After Malthus and Marx
Theories of Agricultural Stagnation
in Traditional China

Perhaps the most significant fact about the economic history of China over the past thousand years is the relative stagnation of its agricultural system. The organization of the farming system, the institutional context within which farming took place, and the techniques used in cultivation changed little between the twelfth century and the twentieth century. Farm yields showed only modest growth, barely sufficient to keep pace with population increase, over a period of a thousand years. In contrast, English agriculture in the seventeenth and eighteenth centuries experienced a breakthrough to substantial increases in yields, increased application of technological advances to agriculture, and institutional reorganization of the farming system. This breakthrough provided the surpluses needed ultimately for industrial revolution and modern urban development. Chinese economy, culture, and technical knowledge appeared propitious for rapid economic development in the twelfth through the fourteenth centuries; so why did China not experience a revolution in its agricultural system during that period, leading to rapid economic growth in other sectors as well?

Two families of theories have been prominent in the literature to explain this pattern of economic stagnation: population-driven theories and surplus-extraction theories. According to the first approach, the obstacle to economic growth in China was a tendency for population to outstrip resources--particularly land--over a long period of time. Population pressure pushed production into more labor-intensive techniques and eroded the surplus that would be needed to fund innovation and growth. Examples of this approach include Mark Elvin, Kang Chao, and Ramon Myers. According to the surplus-extraction approach, by contrast, it is held that the rural economy was capable of producing a sizeable economic surplus--perhaps 25-30 percent, but that this surplus was consumed by the elite class and the state in non-productive ways--conspicuous consumption, military expenditures, and the like. On this account, it is the particulars of the institutions defining the context of rural economic activity--the property relations or the relations of production--that constituted the ultimate obstacle to economic growth in the Ch'ing rural economy. Authors advancing this interpretation include Victor Lippit, Carl Riskin, and, to some extent, Philip Huang.

My goal in the following is to examine closely the theoretical assumptions made by both frameworks, and to consider how this dispute might be resolved, empirically and conceptually. My approach is from the point of view of philosophy of social science; I consider this an important theoretical disagreement within current China studies, and want to see what light it sheds on more general issues of theory construction and confirmation in social science. I will focus on two recent treatments of this issue: Kang Chao's *Man and Land in Chinese History* (1986) and Victor Lippit's *The Economic Development of China* (1987).

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1 Dwight Perkins' important study, *Agricultural Development in China* (1969), chronicles this path of development in substantial detail. Perkins maintains that Chinese agriculture from the fourteenth century to the present was forced to expand gross output eight to ten times, in order to support increasing population. Perkins also holds, however, that agricultural development in China was largely accompanied by technical stagnation: increases in output were achieved through more intensive application of existing techniques rather than through technical innovation. "The central proposition of this book is that Chinese farmers were able to raise grain output and that they did so in more or less equal measure by expanding the cultivated acreage and by raising the yield per acre" (Perkins 1969:13). "Most of the increase . . . seems to have resulted from greater capital and labor inputs in conditions of a stagnant technology" (Perkins 1969:38). "It is quite clear, however, that the increase in the number of tools was not accompanied by any great change in their quality or variety. Farm implement technology was generally stagnant" (Perkins 1969:56).


3 These are often referred to as "technological" and "distributionalist" theories.
A demographic theory

Let us begin with a model of agricultural stagnation in China that gives the primary causal role to a longterm increase in population. Kang Chao (1986) argues that the main elements of China's economic history, including the dominance of small producers, labor-intensive techniques of production, and technological stagnation since the twelfth century, are the effects of a steady population increase over a period of eight hundred years and a consequent decline in the land-man ratio. As labor became abundant and resources—particularly land—became relatively scarce, Chinese farmers and handicrafters were under increasing pressure to adopt labor intensive production techniques and were presented with corresponding disincentives towards introducing efficient labor-saving innovations.

Chao's case stands on two extended pieces of analysis: first, a theory of the causes of demographic change in traditional China, in tandem with a reassessment of existing estimates of the growth of the Chinese population over the past two thousand years; and second, a formal marginalist economic analysis of the unit of production (farm, workshop) under conditions of a falling land-man ratio. This analysis is designed to show that these circumstances lead naturally to an involuted production process, substituting intensive labor for technical innovation.

The dynamics of population increase

Consider first the demographic argument. Like Malthus, Chao postulates a close causal linkage between population growth and economic arrangements; but Chao reverses the direction of influence. Malthus maintained that economic arrangements—particularly the level of the real wage and the number of positions within the economy—dictate the level of population at a given time. This causal connection is supposed to work through positive and negative checks: positive checks include sources of increased mortality resulting from overpopulation (war, civil strife, famine), while negative checks include culturally specific checks on fertility—delayed nuptiality, birth control, and the like. Thus population change is a dependent variable, conditioned by the economic environment: as a regional economy becomes more productive, population can rise.

Chao holds, however, that the demographic experience of China differs sharply from that of pre-modern Europe. The cultural values defining nuptiality and family-formation in traditional China were fundamentally different from those of pre-modern Europe, and essentially disengaged from economic factors. There was a very powerful cultural value attached to having heirs, which led young people into marriage without regard to their economic prospects. Thus, Chao maintains, traditional Chinese society embodied a culturally specific mechanism for population increase.

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4 “Why did an industrial revolution take place in eighteenth century England but not in Sung China? . . . Sung China had already [by the twelfth century] approached the threshold of technological invention and was far more advanced than Europe in craftsmanship and engineering skill. By this time, however, the Chinese population had grown to the point where there was no longer any need to save labor. There was no longer a demand for labor-saving devices because people were concerned with the problem of how to dispose of unused labor gainfully. . . . China, meanwhile, had fallen into a trap of overpopulation, and institutional flexibility only worsened the situation. Overpopulation induced the populace to adopt more labor-intensive technology and labor-absorbing institutions, which in turn raised the limit of tolerance for overpopulation” (Chao 1986:227-28).

5 For a good, brief account of modern Malthusian doctrine, see Schofield (1986). In European studies there is a comparable line of analysis to be found in the work of M. M. Postan, Emmanuel Le Roy Ladurie, and others. "Behind most economic trends in the middle ages, above all behind the advancing and retreating land settlement, it is possible to discern the inexorable effects of rising and declining population” (Postan 1972:30).

6 "The Chinese traditional family system functioned quite differently, for two important reasons. One was the drive for family perpetuation, the obsession with having male heirs to carry on the family lineage. Marriage was a decision not dependent on one's economic condition, but on one's deepest obligation to one's whole family as well as to one's ancestors. The second was the strength of family feeling, the family as institution often became a multi-worker business entity, provider of employment and basis for intrafamily income distribution. Consequently, instead of functioning as an automatic regulator, the Chinese family system tolerated overpopulation” (Chao 1986:8-9).
of family formation that led to population increase without regard to the economic opportunities available to new families. This led to chronic overpopulation in relation to land and available production techniques.

Chao also offers a reappraisal of available population data on China over the past two thousand years. He argues that by the twelfth century China had reached such a population size that it was largely immune from the positive checks that could substantially affect population size over fifty years—war, famine, emigration. This tendency towards population increase led in the long run to a secular decline in the land-man ratio. Though land reclamation was a natural response to rising population, particularly in the Sung Dynasty, there were narrow limits to this response given China's boundaries and ecology. Consequently, as population rose rapidly and cultivated land rose slowly, the per capita acreage unavoidably fell.

The argument to this point, then, may be summarized in these terms: for culturally specific reasons having to do with the values defining family structure, the Chinese population had a tendency to rise more rapidly than the carrying capacity of resources (chiefly land). This process led to a persistent tendency towards a falling land-man ratio; and this fact was the fundamental condition that shaped economic institutions and production techniques in Chinese agrarian society.

**Marginalist analysis of the peasant economy**

Let us turn now to the economic implications of this demographic argument. Chao describes the traditional Chinese economy as being essentially homogeneous throughout two millenniums: a highly commercialized market economy in which the vast majority of all production was undertaken by small units of production run by family labor—the peasant farm and the handicraft shop. Family units farmed small plots of land and engaged in sideline handicraft enterprises—e.g., textile goods—within the context of a highly commercialized market. Chao holds that the tools of marginalist economic theory permit the derivation of important implications about the patterns of development that may be expected from these economic institutions given the circumstance of falling land-man ratios. For the rational economic choice in these circumstances is for peasant cultivators to adopt production techniques that absorb the maximum amount of family labor, even in circumstances when the marginal product of labor is well below subsistence. This is true because the family is obliged to support all family members; labor costs are thus fixed; and any additional expenditure of labor that increases output by even a slight amount is therefore rational because it increases to the total family income. This is an outcome that the Russian peasant economist, A. V. Chayanov, describes as the "self-exploitation" of peasant family production.

This producer-preference for labor-intensive methods has implications for the process of development of the Chinese economy. First, Chao holds that tenurial landlordism drives out managerial landlordism under these circumstances; a landowner can earn a higher rate of return by leasing his land to a peasant family than by managing the land himself using hired labor. This is true because the tenurial landlord can appropriate part of the

7 "The crucial turning point finally occurred when, after steady growth for 150 years during the Norther Sung, the population surpassed previous peaks by a sizeable margin so that major wars and natural disasters became relatively less destructive" (42).
8 For a detailed treatment of the process of land reclamation in Hunan, and its effects on the ecology, see Perdue (1987).
9 "The data point overwhelmingly to the fact that ancient China was an atomistic market economy; indeed, it continued to be so until the 1950's. By atomistic I mean made up primarily of countless small production units making independent decisions. Such units were frequently described as 'households with five persons tilling 100 mou of land.' These freeholders or tenants of the large landlords that figured in every period were themselves independent decision-making units" (Chao 1986:5).
10 There is some controversy about the role of a manorial economy in Chinese economic history. Elvin dates its disappearance to a relatively late date, while Huang maintains that manorial cultivation had disappeared in North China in very early times. Robert Marks dates the disappearance of the manorial system and serfdom in Haifeng County in the late Ming or early Ch'ing dynasties (1984:4-15).
surplus created by the highly intensive labor of the peasant family, an amount greater than that created by a hired work force.12

There is a second implication of the marginalist analysis that is most relevant for our purposes—the explanation of technological stagnation. For Chao argues that peasant production is led towards intensified application of labor rather than towards labor-saving innovation. The twelfth century represents the demographic turning point on Chao's account: the point at which the land-labor ratio had dropped low enough to trigger labor-intensification rather than technical innovation as the primary response of the peasant cultivator to the need for increased income.14

Here, then, we have Chao's analysis of technical and economic stagnation in the traditional Chinese economy: population increased relatively immune from check by economic factors; the ratio of land and resources to population fell; and peasant cultivators were increasingly compelled to adopt labor-intensive techniques of production rather than technical innovations that would have the effect of increasing the productivity of labor.15

**Chao's demographic analysis**

Chao's demographic argument is substantially less persuasive than it may initially appear to be. This argument has two parts: first, a causal hypothesis about Chinese demographic change, according to which population tended to increase without regard to economic variables; and second, a reconstruction of China's population history that is intended to support this causal hypothesis and to establish Chao's central contention—that the land-man ratio witnessed a substantial and economically devastating drop between the twelfth century and the twentieth century.

Consider first the causal analysis of demographic change—the thesis that Chinese population growth was not controlled by Malthusian economic checks. I find that this claim is simply undemonstrated in Chao's work. In order to support this claim it would be necessary to provide a time series of population statistics and a time series of the relevant economic variables—per capita income, grain prices, or economic opportunities. But Chao's land and population data do not succeed in testing or exploring the anti-Malthusian hypothesis. This is true for several reasons. First, it appears that Chao's population estimates themselves presuppose the anti-Malthusian assumption that nuptiality rates were not affected by economic changes, since he uses the construct of a "stable population," one of whose assumptions is that reproduction rates are constant (Chao 1986:28). But it is possible that this assumption seriously biases the data that he accepts; for if nuptiality and fertility were sensitive to fluctuating economic circumstances, then one would predict lower rates of population growth than Chao arrives at.

More seriously, Chao's emphasis on land data does not provide sufficient information about family income to permit us to evaluate his claim about the lack of connection between nuptiality and economic changes. In order to evaluate the demographic hypothesis we need to have information comparable to a real wage index of

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12 "The predictable result of such a situation would be a gradual shift from owner cultivation of land to tenant farming" (12). Chao holds that the same result attaches to rural subsidiary handicraft production as well: a handicraft factory employing wage labor creates a lower return than the same amount of capital expended on putting-out production; 12-13. This conclusion runs contrary to Philip Huang's findings on this subject in his major study of the rural economy of North China. "Managerial farming brought better returns than leasing landlordism. This was in part because most managerial farmer households did some farm labor themselves, whereas those who leased out their land did not. But it was also in part because the managerial farmers were able to use labor much more effectively compared with the small tenant family farms on which leasing landlordism was based" (1985:72).

13 "The other profound impact of overpopulation was on the technological preference of producers. . . . The primary direction of Chinese agricultural development after the twelfth century was towards intensified farming" (Chao 1986:224-25).

14 "Generally speaking, agricultural production in China followed a pattern of extensive development before the Southern Sung but gradually changed thereafter. Taking cultivating implements as an example, we may observe that virtually all important innovations and inventions took place before the fourteenth century, at the latest, and all were labor saving in nature" (Chao 1986:194).

15 It is useful to note that Chao's population-centered theory of economic development closely parallels recent discussions of "proto-industrialization" in European studies. Chao's model may also be usefully compared to Clifford Geertz's analysis of "agricultural involution" in Java.
family income over an extended period of time. But farm income is not a function solely of farm size (as Chao himself recognizes). It is rather a function of farm size, techniques of cultivation, cropping index, and market circumstances. If crop prices and the cropping index were rising gradually, this might be enough to compensate for falling farm size, with the result that family income remains constant. Likewise, gradual innovations in farming technologies could be sufficient to prop up family income in circumstances in which average farm size is falling. So Chao’s analysis does not establish that a falling land-man ratio necessarily implies falling family income; and if family income is not falling, then evidence of population increase is not evidence for the anti-Malthusian thesis.

Finally, Chao’s data set is too thin to provide the basis of a test of the Malthusian hypothesis. He has only a few data points for population and land figures separated by many hundreds of years (eleven points covering almost 1900 years on table 5.1), and the duration of the relevant economic trends ought to be shorter periods. The evidence of correlation between nuptiality and the changing economic environment would appear, if at all, on a much shorter time frame, given that the correlation is established by individuals deciding on marriage in light of their perceptions of the economic possibilities available to them in the near future. This would suggest that the correlated movements, if there are any, should be on a time frame of 25-50 years. But even if there were such movements, in China’s population history, Chao’s analysis would miss them because of the centuries-long gaps in his data. Chao does not possess the quality and quantity of data that would be needed in order to make out this type of causal argument; in all likelihood, the data does not exist for Chinese population history. But this means that Chao’s central demographic hypothesis—that Chinese nuptiality was unresponsive to economic opportunities and limitations—is empirically unsupported.

We may also ask how credible is Chao’s analysis of the cultural determinants of nuptiality in traditional China. Chao maintains that the cultural values defining family relationships were sufficiently powerful as to offset the inhibitions to nuptiality created by economic constraints. Other research seems to indicate the contrary; for example, Burton Pasternak’s study (1978) of rural Taiwan in the 1930s reveals family arrangements that were quite flexible in the face of changing economic circumstances. This account suggests that family relations, and the values constraining and guiding traditional family practices, were rather flexible in response to changing material circumstances. If this example is at all representative, then Chao’s claim for the priority of traditional family values over economic rationality within Chinese society is much overstated.

Turn now to the data themselves. Table 1 summarizes Chao’s reconstruction of the population and land data for China over a two thousand year period. The data shows a high land-man ratio before the tenth century; then the ratio fluctuates sharply between the tenth and seventeenth century from a high of 8.7 shih mou per person to a low of 3.96. Finally, though, the land-man ratio falls to roughly 3 shih mou per person in the eighteenth century, where it remains with further erosion over the next century. By the nineteenth century the land-man ratio is about one-third what it was in the first century.

Chao puts this data forward to demonstrate a decisive downward trend in the land-man ratio; his interpretation is that the agricultural system went from relative abundance (10 shih mou per person in the second century) to surplus population in the nineteenth century (2.7 shih mou per person).

16 It is true that Chao provides estimates of the real wage between 50 B.C. and 1818 (218- 219), which he summarizes as showing a secular trend downward from the twelfth century. This data is based on wage rates for unskilled workers, which were then converted into units of grain using contemporary grain prices. This data set shows such wild variation, however, that it is difficult to interpret meaningfully. Thus in Shensi in 1742 a farmer’s wage is 400 wen, while in the same province in 1749 it is 1200 wen. At opposite ends of the timeframe, Chao finds a draft worker’s wage (grain equivalent) in K’ai-feng in 1080 to be 800 sheng, while in Yunnan in 1805 a farmer’s (grain equivalent) wage is 3.7—a range of roughly 250 to one. Given the range of findings here, and given that Chao does not provide any information about the grain price data that he is using, it is difficult to attach much significance to this data set.

17 By way of contrast, consider recent work in English demographic history, which does make a serious effort to test the Malthusian hypothesis in application to England. Roger Schofield employs the detailed population data provided by Wrigley and Schofield (1981), in order to test Malthus’ central causal hypothesis: that population dynamics are causally influenced by shifts in the real wage. As population pressure leads to a fall in the real wage, young people defer or abandon the decision to form a family; the fertility rate falls; and population grows more slowly. In order to evaluate this Malthusian causal analysis for English population history, Wrigley and Schofield make use of two time series: population levels and a consumables index over a period of some four hundred years.

18 The case is drawn from Burton Pasternak, “The Sociology of Irrigation: Two Taiwanese Villages” (1978).
This data is perhaps less convincing than it first appears, however. First, the high ratios found between the first and tenth centuries indicate—as Chao himself indicates—that land was abundant during this period, and that cultivation could expand fairly readily. Consequently it is misleading to use this period as a baseline in terms of estimating the effect of modern land-man ratios on population welfare. Second, the wide fluctuations of per capita acreage (e.g., during the period of 1072, 1393, 1581) reflect extreme changes in population: the population drops from 121 million in 1072, to 60 million in 1391; and then increases more than threefold by 1592. So the peaks in 1391 and 1657 represent the effects of population catastrophes—not gradual processes either of population growth or of land reclamation. It would appear that the most representative comparison offered by this data is for the years 1109, 1581, and 1800. All three years fall within periods of steady population growth. When we compare these years we find that Chao's generalizations obtain—population increases and the land-man ratio falls. Thus there is roughly a 50 percent increase in population in each interval, and the land-man ratio drops from 5.5 to 3.96 to 3.19. However, this is a much more modest drop than the extremes of Chao's data would suggest (from 10.78 to 2.70). In order for population welfare to remain constant throughout such changes, only relatively modest gains in agricultural productivity are required; and in fact Perkins shows that the agricultural system responded with such innovations, so as to keep per capita income roughly fixed. It is clear that the Chinese population increased more rapidly than land reclamation proceeded; but it is not clear what causal consequences this trend had. When Chao's argument is examined more closely, therefore, it appears that his data does not establish his central conclusion: that population growth imposed a crushing obstacle to the capacity of the economy to introduce innovations and increase productivity.

Finally, Chao's land-man computations themselves are somewhat questionable when we consider other authoritative estimates of the land-man ratio. For example, Dwight Perkins provides data that permits the computation of land-man ratios for the last five centuries of the time period (1400-1933). However, Perkins' data do not show the same trends that Chao describes. Perkins finds a man-land ratio that varies from 5.10 shih mou per capita (1400) to 3.46 shih mou per capita (1873)—in contrast to Chao's findings of a decline from 8.70 shih mou per capita to 2.7 shih mou per capita. Thus Perkins arrives at a moderately lower value of roughly 32 percent from the fifteenth century to the nineteenth century rather than Chao's catastrophic decline of 69 percent. Even more strikingly, Perkins finds an increase in per capita acreage from the seventeenth to the nineteenth century. Thus Perkins' data would suggest a much slower and moderate process of population growth in relation to arable land. If these estimates are correct, it becomes even more plausible that it would have been possible for innovations in agriculture to keep up with this gradual decrease in the land-man ratio.

These considerations suggest that, at best, Chao has provided data that gives the general trend of movement in population and cultivated acreage over the two-thousand year time frame; but he has not given data that would either support or refute a causal hypothesis about the relationships between demographic change and changing economic circumstances. And he has not established his central economic claim either: that falling land-man ratios led to involution and a marked preference for labor-intensive techniques of cultivation.

Turn now more briefly to Chao's economic analysis. A central shortcoming of this part of the theory is its lack of an institutional context for the agricultural system. Chao postulates a sea of small peasant proprietors involved in labor-intensive cultivation. He does not give an important causal role to the institutional arrangements through which farming takes place, however. He downplays the significance for the explanation of economic stagnation of the varieties of land tenure arrangements; the extent of smallholding and distribution of land; the availability of credit and the level of indebtedness; and changes in taxation policies. Instead, he regards these sorts of factors as dependent variables that should be expected to adjust to demographic trends. It seems reasonable to hold, however, that these institutional factors are themselves important causal variables that determine what the economic effects of demographic change will be. A farm economy is an organized system of social relations and independent decision making; it is highly implausible to suppose that it will be possible to explain the longterm trends of such a system on the basis of demographic factors alone.

A surplus extraction theory

19 “Because of resilient economic institutions, overpopulation did not express itself in the form of open unemployment and high population pressure can be detected only indirectly” (222).
Let us turn now to a model which attempts to explain economic growth and technical innovation in terms of local class relations and the particulars of the system of surplus extraction that is in place. The surplus-extraction model holds that the key to understanding the process of economic development in a given economy is the system of social relations of production—the property relations and the distribution of political power—through which productive economic activity proceeds. This model postulates that an economy typically embodies a class system dividing the immediate producers (farmers, workers, artisans) from an elite class that confiscates part of the surplus product for its own uses. The direction that economic development takes depends very much on the incentives, opportunities, and powers conferred on the various class parties by the property system; thus the class relations impose a logic of development on the system.

Robert Brenner has taken a leading role in applying this mode of analysis to the explanation of pre-modern European economic development (1976, 1982). Brenner's thesis is that the causally central factor in the pattern of agrarian development in Europe is the particular character of class relations in a region and the set of incentives, opportunities, and powers which the local property relations impose on the various actors. Brenner's explanation is thus based on a "micro-class analysis" of the agrarian relations of particular regions of Europe. Different property arrangements give rise to different interests and incentives for the various actors, and they determine the relative power of the classes defined by those relations in particular regions. In order for modernization of agriculture to take place in a given area, therefore, Brenner argues that it was necessary that there be a group (a micro-class) which had both an economic interest to further these changes and the political power to do so. On Brenner's account, the decisive factors determining whether this process of change would take place or not were the particular set of property arrangements which existed in a given region and the distribution of the means of power which were available to contending groups.

Victor Lippit provides an extensive application of this framework to the traditional Chinese rural economy. Lippit's theory of underdevelopment depends on three claims. First, it asserts that there was in fact a sizeable economic surplus created by the traditional economy, over and above the subsistence needs of the cultivators and producers—some 25-30% of the rural product. Second, it holds that rural society was substantially stratified, containing a small elite class and a large class of poor peasants and workers, and that the elite managed to appropriate the surplus for its own purposes. And finally, this model maintains that the cultural and economic values that governed the consumption behavior of the elite were such as to discourage the elite from investing the surplus in economically productive ways—infrastructure, capital improvements, irrigation, new technologies, etc. If these assumptions are substantiated, then a pattern of economic stagnation follows fairly directly. Producers (peasant farmers) lack the funds necessary to invest in more efficient technologies; while the elite group lacks the incentive to do so. As a result, the spectrum of innovations that would lead to economic development are blocked.

Each of the premises above has been questioned, and some authors have held that the categories of class, exploitation, and surplus-extraction are not reasonably applicable to traditional China at all. Thus Ramon Myers describes the traditional farm economy inherently poor, giving rise to only insignificant levels of surplus over and above the farmers' subsistence needs. Elvin, Buck, and others have described rural society as substantially flat, with only a narrow (and frequently reversed) range of inequalities of wealth and land ownership. And it might be held (though I have not seen this argued) that landlords and lenders were prepared to make appropriate investments in the production process, but were inhibited by some other institutional factor (e.g., the superior profits available in merchant activity; Elvin 1973).

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20 Ramon Myers refers to models of this sort as "distribution" theories. "The distribution theory is that such a large portion of income was taken from the peasants in rent, high interest charges, taxes, and unfair terms of price exchange that they were left with little surplus to improve or enlarge their farms" (Myers 1970:14). Myers argues that this interpretation is incorrect in application to North China in the nineteenth century; but his arguments have not persuaded other observers; see Wiens (1975), Riskin (1972), and Huang (1985).

21 For a general overview of this model in application to economic development, see Robert Brenner's "The Social Basis of Economic Development" (1986).

22 The term "micro-class" is appropriate here rather than "class" because Brenner emphasizes that it is local class alignments, not regional or national alliances, that constitute the point of change within an agrarian system.

23 "Changes in relative factor scarcities consequent upon demographic changes exerted an effect on the distribution of income in medieval Europe only as they were, so to speak, refracted through the prism of changing social-property relations and fluctuating balances of class forces" (Brenner 1982:21).
To assess the cogency of the surplus-extraction framework, then, we need to see whether available empirical data supports these three premises.

Size of the surplus

The clearest case to be made for any of these premises concerns the extent of the surplus. There are compelling studies available that make it plain that there was a substantial surplus available within the farm economy, and that this surplus was extracted from farmers through a variety of mechanisms. Lippit's own earlier research (1974) offers a careful and extensive study of the sources of income in the Chinese rural economy, in order to provide the basis for a calculation of the available surplus. Working with available economic statistics for 1933, Lippit arrives at the following estimates of types of income as a proportion of national income: land rent (10.7%), total farm business profits (3.4%), and total rural interest payments (2.8%). These data suggest that a total of 16.9 percent of the national income was available as a surplus deriving from the rural economy in 1933.

Lippit's analysis also builds upon Carl Riskin's (1975) careful assessment of the potential surplus in the Chinese economy in the early twentieth century. Riskin's calculations lead to an estimate of a 36.8 percent surplus for 1933, of which 24.5 percent was generated in agriculture; and if that portion of the surplus reflecting unutilized resources is excluded, he estimates a surplus of 27.2 percent (Riskin 1975:74).

Thus Riskin and Lippit show convincingly that there was a substantial potential surplus in the early twentieth century created by the Chinese rural economy. Given that most observers agree that the economy had slipped as it moved into the turmoils of the early twentieth century, this implies that comparable surpluses were available in the previous century as well.24 Further, the success of the CCP's efforts to make sizable investments in agricultural development in the decade after the Revolution suggests that there were substantial surpluses available for the state to capture and channel into productive investment (Lippit 1974). Thus it appears that there is a compelling case for concluding that the rural economy supported a substantial level of surplus, which took the form of income to landlords, moneylenders, and labor-hiring managerial farmers.

Degree of stratification

Turn now to the second premise: the assumption that rural society in China was significantly stratified, with a small elite class controlling the bulk of the economic surplus. This assumption is independent of the first, since it is possible that the surplus be retained by farmers and artisans in the form of a standard of living that is significantly higher than subsistence. Lippit argues, however, that this is not the case, and that the bulk of the surplus was appropriated by an elite class. This class extracted the surplus through a variety of means--rent, interest, forced labor, and corrupt exactions. Is Lippit's estimate of the degree of stratification of wealth within the traditional Chinese economy reasonable?

Lippit offers this breakdown for the class structure of eighteenth-century China with a population base of 300-400 million: a gentry and landowning class (3.5 percent); rich peasants (7 percent); middle peasants (20-30%); and poor and landless peasants (60-70 percent) (Lippit 1987:41). At the top of this pyramid was a compact elite class, composed of landholding and wealthholding gentry. Lippit estimates the amount of income flowing to the gentry in the late nineteenth century (some 1.9 per cent of the population) at 719 million taels, or 22.3 per cent of the net national product (90-91). This income breaks down into three chief sources: service income (312 million taels); landrents (293 million taels) and merchant profits (114 million taels). Thus Lippit maintains that there was a significant degree of stratification within traditional Chinese society, with a class of large landlords

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24 These findings are supported by a number of other studies as well. Thus Philip Huang finds this estimate consistent with his study of the rural economy of North China, and Perkins' data on land tenancy rates appears to be consistent with this general perspective as well.

25 "There was one dominant class, the gentry in late imperial China, drawing its income from the surplus produced by the peasants, artisans, and workers above their own subsistence requirements. Landowning, moneylending, mercantile activity, official position, and so forth were different means of garnering this surplus, not the demarcations of distinct classes" (1987:78).

26 Lippit draws these data from Chung-li Chang's The Income of the Chinese Gentry (1962).
who owned a substantial percentage of the cultivated acreage. By the eighteenth century he maintains that this
group had become a "rentier" class, largely separated from the production process.27

How does this analysis square with other available information about the traditional Chinese economy? Several different aspects of stratification are significant in this context: stratification of landholding, stratification of income, and stratification of other forms of wealth. It would be possible, for example, that the economy might have a narrow range of land inequalities but a wide range of wealth and income inequalities, if there was a high level of indebtedness. Let us begin, though, with land inequalities and the associated problem of assessing tenancy rates in different regions of China.

Myers (1970), Elvin (1973), and Chao (1986) doubt that there was a wide range of land inequalities in the traditional economy. As Joseph Esherick (1981) points out, these assessments rely heavily on the Buck land surveys of the 1930s. Esherick shows in substantial and convincing detail, however, that the Buck studies and other studies at that time were tilted in such a way as to underestimate the holdings of landlords (Esherick 1981:396)--for example, by excluding absentee landlords from the data altogether. Esherick painstakingly recomputes probable tenancy rates on the basis of Buck's and other data from the 1930s as an indicator of rural stratification. He arrives at the estimate of 42 percent of land rented, or 489 million mou (Esherick 1981:399). This is a figure substantially higher than Buck's estimate of 28.7 percent, and substantially more credible. Esherick further estimates that 85 percent of this land was rented from landlords (excluding rich peasants, widows, and the infirm; 1981:400), and judges that some 4 percent of rural households owned 39 percent of the land. Esherick summarizes his findings with the data presented in table 3.

Philip Huang's study of North China lends further support to the hypothesis that there was substantial stratification in the rural economy. Huang provides data on land ownership for the eighteenth century in Huailu County, Hebei (North China). According to this data, 25 percent of households owned no land at all; another 35 percent owned less than 10 mou; and 4.2 percent of households owned 35 percent of the land (1985:104). Plotted crudely by percentile, this land distribution data can be converted into a standard Lorenz curve with a Gini coefficient of .68. This is a remarkably high Gini coefficient, and one which indicates a very extensive range of inequalities of land ownership.

These data indicate that there was a high level of tenancy throughout China (with important regional variations, to be sure).28 On all accounts, however, there was a sizable class in China of small owner-cultivators. Were owner-cultivators (i.e., the non-tenant sector) the source of substantial surpluses for outsiders? The primary forms of surplus extraction from this group include usury, taxation, forced labor, and banditry, with indebtedness constituting the largest drain on family income. Huang holds that usury was an important source of income for the wealth-holders of North China. Land-pawning and money-lending were lucrative practices in the circumstances of impoverishment created by the ecological extremes of North China (1985:176). Perkins writes that "the rates of interest on such loans were commonly 30 or 40 per cent per year and more. If the initial loan were large or if it were not quickly repaid, the peasant found himself increasingly in debt" (Perkins 1969:92). And Peter Perdue finds that indebtedness was a major part of the peasant economy in eighteenth-century Hunan (Perdue 1987:161). Likewise, Mark Selden finds that indebtedness was one of the greatest drains on peasant resources in Yenan, eclipsing tenancy (1971:7-13). None of these authors provides any quantitative estimate of the level of indebtedness within the peasant economy; but each offers reasons for supposing that indebtedness was a significant drain on average peasant income.

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27 "About one-third of China's farmland was owned by landlords, and while precise quantification is difficult, it appears that about three-fourths of this was owned by members of the gentry" (Lippit 1987:80-81). Perkins provides a similar estimate.
28 Dwight Perkins provides extensive information about the pattern of tenancy in late Ch'ing China. Perkins finds that there was substantial regional variation in tenancy rates from a high of 56 percent (Szechwan) to a low of 12 percent (Shantung). The areas of highest tenancy are in Southwest China, Southeast China, Central China, and East China. North China shows consistently lower rates of tenancy--mostly below 20 percent, with a few areas between 20 and 29 percent.
29 "Interest rates in these villages generally varied from 1.2 percent a month to 3 percent a month, with most loans made at 2 percent. The lowest rates were generally obtained by the most well-to-do households, because they had the influence to procure them and were considered good credit risks; the highest rates were borne by the poorest households, considered the worst risks" (Huang 1985:189).
In short, these land and usury data strongly support Lippit’s contention about the level of stratification in the Chinese rural economy. Huang, Perkins, Esherick, Perdue, and others emphasize extensive inequalities of landownership; substantial levels of indebtedness; and high rent levels. These factors constituted major drains on the rural surplus, and further confirm the notion that the rural economy was a class system, through which an elite class was empowered to extract a significant part of the rural product for its own consumption.

**Elite consumption behavior**

The final premise of the surplus-extraction theory of stagnation concerns the consumption behavior of the elite class—the ways through which this class disposed of the surplus under its control. Lippit maintains that the great bulk of the surplus appropriated by this class was expended in economically unproductive ways—not as investment in agriculture or manufacture, but as luxury consumption, ceremonial expenditures, and the like. He describes the pattern of consumption of the rural elite in these terms: “In brief, then, the rural surplus in China typically took the form of luxury expenditure on housing, furnishings, food, clothing, jewelry, artwork, personal services, medicines and drugs, education, and travel and entertainment” (1974:40).

Focusing exclusively on consumption patterns makes the stagnation of the economy depend on a fairly superficial feature of Chinese society—the norms regulating elite behavior. However, there is a structural feature of the traditional economy that further inhibited productive investment of the surplus by the elite. This was the separation that the economy embodied between the elite class and the process of production. The improving landlord and the small manufacturing capitalist were uncommon forms of wealth-holding in traditional China; rather, the Chinese elite took the form of a rentier class, deriving its income from its ownership rights rather than its managerial and entrepreneurial skills. Production was performed by small family units of production—peasant households, artisans, and the like—using traditional techniques of production. The surplus created by this vast group of small producers was effectively extracted through the mechanisms described above; but the elites who ultimately received the income generated in this way had little practical or institutional connection to the production processes which created it.

This brief analysis suggests that neither of the central agents within the property arrangements of the traditional rural economy of China have both the incentive and the opportunity to reorganize production in the direction of increasing cost-efficiency (the necessary prerequisite of self-sustaining development). Peasant farmers lack the opportunity because of their poverty, and landlords lack the inclination.

**Conclusion**

It would appear, then, that the chief theoretical premises of the surplus-extraction framework are substantially supported by recent studies of the Chinese farm economy. The property arrangements through which rural economic activity took place defined a system in which vast numbers of small cultivators produced a surplus product over and above their subsistence needs. These property arrangements also enabled a small elite class to appropriate the bulk of this surplus through a variety of mechanisms: rent, interest, forced labor, corrupt tax practices, monopoly service charges, etc. This class, however, was not disposed to invest the surplus it

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30 “The uses of the surplus included primarily luxury consumption (including conspicuous consumption), the purchase of land, ceremonial expenditures, the military expenditures necessary to defend the empire against the foreigners and against the Chinese, and expenditures on classical education” (1987:90-91).

31 “Thus in both industry and agriculture, the production relations of late imperial China were marked by a fairly complete separation between large-scale owners and production processes. The path to profit was not the improvement of production but command over the social processes whereby the direct producers were relieved of the surplus they produced” (Lippit 1987:84). Philip Huang’s discussion of the agricultural economy of North China offers the basis for a similar argument. Huang holds that technical innovation was blocked in traditional Chinese agriculture by (1) disincentives created by social property system; and (2) need for state intervention to alter ecological circumstances (flood control and irrigation) (Huang 1985:183). Elvin (in his analysis of the logic of small production units; Elvin 1973:276 ff.) and Chao (in his argument that tenurial landlordism drives out managerial landlordism) both offer some support for this view.
appropriated in productive economic channels, but rather tended to consume the surplus in luxury consumption. This set of consumption preferences resulted from a confluence of cultural and economic factors; culturally, the elite was conditioned to prefer to keep its distance from farming and manufacturing; and economically, once a rentier economy was in place, there was little incentive for members of the elite to acquire the expertise needed to involve themselves in the management and modernization of production. As a result of these factors the traditional economy was reduced to an extremely low level of investment in production; predictably, the rate of innovation and modernization was extremely low. The property arrangements, then, imposed a logic of stagnation on the traditional economy through the set of interlocking incentives, opportunities, and powers which it imposed on the various participants.
References


Chayanov, A. V. 1925. Peasant Farm Organization in Chayanov; Thorner, Kerblay, and Smith, eds. (1986).


October 26, 1987
Comments on "Stagnation in Traditional China"

David Washbrook, Peter Perdue, and several others.

Was the Chinese rural economy really stagnant? What does "stagnation" mean in this context? Peter denies that either institutional arrangements or technology was fixed; and he holds that it is unproven that yields and per capita welfare did not increase. I refer to Perkins; but he says that Perkins' data is not well-founded.

What is the role of market demand for grain in stimulating agricultural development? Urban markets and commercialization call forth increasing productivity by increasing grain prices.

Is it possible to explain a non-occurrence (economic growth)? And is it possible to generalize at all on one case--England? (Washbrook)