in the long run, when the opening up of new land stops and surplus labor was exploited on a limited amount of farmland, disproportionate to inputs of capital. Consequently, living standards would stagnate or even decline due to the decline in agricultural productivity. In his seminal research on economic growth and technical innovations during the Tang-Song transformation, Mark Elvin applies the Ricardo-Malthusian model to explain why China, after advancing ahead in commercialization, which he terms the “medieval commercial revolution,” failed to industrialize in the succeeding centuries. Elvin first identifies the occurrence of the *medieval* economic revolution (economic growth and invention of new techniques of production) and attributes it to the opening of the frontier in the south along with migration and technology transfer between the eighth and the twelfth centuries.³³ As land became scanty, agriculture, once the leading sector, could not sustain technology-based progress. From the fourteenth century on, the entire economic system was reoriented to maximize cereal products, often by raising farm yields per acre through extra labor that caused a sharp diminishing returns to inputs of labor. The high-level equilibrium trap, he argues, occurred in China’s economy because agricultural development, which was by and large aimed to meet the needs of the ever-expanding population at a subsistence level, had no space for technical advancement.³⁴

Elvin’s macro-narrative is descriptive and lacks the support of quantitative evidence. Kang Chao’s work on preindustrial China’s agriculture aims to fill this gap by adapting a quantitative approach that is also explicitly based on the Ricardo-Malthusian model. In his exploration of long-term changes in the labor to land ratio in China over a period of three thousand years, Kang Chao made unrelenting efforts to identify average farm yields per acre for each period. Reporting 501 catties for per capita grain output in the first century, 735 catties in the eleventh century, and 309 in 1952, Chao observed a long trend of decline over the last millennium. He further provided an index of real wages over two millennia: 150 in the first century, 195 in the eleventh century, 45 in the twelfth century, and 40 in the eighteenth century.³⁵ Chao concluded that a decline in per capita grain output and real wages occurred apparently after AD 1100 due to the lack of technical innovations.³⁶ Chao’s research thus reaffirmed the already widely held Malthusian theory that overpopulation impeded the labor-efficient technical innovations

that are the prerequisite of intensive farming. Ultimately, it was the immense rural population that impoverished China.

However, the validity of this broad statement is questionable. There are a few important flaws in Chao's assumption and the data series on which his assumption depended. First, Chao assumed that a well-performing market economy, including free migration, private landownership, social division of labor, and the pricing mechanism in exchange of goods and charge of services, already existed in China no later than 300 BC.³⁷ This assertion contradicts an important fact that slaves and corvée labor, tribute and customary gifts, the rigid control of land allocation and household registration, and the barter economy prevailed in China for many centuries until the eve of the Rebellion in the mid-eighth century. Only then did free migration and private landownership become popular. Second, Chao assumes that the government in preindustrial China produced reliable reports on changes in the size of cultivated land. Similarly, he gave no particular explanation of how the Chinese government could have managed such enormous reporting projects at a plausible social and economic cost. He also failed to acknowledge the fact that if demographic data were proven untrustworthy for many centuries of Chinese history, data on cultivated land and per acre farm yields fared even worse. In fact, Chao relied on disparate evidence to construct a countrywide average farm yield per acre. His argument is supported only by a dozen anecdotal examples instead of reconstructed patterns of continuous farm yields and real wages based on actual quantitative data.

This weakness in evidence inevitably leads to controversies with Chao's major findings. Chao assumed that per head farm yields would decline substantially in late imperial China because steady population growth led to a less optimal man to land ratio. Yet, this assumption lacks support for the entire post-Song period. According to Perkins's research, as the Chinese population increased 300 percent from 1393 to 1776, its cultivated acreage also expanded 250 percent.³⁸ In other words, the man to land ratio declined only moderately during the three and a half centuries from 1400 to 1770 and the expansion of cultivated acreage contributed to more than half of the increase in grain output.³⁹ Fragmentary evidence also leads to further inconsistency in an effort to pinpoint when the Malthusian trap supposedly took place. While Elvin chose the fourteenth century as the turning point, Chao argued for the twelfth century largely based on the sharp decline in real wages, even though he was only able to find six records and decided to settle on the lowest value.⁴⁰ Interestingly, according to Chao's index of per capita grain output, the date for a substantial decline was 1952, which would offer us a third time frame benchmarking the anticipated Malthusian decline.

As I discuss in chapter 2, the early Ming population and land acreage data are the only reliable quantitative evidence one can find during the Ming dynasty. China's aggregate households in 1397 was only two-thirds of that around 1120, indicating that the population shrank to the smallest size in the last millennium of imperial China, and that the man to land ratio was consequently optimized. If we follow the Ricardo-Malthusian theory to its logical conclusion, China would avoid the high equilibrium trap and move on to modern economic growth. It is also reasonable to assume that early Ming farmers were better off than their ancestors in the twelfth century, since wages must have risen as the land supply increased and the labor supply became relatively scanty. Yet, none of

these occurred in the early Ming period. On the contrary, the early Ming economy, as I argue later in this book, deteriorated severely. This paradox constitutes a major challenge to the Ricardo-Malthusian explanation advocated by Elvin and Chao.

The linear explanation advocated by both the Marxist productivity determinism or the Ricardo-Malthusian model isolated agricultural development from changes in the nonagricultural sector and paid little attention to its interdependence with the market economy. Agriculture, or more narrowly defined as cereal production, is rightly viewed as the foundation of a preindustrial society. However, one can by no means take this *foundation* as a direct and single *cause* of important changes in a preindustrial economy.⁴¹ For instance, growth in agricultural productivity also depends on the costs of transportation and access to large trading networks. These linear explanations also fail to provide a cohesive account that addresses explicitly the influence of market expansion.

The rise of eco-agricultural history in the 1980s represented a departure from the more traditional studies of farm yields per acre or “agricultural fundamentalism” and significantly reshaped our understanding of agricultural development in the Jiangnan region. Japanese scholars, such as Yoshikazu Takaya and Tadayo Watabe, conducted comparative studies of the historical development of rice farming in Asia and the rest of the world. These scholars followed Boserup’s theory to explain that such technical innovations as seeding, fertilizing, and irrigation are products of population growth, especially increases in population density, and recognized the latter as the foundation of agricultural development. They further introduced an intensive farming model to account for the evolution of grain production. Contrary to the agricultural fundamentalist model, this model associates the emergence of intensive farming in Jiangnan with the opening of an external market for grain, increases in capital input and technical innovations, and the inflow of immigrants.⁴²

Y. Shiba’s work illustrates the importance of the eco-agricultural approach and overturns the overpopulation explanations that previously dominated the field. In his groundbreaking work on agricultural development in the Lower Yangtze region, Shiba adopted this approach to trace the course of development in intensive farming. His research points to rapid increases in agricultural productivity from 1030 through 1206. However, the Lower Yangtze region in the thirteenth century only marked the initial stage of intensive farming. It took a couple of centuries of development before the region fully enjoyed its benefits. Building on Shiba’s and other Japanese scholarship, Li Bozhong elaborated on the concept that a higher living standard was based on intensive farming, and he provided a comprehensive survey of farming practice in Jiangnan from 600 to 1800. Contrary to Chao’s pessimistic view of intensive farming, Li emphasized that technical breakthroughs, especially the application of a trinity model of intensive farming,⁴³ led to a rise in peasant family household income along with a rise in labor productivity. Li’s model presents an optimum pattern of the peasant family economy that allowed peasants to maximize their labor productivity. Therefore, at least in the Jiangnan area, “there is no reason to believe that early and mid-Qing agriculture stagnated; on the contrary, it grew.”⁴⁴

As Li demonstrates in his analysis of the peasant family economy in Jiangnan, especially in his carefully chosen case of the Songjiang area, major breakthroughs in agriculture did not occur prior to 1600. The fertilizer revolution, which entailed one of the most significant improvements in agricultural productivity by applying supplementary fertilizer during the growth stage of crops, only took place “in the early and mid-Qing.”⁴⁵ Li explains that although its coverage was far from complete at the time, new

approaches that advanced double-cropping systems in paddy lands, for instance, “spread to a dominant position in the mid-seventeenth century.”⁴⁶ Advances of double-cropping systems in mulberry groves and cotton fields appeared as late as the eighteenth and mid-nineteenth centuries.⁴⁷ In fact, Li’s empirical research shows that improvements in agricultural productivity through applications of these technical innovations started in the seventeenth century and matured during the eighteenth and nineteenth centuries.⁴⁸

Li’s observation undermines the prevailing argument that agricultural productivity in the sixteenth century reached an extremely high level. In other words, during the entire Ming-Qing transformation period, development in the first two centuries from 1500 to 1700 could only be considered a preliminary stage. Li’s estimates of long-term changes in per *mu* yields place the Song period at a very low position if not the lowest. As reproduced in table 1-1, the Late Song era performed most poorly in the increases in agricultural productivity over the millennium in Jiangnan.

Li not only openly doubted the Song agricultural revolution thesis but also offered a series of estimates on farm yields from the sixteenth to the nineteenth century to support his revisionist paradigm, (see table 1-1), which strongly disagrees with the “Song economic revolution” thesis.⁴⁹ In strong opposition to Song experts, such as Qi Xia, Min Zongdian, and Liang Keng-yao, who espouse the progress in Song’s agricultural output and farming technology achieved in the Lower Yangtze region, Li denounced these arguments as severely biased due to the selective use of evidence.⁵⁰ However, Li was also criticized for his own selective use of evidence in estimating average farm yields per *mu* and for his misunderstanding of the double-cropping system.⁵¹ The dispute between Li and his opponents over the dissemination of important farming technologies over Jiangnan in the eleventh century, such as the planting of early-ripening rice seeds, still needs to be resolved.

Most studies of agricultural development in China fail to acknowledge changes in prices and aggregate demand, such as consumption goods and services in the private sector, when they assumed that the peasant family economy was deeply involved in the market.⁵² Consequently, they were blind to how farmers made adjustments to their family economy, say, in the allocation of labor, capital, and resources for cereal and textile production, in corresponding to changes in prices. In this case, Li’s emphasis on the importance of markets in economic studies was inevitably hampered by the absence of systematic data on prices and wages in the last millennium. The increase in aggregate demand, although infrequent in a preindustrial economy, could spur changes on the supply side. For example, the high level of prices and money supply indicate that the

Table 1-1. Increases in Jiangnan’s farm yields per *mu*, 300–1930 (*shi/mu*)

<i>Period</i>	<i>Six Dynasties (229–589)</i>	<i>Tang (618–907)</i>	<i>Late Song (1127–1275)</i>	<i>Early Ming (1368–1450)</i>	<i>Late Ming-Qing (1550–1850)</i>	<i>1930</i>
Yields	0.48	1.39	0.78–1	1.4–2.1	1.7–2.5	1.3
Index*	100	214–286	163–208	292–438	354–520	269

Sources: Li Bozhong 1998b, 38; 1998d, 125–26, 130–1.

*For index, Six Dynasties = 100.

eighteenth-century economic boom during the Qing era was driven by an expansion in aggregate demand.⁵³ The trinity model of the peasant family economy in Jiangnan no doubt highlights that preindustrial growth could be achieved on the basis of division of labor without dramatic changes in technology. This pattern of preindustrial growth also suggests that our previously simplistic and mechanistic understanding of why agricultural production changed needs to be modified. As Li explicitly states, changes in agriculture can be either the cause or the consequence of other social and economic changes.⁵⁴ One can find in Li's model a huge discrepancy between agricultural development as indicated by an obvious increase in the estimated farm yields per acre in the Lower Yangtze and the expansion of the market economy as indicated by changes in money stocks and prices. The Chinese economy was highly demonetized both in the seventh and early fifteenth centuries, yet according to Li, average farm yields per *mu* achieved unprecedented increases during these times. In contrast, average farm yields per *mu* of the Lower Yangtze region either stagnated or slumped in the twelfth and twentieth centuries, which happened to be periods of rapid commercialization and urbanization.

Although Li's overall image of agricultural development in Jiangnan from 600 to 1800 is much more persuasive than Chao's, the descending stages of farming productivity during the Ming dynasty would raise more question on the dynamics and trajectory of preindustrial growth in China if it is proven to be true. Using the connection between market expansion at the aggregate level and improvements in agricultural productivity at a specific region, I have reviewed the debate on Jiangnan's agricultural development in the last millennium.⁵⁵ Despite the various views represented in current literature, my research demonstrates that intensive farming in twelfth-century Jiangnan was, as in many other regions during the Tang-Song transformation, obviously on the rising tide and probably continued to rise into the thirteenth and early fourteenth centuries.

In contrast, a political economy study of Jiangnan in early Ming, especially the increase in taxation via a severe extirpation of private landownership, suggests a sharp decline in the living standard of the rural households. Most importantly, one must go beyond Jiangnan to obtain a comprehensive picture of agricultural development throughout China during these five centuries. Although Jiangnan became the most economically advanced region in China after the Tang-Song transformation, it only constitutes a small portion of the Lower Yangtze region, which in turn is only one of the nine major macro regions in preindustrial China.⁵⁶ Jiangnan was the only region that maintained moderate growth in local population between 1200 and 1400. For many other regions, such as North China, Sichuan, and the Mid-Yangtze, depopulation and de-urbanization prevailed along with the rise of a command economy after the Mongol conquest of China. Most farmers who tilled the land were either soldiers or involuntary migrants, and a market mechanism was largely absent in the reclamation of wasteland. Poor farming equipment, the lack of draft animals, and no access to the market were major challenges to these farmers. Average family farm size expanded as the land supply increased significantly. However, one may doubt whether this increasing trend of per capita farmland would, as the Ricardo-Malthusian model suggests, lead to an increase in per capita agricultural outputs. It has become necessary for current scholarship to collect all available information and reconstruct the cereal production in these regions with regard to the changes in both population density and the expansion and contraction of the market.

The Macroeconomic Approach: A Coherent Framework to Measure the Impact of Market Expansion on Welfare

Despite many efforts made by researchers, we are still far from gaining a comprehensive understanding of the role of market forces in China's preindustrial growth. The review of the current scholarship in preceding sections reveals certain urgent problems that we must resolve, namely, the lack of a coherent framework, quantitative evidence, and a political economy perspective. In the following, I first raise the major questions that we need to address with regard to the study of the Chinese market economy. Following a brief comment on each question, I provide my solution, one that attempts to incorporate framework, perspective, and evidence into a coherent argument.

The debate between the Tang-Song transformation and the Ming-Qing transformation paradigm encourages researchers to comprehensively survey long-term changes in the performance of the market economy. Yet the lack of a comprehensive framework based on quantitative evidence leads to a wide gap separating the market-based approach and the production-based approach in empirical researches. I have reviewed in the previous pages various empirical studies that aimed to establish a clear picture of major changes in the Chinese market economy over the last millennium. These studies are roughly divided into two camps: one focusing on market expansion, and the other following the line of agricultural productivity. My review reveals a clear disconnection between the two camps: namely, the missing linkage between the working of the market mechanism through prices and wages on the one hand and increases in farming production on the other hand. Although in a coherent framework changes on one side are important to the other side, due to differences in their methodology and insufficient quantitative evidence, the current studies produced some uncertainties and even controversies for a reader. Most of all, as this book aims to study the relationship between freedom and welfare in late imperial China, the inquiry necessarily follows a causative line to explore market expansion and its impacts on living standards and agricultural productivity.

I thus propose a macroeconomic approach to integrate these empirical studies into a coherent framework that enables us to assess market performance. This approach is based on the premise that the market is the endogenous variable that contributes to preindustrial growth and to improvements in the living standard. Under this framework, a comprehensive assessment of market performance is conducted according to the following criteria:

- a. Population growth;
- b. Degree of commercialization, such as the size of the domestic market, share of urban population in the national total, and the size of money supply;
- c. The size and sophistication of state power measured through
 - (i) tax collected per capita
 - (ii) structure of taxes, assuming that sophistication means a move along the Schumpeterian trajectory toward a tax state;
- d. GDP per capita and real wages, especially the real wage of laborers;
- e. Agricultural productivity, such as farm yields per acre or per household.

Here I explain briefly why these criteria are indispensable in observing the performance of the market economy. A comprehensive performance assessment includes, first, an investigation of how the market expanded and contracted as measured by criteria a, b, and c; and second, an evaluation of how the expansion and contraction produced different results on standard of living as measured by criteria d and e. The investigation starts with a survey of population growth because it is the chief factor in influencing changes in both supply and demand of a preindustrial economy. Technically, the comparison of market performance in the Song and Ming eras must be conducted with an accurate calculation at the per capita level. Thus, no meaningful comparison can be achieved without reliable population data.

Beyond changes in population, one needs to consider how to measure the size and structure of a market economy in imperial China. I have listed three criteria earlier: the size of domestic markets, share of urban population in the national total, and the size of money supply. Evidence for a preindustrial market is usually imperfect. Yet a coherent framework allows a researcher to find the increasing connection among the related sectors in the economy. When the market expands, for instance, one can expect the development of long-distance trade facilitated by water transport. It also requires a sufficient money supply and the necessary infrastructure that the state would help to make available. Rising transportation costs and diminishing money stock during a period of a market boom are unlikely—even if these occur, they cannot be sustained long. As we study the performance of the market economy over time, methodically, this interconnectedness in the expansion and contraction of the market economy provides an important chance for us to assess the quality of the data and further analyze them on a macro-economic ground. Similarly, the rise of a command economy means a contraction in the market. One can use the extent of demonetization to measure the power of a command system in a preindustrial world. Payment in kind and labor service replaced money in state finance. Money and pricing were not to have important impacts on the allocation of goods or services. Private initiatives in mining, commerce, and industries were discouraged or even banned. The economy disintegrates greatly along with the market contraction. Most of all, one identifies a key criterion of how the economy was planned in a preindustrial world—legally and essentially in reality how people lost freedom in choosing profession and residential place. Involuntary migration and military farms of massive size are important to indicate the operation of the command mechanism in agricultural production. In researching them, quantitative evidence from different aspects come together to prove how the command system was operated as an alternative to the market mechanism—the command power would not sustain its operation if there was a major controversy within the system, say, if people were allowed to migrate freely to make a better living or soldiers began to receive cash payments and gave up military farms.

Next, I follow the framework to examine the impact of market expansion and contraction on standard of living. If the market performs an important role in promoting welfare, as the preindustrial growth theory suggests, one can find a corresponding rise in living standards as agricultural productivity increases. Luckily, we have the early Ming case, an economic system that succeeded the Song pattern of the market economy. The rise of a command economy system as an alternative to the market mechanism provides an extremely rare chance to draw a comparison of household income and agricultural

productivity. Taking this command economy as a counterfactual model for comparison, a reader can clearly make sense of the central issue in discussion. The major challenge I face here, however, is the relatively poor quality of income and production data. To make a meaningful comparison, therefore, I attempt to address a broad range of estimated outputs made by different scholars to counterweight the influence of any estimation that was derived based on only a handful of samples. More importantly, the key to overcoming entrenched biases is to employ different approaches to reach various tentative conclusions. If they all point to the same direction, then we can be confident of having come to a valid conclusion.

I first choose real wages as the basis to reconstruct national incomes in Song and Ming China, with a specific focus on military wages. Then I choose rural household incomes to develop a cross-dynastic comparison at the macro-regional level. In the study of national income, both household income and wage belong to the demand-based perspective. The scanty information on real wages in preindustrial China forces me to adopt the military wage as the foundation for comparison. The comparison of household income is also confined to Jiangnan. Finally, to provide a comprehensive understanding, I turn to the supply side and choose agricultural productivity to test the validity of my conclusion. This supply-centered perspective helps to triangulate the observation made on welfare based on a demand-centered perspective. Rather than simply producing an average estimate based on comprehensive data collected across the country, I select important local cases from different macro regions to build up an index representative of regional variations.

As the comparative framework is well defined, two other major problems remain to be resolved: the lack of quantitative evidence and the lack of a political economy perspective. The introduction of a political economy perspective directly addresses the shift from a market-based economic system to a command economy system after the Mongol conquest and highlights the importance of the political economy of early Ming China. This often glossed-over transitional period deserves ample attention because it provides a crucial linkage between the Tang-Song transformation and the Ming-Qing transformation.⁵⁷ A thorough examination of this interim period is necessary if we are to obtain a comprehensive understanding of the two transformations.

This interim period starts from the collapse of Northern Song in 1127. By 1120, the market has expanded to an unprecedented level and population reached about 100 million. A Kaifeng-centered market system functioned as the engine for the long eleventh-century economic expansion until it was crushed by the Jurchen invasion in 1125. Jurchen nomadic power gained firm control of North China, and the defeated Song court moved from Kaifeng to Hangzhou, a city in the Lower Yangtze, where it continued to govern the south until the Mongols destroyed the Song dynasty and unified China in 1279. The rise of the Mongol empire put an end to the over-five-centuries-long multi-state system in China and East Asia. However, after only eighty years, this giant Eurasian empire fell apart. Zhu Yuanzhang, one of the leaders of many rebellions throughout the late Yuan, overthrew the Mongols and founded the Ming dynasty (1368–1644).

The market expansion and population growth in the eleventh century was associated with the formation of a Kaifeng-centered military-fiscal power. Many Song historians have acknowledged that this new type of state power relied on an intense inland waterway network with Kaifeng at its center. The essential connection between the Song state

and market expansion is demonstrated in three areas: the majority of state revenues were collected from long-distance trade and urban consumption, the structure of state finance was highly monetized, and the soldiers were all recruited from the volunteers who were attracted by pay and other benefits. This practice was particularly true for the military recruitment in times of famine.⁵⁸ Therefore, the Song state gained a lot from market expansion and thus became supportive to trade. In the Skinnerian paradigm, the Song-Yuan-Ming transition is described as a Kaifeng-centered economic cycle being replaced by a Beijing-centered one, both being macro-regional cycles. As Skinner and later Hartwell argue, this replacement is indicated mostly by demographic changes. In doing so, they regrettably fail to recognize the rise of a command economy along with the formation of Beijing-centered political power.⁵⁹

A command economy is an administrative system alternative to the market mechanism. It is difficult to tell how early an exact idea of a demonetized administration came to mind for the Chinese political elite,⁶⁰ but the Mongol conquest was certainly a key step in the formation of a command system. Although Mongolian nobilities developed a much more friendly relationship with merchants, such as the moneylenders from Central Asia known as *semu*, the origin of their dynastic rule in China was institutionally based on pastoralism, the structure of which was hierarchical and patriarchal.⁶¹ The nomadic conquest significantly influenced the evolution of Chinese society and greatly changed the relationship between the state and the market. The revival of poll taxes and corvée labor, the creation of hereditary military services that isolated the recruitment of military staff from the process of employment, the spread of military farms, and most of all, the making of Beijing as the capital all significantly reduced the central power's reliance on the market mechanism and thereby moved the state system away from the primary path that was oriented during the Tang-Song transformation. It is also worth noting that the Mongol rule is a combination of many different and even opposite kinds of policies and practices. The Lower Yangtze, the heartland of the Chinese market economy, remained prosperous and engaged more actively in international trade. In North and Northwest China, the economy was plagued by the huge loss of population caused by wars and natural disasters. As the size of the Chinese empire greatly expanded after the Mongol conquest, her economy became much less integrated and became unstable due to the weakness in its structure.

A command economy is a state initiative that is intended to replace the role of market forces with a command system. Either labor service or payment in kind that worked to support a barter economy in earlier times was insufficient to be called a command economy. It must be a planned system rather than a gradual evolution. Therefore, the formation of a command economy system did not come into view until Zhu Yuanzhang deliberately enforced anti-market policies nationwide. To reorganize society into a command system, he employed three key institutes/methods: *lijia*, military farm and involuntary migration, and *baochao*. Designed to be self-sufficient and mutually supervised units, *lijia* served to control the population everywhere. Military households were forbidden to migrate because the government thought any moving of those households from the current location would lead to their escape from the obligations of providing soldiers. Farmers and artisans were also confined to their registered places and organized into the *lijia* system.⁶² Military farms distanced the military provision, the largest category in state expenditure, from the market, and involuntary migration was planned

to reopen the vast expanses of wasteland. *Baochao* was a paper bill issued by the court to take the place of hard currencies such as coins and silver at the market; the latter was forbidden and must be sold to the state at the official rate.

This research is essentially concerned with a comparison of the market-based system with a command economy, and it is necessary to find an ending date. Although this command system lasted no more than a century, it is not easy to pin down an exact time in history for its collapse. With the sudden death of Zhu Di in 1424, the emperor who dispatched Zheng He and decided to move the capital to Beijing, the pace of imperial expansion also stopped like a sailing ship without wind. But the collapse of such a giant organization was not designed but pushed by the accumulation of controversies and conflicts within it. This process was uneven and sometimes reversed. To take *baochao* as an example of a radical change in policy: Soon after the *baochao* was formally issued in 1375, the court issued these bills without restraint, which not surprisingly resulted in a severe depreciation. According to the original regulation, 1 *guan* of *baochao* was equivalent of 1 tael of silver. By 1426, 100 *guan* was worth 1 tael.⁶³ People rejected *baochao* and turned back to silver. After a few fruitless efforts, in 1436, only ten years after Zhu Di's death, the court decided to accept silver as a means of payment. This change in policy marked a turning point in the monetary history of the Ming dynasty: State power succumbed to the power of a market it had made every effort to destroy sixty years before. In other cases, the collapse of the command system came out decades later. The ban on free migration generally applied to any registered household. The land-tax system, a tributary way of collecting and moving grain taxes, demanded that a farmer perform his duty at a specific spot as registered in the *lijia* system. A peasant family, if migrating to a settlement rather than their registered place, would be forced to return to their original *lijia* unit. In imperial edicts, the court repeatedly warned such vagrant peasants to return to their early settlements. In 1430, Zhang Ben, the acting minister of the Revenue Ministry, warned that illegal migrants who failed to then return home would be drafted for military services, and anyone who helped to shelter these migrants or failed to report them to the administration would receive the same punishment. An migrant could apply for the legal status of alien residents, according to this rule, only when he succeeded in performing his tax duties and labor services at his home settlement, no matter how far away he had already migrated.⁶⁴ One can imagine how much of a strain it would be for a migrating peasant family if they wanted to be recognized as legal migrants—they had to pay taxes in two different places.

An overwhelming majority of Ming migrants would have failed to meet this requirement, since the total number of registered households showed no sign of increase after 1400 and even declined substantially after 1450, although the real population in the fifteenth century must have far exceeded the population in 1393.⁶⁵ Massive resistance against such coercive control should be the principal reason for the collapse of early Ming despotism. Yet, early in the dynasty, the government stiffened its laws by prosecuting such violations. Even when it came to the Zhengtong reign (1436–49), one can still find some records about using Ming troops to pacify the remote mountain areas where illegal migrants moved in for mining or farming.⁶⁶ Two rebellions in mid-fifteenth-century China were also closely related to migrants: One is the Deng Maoqi Rebellion (1448–1449) in the center part of Fujian, a case of miner bandits as recorded in contemporary writings; the other is the revolt in the western mountain and highland areas in Hubei, which

involved about 1 million illegal migrants.⁶⁷ After pacifying the rebellion in West Hubei, in 1476 the Ming court established a new prefecture in the rebellion area and recognized the rights of migrants to stay permanently and cultivate the free land in their new homes. This event marks an important change in the state policy on migration. Suffice it to say the command system collapsed rapidly toward the end of the fifteenth century. But as an important exception to this general trend in Ming China's politics, the policy on maritime trade remained unchanged. Only when it came to the Longqing reign (1567–1572) did the court lift the ban by allowing Chinese merchants from Fujian to use a small sea harbor for shipping abroad. Largely for convenience, this exploration chose 1500 as the ending year for the early Ming command system. The comparison between Song and early Ming is a hitherto unexplored perspective and highlights the differences between the market mechanism and the command system in a traditional economy. In contrast, the revival of the market economy in the sixteenth century is a well-known story and is considered as a secondary concern in this book.