Standards of Living in Rural and Urban China: Mid-18th and Early Twentieth Centuries

Kenneth Pomeranz
University of California, Irvine
klpomera@uci.edu

Preliminary draft: please do not quote, cite, or circulate without permission

Introduction

A thorough evaluation of the standard of living in late imperial and early 20th century China is currently impossible. But in what follows, I will try to sketch some of the picture for two moments: the mid-late 18th century and the first third of the twentieth century. For the most part, I will focus on two areas: the Yangzi Delta, which was the country’s richest region, and the North China plain, which was relatively poor, but by no means the poorest part of China.

Who, When and How Much: Overview of a Few Key Issues

In the mid 18th century the rural majority probably had a relatively high standard of living. Indeed, as I have argued elsewhere, there was probably a rough comparability between China and Europe at this time, and between the most advanced areas within each. Since Tirthankar Roy’s paper suggests at least a partial return to older, relatively pessimistic accounts of the standard of living in 18th century India, it seems likely that Chinese peasants of this period generally lived somewhat better than their South Asian counterparts.

The relative position of urban Chinese was quite likely different. China’s urban population was small in percentage terms as compared to Europe, Japan, or India. Moreover, it appears that unskilled workers in the cities did not earn much more per day that did landless agricultural laborers, while in Europe and India (though not Japan) there was a significant rural/urban gap in real wages for the unskilled even before industrialization. Since we can show that landless laborers – who were at most 10% of the rural Chinese population – were much poorer than tenant farmers, and even further behind owner-cultivators, it stands to reason that unskilled urban laborers also lagged behind most of the rural population. While towns and cities quite likely had enough skilled workers, shop-owners, clerks, officials, rentiers, and others to raise the average urban income above the average rural one, the margin was probably smaller than in many other parts of the world -- including India, which as Roy shows, was characterized by exceptionally large differentials between the bulk of the population and a largely government-connected elite, much of which probably lived in towns and cities.

Most people everywhere in the 18th century were poor. I have argued in a number of publications that the bulk of China’s population—small owner-cultivators in the North, and a mix of owner-cultivators and tenants in the South – lived as well as their counterparts in Europe, and those in advanced regions as well as their counterparts in England and Holland. Various recent publications by Europeanists and East Asianists have mostly, though not unanimously, tended to confirm this. More recently, though, an important study of real wages in various parts of Asia and Europe – which I discuss in more detail below – has made a strong case that no such parity existed for unskilled laborers. On the contrary, both urban and rural

---

2 Allen 2004; Allen 2005; Ma 2005; Goldstone XX).
Chinese proletarians already lagged significantly behind their Western European peers in the 18th century, though they were probably on a par with those in Southern or Eastern Europe. This may well be correct, and has important implications for the present study. It does not, however, overturn the claim of generally comparable living standards, since—as I will show below—landless laborers, whether urban or rural, represented a very small group in Qing China, with incomes far below those of the bulk of the population, while they were far more typical in Northwestern Europe. In India, too, it would appear, landless laborers were more common than in China, though quantitative estimates vary wildly.

A very different relatively recent addition to our knowledge is a paper by Hoffman, Lindert, et. al. showing that inequality probably increased faster than we had realized in early modern Europe, in part because prices for the goods consumed by better-off people fell while those for the goods of the poor—particularly grain, fuel, and housing—were rising. This would suggest that the bulk of the population could indeed have had living standards comparable to or even below those of most Chinese while average per capita income was nonetheless already higher. Such a conclusion would also square nicely with recent work by Van Zanden on Java and Ozmucur and Pamuk on the Ottoman Empire, showing that living standards of the majority (or in the Ottoman case, of the urban majority) may have kept up with European levels longer than per capita GDP did. Eventually we will need a more sustained inquiry into the incomes of wealthier groups in Late Imperial China to address these questions, but here I will make only the most cursory effort. Like Professor Roy’s paper, mine will focus primarily on various sub-groups among the poor.

In the early 20th century, a few rural areas were probably about as well off (or maybe even slightly better off) as 2 centuries earlier, but most were probably somewhat worse off. On the other hand, modern industry and other developments had changed a great deal about cities, and about basic relationships among types of poor people. For one thing, it created an urban proletariat which—unlike most 18th century proletarians—could afford to form conventional families and reproduce, and which now began to live much better than landless laborers in the countryside. In fact, much of the male urban working class in Shanghai now began to out-earn tenant farmers in the adjacent Yangzi Delta, though still by less of a margin than one might expect.

Women who moved to the cities made much larger gains than men, at least if they worked close to full-time. This was not only because urban jobs (mostly in the textile mills) paid more than unskilled female labor in the countryside ever had, but because a long-running transformation of textile production (in which these mills formed the latest chapter) had already substantially reduced real earnings in weaving, the most common skilled job for rural women. But urban families—including working class families—also seem to have placed a high value on having wives at home if they could possibly afford it, and staying home was harder to reconcile with earning money in the

3 Allen et. al., 2005
5 Van Zanden 2002; Ozmucur and Pamuk 2002.
city than it had been in the countryside. Consequently, many women earned the higher incomes (relative to their rural opportunities) available in the mills for only a few years, and many working class households headed by better-paid men seem to have chosen female domesticity and a family income close to that achievable by an unskilled husband and wife who both had steady jobs, rather than a higher income with husband and wife both working outside the home.

Lastly, modern cities had increasing numbers of people who earned far more than unskilled laborers. Much as Tirthankar Roy argues for India in his paper – though perhaps not to the same extent – the very top of the Chinese income distribution may have been thinning out, but middle groups were certainly growing, and probably increasing their margin over the truly poor. For the most part, though, I will leave these better-off people for another day, and concentrate on the lower rungs of the income ladder.

Comparing Varieties of Poor People: Rural Wage-Earners, Tenants and Owner-Cultivators

A crucial question, especially for the countryside, is which poor we are talking about and whom they should be compared to. Late Imperial and even Republican China had unusually widely dispersed land ownership. Only in a few areas did tenants outnumber owner-cultivators, and even there, not by much. (These were generally the wealthiest areas.) Nowhere was land worked by wage laborers a large percentage of the arable. Bound farm labor had largely disappeared in the 17th century, though a few pockets remained into the 20th.

Moreover, a large percentage of tenants in the most commercialized (and thus high rent) regions had rights which made it difficult to evict them as long as they did not get too far behind in the rent; this seems to have exerted some downward pressure on rents, though it is hard to say exactly how much. For whatever reasons, renters of even very small farms in the provinces that run along the coast from roughly present day Shanghai to Hong Kong fared much better than their truly landless neighbors. In other words, either rents were not so high as to force the renters' net earnings down to their marginal productivity (a renter with completely secure rights would earn his average productivity, just as a land-owner would), or wage earners were somehow forced down below their marginal productivity, or both. (It is not inconceivable that laborers earned less than their marginal productivity: although such people enjoyed legal equality and freedom to move, they faced both poverty and a variety of social handicaps, which must have decreased their bargaining power.) On the other hand, limited evidence suggests that in North China, where tenancies were much less common and generally less secure, tenants may have earned about the same amount as laborers; moreover, in contrast to South China, North China tenants seem to have often been very marginal members of their communities. I have not tried to work out these issues for the Northwest, Southwest, or Middle Yangzi.

It is impossible to say exactly how big the differences between tenants and renters in

---

6 For some of the figures see Pomeranz 2000a: 72.
the South were, but there are various ways of making an estimate; all suggest that the gap was quite big. Robert Allen’s simulated model of a Yangzi Delta tenant farm circa 1800 yields an income per day for the tenant roughly 3 times the per day equivalent of the usual figures for agricultural wages in the Delta. If we substituted other figures for Fang’s, the differential could easily be much bigger. On the other hand, few farmers could work all year round, so a comparison based solely on average earnings for each day of work is a bit misleading. In an earlier essay, I estimated that a Jiangnan tenant farmer renting a small farm (thus limiting his number of labor days) in the mid-18th century, plus a wife working what seems to have been the average number of days per year spinning and weaving, would have earned about 2.2 times the annual earnings of the year-round laborer described by Fang, with a much shorter work year. (The earnings of the husband alone would be about 1.5 times that of Fang’s laborer.) In this exercise, I made every effort to bias my estimates for the tenant downwards, and assumed no off-season income for him at all, while Fang’s figures for the laborer are rather optimistic; thus, this is probably a lower-bound estimate of the gap in household income. Small owner farmers would of course have done better still, paying perhaps 15% of their output in taxes if they lived in the Yangzi Delta (rates elsewhere were much lower, and even for the Delta this is a high figure), rather than the half of the primary crop (about 40% of total output by value) that a tenant double-cropping rice and wheat would have paid in rent. Laborers, pace Fang, would have been forced by their much smaller incomes to have much smaller – frequently one person -- households.

What we would ideally like is some good figures on both agricultural day wages and the number of days that such people worked on average, but these are very sparse, especially before the 20th century. Still, let us use what we can. Allen et.al. (2005:30) have collected agricultural laborers’ wages spread across the period 1748-1792 averaging about .045 silver tael per day, with relatively little variation among regions. If such workers had worked about 180 days per year (in other words, every day in the agricultural season, but very little the rest of the year) this would give them an income of 8.1 tael per year. At a Lower Yangzi price of 1.88 tael per shi (Wang 1992: 43) in 1770 (the chronological mid-point of this wage sample), 8.1 tael would buy 4.3 shi of rice, or roughly 344 kg. Zhao Gang found other data suggesting that the cash component of Yangzi Delta agricultural laborers was between 2 and 5 tael per year; if we take the mid-point, and add an in-kind food contribution of 2.2 shi of rice (probably a bit of an underestimate), this would give us 7.6 tael at 1770 prices, or 4.1 shi (324 kg) if we convert the cash component to rice. For argument’s sake, we will take the slightly higher of these two

---

8 Allen 2005; Fang, 1987; Pomeranz 2003: 175-6. Fang’s figure for a laborer’s income, which is higher than the others, is sufficiently high to allow the laborer to support a family of 5 without his wife earning any income. In fact, most actual farm laborers had trouble even supporting one other person, as suggested by the fact, discussed elsewhere in this paper, that they tended not to marry.

9 Pomeranz 2003: 177.

10 Data from Zhao 1983, cited in Pomeranz 2000: 319-320. The 2.2 shi figure, which represents a conservative estimate of per capita grain consumption, strikes me as low both because of the much higher grain rations for agricultural laborers cited in Shenshi nongshu a century earlier and because such workers would have also been given some non-rice food, especially at peak season (as is also described in Shenshi nongshu).
rather close figures.

By contrast, a tenant farmer double-cropping rice and wheat on a standard farm of about 10 mu (1.67 acres) would work about 190 days, harvest the equivalent of 32 mu of rice (25 mu of rice and 10 of wheat, with each shi of wheat equivalent in both nutritional and market value to about 0.7 shi of rice), and pay 12.5 shi of rice for rent (half the main crop), leaving 19.5 shi. The purchased share of fertilizer would have cost about 6 taels for such a farm, the equivalent of 3.2 shi, and seed another 1.1 shi; other production expenses were quite small and probably consumed less than one shi. This leaves such a farmer with the equivalent of 14.2 shi, or 3.3 times the income of the laborer with about the same work year. It is possible to make more pessimistic cost assumptions, or reduce the amount of double-cropping, and thereby bring this figure down a bit, these marginal adjustments would not affect the basic conclusions.

It is possible that some rural laborers narrowed this gap significantly by doing more days of labor than most farmers could on their increasingly small plots. In the Yangzi Delta in particular, however, population did not grow much after 1770, so that farm size stopped shrinking). Moreover, for the average landless laborer in any region, it would have been impossible to work enough days to come even close to overcoming the gap in earnings per day. Even in the 1930s, the share of farm work performed by hired laborers was only 15%, according to Buck; included in that would be a number of days worked by the 14.1% of farmers who owned or rented land, but supplemented their income by doing some hired labor. (In this case, the skewing of the Buck sample towards larger than average farms makes our estimates conservative: this skewing presumably inflates the amount of work that Buck’s average farmer needed to hire, and decreases the percentage

---

In some cases, lodging would have been provided as well. On the other hand, the very high estimate of rations that I used in conjunction with Zhao’s data in my earlier book was made for purposes of biasing things against the particular hypothesis that was being presented in that passage, and is almost certainly an overestimate.

11 Price quotations for fertilizer are scarce, and there is controversy over how widespread a new technique of adding an extra round of fertilizer (which would raise costs) was; one could also add money for rental of an ox to turn water pumps, or more work time for human pumping of irrigation: such needs varied enormously from farm to farm, depending on idiosyncratic characteristics of the landscape. But see note 3 above for reasons to believe that the cost of production estimates are more likely a bit on the high side.

12 Price quotations for fertilizer are scarce, and there is controversy over how widespread a new technique of adding an extra round of fertilizer (which would raise costs) was; one could also add money for rental of an ox to turn water pumps, or more work time for human pumping of irrigation: such needs varied enormously from farm to farm, depending on idiosyncratic characteristics of the landscape. But see note 3 above for reasons to believe that the cost of production estimates are more likely a bit on the high side.

13 Buck 1964/1937: 293; Buck 1971/1930,
of Buck’s farmers who were willing and able to work for wages on the farms of others.) If we assume that the farmers doing such supplementary labor for hire worked only 10% as much as they did on their own farms, and the rest was done by 10% of the rural population, the laborers would be working one third more days per year than the farmers. But this would be a very generous calculation, and would still not come close to eliminating the income gap. (It would, for instance, reduce a 3:1 difference to 2.3:1, which is still very substantial.) Moreover, it would exclude the farmer’s income from sideline occupations, which almost all of them had. There was, therefore, a large gap in income between even relatively poor tenants in Central and South China and agricultural laborers there. Indeed, this is something that contemporary observers took for granted.

The gap does not appear to have been much different during the the early 20th century than in the mid-18th. Thomas Rawski has collected agricultural wage figures for 43 Jiangsu counties in 1923/25. We can compare these wages with J.L. Buck’s estimates for returns to labor on small farms in nearby counties. Buck’s data unfortunately mixes together information from tenants and from owner-cultivators, but for this particular measurement he tried to factor out whatever portion of income came from landownership. In principle, then, these numbers should be as comparable to agricultural laborers’ wages in much the same way as returns from a sample that had only tenants would be.

The returns to the small farmer’s labor at one of Buck’s 2 Jiangning county sites, which was surveyed in a particularly bad year, are still roughly double and in a few cases triple the male agricultural wages Rawski obtained for counties near Jiangning. Labor returns at Buck’s other Jiangning survey site (which seems more typical of the region in most ways) are triple the level of the lower Jiangning site, and thus suggest that the labor income of farmers there was over 6 times that of landless laborers. For Wujin, another Delta county where we have both a Buck field site and agricultural wages from this survey, the labor returns per man-equivalent for even the smallest farms are a bit over 5 times the agricultural wage given. 14 Returns per labor unit on larger farms exceeded the agricultural wage by even more. Labor returns at sites in Zhejiang and Fujian – the two other provinces for which we have Buck’s “labor returns” estimates which also had high rates of tenancy and lots of secure tenancy – are a bit below Wujin for operators of the smallest farms, but still well above those at the lower Jiangning site; and especially in Fujian, they are much higher for those working average sized plots.

The 5 or 6 to 1 income difference thus implied is surely an over-statement. The wage data Rawski found must be cash wages that exclude a significant in-kind component: for one thing, the 1932 wages for the same counties, though they appear to have risen faster than inflation over the intervening decade, are still generally below those for a survey in Shantung (a poorer province) which made a point of including all in-kind components. 15 But even if we doubled the Jiangsu farm wages to reflect missing in-kind

15 Cited in Rawski 1988: 317
payments, they would still lag far behind estimates of labor earnings from farming rented or owned land – almost always less than half that level, and usually more like a third.

If agricultural laborers did earn only about one third of what a tenant earned, this also fits with an important fact about the land market that some observers have thought peculiar: that cultivation rights (i.e. rights to secure tenancy) generally sold for a higher price than subsoil rights (the right to collect rent). If we set the value of output on a Yangzi Delta farm double-cropped with rice and wheat at 100, rent was generally about 40 (half of the main crop, which represented about 80% of the combined value of the two crops). While land taxes were generally low in Imperial China (about 5% of output), the Delta also paid a uniquely heavy grain tribute; together with local exactions to maintain irrigation works, etc., the owner may have paid as much as 15% of output. So his income from renting out his land would be roughly 25 (i.e 40 in rent minus 15 in taxes). The tenant, meanwhile, would earn 60 (i.e. 100-40). If a laborer earned only 1/3 as much as a tenant, his income would be 20. (Remember that the laborer was generally supporting only one person, while the tenant was likely to be supporting a family of about 5, with the help of some off-season income and/or textile earnings from his wife). Thus, tenancy rights produced an income stream of about 40 per year (the difference between being a tenant and a laborer), while subsoil ownership, as we saw, produced an income stream of only about 25. Under the circumstances, it makes perfect sense that rights to the “skin” of the land (cultivating the surface), were worth more than ownership of the subsoil “bones.” Thus the relative prices of these rights further confirm our understanding of the difference between tenant and laborer incomes.

There are reasons to be cautious about these conclusions. There are some problems with the way Buck calculated labor returns, and even his category for the smallest farm probably under-represents true micro-holdings. Nonetheless, the scale of

---

16 Buck 1937/1964:305 shows that total compensation was consistently about twice the cash wage – which, despite changes in relative prices, appears to have been the usual pattern in the 18th century as well.

17 Faure 1989:178; Bernhardt 1992: 220,223 suggests that this was strictly a 20th century phenomenon, but without much evidence.

18 Bernhardt 1992: 44-46; XX

19 In all of Buck’s size classes, his farms seem to be somewhat larger than the average. Still, the farms in his smallest size class are well below average for the area in which they are located. The calculation of labor returns (as opposed to total earnings) is more complicated and potentially more troubling. Rather than separating tenants and owners, and assuming that everything earned by the former group represents a return to labor (which would have been problematic in its own way, since some of these tenants owned usufruct rights, and as we have seen, earned a return to that insofar as it made it hard for the landlord to drive rents up as far as he might have otherwise), Buck out together tenants, owners and part owners who operated farms of a certain size class, calculated their earnings, and deducted a portion of the output which he imputed to the land (and thus land-owner, whether or not that happened to be the farmer). I have had some difficulty figuring out how Buck made this calculation XX. On the other hand, it should be noted than many of the smallest farmers did not have nearly enough land to occupy them year-round, and so did other work which earned money; this would tend to make the gap between their annual earnings and those of farm laborers even larger than this comparison suggests.
differences between these wages and the labor returns to renters and owners is so large that, even using abundant caution, the exercises seems to confirm that in the early twentieth century, there were very large differences between even the worst off tenants and landless laborers in the areas with lots of tenancy, comparable to the pattern which I argue existed in the Qing period. The confluence of different lines of argument and sources is also reassuring.

By contrast, scattered North China data suggest that in that region – at least in the 20th century – tenants may have fared little better than landless laborers who managed to find regular work. Buck’s figures for labor returns per man-equivalent to North China farmers are barely 40% of those for his “East Central China,” and only 34% if we exclude Anhui (an ambiguous case) from the latter area. Since differences in nominal agricultural wages appears to have been relatively small, this would suggest that labor returns to Northern farmers –and thus the incomes of tenants -- were only about what laborers would have earned. This makes sense, since (except in a few areas) Northern tenants lacked the possibility of buying secure tenancy rights, which many tenants in the Lower Yangzi and further South had. Buck’s later work suggests the same thing, indirectly: he estimates that an agricultural wage worker in the North earned a sum (including all in-kind benefits) which would buy 661 kg. of wheat, while farms in the region produced about 1,200 kg. of wheat per adult male labor unit. He makes no calculation of earnings net of costs for these farms, but if tenants in the region paid anywhere from 30-65% of their harvest in rent, this would probably leave many of them no better off than laborers – even if the landlord absorbed most production expenses (particularly for those paying higher rents). If we multiply data from the National Land Commission on average farm size for Shandong and Hebei (on the North China plain) times the value of output per mu in some villages there in an early 1930s survey, we also get a figure which is slightly more than double Buck’s figure for agricultural wages in the North, again implying a rough equality of post-rent tenant incomes with laborers’ wages in that region. And while North China tenants were by no means as marginal to communities as landless laborers were, there were North China villages where only those who owned land were considered full members. Unlike tenants in the South, those in the North rarely engaged in collective action prior to the coming of the communists; this surely reflected their smaller numbers, but may also have reflected their weaker position in local society.

Of course, we cannot be sure that North China tenants were in an economic position close to that of landless laborers roughly comparable to that of landless laborers in the 18th century just because this seems to have been true in the early 20th; but that at least seems the most reasonable guess. In Thomas Buoye’s study of violent land disputes in the 18th century, the Shandong tenants fighting eviction – admittedly a very biased sample – seem relatively isolated, without the kin and friends that their Guangdong counterparts could

21 On the geography of purchasable surface rights, see Yang Guozhen 1988: 94-100, 130-131; Zhou and Xie 292-301.
23 Myers 1970: 228.
24 Chugoku Noson, Duara 1988: XX
call upon. In that way, too, they seem much closer to the condition of landless laborers – though still clearly one step above them – than Southern tenants were. But it is important to remember that in North China region, tenants were probably only 15% of rural households even in the 20th century, and quite possibly a bit less in the late 18th century.

And full-time wage laborers must have been quite rare in the North; Jing Su and Luo Lun, who wish to emphasize the role of “managerial landlords” argue that about 20% of the land in the 18th century was held by such people, and suggest that they farmed only 20% of that with wage labor; this would suggest that land farmed by full-time laborers was as little as 5% of the region’s total. So as far as we can tell, it appears likely that wages were a rough guide to tenant incomes mostly in those places where tenants were also fairly uncommon, and that they were not a guide to the fortunes of much more than 15% of rural commoners anywhere.

One of the most basic manifestations of this difference between laborers and other cultivators was in family formation. Even poor tenants almost always married, which added to both their income and their expenses. Landless laborers most often did not, since in a society with uneven sex ratios and some wealthy men who had both wives and concubines, some poor men were bound to find no mate (though some shared wives with other very poor, usually disabled men). If the earlier estimate that a landless day laborer might have earned enough for about 344 kg of rice per year – which would be barely enough to feed 2 adults, and only in the implausible case that they had no other expenses - this is not surprising. (The laborers in Fang Xing’s estimates, who could support a family, had year-round employment.) Allen et. al., who try to develop a more comprehensive and realistic picture of living costs, estimate that unskilled laborers in 18th century Beijing and Canton working 250 days per year earned only half as much as was needed to support a family at even the level of Northern European laborers’ families of the time; to make up the difference would require both significant economies (such as giving up all alcohol) and getting about 450 days worth of male wages out of the family. Without data on female and child wages it is hard to know what kind of actual work schedules this would reflect, but it is obvious that many workers would have found household formation and reproduction impossible. Rural laborers, with almost the same nominal wages, lower living costs, and perhaps more opportunities to tap non-market resources, might have had better odds – especially if they could get a loom for their wife

---

25 Buoye 2001: 157-166, 174-5, 177-8, 182
26 Myers 1970: 235-40; Huang 1985: 103. Huang’s work (building on Jing Su and Lao Lun 1986: 34-5) suggest that landless laborers may actually have been somewhat more common in 18th century North China, and tenants less so, because landlords in this earlier period had more incentives to farm their land directly (with hired help) rather than renting it out.

27 Jing Su and Luo Lun 1986 [1958] appendices 1 and 2. See also Huang 1985: 104.

28 Sommer 2005: 29-54. Sommer does not note the disability issue, preferring to see this as a sign of general impoverishment, but in all the cases he has described in his publications, the man who was legally married and then agreed to “share” his wife was disabled, chronically ill, alcoholic, or otherwise impaired. In some cases, on the other hand, he had some land or cultivation rights.

29 Allen et. al. 2005: 16-17.
to work at\textsuperscript{30} – but still hardly very good ones. As we shall see, differences in family configurations (and preferences among them) were an important part of differences among lower income groups in both rural and urban China, both in the late empire and in the Republic.

For current purposes, it is even more important to note that the low rate of marriage among laborers also meant a very low rate of reproduction among them (in sharp contrast to early modern Europe, where proletarians had above-average numbers of children\textsuperscript{31}). This in turn meant that the proletariat remained quite small, even though some people in every generation lost all of their property (including any secure cultivation rights). In all likelihood, the completely landless never exceeded 10\% of the rural population at any time in pre-revolutionary China.\textsuperscript{32} By contrast, figures for India seem to vary wildly, with Roy at the low end. In his paper for this meeting, he suggests that landless laborers were under 10\% in late 19\textsuperscript{th} century India; elsewhere he suggests that in 1901 it was about 12\% for males and 23\% for females, with the female, but not the male percentage rising significantly in the next 30 years.\textsuperscript{33} Patel, on the other hand, suggests a figure of about 30\% in 1901, has as much as 35\% in the late 19\textsuperscript{th} century, and Krishnamurty about the same. Since the vast majority of tenants, according to Patel were tenants at will; this implies that in his view close to two thirds of the agricultural work force had no rights of any sort to land. Ludden says that by 1900 over half the rural population depended either on work for others or plots that were too small to yield even minimal subsistence.\textsuperscript{34}

Thus real wage figures, even to the extent to which they can be calculated, are a very poor guide to the living standards of the majority, or even the majority of those who owned no land. While this implies something positive for the ordinary Chinese of the period, it is a problem for historians. We are thus forced back into the messy business of estimating farm incomes by calculating yields pre acre, production expenses, prices, and the like, knowing that problems with any one of these parameters can ruin our work. At least the better estimates of real wages are, however, useful as a probable lower bound for the incomes of non-disabled adults.

There have been several efforts to create real wage estimates, none fully satisfactory. Wu Liankai (for farm laborers) and Zhao Gang (for various occupations) each found some scattered data which suggested a long-run decline in real wages, but

\textsuperscript{30} Simple looms were actually very inexpensive, so that relatively poor people could often finance them. See Xu 1992: 406; Pan 1994, 61-2.
\textsuperscript{31} Tilly 1984: 3-4, 54-56.
\textsuperscript{32} On the Republic, see e.g.; Chen Zhengmou 1935: 58. Buck \textit{Statistics} 305, 309, says that 15\% of farm work was performed by hired workers, including farmers who did have some land but hired out to supplement their income; 14.1\% of farm households reported doing such work, so they must have accounted for a significant proportion of that 15\% of total farm labor. Since there is no evidence to suggest either de-proletarianization over time or a general increase in farm sizes that would have shrunk the need and ability of farm families to do some labor for hire on others’ farms, it is hard to see how Qing figures could have been any higher.

\textsuperscript{33} Roy paper, p. 27; Roy 2005: 63-64.
stopped short of constructing an actual wage or price series.\textsuperscript{35} More recently, Song Xuwu collected a large number of wage reports for particular times and places in the first half of the Qing, and deflated them by rice prices. Unfortunately his use of the data is highly unsystematic. He has, for instance, a “Beijing” wage series that makes a single line based on data from many different occupations and skill levels, so that the 1735 data point might represent a carpenter, the 1783 data point a weaver, and the 1802 data point a water carrier; by the same token, he has a series for metalworkers where data points are taken indiscriminately from all kinds of metalworkers and all parts of the country. He also uses a series of rice prices that does not correspond to any other I am aware of, and which rises much faster than commonly used ones. Not surprisingly, this gives him various series of nominal wages that show wild short-term fluctuations and a slight upward trend overall, and series of real wages that generally decline over time.\textsuperscript{36} Going back to the data he provides, I was able to find only 8 sets of observations which included 2 or more wage reports for the same kind of workers in the same place in different years; none of them had more than 5 reports. If divided by grain prices, they suggest falling real wages in what are generally considered the wealthiest parts of the country (Zhejiang, Jiangsu, Guangdong), and modest positive trends for “artisans” (undefined) in the capital area and coalminers in Zhili, Shanxi and Sichuan. The one example of rapidly rising wages is for ironworkers in the frontier province of Fengtian.\textsuperscript{37} This is of some interest since it fits with the surprising finding of Allen et. al. (discussed below) that real wages were higher in the North (especially the Manchurian frontier) than the generally wealthier South. But Song’s data are too limited to mean much on their own.

Working from unusually detailed data for one particular time and place, Robert Allen has constructed a real wage estimate for the port of Canton in 1704 and compared it to London (the richest city in Europe) for the same date. The calculation is a difficult one, despite the rich data, because both consumer preferences and relative prices were so different in the two locations. But by making a series of reasonable assumptions, Allen comes up with a real wage difference of only 6\% between these cities – suggesting a comparatively very good living standard for propertyless Chinese (and by implication, a very good one for those with some property), in large part because of very cheap grain.\textsuperscript{38} But rice prices rose steadily during the 18\textsuperscript{th} century, and estimates based on later data are much less sanguine.

The best study we have of Qing wages so far is a collaborative paper by Robert Allen, Jean-Pascal Bassino, Debin Ma, Christine Moll-Murata, and Jan Luiten Van Zanden (referred to elsewhere in this paper as “Allen et.al.”). It draws, for the most part, on four sources: 1) a government survey of 1769, which aimed to collate (and fix for the future) wage rates paid on government construction projects; 2)an 1813 government survey of the rates paid to unskilled workers involved in the manufacture of military equipment; 3)a

\textsuperscript{35} Zhao 1983; Wu 1983.

\textsuperscript{36} Song 1997:49-96.

\textsuperscript{37} Song 1997: 73-75.

\textsuperscript{38} Allen 2004: XX
retrospective wage series for Beijing created by Sidney Gamble in the 1920s, based on the account books of a Beijing store going back to 1807; and 4) archival data on the wages paid by the Dutch East India Co. to cooks, porters, carpenters, and other workers whom they employed while docked in Canton. All of these series have problems, but they yield sufficiently similar and reasonable results to give us some confidence in the big picture.

One big problem is that many of these wage reports are unclear about whether they represent the workers’ total pay, or only cash component of a wage that also included compensation in-kind. In many cases, the latter seems overwhelmingly likely, and the authors have adjusted by assuming an unreported in-kind element equal to about 50% of the total wage; this was, indeed a fairly common ratio, but it is obviously approximate. Second, the government wage surveys reflect the problems of any calculation based on what the government pays. On the one hand, governments have significant non-market power, which might tend to depress the wages they have to pay below a true “market” wage; on the other, governments are often not particularly cost-conscious purchasers, and awareness of a sudden surge in labor demand caused by a government project (or military mobilization) can push prices up. (Indeed, avoiding this kind of situation was one of the reasons the government undertook these surveys.) The Canton wages are roughly double the government wages for the same area, which might indicate problems with the government series, or might be consistent with it if the government series had an in-kind component of roughly the size estimated by the authors, while the Canton wages did not. (It seems likely that people who came out to actually work on the ships would have required at least some meals from their employers, but this is speculation. Van Dyke mentions that they at least received rum.) Also troubling is that it appears that workers who came and went from the foreigners’ ships and warehouses each day engaged in small-scale but lucrative smuggling; if this was indeed common and generally winked at, then even the relatively high figures in the VOC records may understate these workers’ true compensation. Still, by using Canton wages and adding an in-kind supplement to the much lower government wage series (reflecting additional payments which seem likely but are not actually reported) the authors probably arrive at wage estimates that are in the ballpark. I am not sure that these estimates lean to the “optimistic” side, as the authors suggest: if even the relatively high Canton series omits both meals taken at work and hidden compensation, then they do not. But they are certainly the best estimates that we have so far.

Rural vs. urban unskilled wages

One of the striking features of the data compiled by Allen et. al. is that nominal wages seem to have changed quite slowly, so that changes in commodity prices (especially grain prices) tend to drive changes in real wages. If we assume that this reflects reality (rather than, say, clerks who did not bother to make real inquiries, or adjustments to income not reflected in the reported wages, such as bonuses, adjustments in the amount of time reported as worked, etc) it would be similar to the pattern Roy reports for India a century later, and may have created a similar phenomenon: declining real wages for laborers in a period of general economic growth, as rising prices outstripped wages that

39 Van Dyke 2005: 52-3, 65-6, 71; see also 62, 85 on feeding and providing daily bonuses to Chinese workmen on foreign ships.
were more strongly influenced by custom.

A second interesting feature of this data set is the small size of the differences between urban and rural unskilled day wages. The authors have nominal wage quotations for the same places in 6 cases: in none of them does the urban wage exceed the rural one by more than 15%, and on average, the rural wages is actually 3% higher than the urban one. (Their rural wages, as mentioned before, seem close to those found by Zhao Gang.) Moreover, the sample appears to be slightly biased against agriculture, and the cost of living -- which, for the poor, was dominated by food -- must have been higher for the urban workers.\textsuperscript{40} Given all the uncertainties surrounding this wage data, it would be very premature to jump to the conclusion that rural real wages were higher than urban ones. But we do seem justified in believing that real wages for unskilled urban workers were at best not much higher than they were for rural proletarians.

The absence of a large urban/rural gap may not seem surprising at first – it is, after all, more or less what should happen in a well-functioning labor market – but it was by no means the universal pattern in the early modern world. In late 18\textsuperscript{th} century England, for instance, urban unskilled wages exceeded rural ones by 54\% (in real terms) in 1797; the difference rose to 81\% by 1851, before it began to decline.\textsuperscript{41} And in his paper for this meeting, Roy finds significant differences between urban and rural wages well before the rise of a large modern sector in Indian cities, and a steady widening thereafter.\textsuperscript{42} If the Indian labor market appears especially segmented, according to Roy, the Chinese one appears unusually non-segmented – at least in this one respect. (Differences among the incomes accruing to tenants and landholders in different regions are another matter, with inequalities of this sort looming very large in China: larger than one would expect in a society with more or less free internal migration.\textsuperscript{43})

If there was no substantial difference between the wages of urban and rural proletarians in the Qing, this permits us to make a few other observations. It reaffirms the hypothesis that real wage figures (even urban ones) will significantly understate the standard of living of the vast majority of people in this period, given that even tenant farmers earned much more than proletarians, and that the vast majority of Chinese were either tenants or proprietors of small farms.\textsuperscript{44} In fact, if a) urban proletarian incomes

\textsuperscript{40} Data from Allen et. al., table 2, page 30. Where the paper had figures for unskilled workers in more than one urban occupation, I have averaged them, and they were never far apart, anyway. The urban wages come from reports in 1769 and 1813, while the rural wage reports are scattered across 1748-1792; since this was a period of sustained moderate inflation, the fact that the agricultural wages are, on average from about 20 years earlier should make them appear somewhat lower relative to town wages, than they were in reality.

\textsuperscript{41} Allen cited in Postel-Vinay 1994: 72.

\textsuperscript{42} Roy paper for this conference 14-15, Table 1 (entries for 1875 agricultural and unskilled laborers) and Table 7 (though some of the figures for Table 7 may include skilled laborers). See also Roy 2005: 100, suggesting a roughly 2:1 to 2.5:1 gap between urban factory labor and mining labor, with the latter not that far above agricultural labor.

\textsuperscript{43} I discuss some possible reasons for this – though without quantifying the size of the problem in Pomeranz 2000a: 243, 249-50.\

\textsuperscript{44} It might reasonably be objected that the comparison of tenant incomes and wages has only been performed for the Lower Yangzi, where relatively strong tenant rights (particularly the recognition of property in cultivation rights) may have made it harder for landlords to raise rents than elsewhere. However, these
were not much higher than rural ones, b) even tenants earned twice as much as long-term laborers, or more; and c) the real wage index for Beijing and Canton was at about half the level of Amsterdam and between half and one third that of London (by far the richest city in Europe) until almost 1840, this would actually suggest that the bulk of people in advanced areas of China did indeed keep up with the majority (if not perhaps the average) in rich areas of Europe throughout the 19th century, and even a bit beyond. Given the premium that London workers enjoyed over workers in rural England, it certainly confirms that Yangzi Delta tenants were at least as well off as the vast majority of rural Britons.

By Republican times, the Chinese situation had changed, but not completely. Tenants still earned far more than rural laborers, as we have seen: labor returns per man equivalent for even the smallest farms in 1921-5 are at least double and usually more than triple the annual agricultural wages cited by Rawski for 1923/5. Urban laborers in the emerging modern sector had opened a wide lead on rural proletarians, but (as we will see in more detail when we turn to consumption) still held only a modest advantage over rural tenants in the South.

Wages for male cotton mill workers (excluding foremen, but including some repairmen and other skilled workers) averaged $166 per year in 1928 (based on 12 months of work per year), according to Yang and Tao.45 This would far exceed rural wages in nearby areas.46 These wages also exceed the labor earnings of farmers with the smallest size plots for two of the three Yangzi Delta sites surveyed by Buck in 1921-5 (in one case by a lot, in the other by 15%), and the labor earnings for those with the smallest plots in all other locations. However, they are still below labor earnings for the smallest farms at one of Buck’s Lower Yangzi sites, and below the labor earnings of those with larger plots at more of Buck’s locations.47 Moreover, the intervening years were years of moderate inflation; the cost of living, however measured, had to be higher in Shanghai than in the countryside; and most farmers had some off-season income from other work. All of this suggests that the real income even of a tenant farmer with a very small plot (and still more of owners of small plots) in the 1920s Lower Yangzi still exceeded that of Shanghai mill workers, so long as we make our comparisons between individual males rather than households.

---

45 Yang and Tao 1931: 31
46 Rawski 1989: 306 has the figures. As mentioned before, many of these seem likely to be the cash component of wages only, but even if we doubled them to allow for this only 7 of the 43 counties would exceed the Shanghai wage, and the average would be $109 versus $166 for Shanghai; a difference of almost 60%.

47 Buck 1871/1930: 114.
There were, of course, other males in the modern sector besides textile workers. Shanghai had 200-250,000 “industrial workers” in 1930, according to the city’s Social Bureau and on average they fared better than the unskilled mill hands we have been looking at. Yang and Tao estimated the average earnings of male factory workers at $240 per year in 1928, which would give them a substantial lead on tenant farmers. However, this average included some skilled workers. Lu Hanchao says that unskilled male factory workers earned about $.40 per day, or roughly $10.00 per month (assuming six day weeks) in 1930 – well below the cotton mill average cited above. The overall average for male factory workers of all types was higher, however – as high as $25 a month in one 1933 survey. The most extensive survey I have seen gives daily wage rates that would work out to slightly over $21 per month (assuming a six day week) in 1930 and 1931, climbing slightly in the next two years and then falling to $20.35 in 1934. The highest-paying industry, ship-building, paid about 50% above this average; the lowest paying, cotton spinning, about 40% below. Overall then, male modern sector workers had opened a substantial lead over tenant farmers (not to mention rural laborers), but if we isolate only unskilled workers, any advantage over the tenants is modest.

And for unskilled workers who were in the modern city but not the modern sector, earnings still tended to be at or below the level of Jiangnan tenants. Near the bottom of the scale, rickshaw pullers who looked for fares on the street earned about $9.00 (silver) per month, according to a survey in 1934. Pullers of private rickshaws earned $10 per month plus room and board in the early 1930s, which was “about equivalent to the wage of a shopclerk.” (However, those who pulled “pheasant rickshaws,” working in cooperation with a prostitute or “pheasant,” fared much better, allegedly earning $40-50 per month.) Altogether, there were a stunning 78,630 rickshaw pullers counted in 1934, meaning that this one occupation included a third as many people as the total industrial workforce. Police patrolmen were often considered, in social terms, to be just one step above (and in frequent rivalry with) rickshaw men. Those in the Chinese-run part of the city were paid as little as $10-13 per month in 1927 (slightly less than textile mill workers), though pay for patrolmen in the foreign concessions and for private security guards was higher. In 1930, patrolmen in the foreign concession received a raise from $18-$25 per month. Higher grades received much higher pay. So here, too, we see a range of occupations and a range of pay levels, but given the numerical weight of rickshaw drivers, it seems likely that male workers in unskilled or semi-skilled non-factory jobs in Shanghai had still not decisively outdistanced those tenants who held secure rental rights for small plots in the surrounding countryside. In fact, they may well still have trailed

---

49 Cited in Lu 1999: 76-78.
51 Lu 1999: 71.
52 Lu 1999: 71.
53 Lu 1999: 71.
Women in city and countryside

Urban-rural comparisons for women, however, are another story. So far, I have no data on the earnings of urban women in the 18th century; since women in this period generally did not migrate except as part of a family, and probably worked within their households most of the time, we are not likely to find much. But we can be reasonably sure that even the nominal earning power of many rural women fell between the late 18th and early 20th centuries, because the selling price of cotton textiles declined steadily, and that of raw cotton did not. With food prices rising, real earnings would have fallen still more. 55

On the other hand the rise of modern cities probably gave women who moved there unprecedented chances to approach pay parity with their husbands. Female mill workers (who greatly outnumbered males in this industry) earned an average of $146 per year in Yang and Tao’s study. 56 This was 88% of the male level for textile work, 60% of the average for all male factory workers, and presumably somewhere in between those two numbers (probably closer to the former) as a percentage of the earnings of all unskilled male factory workers. (With the possible exception of prostitution, textile work was by far the most common paid job for Shanghai women.57) Female wages in each industry where we find women employed were consistently about 60% of male levels, and so averaged about $12.00 per month – almost exactly the pay level of ordinary female cotton mill workers. (This includes an estimate of the value of room and board, where relevant.) The spread from best to worst wages was proportionately larger among women: the best-paying jobs for women (in silk-weaving some years, in printing other years) paid anywhere from 50% to 80% above the female average, while the lowest-paying industry for women, match-making, paid from 45% to 70% of the average female wage in a given year. 58 There was thus a spread of 4:1 between the highest and lowest figures for women, as opposed to 2.5:1 for men. Nonetheless, the huge number of women in cotton mills and the closeness of their wages to the overall average make it reasonable to treat their earnings as representative.

In the countryside, few if any women would have come as close to matching the earnings of their husband as would a woman textile worker married to a male in the same industry -- unless the rural woman was one of the few who was married to a landless laborer, or one of the few who managed the family farm for an absent or somehow disabled male. The textile mill wage for women is quadruple the average wage for female agricultural workers reported for Rawski’s Jiangsu counties in 1932, so even if we again doubled the wages to account for an in-kind component, the difference would be roughly 2:1. 59 I have argued at length elsewhere that adult women in rural cotton textile

56
57 Hershatter 1997: 40
58 Shanghai shi zhengfu shehuiju 1935: 82-83; 39 on the inclusion of room and board.
59 Rawski 1989: 306 for the data. There is a bit of anecdotal evidence to suggest that women were less likely to receive substantial in-kind additions to their wages, but it is probably best to assume they did; otherwise we get remarkably large male/female wage differences.
production might have come fairly close to matching their husbands’ earnings during the early-mid 18th century golden era for textile earnings. But even then, the average was almost certainly well below 88% of the earnings of a male farmer, and there is no doubt that by the 20th century female handicraft textile earnings were generally only a fraction of what male tenant farmers (not to mention owners) could earn. Women engaged in sericulture also lagged much further behind their husbands’ earnings than these mill workers did. Linda Bell, for instance, estimates that earnings per day in sericulture were 40% or less of earnings in rice/wheat agriculture in Wuxi in 1929. The only way that 20th century women could do as well relative to their husbands as many had in the mid-18th century – and perhaps better that ratio – was to move to the cities.

Single women who migrated to the cities to work in mills generally did not get to keep the gains from migration, as a significant portion of their wages was often advanced to their parents back in the countryside and/or skimmed off by labor recruiters who paid those advances. But those who stayed in the city and got married – often to their fellow textile workers or other unskilled males – would have been able to make a much larger contribution to their new family’s income than could married women in the villages. Since they also had fewer children than rural women (presumably a matter of expensive urban living space and later marriage, as well as greater earning power) this could potentially have made for a radically different set of family dynamics than in the countryside. This potential was, however, only partially realized, as we will see in a later section. Instead there was a different change in family dynamics: a marked tendency, among all but the very poorest urban families, for married women to sharply reduce their participation in paid labor.

Comparing urban and rural consumption among early 20th century working people

There is, of course, another, much less speculative, implication of 20th century urban women being able to earn much more than their rural sisters. When we compare the standard of living of working class families in Shanghai to those of farm families in the surrounding areas, we should see a much larger urban advantage than we saw when we compared male mill-workers incomes to the labor earnings of small farmers. And, indeed, here we do find a definite edge for the urban worker’s family – but not as large a one as we might expect.

If we compare consumption, the data available (at least to me at the moment)

60 Pomeranz 2000: 319-320, gives potential earnings for 12 taels per year with a 210 day work year. At 1770 prices, this would buy about 6.4 shi of rice; but in the 1730s, when cloth prices were about the same but rice prices were lower, it would have bought about 10.3 shi. If Song Xuwu (1997:15) is correct that raw cotton prices in the 1730s were also barely half the level that they were ca. 1770, this would raise those earnings considerably further. For more on these estimates, see Pomeranz 2002, 2003, 2005b.

61 Bell 1999: 118. Zhang Li (2002:34-54) comes up with higher figures for both occupations, and a balance that is much more favorable to sericulture: but she has relied on a wartime survey which gives extraordinarily low grain yields despite larger than average inputs of labor per acre.

only allow us to compare Shanghai workers to farm families on average for a given location. This is not what we would ideally want. Among other things, it makes rural families look as if they kept up with urban workers better than would be the case if we compared urban workers’ families to those of rural tenants alone. Since the rural families do seem to have kept up surprisingly well, it is frustrating that we cannot tell to what extent this appearance is due to having owner-cultivators in the sample. Still the comparison has some utility.

As an initial exercise, I chose to make this comparison using figures from one of Buck’s two field sites in Jiangning (near Nanjing), because it is the closest site to Shanghai (about 180 miles) and I was not able to find data for anyplace else equally close in time and space that was broken down in sufficient detail. There is, however, something peculiar about the data for this site. Though located in a generally prosperous region, this site reported total consumption per capita about 12% below the average of other sites for East Central China, and 26% below that of Buck’s other site in Jiangning. The gap is particularly large in food, and largest of all in food supplied by the farm itself, which makes me suspect a reporting error. And, as we saw, it reported much lower incomes than Buck’s other site in Jiangning or elsewhere in the Lower Yangzi, which seems to reflect having been surveyed in a particularly bad year. Thus, using the Jiangning site imparts a downward bias to the “rural” side of our comparison; it should thereby exaggerate Shanghai’s edge over its hinterland, though how this bias compares in size with that created by including both tenants and landowners in the rural sample is impossible to know. (In a later section of the paper, I will look at a broader sampling of 20th century rural locations.)

On the Shanghai side, I have taken my figures from Tao and Yang’s study of Shanghai working families in 1927-8; a 1930 survey produced roughly similar results. Aside from collapsing some categories (e.g. adding different vegetables together) and correcting for the larger size of rural families by converting to adult male equivalents (AME), only one significant manipulation was required, to correct for a difference in survey methodology.

63 Buck 1930:392, 396. If it were simply that this Jiangning site was especially poor (even though this was a rich peri-urban county) one would expect the gap to be larger with respect to non-food items; moreover a recording error is especially likely for the part of consumption that does not pass through the market. The Jiangning data for some production-side variables are also a bit odd.

64 Data for the latter survey are summarized in Reynolds 1981:223. If the figures in question make allowance for waste (and thus represent actual amounts consumed) then they are almost identical to our waste-adjusted figures derived from Yang and Tao for rice and for wheat flour, very slightly lower for oils, slightly higher for meat fish and eggs, and significantly higher for vegetables; bean curd disappears as an item (perhaps subsumed under vegetables). If, however, they represent quantities purchased then they are actually significantly lower than the other urban sample in most areas. I suspect this is in fact the case – in which case we are again privileging the urban side of our comparison by using Yang and Tao’s figures – but without seeing the original survey I cannot be sure.

65 Tao and Yang’s work is based on budget surveys of what people bought, while Buck’s survey counts what people actually ate, subtracting the bones from meat, the rind from watermelon, etc. For lack of any other measurement, I assumed that city people’s food had the same percentage of “waste” as that recorded by Buck for each item in the countryside.
However, one problem could not be corrected for: the fact that the expenditure reports of
the urbanites do not seem to cover everything they spent.  

Comparing food consumption, urbanites seem to have been better off, but not
dramatically so. People in Jiangning ate over 50% more grain per adult male equivalent
than Shanghai workers’ families: roughly 190kg of rice equivalent (in calorie terms) each
versus a bit over 120Kg annually. This converts to roughly 1,822 calories per day alone
from grain for the rural people, versus only 1,151 for the urbanites. City people did have a
large advantage in vegetables (ca 56 kg per adult male equivalent vs. 36), and thus
perhaps in vitamins (especially A and C); fruit consumption was very small for both
groups, and about equal. City people also had a large advantage in fats and oils (almost
7kg per person vs. 4).

Protein is the trickiest comparison. Rather surprisingly, the rural families had a large
proportional advantage in meat, fish, poultry and eggs though the amounts were small for
everyone (11.6kg per AME per year versus 7.5 in the city). Combined with their much
large intake of the partial but useful proteins found in grains, this would seem to give them
a large advantage with respect to this nutrient.

The joker in the deck, however, is bean curd. For some reason, Buck records no
bean curd consumption at all in Jiangning (he doesn’t say it was absent – it just doesn’t
appear). Consequently, it has by far the lowest per capita protein supply of the 6 rural
counties for which he calculates this figure – in fact, less than half the average of the other
5, even though they are in generally less prosperous regions. This seems suspicious.
Meanwhile, Tao and Yang record that their families consumed over 1,500 “pieces” of
various kinds of bean curd during the year, but say nothing about the size of a “piece.”
Making the clearly arbitrary guess that a “piece” was about an ounce, this would give us
roughly 44 kg per family or about 10.4 kg per AME per year. This would probably give
the urban family an edge in protein consumption overall. The advantage might actually be
quite large if a “piece” of bean curd was more than an ounce, and smaller (or even a
disadvantage) if it was much less than that, or if there was a significant amount of rural
bean curd consumption that is not recorded.

Conventional wisdom suggests that farmers should consume more calories per day,
as seems to be the case here, since few urban jobs take as much energy as unmechanized
farming. On the other hand, it should be remembered that these are per capita annual
averages, and most farmers probably worked considerably fewer days per year than the
factory workers who made up the bulk of Tao and Yang’s survey. (For the cotton mill
workers, 300 days a year seems to have been quite common.) Overall, it appears that
urbanites ate better, but not by a huge margin.

Non-food comparisons are more difficult, and even what should be the simplest one
– cloth – seems to be impossible for this case. Buck gives amounts spent on cloth and
clothing, but not quantities obtained or prices. While the households Buck surveyed in
Jiangsu province (at his 2 Jiangning sites and in Wujin) did not make any significant
amount of their own cloth or clothes, which should make a comparison with Shanghai

---

66 A variety of items that seem particularly likely to be under-reported, given the pattern of consumption
presented: e.g. alcohol, debt payments, occasional snacks. It is, of course, quite likely that rural surveyors
missed some consumption, too.
figures possible, the lack of local prices tied to a specific kind of cloth make a rela
c omparison impossible. Experimentally applying Reynolds’ Shanghai cloth price yields
implausibly high consumption levels for both Jiangning sites;\textsuperscript{67} though I suspect that, if I
had more time, I could get the data to solve this problem, for the time being I have left it
alone.

The relatively modest size of the urban advantage for the things we could compare
in the 1920s confirms the idea that any advantage for urban workers over rural people in
the preceding 150 years was probably razor-thin. We would expect the gap between
Shanghai mill workers and farmers to be much larger in the late 1920s than even a few
decades before, since the gap between the productivity of modern sector urban workers
and farmers would be much larger than that between farmers and workers in pre-
mechanized industries. One sign of this is that the majority of even unskilled male wage
workers in cotton mills seem to have been married with children, which would not have
been true either of unskilled male workers in earlier periods or of many of the unskilled
workers in 20\textsuperscript{th} century trades that got little or no productivity boost from modern
technology. Some ricksha men, for instance brought wives from the countryside, usually a
year or two after they arrived; but many never married. While there were about 80,000
rickshaw pullers in 1930s Shanghai, one 1934 study suggested that 140,000 people
depended on this trade for its livelihood. Since for those rickshaw pullers who did have
families, the average size was a bit over 4 persons, this would suggest that roughly $\frac{3}{4}$ of
men in that occupation were single.\textsuperscript{68}

Much of the gap in productivity may have been diverted away from the workers’
pay by institutional arrangements: in other words, it may be that in the absence of effective
labor organizations or regulation of the labor market, factory owners and labor bosses
were able to appropriate the entire gain that resulted from combining labor with new kinds
of machines. (There was certainly labor militancy in the mills, but its effectiveness is
unclear.\textsuperscript{69}) Another important point is that despite my emphasis above on the greater
earning power of those urban women who were employed full-time (relative to rural
women), this difference had only a muted influence on the average gap between urban and
rural families, because relatively few urban women continued full-time employment after
marriage. It is interesting in this connection to look at patterns of rural/urban
migration. It is generally believed that cities grew little if at all as a percentage of China’s
population during the Qing, though regional patterns surely differed and the evidence is
relatively thin. It is not clear whether Chinese cities, like their early modern European
counterparts, were demographic sinks that needed significant rural-urban migration to
avoid population decline. There is some evidence to suggest that death rates in Chinese
cities were relatively low compared to the early modern West, in part because the export
of nightsoil helped keep cities fairly clean and in part because people boiled water; on the
other hand, many late imperial Chinese cities seem to have had lopsided male majorities,
depressing birth rates. At the moment, all we can say is that migration to the cities does

\textsuperscript{67} Reynolds 1981: 224; Buck 1971 [1930]: 396.
\textsuperscript{68} Calculated from Data in Lu 1999: 73, 77, 79.
\textsuperscript{69} Perry 1993:
not appear to have been very large, though intra-rural migration (e.g. to open land on the frontier, or up intro the hills) was very large. This would seem to suggest that real wages available in the city were not vastly superior to the earnings of most rural people (e.g. small farmers and tenants), as the data discussed earlier suggested, but it is hardly definitive. There are many reasons why one might stay in the countryside despite higher real wages in the cities, and history is full of examples in which urban/rural wage gaps persisted for a very long time without causing enough migration to re-equilibrate them.

In the 20th century, for which we have much better data, it does appear that urban real wages significantly outstripped rural ones. But again, those who were wage-dependent were quite a small proportion of the rural population, and for tenants in the South, as we saw before, the potential gains from going to the city were not that impressive. Even Shanghai, which had the highest wages in China, drew very few unskilled laborers from its densely populated immediate rural hinterland in the Yangzi Delta. While people from this area filled a significant percentage of skilled jobs, professional positions, and the like, both male and female unskilled workers came overwhelmingly from more remote and poorer locations. Again, this is hardly proof that tenant farmers in Jiangnan lived roughly as well (or poorly) in material terms as unskilled workers in Shanghai, but it adds further support to that contention.

A More General Picture: From ca. 1770 to ca. 1937

So far, we have looked mostly at data that might shed light on how the incomes of different groups of poor Chinese might relate to each other, and mostly in the Lower Yangzi. This was important in order to make sense of the superficially conflicting evidence on real wages and on the income of the farming majority, but it has limited our scope. It remains to take both countryside and city each on their own terms, to bring in a larger range of locations, and to see what kind of a general picture we can put together of average levels and trends in the standard of living for each. While doing this, it also remains to introduce some evidence about the incomes of better-off groups, especially in the cities. These sketches are very preliminary, but at least they tell us what we do and don’t know. Moreover, they are more directly comparable than the sections above were with Professor Roy’s paper on India – especially insofar as they deal with quantitative averages.

The Countryside

Incomes

For the 18th century Yangzi Delta, about 90% of agriculturalists were tenants or owner-cultivators, probably in roughly equal amounts. The tenants, as we have seen, would have earned at least twice as much as an agricultural laborer, and probably more like three times his earnings. An owner-cultivator would have earned about 40% more than a tenant. In many cases, a wife’s earnings from textiles would have added an important but hard to measure income supplement: we now have a reasonable degree of consensus on earnings per day, but much dispute about the percentage of women involved and the average number of days they worked. Most husbands would also have some

---

70 Estimates of number of days worked per woman in Yangzi Delta cotton textile production vary from about 160-200 days per year. Nobody has any direct data on how many women were involved, so one must work
earnings from non-agricultural sidelines, but quantitative data on this is minimal before the 20th century. And on the other side of the ledger, the degree of peasant indebtedness and interest obligations is a big question: anecdotally, we know that borrowing for an unexpected expense (such as a funeral, or to replace a farm animal that died suddenly) could create an enduring burden, but we have no idea how often this became a long-standing drag on families.

For North China, as we saw, laborers and tenants may have been quite close in the 20th century. It seems quite plausible that this was true in the 18th century as well, though information is extremely scant. How far above the average tenant was the average owner-cultivator? A very rough guess suggests double, though we would need a much more systematic analysis of production costs to figure this out more accurately. More importantly, there is no consensus on how much land people farmed in 18th century North China. Unlike the Yangzi Delta, where the early 20th century rural population was no greater than circa 1770 (and maybe even less), North China’s had grown by about 80% over this period, while land under cultivation seems to have grown very little. Thus farm sizes must have been significantly larger in the 18th century than those observed for the 20th century (which themselves vary widely).

At the outside limit, we could argue that there was no increase in cultivated area in North China after the mid-18th century, so that land per capita fell by almost half over that period. If this were true, income would have fallen by quite a bit, too, since yields do not seem to have changed very much, and there was no pronounced increase in the acreage devoted to more lucrative cash crops. This is probably too pessimistic, but by all indications, the drop in per capita acreage was substantial, and there was probably at least some decline in per capita income.

Moreover, while in the Yangzi Delta the size of plots actually cultivated per laborer seem to have varied in a relatively narrow range, in North China both farm size and land quality varied tremendously among owners; thus average incomes for tenants, or owner-cultivators, tell us much less in this region than in the Delta. We have a few Gini coefficients (summary measures of inequality) for land distribution in selected 20th century villages, but they aren’t much to go on, and certainly provide no clue to the 18th century. And in this region, too, sidelines would be very important; in fact, a substantial body of anecdotal evidence suggests that they were becoming more important over time as farm sizes shrank.

We may, however, be able to make at least a speculative estimate about regional comparisons, taking advantage of the apparent rough equality of landless laborers’ wages in different regions. If North China tenants were on average no better off than laborers, and owner-cultivators earned somewhere around twice as much as tenants (or maybe a bit

backward either from estimates of cloth output or estimates of the amount of cotton grown. For a survey of the dispute, see Pomeranz 2002: 567-571.


72 For a brief discussion of varying figures, see Pomeranz 2000a: 140-1, 336-7.
74 E.g. Thaxton 1997; Friedman, Pickowicz and Selden 1991.
less, given taxes, etc.), then North China owner-cultivators were at best no better off than Yangzi Delta tenants. Meanwhile, since Delta owner-cultivators were about 40-50% ahead of Delta tenants, they would presumably be at least as far ahead of the average North China owner-farmer. Thus, almost everybody in the Delta would have been better off than the average cultivator in North China. Alternatively, for purposes of estimating average agricultural incomes by region, we can treat every farmer as an owner (since rent was paid to somebody else within the same area). This would generate an estimate that Yangzi Delta per capita income from agriculture was about 40-50% higher than in North China: an estimate which is very crude, but comfortably consistent with some other research. Debin Ma suggests that per capita income in what he calls the Lower Yangzi Province was about 54% above China’s national average in the 18th century; since his Lower Yangzi includes some poor areas not included in the Yangzi Delta as I use that term, my smaller region would probably have a per capita income at least 60% higher than the national average. However, some of that difference would be due to the Delta having larger and wealthier towns and cities, and more rural handicrafts; this makes a premium in agricultural output of 40-50% per capita seem more likely. Ma’s figures for agricultural output per capita in the 1930s suggest a smaller difference, of roughly 25%. But this is arrived at by dividing his agricultural output figure by total population, including towns and cities (which by this time included well over 2,000,000 people in Shanghai alone). Adjusting for this would get us back into the range of a 40-50% difference between these regions in agricultural output per farm population, and suggest that this difference may not have changed much between the mid-18th and early 20th centuries.

Before looking at consumption estimates for individual commodities (as we will in the next section) let us look at one possible way of converting income levels – vague as they are – into a picture of overall consumption and standard of living. As part of their effort to compare living standards in Asia and Europe, Allen et. al. construct a hypothetical market basket for a Canton family, and another for a Beijing family. The idea is to make each market basket reflect local preferences and relative prices (e.g. for different grains) but be equal in certain objective ways to a market basket for Northern Europeans of the same era: i.e. it must provide the same per capita amounts of calories, protein, cloth, lighting and so on as Europeans consumed, even if it uses very different products to meet those targets. The resulting market baskets look a bit different from what we think rural Chinese actually consumed (for instance, the share of starches in the family budget is smaller and the quantity of calories lower), but not wildly so, and these constructed market baskets have the great advantage of comparability. They provide us with a benchmark of subsistence: that is, we can ask whether a given Chinese income could have purchased this market basket, whether we derive the income in terms of silver, rice or any other single commodity because we can calculate how much of that commodity would have sold for the same price as this market basket did.

Using relative prices at Canton in 1757, such a market basket for 3 adult male

---

76 Calculated from Ma 2004: Tables 1.1-1.3.
equivalents (equivalent for these purposes to a husband wife, and 3 or 4 small children) would have cost as much as 1,035 kilos (12.9 *shi*) of rice, or roughly 22.6 *taels* of silver. Our model Yangzi Delta tenant could afford it, with some income left over; an owner-cultivator could do so easily. A North China owner-cultivator, on average, would have been somewhere between just short of the required income and 1/3 short of it (a little better if we assume, as Huang and Perkins do, that all the land cultivated in 20\(^{th}\) century North China was already in use 150 years earlier). North China tenants and laborers in either North or South would have been lucky to have half the needed income; they might well have been closer to 1/3. For the North China farmer, off-season earnings and a wife’s earnings might have made up the difference, but we do not know. In the Yangzi Delta, such non-agricultural earnings would have provided a significant cushion (enough to buy about half the market basket again) and/or a fund to save for future weddings, funerals and other large expenses, or to pay off the debt that accumulated when such events came sooner than planned. For the laborer or North China tenant, however, it would have taken more supplemental earnings than we think were typical just to reach this standard of living for a family.

**An alternate approach: commodity by commodity consumption estimates**

**Food**

Basic caloric intake is one of the places where we can be fairly confident that Chinese were no worse off than their European counterparts. Using data on the diets of landless agricultural laborers contained in 17\(^{th}\) century agricultural treatises – which refer mostly to conditions in the Yangzi Delta – Ming-te Pan calculates that they represent a daily diet of 4,700 calories during the working months. Overall figures are of course lower, but estimates of per capita grain consumption in the 18\(^{th}\) century average about 2.2 *shi* of rice equivalent per person (including both sexes and all ages). If the estimate of Chinese grain output c. 1753 by Guo Songyi is even close to accurate, this is a very substantial underestimate, and the large rations and heavy labor of Pan’s farm workers were actually closer to the mark. Meanwhile, one of the assumptions behind the 2.2 *shi* estimate is that per capita grain consumption in the 18\(^{th}\) century was somewhere in between our figures for the 1930s (which are very low) and those for 1953, when circumstances had begun to

77 Data from Allen et. al 2005: 33.
78 Pan (1998: 10-11). Lest this seem absurdly high, Pan also provides a plausible reconstruction of daily labor effort during busy months that shows how these laborers could have consumed that much.
79 See Marks (1991: 77-78) for a justification of this figure.
80 Guo (1994: 46-47) estimates grain production in that year as 275,737,216,000 *jin* of unhusked rice and its equivalent, which (converting at a conservative rate of 55% to edible grain) becomes 151,655,468,800 *jin*, or just over 1,000,000,000 *shi* of edible rice equivalent. Subtracting perhaps 15% for next year’s seed would give us 850,000,000 unhusked *shi* for people to eat. If the population was roughly 225,000,000 at the time (Guo uses the official figure of 184,000,000, but that is generally considered too low), we would have about 3.77 *shi* per person per year: about 70% above the 2.2 *shi* ‘average’ suggested by Marks and adopted here. This would convert to about 300 kilos of rice per person per year: enough to support 3,200 calories a day for everyone, or well over 4,000 calories per day per adult equivalent. It should be noted, however, that Guo’s estimating techniques are quite rough, and no more precise calculation is possible with the materials known to be available.
improve after years of war and civil war. I will argue below, that there are reasons to
doubt this and would myself be inclined to use at least the 2.5 shi per person estimate used
However, I will ignore all these possibilities for now, and work with the 2.2 shi estimate.

This converts to 1,837 calories per person from rice alone. If the age structure of the
population was about the same as in the 1930s,\(^81\) this would work out to 2,386 calories
per adult equivalent of grain alone. Converting further to adult male equivalents is
somewhat problematic, because different sources have wildly different figures on the ratio
between actual male and female consumption; but if we were to convert at the rates used
in many modern sources,\(^82\) we get a figure of 2,651 calories per adult male equivalent
from grain alone.

This would compare favorably to the various estimates for workers in late 18\(^{th}\) and 19\(^{th}\)
century England (the richest part of Europe) cited by Clark, Huberman and Lindert, which
range from 1,500 to 2,400 calories per person from all foods, and would be close to most
of the figures they cite for later, more prosperous, periods (Clark, Huberman and Lindert
1995: 223-6). It matches almost precisely Carole Shammas’ estimate for England as a
whole (including all classes) in the late 18\(^{th}\) century: 2,349 per adult equivalent (Shammas
1990: 134). It compares very well with figures often given for various parts of Continental
Europe: most figures I have found for 18\(^{th}\) century France, for instance, are between 1,800
and 2,500 calories per day. In the Southern Netherlands (Belgium) c. 1800 the average
food intake is estimated at between 2,180 and 2,440 calories per capita per day; the poor
fared worse.\(^83\) J.C. Toutain estimated average caloric intake in France at only 1,800
calories per capita per day in the 18\(^{th}\) century.\(^84\) R.J. Bernard collected 12 ‘food pensions’
from one region, which were supposed to provide for all the food needs of the recipient:
only 2 of the 12 diets in question reached the Chinese average of caloric intake from rice
alone, and 8 out of 12 were below 2,000 calories per day.\(^85\) Estimates of per capita grain
consumption, relief rations, and so on, do not seem to vary much between richer and
poorer parts of China, though these figures are admittedly sparse and not always reliable.
The daily ration for convicts in prison or on their way to exile in Central Asia was roughly
2,800 calories per day of grain (plus a small allowance for other food) before 1775, with
the same ration being given (oddly enough) to men, women, and children. After 1775, it
was reduced to roughly 2,333 calories per adult (Waley Cohen 1991: 118-119) which still
compares favorably with the diet of the English poor at century’s end. The famine relief
ration distributed in kind circa 1740 was much less than this – a mere 1,400 calories
worth, which would barely support survival – but since ‘the usual rule’ was to distribute
half of relief in kind and half in cash, these rations too probably averaged around 2,800
calories for adults in the 18\(^{th}\) century (Will 1990: 132-133).

82 See for instance Buck 1930: 17.
83 Lis and Soly 1979:182
84 Cited in Aymard (1979: 6).
The stability of the basic grain supply, however, did vary enormously by region. Except for a period of flooding in the 1830s and 1840s (of which more later), the Yangzi Delta suffered relatively few natural catastrophes, and its position on the coast and at the mouth of a river system which drained close to one-third of China meant that though the area always relied on imports for some of its food, widespread famine was very rare there between the catastrophes at the end of the Ming (1644) and those of the Taiping Rebellion (1851-64). Famine also appears to have been rare in the rice bowls of the Middle and Upper Yangzi, the Southern Manchurian frontier, and Taiwan. These were areas that generally produced large surpluses, and both merchants and the state regularly moved grain out of these regions. However, there was nothing quite comparable to the absolute priority accorded Paris, Madrid, and other early modern European capitals, which forced continued exports even during harvest shortfalls, and thus made what were normally grain-surplus regions among the places most at risk for famine during general shortages. Much of North and Northwest China, on the other hand, suffered from China’s least reliable rainfall, its most disaster-prone rivers, and relatively poor transport facilities; in North China these conditions were complicated by dense population. Though it was in these areas that the state mounted many of its most impressive efforts at food supply stabilization and at famine relief, they never achieved the same degree of food security as either the Yangzi Delta or some of the grain-exporting areas; and, as we shall see, the state’s efforts to alleviate this problem became far less reliable in the 19th century.

Beyond basic calories

For non-grain foods, comparisons are harder to make, but when we can do so, 18th century China fares reasonably well. Chinese meat and (especially) dairy consumption levels were surely lower overall than European ones, given far lower ratios of livestock to population. But protein intake was nonetheless probably adequate for most people, and in some cases probably exceeded what was available to ordinary Europeans: any overall European edge is probably accounted for by very high protein consumption among a relatively small group of well-to-do people. It also seems likely that Chinese protein consumption was somewhat higher in the mid-18th century than it was in the early 20th century data compiled by J. L. Buck. Unfortunately, Chinese sources consistently refer to ‘a piece’ of meat, fish, or beancurd without specifying its size. However, Pan Ming-te has made plausible (and probably conservative) estimates of the size of portions referred to in the discussion of workers’ diets in the Shenshi Nongshu, a widely used and often reprinted 17th century agricultural manual. Using Pan’s estimates and the data in the manual itself (read in the most cautious way possible) I arrive at an estimate of roughly 22 grams of animal protein per day over the course of the year and 7 grams per day of protein from beancurd, for a total of 29 grams per day of actual protein from these relatively protein-rich foods. For purposes of comparing Chinese diets to standard contemporary nutritional guidelines, this is the figure that should be added to the protein content of the rest of the diet (mostly cereals): I will refer to it below as ‘actual protein intake’. However, some

---

86 See e.g. Wong (1982, 1997); Will (1990: 298-299, 302-310); Tilly (1975); Grantham (1989); (Shiue 1998).
studies of pre-industrial European populations, plus the classic study of early 20th century China by John L. Buck, for some reason omit the step of estimating how much protein there actually is in a given serving of meat, fish or eggs: they simply record the portion size of protein rich foods, as if they were 100% protein, and later add this number to the protein content of cereals to get a total protein intake. This approach greatly inflates the amount of protein in the diet, and so should not be compared to nutritional standards to judge a population as probably free from deficiencies; however, it is useful to have this number for early Qing China for purposes of comparability with these other studies. I will refer to it as the ‘protein portion’, rather than ‘actual protein intake’ to keep the two distinct. Using the data and calculations described above, the ‘protein portion’ would be 124 grams per day for 17th century Yangzi Delta farm workers, even before we add any protein content in the rice they ate.

These are higher figures than one might expect and, compare rather well to both 18th century European and 20th century Chinese data. It is also worth noting that while rice provides very little protein per pound or calorie of consumption, what protein there is is of high quality. Thus in a very high calorie diet, such as that of the farm laborers described above, rice protein alone might meet the person’s needs, at least according to some authorities; it would have added about 44 grams of protein per day to the diet of somebody consuming the conservatively estimated ‘average adult rice ration’ for China as a whole, and an impressive 85g per day for laborers eating the diet in Shenshi nongshu. Thus actual protein intake would have been in the area of 73-114 grams per day, and the less accurate ‘protein portion’ might be estimated as 168-209 grams per day, depending on which estimate of rice consumption one uses.

Consequently, the situation would seem to compare quite favorably with John L. Buck’s estimates of anywhere from 57 to 148 grams of ‘protein portions’ from all sources per adult male equivalent in 6 mostly poor counties in the 1920s with averages ranging from 82-117 grams per adult male equivalent (again including all sources) in each of the 8 regions into which he divided his large 1937 study of China. The actual protein intake in the 18th century scenarios would of course be smaller than the ‘protein portion’, but once the protein content of grain consumed was added in (giving us the 73-114 gram band), the

87 Guthrie (1971: 71) cites a biological value (BV) of 86 for rice protein (egg =100, fish and beef = 75, and wheat gluten = 44), with a BV of 70 considered capable of supporting growth as long as quantities are adequate. Guthrie (1971: 69) tells us that it takes 1186 kcal of rice to provide 22 grams of protein (versus fewer than 200 of most meats and fish). At this rate, it would take 3,500 calories of rice alone to meet the US RDA for an adult male from rice alone (Guthrie 1971: 68) – more than the average Chinese intake, but less than that of the farm laborers cited above, who would take in almost 85g of this high quality protein. It has been more conventional to argue that rice protein, like most other vegetable proteins, is an incomplete protein, which needs to be supplemented by others, which have large amounts of the amino acids it has relatively little of. This argument, however, is based on rat studies, which are not conclusive, and the biological value scale for protein is based, to the extent possible, on human studies. The point is still disputed, but the trend in opinion seems to favor a more generous valuation of at least some vegetable proteins. See especially D. J. Milt-Ward et al. (1992) who say older methods “overestimate the value of some animal proteins for human needs while underestimating the value of some vegetable proteins”.

88 Buck 1930/1971: 374
89 Buck 1937/1964: 419
result would meet the U.S. government recommended daily allowance of 66 grams per day of actual protein for an adult male, or the international minimum standard of an equivalent of 37 grams per day of actual egg or milk protein for a 143 pound adult male. As a percentage of total calories, protein intake would be somewhere below the recommended 10-15% if the person in question was eating the enormous quantities of grain cited in Shenshi Nongshu for agricultural laborers in summer and fall, and within or a bit above that band if they were eating something closer to 2,500 or even 3,000 calories of grain.

Moreover, this was not the extent of protein consumption, even for these very poor workers. This is made clear by the complete absence of poultry and eggs from the diets in the agricultural manuals. Even agricultural laborers often had access to a small plot for raising vegetables and chickens; in fact, in many parts of the country it was still customary for farm laborers to make ceremonial presents of eggs to their employers on certain holidays. (The agricultural manuals probably omit them because they are concerned with telling landowners what they need to provide for their laborers.) Interestingly, Buck found in the 20th century that though large numbers of eggs were produced on Chinese farms, only a very small percentage of them were consumed on the farm. His 1930 survey suggested that the average farm family had about 4 chickens, but his 1937 study suggested they consumed only 40 eggs (per 5 person family) per year, out of perhaps 200 produced. The vast majority of eggs, Buck argued, were too valuable as a source of cash to be eaten by the producers; more and more were being exported to raise cash (Buck 1937/1964: 430). In the 17th and 18th centuries, exports of eggs were clearly not a factor, and it seems likely that most farm families had less of a need to raise cash than their warlord-era descendants: taxes were lower, fuel that one could gather oneself was more plentiful, and probably more household goods were self-produced. Under the circumstances, it seems likely that a much larger share of eggs produced were actually consumed on the farm in earlier days, though for now this must remain speculative. It is also likely that fish consumption was reduced over time, as additional land reclamation decreased the amount of surface water to fish in; purchased ocean fish seem not to have been significant for rural people (except in a few areas) in either the 18th or the 20th century.

There seems little doubt, then, that, on average, actual protein intake was quantitatively sufficient – as was even the generally lower intake noted by Buck in most regions of China in the 1930s. It should be remembered, though, that such averages do not reflect various scenarios that would have had important health implications: for instance the substantial possibility that children or pregnant women, for instance, may have been deprived of adequate protein while all the meat in the diet went to men working in the fields. Moreover, it is harder to be sure about quality than quantity. In Buck’s 20th century survey, most of the protein came from cereal and vegetable sources, as all animal products (including eggs, of which more later) provided an average of only 77 calories per adult male equivalent per day – much less than the estimate for 17th century farm laborers.


91 Buck 1930/1971: 218; 1937/1964: 258 n. 12, 411
And while, as noted above, rice protein is of fairly high quality (but limited quantity, unless one eats a lot of the grain), this is not true for wheat or for some of the other grains consumed by poorer people, especially in the North.

Under these circumstances – and using ideas about the low quality of vegetable protein that are now questioned, especially for rice – Buck and other observers had doubts about whether the quality of the protein in the average Chinese diet was sufficient for certain groups, such as growing children. If the figures adapted from Shenshi nongshu are even close to being representative, and if the recent science that has upgraded our impression of the adequacy of vegetable proteins is accurate, this had probably not been a widespread problem in the Yangzi Delta over 200 years earlier. Unfortunately, we lack the data to make even these rough estimates for other parts of 17th or 18th century China.

For vegetables (and thus many vitamins) data is particularly scarce since so much of this consumption did not pass through the market. Again working from Shenshi Nongshu, Pan estimates that the average daily ration of vegetables (again, excepting anything grown in one’s own garden) would be about 200 grams a day. By contrast, Buck’s figures for the 1920s (in this case from one county in Anhui) come to 190.3 kilos per year of various vegetables for families with an average of 4.88 adult male equivalents. This works out to only 107 grams per day per person - barely half of the estimated 17th century level. Oddly enough, Buck’s 20th century interviewees said they did not plant more vegetables because they did not have time (1931:357), despite chronic rural under-employment.

It would, of course, be extremely helpful to know what percentage of total consumption this diet represented – but at this point, we have very little to go on. Fang Xing has estimated that a landless farm laborer providing for a family of 5 would have spent over half of his income on grain alone, in either 17th or 19th century Jiangnan, and over 80% on total food. These estimates must be regarded as quite rough and of limited applicability since many landless laborers probably did not have the ability to raise a family at all. But this is the only such estimate we have thus far -- and, for whatever it is worth, it roughly matches what we know about unskilled European laborers in the 18th and early 19th centuries. I discuss a few examples of non-agriculturalists below, but the large majority of the population was made up of farm families headed by tenants, small owner-operators, and a relatively few landlords. The income per labor day of a tenant farmer in the Yangzi Delta, as we have seen, works out to about 3 times the per-day earnings of a long-term agricultural labor such as those described by Fang Xing, but since tenants did not usually work enough land to keep them productively occupied all year, while the daily figure for the long-term laborer divides his year-long pay by 365, this may well overstate

92 Buck 1937/1964: 407, 411
93 Buck 1937/1964: 418
95 Buck (1930/1971: 371) combining his categories of legumes and vegetables, with almost 90% coming from the latter category, and cabbage alone making up 1/3 of the total.
96 Fang 1996: 93, 97
98 Allen 2005; Fang Xing 1996. I develop this argument a bit more in Pomeranz 2003b
the difference between tenants and laborers. (On the other hand, Fang’s estimates of laborer’s earnings seem quite generous.) In a previous publication I tried as hard as I could to bias my comparison in favor of landless laborers, and still came up with an estimate that the household of a tenant in the Yangzi Delta, which combined renting an average sized plot and a wife who worked an average number of days spinning and weaving cotton, would have had 2.2 times the income of Fang Xing’s hypothetical laborer (Fang assumes no income for the wife). This should have allowed the tenant family to spend a much smaller share of their income on food, perhaps below the 50-60% found among North China peasants (a generally poorer group) in the early 20th century (which some of us argue was a poorer period). Small owner-farmers, without rent to pay, would of course be even farther ahead. (A rough estimate is that tenants and owner-operators probably made up about 45% each of the Delta’s farm population.) But so many assumptions need to be made in order to make these comparisons that, even if each individual assumption is reasonable (as I think they are), the outcome must be regarded as very fragile.

For the early 20th century countryside (to which we will return later), we again have data from J. L. Buck, which suggests that peasants in 6 counties of ‘East Central China’ spent 53.8% of their income on food – and therefore presumably less than that on basic cereals. But these were farm families of all sorts, not just landless laborers, and Buck’s sample has been criticized for being skewed towards more prosperous families. It thus seems likely that by this indicator, too, poor Chinese of the 18th century were somewhat better off than their early 20th century counterparts.

Income Distribution and Non-Agricultualists

The very poor in 18th century China, then, were quite likely doing as well or better than the very poor of Western Europe, but that was not very well in either case. And when we try to estimate how many people were not very poor, and what their standards of living looked like, we run into massive difficulties. We can make crude estimates for a couple of groups, which suggest that they had plenty to spend – matching the accounts in literary sources of booming consumption. But far too much remains unknown for us to put forward the sorts of hypotheses for China that Hoffman et al. advance for Europe. And while most of the evidence we have still argues for rough comparability in both elite and ‘middle class’ consumption, this must remain conjectural.

At the top of the society (not counting a small group of privileged Manchu nobles), there is no question that many members of a loosely defined ‘gentry’ class had plenty of money. Chang Chung-li’s famous estimates of the income of the Chinese gentry have many problems, but are still the best we have. He estimates that in the late 19th century, a group of gentry and their immediate families, totalling perhaps 7.5 million people, had an income of about 645,000,000 taels, or 24% of national income (Chang 1962: 327, 329). At roughly 430 taels per family of 5, such people would have had to spend only a tiny fraction of their income (under 4%) on cereals; even a luxurious diet could hardly have taken up much of their total spending. A century earlier, the numbers would have been

99 Pomeranz 2003 XX
100 Buck 1937/1964: 386
different, of course; but the percentage of gentry in the population would not have been much different (around 2%), and most of their spending would certainly have been going for things other than basic subsistence.

As I have noted elsewhere, Chang’s figure of 24% of income going to something like the top 2% of the population is not much different from figures we can derive for England and Wales, drawing on the work of Peter Lindert and Jeffrey Williamson. (Europe as a whole would be the better comparison, but no such figures are available that I know of.) Leaving out the royal family, their numbers suggest that the top 2% of the population received 19% of national income in 1688; 22% in 1759, and 23% in 1801-3. This rough coincidence is certainly no substitute for a more general comparison of income distribution at all levels of the society, but it is some indication that the disparity between the poor and the very rich was not vastly different.

The big problem, of course, is estimating the numbers and standards of living of those who were neither at the top nor the bottom of society. Given what we have previously said about late imperial Chinese cities, China is most likely to have lagged behind at least Northwestern Europe and Japan in the numbers and wealth of its urban “middling sorts” during the 18th century, and even more thereafter. It is harder to know how its urbanites might have compared in numbers and income to 18th or 19th century India. But let us quickly survey what we know about some “traditional” urban groups above unskilled laborers and below the true elite.

Some recent work on the clerks and runners who occupied the bottom of the hierarchy in local government offices – and were probably the least prestigious literate occupational group in late imperial China – provides some interesting information. Bradly Reed has estimated that yamen runners in late 19th century Baxian (Sichuan) made perhaps 35-65 tael per year and head runners 2 to 3 times that much; he puts the income of yamen clerks considerably higher, at 100-150 tael per year, and head clerks at 300-400 tael. He cites other scholars who have suggested higher figures. We know little about the consumption habits of such people – despite, or perhaps partly because of, stereotypical complaints from their social superiors that they spent huge amounts on alcohol and prostitutes – but it would appear that they had substantial amounts of money to spend. And while the numbers of such people are not known, Reed has made an estimate of 100 clerks for his county (before it was opened to foreign trade and residence in 1890, leading to a huge boom in legal and administrative business and in the number of clerks), and anywhere from 250-450 runners. While Baxian probably had more

101 His ‘gentry’ is sufficiently loosely defined that it would include many of the richest merchants, though only if they purchased honorary degrees – a more common phenomenon in the 19th than the 18th century.


103 Reed (2000: 206-7). He adds a casual estimate (the point is not important for his argument) that it would have cost about 10 tael to feed an adult for a year at this time and place, but I suspect the actual number would be significantly lower. See note xx below for a much lower estimate of the cost of eating at roughly the same time and not very far away.

104 Reed (2000: 45-51, 146-8). My figure for runners averages Reed’s estimates of statutory runners and extra-statutory runners for 1848 and 1876, omitting the abnormally low one for 1855 (a year of civil war).
personnel than the average of China’s roughly 1,500 counties, and all counties had presumably had less personnel a century earlier, it seems conservative to guess that there would have been 250,000 clerks and runners in mid- to late-18th century China – representing, with their families, perhaps 1.25 million people. Many of them also had other financial interests in their families – land-owning, small businesses, etc. – which would have raised their incomes further. Reed suggests that a clerk’s income would have been roughly on par with that of a shop manager, while that of a runner (some of whom did not even need minimal literacy) would have been better than that of ‘most manual laborers’ in the towns and cities. This is not much to go on, though it suggests that these people were probably not far above or below a large class of so-called ‘petty-urbanites’ (xiao shimin) making up about 5% of the total population: teachers, artisans, clerks, small merchants, and so on. (Other scholars and contemporary officials have suggested numbers of clerks and runner which are more than double these, but Reed’s more conservative figure will do for our purposes, since the intent is to have these yamen underlings stand for a broad stratum of xiao shimin.)

Beyond these groups, there is even less to go on. As we have seen, wage figures for urban workers contain various ambiguities. One of the few examples we have that explicitly includes an estimate of cash wages, the value of in-kind supplements, and an estimate of the cost of living for a working class family comes from a salt works in late 19th century Sichuan. If the numbers are accurate, a family of 4 needed 3,600 wen in cash per month to live on, of which it spent roughly 600 wen for grain; it received grain worth 900 wen as part of the humblest worker’s wages (brine carriers and hammermen received a bit more), plus a very small amount of other food, which we will discount. If this 4,500 in cash and kind represented the family’s total budget, then grain would be roughly 1/3 of total living expenses for these workers. It appears that this would have given the family an annual grain supply of 8.4 shi of husked grain: almost exactly the average figure we have used for China as a whole. While not living at the level that Allen et. al. designated “subsistence,” such a family would be surviving.

It is not clear, however, how the poorest workers would have raised the necessary 3,600 wen in cash, since their pay ranged from 1,000 -2,200 wen, unless either their wives and/or children contributed much of the family budget. Many, of course, may not have had families, but anyone who was trying to support 4 people on such a wage would have been far below the ‘minimum’ cited above, and spending almost everything on grain. Other workers in this salt works must have had considerably more to spend on things beyond the

105 Reed 2000: 207
106 In Pomeranz (2000a: 249-50) I discuss some (among many) possible reasons for Chinese families of this period not to automatically head for areas with higher per capita incomes. Sommer (2000) is a book that puts great emphasis on the increased number of people on the move in 18th century China, and shows that the Qing were quite worried about what these movements suggested, but there is no clear evidence to show that their numbers grew faster than one would expect given the general population rise and on-going commercialization.

108 This assumes that we can use the retail grain prices reported by another worker in the salt works, which refer to an unusually large local dou (a volume measure), as cited in Xu and Wu (2000: 345).
bare necessities. The best salt makers earned 4 times the cash wage of the poorest workers, the cashier 3 times, foremen 5-6 times, assistant accountants 7-8 times, and the head accountant 20 times. Throughout the scattered wage data we have, we find very large differentials between unskilled workers on the one hand and skilled workers, supervisors, and clerks on the other; this might suggest that the latter groups were relatively prosperous, but there are also good reasons not to leap to this inference. 109

Zhao Gang’s historical survey of wage data provides monthly cash wages for various kinds of textile workers which, when converted into unhusked rice, range from .29 to 4.19 shi of grain per month (3.5 to 50.4 per year). For less skilled workers, about 5 shi (which equaled 2.75 husked shi) a year seems typical. If we assume that such a worker also received roughly 5 shi of husked grain per year in kind (slightly higher than the grain allowance for the poorest salt workers in the 19th century example), 110 had a wife and 2 children and no other income, he would have come up slightly short of even providing his family with an all-cereals diet meeting the caloric average. If the wife in this example added to the budget half as much as the husband’s cash and in-kind earnings, 75% of their combined earnings would have provided an average caloric intake, but would still have left them significantly below the standard of living represented by the model market basket constructed by Allen et. al. If, on the other hand, many of the poorest wage workers were single, they would actually have had a substantial portion of their income to spend on things other than food. This is quite likely, since a) many workers who were in the poorest pay classifications would have moved up with time and married then; and b) many of those who did not, probably joined the roughly 10-15% of Chinese males who never married. In the latter case, Such men almost surely would have regarded themselves and been regarded by their peers as very poor, even if, by virtue of being single, they had more discretionary income than many other commons.

‘Non-essential’ Consumption

If most Chinese ate fairly well by pre-industrial standards, and even most of the poor had some money left over after eating, what did they spend it on? Unfortunately, we have nothing for China that is comparable to the inventories of possessions held at death for many places in Europe, but we do have other information. Literary evidence includes lots of material from domestic travelers describing (and usually decrying) increases in popular consumption; fiction that aspired to realism describes a vast range of goods for sale in even some rather small and remote towns. Lists of ‘products sold’ included in local

109 Much of the data was collected in 1950s and 60s projects aimed at demonstrating the importance of proletarian class struggle over the centuries in China, and thus may have selected for examples showing the largest disparities. This would be particularly true for late Qing data, which sometimes was based on the recollections of elderly workers. Also, to the extent that there were uncounted in-kind supplements to cash wages, there is no reason to assume that they rose proportionately with cash wages, since no worker would need 8 times (much less 20 times) as much grain as he could eat. On the other hand, in-kind wages may have increased in step with cash wages after all. The government paid certain workers with grain allowances that far exceeded their needs and that they then sold on the market, and the practice might have been copied elsewhere. The salt works material also tells us of certain kinds of in-kind payments and extra allowances (e.g. for tobacco) that were only granted to those higher up the ladder.

110 Again, assuming the use of local measures – see note xx above.
histories are also suggestive, though these must be treated with caution, as such histories might mechanically repeat the list from an earlier edition, or list items that were only occasionally available. We also have a few direct descriptions of the food, clothing, and home furnishings of families at various levels in the social hierarchy. We also have the accounts of various European visitors, most of whom, before 1800, compare levels of consumption favorably with those back home. For instance, two English emissaries who traveled from Beijing to Canton in 1793, were very struck by how much the people they saw smoked—a comment lent additional support by a source claiming that even toddlers smoked in Zhejiang. Also interesting is Gaspar Da Cruz’s admiring account of the construction and furnishing of the homes of China’s more successful farmers. The latter, though earlier than would be ideal for our purposes, is interesting because Da Cruz (a Portuguese ship captain arrested for smuggling at Canton, who was eventually exiled to the Southwest and left the country overland into Burma) saw areas far off the beaten track. It is also suggestive because Da Cruz said he was describing the homes of what he called ‘successful husbandmen’ rather than the officials and great merchants who made up China’s real upper class; and also because, given China’s severe timber shortages and the surprisingly limited use of stone in domestic construction, one would expect housing to be among the areas in which Chinese consumption would most lag European.

I have also taken steps towards measuring some part of this consumption quantitatively. Usually this had to be done by working backwards from estimates of the amount of land under various crops, multiplying by contemporary yield estimates, and subtracting exports where they are relevant. This introduces various uncertainties, but I’ve also taken various steps to insure that these estimates are conservative. Even so, they are quite surprising. It may be no shock to see that per capita tea and silk consumption were higher in China than in Europe, but consider the following data for sugar and for

111 Particularly striking accounts may be found in the novels Jin ping mei and Xingshi yinyuan zhuan—striking in part because they deal with a medium sized city and a small town, respectively, in North China rather than with any of the country’s great metropolises. For some reflections on consumption in China by a leading historian of early modern European consumption, see Burke (1993: 148-161). I deal with this at much greater length in Pomeranz (2000a: chap. 3).

112 Staunton 1799: II, 48; Macartney (1793) in Cranmer-Byng 1963: 225
114 DaCruz in Boxer (1953: 106, see also 99).
115 By starting with the quantity of land reported on the tax rolls, we build in a big conservative bias, since under-reporting was chronic throughout China. I’ve used the highest estimates I could plausibly defend of the amount of land that was under basic grain crops, and where estimating cash-crop production for an area was particularly tricky, I’ve simply omitted it from national totals, even though contemporaries may have remarked often that it produced the good in question. In the case of sugar, for instance, I’ve counted only output in Guangdong and Taiwan plus known imports, though we know that mainland Fujian was also a major producer, and production scattered through the rest of China was estimated by a contemporary to be about 1/9 of the total of Guangdong, Taiwan and that uncounted mainland Fujian output (cited in Daniels 1996: 97, 105). And within Guangdong itself I have used a figure for cash-cropping area more than 20% below that generated in Robert Marks’ study of that province, and assigned only 1/10 of this cash-cropping area to sugarcane: a figure that Marks suggests is almost certainly too low. For further discussion, see Pomeranz (2000a: chapter 3).
ordinary cloth.
Table 1. Sugar and tea consumption in Europe and China

<table>
<thead>
<tr>
<th></th>
<th>Sugar</th>
<th>Europe</th>
<th>Britain</th>
<th>England</th>
<th>Non-Russian Europe*</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>1680</td>
<td>1 lb.</td>
<td>0.85 lbs.</td>
<td>4 lbs.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1750</td>
<td>2.2 lbs.</td>
<td>1.9 lbs.</td>
<td>10 lbs.</td>
<td></td>
<td>3.8-5.0 lbs.</td>
<td></td>
</tr>
<tr>
<td>1800</td>
<td>2.6 lbs.</td>
<td>1.98 lbs.</td>
<td>18 lbs.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Tea

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1780</td>
<td></td>
<td></td>
<td></td>
<td>1.0 lb.</td>
<td>0.12 lbs.</td>
<td></td>
</tr>
<tr>
<td>1840</td>
<td></td>
<td></td>
<td></td>
<td>1.4 lbs.</td>
<td>0.25 lbs.</td>
<td>0.7 lb.</td>
</tr>
</tbody>
</table>

* Includes England.

* Consumed per capita for country as a whole with heavy concentration to the Lower Yangzi, southeast coast and Lingnan, where consumption may have been as high as 10 lbs. per capita.

Sources: Production figures from Philips (year?: 58-61), for Portuguese and Spanish colonies; Steensgaard (year?: 140), for French, Dutch and English colonies; Braudel (1981: 251-2); Gardella (year?: 6, 38); Wu (year?: 99). European population figures from McEvedy and Jones (1978: 28), British consumption figures from Mintz (year?: 67,73), substituting year 1700 figure for 1680 in this table. For Chinese calculations, see Pomeranz (2000a: chap. 3).
Table 2. Selected comparisons of cloth output and consumption, in pounds per capita

<table>
<thead>
<tr>
<th></th>
<th>Yangzi Delta(^a)</th>
<th>China</th>
<th>United Kingdom</th>
<th>France</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton cloth, c. 1750</td>
<td>11.2-14.5(^b)</td>
<td>6.2-8.3(^b)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silk cloth, c. 1750</td>
<td>2.0(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramie, c. 1750</td>
<td>3.5(^b)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed cloth, c. 1800</td>
<td></td>
<td>12.9(^b)</td>
<td>8.4</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Population app. 31 million in 1750, omitting salt-producing prefectures form the large definition in Wang 1989.

\(^b\) Amount consumed locally unknown. For an adjustment of Yangzi Delta textile output downward from the figures in Pomeranz (2000) see also Pomeranz (2002).

\(^c\) Probably nearer lower end of range.

\(^d\) Ramie was not included in estimates of cloth in Pomeranz (2000). It does appear, however, that it was still quite significant though it is usually agreed that it was steadily losing ground to cotton. In the early 20\(^{th}\) century, production was still about 1.5 billion pounds, or roughly 3.5 pounds/capita. Whether per capita was higher than that 150 years earlier (either because of a smaller population or because many people had not yet fully switched to cotton) or lower (because the highland areas in which much ramie was raised were not yet as fully exploited) remains conjectural.

\(^e\) Combination of cotton, linen and wool

\(^f\) 8.7 pounds/capita consumed within the U.K.

Sources: see Pomeranz (2000: Appendix F) and idem for discussion of data problems.

Despite the uncertainties that surround these numbers, they are quite instructive: perhaps especially those for cloth. They suggest that in Jiangnan, the richest part of China, cloth production per capita in 1750 was comparable to that in England 50 years later. We cannot easily move to an estimate of cloth consumption, since much of this cloth was shipped to other parts of China; but England, of course, also exported a large portion of the cloth it produced. For China as a whole, it suggests per capita cloth consumption that was probably lower than that of France, but comparable to that of ‘Germany’ – which would presumably be a good deal above that of Europe as a whole. This is suggestive not only because clothing is an important category of expenditure, but because, according to Engel’s Law, it is one of the first areas in which one would expect expenditures to increase once basic food needs have been met. Thus, while it is no substitute for an overall ‘market basket’ of goods, and possibly a biased one,\(^{116}\) it is a good preliminary indicator of

---

\(^{116}\) In Allen’s Canton/London comparison for 1704, the overall cpi in London was 3.47 times that in Canton (in silver), while tea was 26.6 times as expensive and sugar 15.2 times as expensive; one would thus expect
comparative living standards for the general populations of China and Europe.

It is also interesting that these numbers are, once again, higher than those derived in various estimates for early 20th century China. I have explained at length elsewhere why I believe that China’s total cotton output quite likely declined between 1750 and 1900 or, at best, did not increase much, while population roughly doubled. If that assertion is correct, then there is no conflict between my figures and later ones, either for cotton, or for sugar and tea. And an analysis of regional trends, which I have attempted elsewhere, leads to similar conclusions.

First, though, a few more things should be said about 18th century consumption levels both of necessities and non-necessities. Per capita fuel supply, as I have argued elsewhere, was probably adequate, despite an increasingly unfavorable ratio of people to wooded acreage: a common phenomenon in early modern Europe as well. (My poorly informed intuition suggests that it was probably less of a problem in most of India prior to the late 19th century.) Fuel was, however, quite expensive if purchased from the market. In 1704, charcoal in Canton (a less severely deforested region than many in China) cost over 5 times what it did in London (in silver), though almost every other commodity cost significantly less. That China, in particular, was able to sustain adequate supplies of fuel was in part due to various labor-intensive extra-market expedients that were much less necessary in Europe – in particular, the burning of crop residues and the gathering of small wood – as well as to a different kind of cooking, more efficient stoves, and, in the case of South China, a generally warmer climate. The extra labor probably fell mostly on women and children. With cooking fires going for less time each day, Chinese homes may have been, on average, less warm, but also less smoky. And the general pattern of fuel gathering – relying more on small groves, often within the family’s own courtyard, and less on consolidated blocks of forest owned by nobles – may have made for more even distribution and greater security of fuel supply, and less conflict over it, even if average levels were no better. At present, though, there is little chance of quantifying anything beyond those average levels – and even that is speculative.

Housing was one area in which Chinese living standards may well have been falling behind European ones by the late 18th century. In part, this would have been the result of the increasing pressure on wood supply mentioned above, and the fact that China did not replace wood with stone in residential construction on anything like the scale of at least England. Some other housing amenities that were becoming more common in Europe, such as glass windows, remained quite rare in China. We should be careful not to paint these as universal patterns – recent research suggest that England’s ‘Great Rebuilding’

them to form a larger part of Chinese than English market baskets. Cotton cloth, however at 3.38 times as expensive -- roughly the average for all goods -- is a much fairer test.

117 Pomeranz 2000a: 139-42, 334-8
118 Pomeranz 2000a: 222-236
119 Allen 2004: 16 Another way of measuring the expense of charcoal is that while Allen finds, based on the same data set, that real wages in London and Canton were equal in 1704 (taking an average of English and Chinese market baskets), the buying power of a day’s wage in London as measured in coal, was roughly 20 times what it was in Canton.
reached only a minority of the population, and that a majority of the 18th century poor still lived in 1-3 rooms, made largely of wood and clay; brick, even for the chimney, appears to have been quite exceptional among at least the rural poor.\textsuperscript{120} Workers’ houses in early industrial Leeds, Liverpool, and Nottingham usually had one room on each of 2 or 3 floors, so there was no more differentiation than in the homes of the Chinese poor; privies and water supply were still shared with neighbors.\textsuperscript{121} For the most part, housing in continental Europe was worse. The first quantitative figures we have for Chinese housing quality comes from J. L. Buck’s early 20th century rural surveys. While they far exceed what is cited for the 17th century English rural poor in floor space per capita, and 39% of buildings even on “small farms” featured tile roofs,\textsuperscript{122} the comparison is hardly a well-controlled one. And though I have pointed out elsewhere that Buck’s figures on average furniture ownership throughout China seem to compare quite well to those for two 17th century samples for the rural Netherlands (a much richer-than-average part of Europe) examined by Jan de Vries, there are many problems with comparing those figures. The best guess, I would say, is that this is an area in which the majority of 18th century Chinese may well have been keeping up with their European poor, or even continuing to outdo them, but in which a minority of better-off Western Europeans may well have been improving its circumstances faster than their Chinese counterparts.

Consumption, of course, includes services as well as goods, and here comparisons become even more difficult. Mid-Qing literati and officials wrote an enormous amount (usually with a censorious tone) about the growing numbers of ordinary people frequenting teahouses, traveling (especially, but not exclusively, for pilgrimages), hiring religious specialists to perform rituals, patronizing traveling entertainers of various sorts, and so on. Few used any numbers that are useful to us, but it appears that some of the most popular pilgrimage sites for instance, welcomed close to 1,000,000 people per year.\textsuperscript{123} In the Yangzi Delta, Fan Shuzhi has identified a number of towns, each with only a few thousand people, that had anywhere from 40 to 100 recorded tea houses in the early 19th century.\textsuperscript{124} For so many of these establishments to survive, a significant number of people from the surrounding villages must also have been partaking of the food, entertainment, and gambling that they offered. The boom in the number of itinerant religious specialists in the 18th century – which some have taken as a sign that increasing numbers of people were economically desperate\textsuperscript{125} – can just as well be read as a sign that the society in general was able to support an increased number of such people. (They received no support from any religious establishment, and survived by being paid for services and/or begging.)

Of course, people everywhere spend some of their incomes on rituals, celebrations, and entertainment. Early modern European texts are also full of complaints about the

\begin{footnotes}{
\item 120 Shammas 1990: 159-165
\item 121 Daunton 1990: 203
\item 122 Buck (1937/1964: 442 on floor space, 443 table 5, on building materials).
\item 123 Pomeranz 1997: 188
\item 124 Fan 1990: 279
\item 125 See e.g. Kuhn (1990: 43-47, 111-112); Sommer (2000: 12-14, 99-101).
\end{footnotes}
‘wasteful’ activities of the poor, and their frequency and stridency may say more about elite attitudes than about the numbers of people or levels of spending involved. Still, there may be some grounds for speculating that such activities would have comprised a larger share of plebeian consumption in 18th century China than Europe. Looking at the comparison from one side, the relatively lesser importance and complexity of kinship in Europe (speaking in gross, general terms) may well have contributed to a stronger need to mark statuses by consumption of goods, and a greater penetration of fashion (which, among other things, raises the share of goods in the budget by making them socially obsolete before they are physically so). That, in turn, would tend to direct spending away from services. At the same time, the more complex and prominent kinship relations in which Chinese were embedded did not simply reproduce themselves – people were taught whom they had important ties to, and how to act toward them, through ritual convocations in which one incorporated as many of the people to whom one could claim such ties as one could afford.

Moreover, since neither a state nor an established church registered marriages in Qing China, the burden fell on each family to mount an event capable of showing the relevant neighbors that what they were entering into was a legitimate marriage, rather than the purchase of a concubine or an illicit cohabitation. Various social and cultural historians have made the point that the combination of rapid commercialization and the erasure by 1730 of almost all formal legal status distinctions – including those which had isolated entertainers and commercial sex workers from ordinary commoners – greatly increased pressure at all social levels to perform marriages in a way that clearly showed that the bride’s parents were not ‘selling’ her. While we should not put too much credence in 20th century complaints by self-styled ‘modernizers’ (both foreign and Chinese) that the Chinese ‘wasted’ an unusual amount of their resources on such events – much less read them back into the 18th century – it seems to me quite likely that there was, indeed, a difference in the relative shares of goods and services in the discretionary spending of ordinary Chinese and Europeans. If so, that would make the rough comparability in those goods we can measure all the more impressive a testament to the relatively high standard of living (for a pre-industrial society) of 18th century China.

China is, of course, a large and diverse place, and I have focused most of my comments on one particularly wealthy (and relatively well-documented) region. How much richer? Rough calculations by Debin Ma suggest that what he calls the Lower Yangzi Province – an area roughly the same as what I call the Yangzi Delta, though it includes some other (and generally poorer) areas as well-- probably had a per capita

---

126 I analyse fashion, partly along these lines, in Pomeranz (2000a: 152-162).

127 This remains the pattern even today in much of rural China – much to the state’s dismay – a high priority for many families as they have become more prosperous since 1978 has been to extend and strengthen their web of social ties through hosting more ritual events, and greatly expanding the guest lists at them, see Yan (1996: 225-226).

128 See e.g. Rowe (1992); Mann (1997); Sommer (2000).
income which was 154% of the average for mid-18th century China as a whole.\textsuperscript{129} In other words, it suggests that the average income for China as a whole was about 65% of Yangzi Delta levels. Since ownership of the most important income-generating asset – land – was more unequally distributed in the Delta than in most of the country, other regions may have tended to have somewhat more equal income distributions, so that the income levels of their poor people might have been somewhat more than 2/3 those of the Yangzi Delta poor. Serious investigation of living standards elsewhere in China, however, must rely on finding more sources from those areas than I have been able to do so far.

As I have noted repeatedly above, the standard of living I am sketching for 18th century China would not only compare well to Europe’s, but would exceed in many ways what investigators found in early 20th century China. A generation ago, this would have raised few eyebrows: it was widely agreed that the 19th century had been a long series of catastrophes for China, so that there would have been little reason to doubt that the 18th century had been better than the early 20th. In general, however, scholars of this period also saw early 20th century China in such bleak terms that imagining a 19th century decline did not require 18th century Chinese, aside from a small elite, to have had much beyond bare subsistence. The 19th century decline was usually seen in terms of violent fluctuations around what had always been a very low average (i.e. lesser security against natural and man-made disasters), not in terms of lower levels of consumption in disaster-free years.\textsuperscript{130} Moreover, a good deal of scholarship since the mid-1980s has suggested that the early 20th century was marked by at least some economic improvement, meaning that any argument that 18th century living standards were higher than those of the 1930s must lean even more heavily on a negative view of 19th century trends. Finally, the older view of a catastrophic 19th century generally had in the background a picture of 18th century China already seriously beset by inexorably mounting ‘overpopulation’ and/or an inability to innovate (whether due to politics or culture) which differs from what is suggested here. Nonetheless, there are a number of good reasons, which I discuss elsewhere\textsuperscript{131} for continuing to think that people in much of China were, on average worse off in the early 20th century than their descendants had been 150 years earlier.

**Early twentieth century living standards: the countryside**

**Large-scale stories**

There is considerable evidence to suggest that rural living standards declined between the mid-18th and early 20th centuries, though there were certainly regional variations, and there is no consensus on either the extent or the timing of such a decline. Attempting to

\textsuperscript{129} Ma 2004: 6. This figure, by the way, can be combined with backward projections from better documented per capita incomes in the early 20th century to confirm my hypothesis that per capita income in the Yangzi Delta was still about the same as in England as late as 1750.

\textsuperscript{130} A classic statement of the stagnation thesis is Fairbank, Reischauer, and Craig (1973: 435-444, 643-646). Eastman (1988: 80-81), representing a later generation of scholars, nonetheless sees the choice as one between two different explanations of why Chinese peasants (in Tawney’s famous phrase) were in water up to their necks, and then (p. 92), as I do, emphasises the role of politics in explaining the increased frequency of ‘ripples’ that could drown such a person.

\textsuperscript{131} Pomeranz 2005
reconstruct budgets for a ‘typical’ North China farm family in the 18th and early 20th century, Pan Ming-te comes up with a much smaller surplus above subsistence in the 20th century – even though he did not factor in disasters of any sort.\footnote{Pan (1994: 115-123, 344-383, see 382-383 for a summary statement).} It is certainly true that the size of farms shrank quite a bit in North China, as population probably doubled between the mid-18th and early 20th centuries (versus probably no net growth in the Yangzi Delta);\footnote{Huang 1985; Pomeranz 2000.} meanwhile, cultivated acreage did not change much, and whatever yield increases there were appear to have been modest.\footnote{Li; Perkins; xx} Thus, there is a prima facie case to be made for declining living standards in at least this part of China over the long haul.

On the other hand, there is some indirect evidence of improving nutritional and living levels (based on anthropometric, nuptiality, and fertility data) for Southern Manchuria and for Beijing from about the 1860s to 1930s. However, we have yet to see much evidence to support an optimistic scenario for many other parts of the country.\footnote{Lee and Campbell, 2005}

Thomas Rawski’s \textit{Economic Growth in Pre-war China} is most thorough of the works arguing for an improvement in the Chinese economy in the early 20th century. It shows convincing evidence of impressive growth in the Lower Yangzi and in Manchuria and makes a reasonable case that this powered the entire country to a more impressive aggregate performance than other scholars have realized. Nevertheless, Rawski too acknowledges that we cannot show with certainty any improvement for the rest of the country, and that his aggregate figures could even be consistent with an overall decline in other regions.\footnote{Rawski 1989: 271} More recently Stephen Morgan has done research on heights (using a national sample of railway employees) which finds that the average height of male employees in the Lower Yangzi region increased about .7cm/decade between the late 1890s and 1920s; the data for North China, the Middle Yangzi and South China, on the other hand, show no clear trend over these years, so that an “all-China” (in fact, excluding Western China, which had no railroads) increase of .25cm per year is almost entirely the result of positive changes in the Lower Yangzi.\footnote{Morgan 2004 Table 6.} This too suggests a fairly pessimistic scenario for most of the country during the early 20th century. Moreover, Rawski’s more optimistic work only examines the period from roughly 1914-1937; some other studies claiming a positive trend go back a bit further,\footnote{Faure 1989; Brandt 1989} but generally not much. So even if an optimistic scenario could be supported for more of China than a few coastal regions during the first third of the 20th century, it would say nothing about the century before that. The mid-19th century, with its massive civil wars and disasters, could have marked a nadir from which things subsequently improved while still not returning to the levels of the mid-19th century in many areas. While we lack good quantitative data, standard narratives of the 19th century certainly give us plenty of reason
to suspect declining or at best stagnant living standards between the late 18th and late 19th centuries.

Perhaps more important, from the mid-19th century onward, incomes were probably more unstable from year to year than they had been in the 18th century. Floods, wars, and other disturbances increased markedly with political and environmental changes, and the state, at least, became less likely to mobilize effective relief.\textsuperscript{139} To what extent new kinds of relief organizations that emerged after 1865 compensated for this\textsuperscript{140} – and to what extent local relief efforts remained effective or became more so, even as state supervision and recording of them lagged – are disputed and thus far poorly understood matters. But certainly both the size of the largest disasters (e.g. the 1876-79 drought and the 1931 floods) and the number of recorded disasters rose sharply.

**Data from surveys**

**The countryside**

Earlier, in seeking a rural data sample to compare to incomes and consumption in Shanghai, I largely relied on Buck’s data for a field site in Jiangning. This seemed appropriate since the published data was detailed (more so than for Buck’s other sites in the region), Jiangning was relatively close to Shanghai, and, because Buck surveyed that site during a particularly bad year, it provided a challenging test of the hypothesis that urban workers were not much better off than the general run of rural families. But to get a more general sense of rural living standards in the early 20th century (and how they had changed since the 18th century), it would make no sense to limit ourselves to one field site in what was probably an atypical year. Thus this section draws on a broader range of data from various parts of China. At times, this may create the odd impression that rural people elsewhere were better off than those in the Yangzi Delta. I would emphasize that this was not the sense of contemporaries, and that Buck’s data for his other Jiangning site and from other Lower Yangzi locations yield much higher incomes -- and thus would presumably yield higher levels of consumption, if we had the data.

The closest we come to a national survey of 20th century rural living standards are the surveys conducted by J.L. Buck and associates in the late 1920s and early 1930s. They are probably biased in an optimistic direction: among other things, the average farm size for farmers in each of Buck’s categories is somewhat above what one would get by working from other sources.\textsuperscript{141} Nonetheless, these surveys remain a good starting point for such inquiries; there are also a number of more local surveys, particular for the 1930s.

In caloric terms, Buck’s figures for the early 1920s vary wildly: from 2,176 calories daily per adult male equivalent during a bad year at the aforementioned site in Jiangning (Jiangsu) to 4,529 in Suxian, Anhui, with an average for 6 survey sites of 3,461.\textsuperscript{142} On average, 77.8% of these calories came from grains, for an estimated grain consumption per capita of 2,697 calories per adult male equivalent per day: almost exactly equal to my rough estimate of grain consumption for the 18th century. Surveys for Dingxian in rural

\textsuperscript{139} See e.g. Pomeranz 1993, Davis, 2001, and compare Will and Wong 1991, Dodgen 2000

\textsuperscript{140} E.g.,Rankin 1986, Nathan 1965

\textsuperscript{141} Esherick 1981.

\textsuperscript{142} Buck 1930:372
North China during the late 1920s and early 1930s do not allow us to estimate total calories since at least the published data is often imprecise about what kinds of foods are being described: the “vegetables” category, for instance, seems to lump together high calorie legumes and low calorie cabbage, carrots, etc. The diet here also seems to have included more sweet potatoes and less grain. But if we combine grains and sweet potatoes and convert to calories at standard rates we get 3,337 calories of starches per adult male equivalent: higher than the Buck figures, which would rise to 2,996 if we included calories from tubers. What is particularly interesting about the Dingxian figures is that they are broken down by income group, and show that the absolute quantity of grains and tubers consumed per person per year is actually highest in the lowest income group, and tends to decline slightly as we move into higher brackets. This suggests that even the diets of the poorest group were probably adequate fairly adequate in purely caloric terms, since otherwise those above them probably would probably have added other foods only after first securing a satisfactory quantity of cheap grains.

As we saw above, Buck’s figures for per capita protein intake (in both his 1920s and 1930s surveys) generally come in below what I estimated for the 18th century, and there are a number of reasons why this seems plausible. These lower figures remain within the range usually considered adequate, but since they represent averages, we do not know how many people would have been below generally accepted minima for protein intake. The same is generally true with respect to fruit and vegetable consumption. Gamble’s Dingxian figures are harder to work with for these purpose: his figures for meat consumption work out to a very low average of 8 grams per adult male equivalent per day (protein portion, with actual protein intake even lower), and only 16 grams per day even in his higher income groups; he has no data for fish, eggs, or beancurd. The protein content of the grains and tubers in the diet would work out to approximately 80 grams of protein per day. This would bring this sample as well within the “adequate” range, based on USDA assumptions, though perhaps not up to the international minimum standards based on animal protein alone. In the absence of data on eggs, fish and beancurd it is hard to make comparisons with other samples, but it seems likely that these figures would be roughly comparable to Buck’s and thus below those that can be inferred for somebody eating the laborer’s diet in Shenshi nongshu. Vegetable consumption was fairly high, according to the survey, but consisted overwhelmingly of two items: almost 330 grams per adult male equivalent per day of cabbage and almost 230 of squash.

Food consumption, according to Buck, represented 58.9% of all expenditures for his rural families (62.1% in the North, 53.8% elsewhere). The Dingxian surveys arrive at a similar average: 57.7% of income spent on food, with 61% of food expenditure on grain. Food housing and fuel made up most of the rest of family budgets, along with “miscellaneous” and a surprisingly large category labeled “surplus (16.6% of the budget,
on average, and 8.5% even in the lowest income group).\textsuperscript{148} This must indicate a very loose definition of "surplus" (probably including interest payments for many families). Slightly less than half of the "clothing" expenditure was spent on cotton cloth, the rest on items of clothing (and bedding) per se. The cloth, plus raw cotton purchased by these families, converted at a standard rate,\textsuperscript{149} yields a total of 27.7 square yards per family: roughly 5 square yards per person. This would be more in line with Bruce Reynolds' relatively pessimistic estimate of 5.8 square yards per person nationwide ca. 1931 than Thomas Rawski's estimate of 8.7-9.0 square yards.\textsuperscript{150} But because I have not yet been able to convert expenditures for ready-made clothing and bedding back into cloth equivalents, I cannot pin this down any further. And as the discrepancy between the Rawski and Reynolds figures just cited (which rely on some of the same data) suggests, national estimates of cloth consumption are very controversial even for the relatively well-documented 1930s: the higher numbers seem more convincing to me, but the issue is very much up in the air.

**The Cities**

We have already surveyed the income levels of some groups among the employed urban poor. For the 18\textsuperscript{th} century this was largely an undifferentiated group of "unskilled laborers," and at least for now, I will go no further in differentiating them, given the limited data. For the 20\textsuperscript{th} century, where data is better, we were able to see differences among different kinds of factory workers, rickshaw pullers, etc. And we know that there were groups below these people, such as beggars. But for now, let us focus on some of the groups above these unskilled workers.

White collar employees (zhuyuan) were actually somewhat more numerous than factory workers: according to Zhang Zhongli, they totaled about 280,000 in 1930.\textsuperscript{151} (Moreover, some of Zhang's figures-- for teachers, for instance -- seem surprisingly low.) They constitute an even more heterogeneous group than factory workers, and were less often surveyed, so we know relatively little about their no doubt very varied incomes. And beyond them lies the even more poorly understood world of the "self-employed," taking in people ranging from the lowliest junk peddler to substantial businessmen.

At the moment I know of no good sources or strategies for estimating the incomes of the self-employed, but we do know something about white collar workers of various sorts. Nurses, female journalists and department store clerks earned monthly wages ranging from $20 to $35: much better than the $12 average for female factory workers, and better than the $20 average for male factory workers as well. Primary school teachers, for whom the data do not distinguish between males and females, earned $30-35; per month; it is not clear if that means that men and women earned equal pay for equal work in this profession, or (more likely, I would guess) that the survey simply didn't record the differences. Female college professors earned vastly more -- $140 per month – but were

\textsuperscript{148} Gamble 1954: 118.

\textsuperscript{149} Huang 2002: 535 for the conversion.

\textsuperscript{150} Rawski 1989: 291.

\textsuperscript{151} Zhang 1990: 724.
very rare.\textsuperscript{152} Male police section heads earned $60-80 per month in 1927, which was considered grossly inadequate.\textsuperscript{153} At a much earlier date (1912) Standard Oil’s Shanghai office paid $40 per month for junior high school graduates, $45 per month for senior high school graduates, and $70 per month for college graduates; chief Chinese accountants earned $300-400 per month.\textsuperscript{154} There must be better sources for white collar incomes in the 1930s, but I have not had time to hunt them down.

What could one buy with the incomes described above? For rickshaw pullers, the majority of whom were either unmarried or had left their families back in their home villages,\textsuperscript{155} it was often only because they were alone that their earnings could cover monthly expenses. The municipal government’s social survey estimated the value of the diet provided by companies that housed their own (mostly female) workers at $6.00 per month;\textsuperscript{156} and that of the lodging (generally not a separate room, but only a bed, or even a shared bed, in a barracks-like setting) at $2.00 per month;\textsuperscript{157} since rickshaw pullers, who expended huge amounts of energy, would have needed more food, it is easy to see why those who never advanced beyond seeking fares on the street lived fairly dismal and generally single, lives. (Shanghai had roughly 130 men per 100 women – not an unusual ratio for a pre-revolutionary Chinese city, as far as we know.\textsuperscript{158})

In a study of 305 industrial worker households, the Shanghai Bureau of Social Affairs developed what it claimed were average per capita market baskets for 1929-30, covering 68\% of household expenditures. The food in this market basket differed from the rural estimates we have derived for the same period by having significantly less grain, and more of most other things.\textsuperscript{159} Daily rice consumption works out to only 1,250 calories per person per day (1,800 per adult male equivalent per day) which seems surprisingly low, even given the lesser number of calories expended in indoor work. In a different study, which looked only at the families of cotton mill workers – a particularly poor group – this figure works out to 2,293 calories from rice per adult male equivalent.\textsuperscript{160} The 1,250 calorie per person/1,800 calorie per adult male equivalent figures are also suspect because even the figure per adult male comes out to about 2/3 of the consumption per adult (male and female averaged) that the same Shanghai Social Bureau came up with for the city as a whole, based on actual wholesale rice import figures.\textsuperscript{161} And while industrial workers

\begin{itemize}
\item \textsuperscript{152} Lien 2001: Chapter 1 pp. 32-33.
\item \textsuperscript{153} Wakeman 1995: 74.
\item \textsuperscript{154} Cochran 2000: 35
\item \textsuperscript{155} Lu 1999: 78.
\item \textsuperscript{156} If spent entirely on rice, this would have purchased about 1.5 kg of rice per day, or 1 kilo of rice, ½ kilo of cabbage, and 1/12 kilo (3 oz.) of pork. Price data from Shanghai Bureau of Social Affairs, reproduced in Reynolds 1981 : 222.
\item \textsuperscript{157} Shanghai shi zhengfu shehuiju 1935:39
\item \textsuperscript{158}
\item \textsuperscript{159} All of the following figures converted from 1929-30 data reproduced in Reynolds 1981: 222-3.
\item \textsuperscript{160} Calculated from data in Yang and Tao 1931 (1982): 48.
\item \textsuperscript{161} Cited in Lu 1999: 246.
\end{itemize}
presumably consumed much less of many things than the average Shanghai resident, one would not expect rice to be among them, particularly once we remember that there were also people who were worse off than these workers. (One possibility is that a significant percentage of the 32% of household spending not included in the study was for food from street vendors and cheap restaurants, which were ubiquitous in Shanghai.)

Meat consumption, on the other hand was higher than for Buck’s rural samples and much higher than Gamble’s, even without adding anything from the unrecorded part of spending: about 16 grams per person per day (23 g/adult male equivalent per day just from meat and poultry,) plus another 14 grams (20 g/adult male equivalent) per day from fish, plus some protein from poultry and eggs. (The figures for cotton worker families work out to only 13 grams per day for meat and poultry, and 23g for fish.) Vegetable consumption, at 220 g/day (317g per adult male equivalent) was below the rural figures, but still quite adequate; tea, oils, sugar, and other incidentals were somewhat higher. These appear to be quantities purchased, rather than consumed, however. If we were to adjust these figures by assuming that these urbanites actually ate the same percentage of these products as people in Jiangning (the standard we used before) this would reduce meat to 12g/day (17.3g per AME), fish to 11.3g (16.2g per AME) and vegetables to roughly 165g/day (237.8g per AME). This still leaves meat consumption comfortably above the level for Gamble’s Dingxian and 5 of the 6 sites for which Buck provides data, and fish consumption above all those sites, but narrows it somewhat.

Cloth consumption at 6.43 sq. meters per capita in Reynolds sample, seems lower than one would expect, but not implausible. Thomas Rawski has argued that the same data can be made to yield a significantly higher figure, consistent with his much higher figure for the national average for cloth consumption. Either way, these Shanghai working families come out near the national average: 16% above in Reynolds’ analysis, and at the average, in Rawski’s. When one adds the fact that “native cloth,” more widely worn in the countryside, lasted significantly longer than machine-made cloth, the urban advantage may have been mostly a matter of comfort and style.

Living space per capita, a variable that is particularly hard to compare between city and countryside, was 3.22 square meters per capita. Quite aside from the small amount of space per person there were issues of privacy created by the huge numbers of people living in dwellings designed for one family but inhabited by many. A 1937 survey of 113,000 “alleyway houses” each designed for a single family, found that only 14,000 were so occupied; the average was about 4 families. In the study of cotton mill workers, not a single family (out of 202 reporting) occupied a house without sharing it, and over 60% of families lived in a single room. In an environment in which many

164 Rawski 1989: 289-91. See also p. 97 for his national estimate
165 Xu Xinwu 1992: 158; see also Walker 1999: 223. Some poorer urbanites also bought their clothes second-hand, while no such stores existed in the countryside. Second-hand clothes presumably wore less well, and it would make sense to discount them by some unknown amount.
166 Cited in Lu 1999: 158.
“petty urbanites” aspired to a domestic life based on a nuclear family, the lack of privacy may well have been felt as strongly as the lack of space per se. While estimates vary, perhaps 10% of the city’s population lived in shantytowns composed of straw huts, grounded boats, and so on; these were mostly new arrivals, who could usually escape if they got a factory job or its equivalent.

The figures for fuel consumption (combustible grasses, coal and kerosene) used by families in the Social Bureau survey are extremely low: together they would yield just a bit over 0.10 ton of coal equivalent per person per year, versus the 0.33 tce per person that the Asian Development Bank described as a minimal subsistence supply in the 1980s. To the extent that people may have been working (or going to school) in buildings heated by others, this problem becomes less serious, but the figure is still suggestive. The only estimate for rural fuel consumption in this period I know of is my own for a very poor area (Western Shandong); that figure is roughly the same, in a colder rural region where people had larger (and probably less well-insulated) homes. As a share of income, the Shanghai families spent less than 6% of their recorded expenditures (less than 4% of total expenditures) on fuel, versus between 5.3 and 8.3% for Gamble’s families and anywhere from 9-16% for Buck’s families. The study of cotton mill workers did find, however, that even these workers used more fuel than did laborers in Bombay.

This market basket cost $51.33 per year per person and represented 68% of total family expenditures, making total spending $75.00 per person per year. Assuming a family of 5, this is almost identical to the figure derived in a separate, slightly earlier study of cotton mill workers only, since most retail prices declined during the early 30’s, this makes the findings of the two surveys roughly consistent. (We would expect the average real incomes of industrial laborers generally to be higher than those for cotton mill workers alone, as appears to be the case here.)

A man earning $20 per month and a woman earning $12 per month would thus be able to cover such expenditures for a family of 4 (or even of 5) if they worked 12 months a year; however most Shanghai workers in the 1930s could not be confident of 12 months of work every year, and so such families usually relied on multiple sources of income. A ship-builder working 12 months a year could support a family of 4 or possibly 5 at this level with his wages alone, but shipyard workers were less than 3% of the total

168 See, e.g. Glosser 2003.
169 Lu 1999: 16-131
170 Pomeranz 1993 Chapter 3.
175 Shanghai shi zhengfu shehuiju 1935: iii.
176 Shanghai shi zhengfu shehuiju 1935: iii.
industrial work force. The Social Bureau estimated that 82% of (industrial) working class families could not meet their living expenses from wages alone. Other sources of income might have included having children collect rags and other junk, taking in a boarder, prostitution, etc; it has been estimated that in the early 1930s, Shanghai had about 100,000 prostitutes, in part due to the city’s lop-sided sex ratio. Workers who were slightly better off, or had arrived slightly earlier, often benefited from Shanghai’s rising rents, having leased a house and thereby acquired the right to sub-let parts of it.

In the survey of cotton workers, the average family scraped together just enough to meet this level of expenses, but husband and wife together accounted for only 63.6% of that income; another survey put the figure even lower. The importance of income from children (and in some cases other household members) helps explain the very low percentage of children in school: only 15% of boys 6-18 in the cotton mill workers’ families, and only 2% of girls. While the rates of children who went to school at some point must be much higher, as were rates of literacy, this, like other aspects of the domestic ideal, would reflect one of the basic lines dividing struggling Shanghai residents from those among the skilled workers, white collar employees, and more successful self-employed people who constituted the respectable xiao shimin. It appears that for families that could afford it, keeping wives and children out of the labor force was a high priority. In a survey of printers’s families, husbands contributed 97% of all household income; among postal workers, 90%. Yet even male printers working 26 days a month, 12 months a year would have made just enough to buy the market basket described above for an average-sized family; apparently they preferred such a material standard of living with their preferred domestic arrangements to buying more goods but having other family members in the workforce, and my guess would be that this held for many more poorly paid white collar workers as well. Even so, there must have also been a substantial number of white collar workers and self-employed people who lived significantly better in material terms, even on only one income. How many and how much better is a crucial issue, but

177 On sub-letting and boarding, see Lu 1999: 156-167; on trash-picking, estimated to have earned between .03 and .16 per day see Lu 1999:79. On the number of prostitutes, who often did this work as a part-time or temporary expedient between other jobs, see Hershatter 1997: 40.


181 In a retrospective survey of 438 pre-revolutionary Shanghai residents in 7 largely working class communities (57% said they had been unskilled workers, 18% skilled workers, 16% clerks or shop assistants), only 26% were completely illiterate; 63% had attended a formal school at some point. See data in Lu 1991: 325-327.


183 Wage data from Shanghai sh zhengfu shehuiju 1935: 82.
one for which I have not yet found very much evidence.

**Summing Up**

This is a paper with more questions than answers, and thus with only very tentative conclusions. The general picture of a relatively well-off 18th century, at least in the Yangzi Delta, seems confirmed, with the important exception of landless laborers. The necessary complement to this picture -- the idea that the well-being of most of the country declined between the mid-18th and early 20th centuries -- seems more likely than not, though there is much still to be uncovered. The widespread impression that though 1930s Shanghai was booming, the poor lived very difficult lives, and -- though the city as a whole was far richer than any part of the countryside – were not much better off than people in the relatively prosperous rural communities nearby -- also seems borne out, helping to explain why new recruits to Shanghai’s lower classes mostly came from further away. Both in the 18th and the 20th century, and in both city and countryside, issues relating to marriage seem to have been a very important component of living standards. In a society with skewed sex ratios and some wealthy men taking wives and concubines, the poorest men could not afford to marry; those who were married among the poorest groups in Shanghai (e.g. rickshaw pullers) generally had to leave their families in the countryside. A step up the ladder, we find families of unskilled industrial workers scraping by by combining multiple incomes; as we then move up towards skilled workers it appears that the rest of the family withdrew from the paid labor force even though this must have often left the family’s consumption level no higher than that of families headed by unskilled laborers. Interestingly, among a group of couples who opted for collective weddings organized by the Nationalist government in the 1930s – probably mostly a group who chose this option because they could not afford a conventional wedding ceremony -- 80% of the brides listed their occupation as “housewife.”

We do not know whether that represented reality or aspiration, but either way it would seem to reflect the same strong preference for a breadwinner/homemaker marriage, even at the expense of a higher material living standard. The same precise issues do not appear in the countryside, since many of the women who earned money did so through home-based textile work which was valorized rather than deprecated; however, similar dynamics may have been at work in the choice of textile production by certain families that would have earned more by having their womenfolk work in the fields or in other “exposed” settings.

Finally, it is worth repeating that the gaps in our knowledge are huge, and render all these claims tentative. Looking at those gaps, one issue that emerges for all the times and places touched on in this paper is that we actually know more about the living standards of the poor than about those above them on the social ladder. It remains to be seen whether an examination of these “middling sorts” yields any surprises similar to those that have emerged from recent research on their Western European counterparts, but it does seem that investigating their circumstances should be a high priority. The heterogeneity of these groups presents special problems, but at least some of them (e.g. urban civil servants) should also be relatively well documented.

**Some Final Comparisons with India**

As one might expect, an overall comparison between China and India shows both similarities and differences, and different trends over time for different groups. And some of the most important comparisons – in types and degrees of inequality – are still not possible, as both of us have been forced at various points to rely on averages. But a few conclusions of this sort seem worth hazarding.

If we compare Roy’s agricultural laborer ca. 1875 (data from Table 1, p. 27) with our Chinese estimates ca. 1770, the Indian laborer appears to earn about 20% more grain (also with a 180 day work year). But by 1921 he has fallen well behind, suffering from the same problem – fairly stagnant nominal wages amidst rising prices – that beset his Chinese counterpart in the 18th century.

As for Roy’s Indian “peasants” they earn about 3 times as much as the Indian laborer in 1875 (1166 kg of rice); a difference which at first looks almost exactly the same as our 18th century Yangzi Delta tenant (14.2 shi 1136 kg). But the situation is more complicated than that. My figure is for a tenant, while Roy’s averages together tenants and owner-cultivators. Thus, this apparent similarity probably disguises fairly large differences, with late imperial Yangzi Delta farmers actually enjoying a much larger edge over landless laborers in their society than Indian cultivators on average did, and probably being significantly better off than their Indian counterparts. But it is worth remembering that the Delta was the richest part of China. Moreover, in both cases, these figures ignore the non-agricultural income of farm household, which we know was quite large at soem times and places – the 18th century Yangzi Delta being one of them.

There are some further ambiguities which relate to household structure. The very small farms of the Yangzi Delta were typically worked by only one person, except at peak season, so that our figure for the Delta essentially compares the income of a single laborer to that of a single person working on a farm he rented. (This difference has implications for household structure and relations among the generations that need to be worked out.) But Roy’s figure is derived in a different way – it represents aggregate agricultural product divided by the number of agricultural workers (after the share of hired laborers has been subtracted from both figures). It would thus be comparable to the Chinese figure as long as all members of the farm household who worked on the farm were listed in the census as employed in agriculture: something about which there is some reason for doubt. 185 If there are disguised laborers on the Indian side, the income estimates per cultivator would diverge further. At the same time, the Chinese figures may disguise considerable under-employment for one particular group: families with young men who had not yet married.

By 1921, Roy’s peasant has seen his income fall sharply, to 995 kg of rice. This would probably place average peasants significantly behind those in the Delta, even though farm size was shrinking slightly there. On the other hand, they would still have an edge on North China farmers. The average 1920s North China farm, according to Buck, used the work of two laborers, and produced an income equivalent to 2300 kg. of wheat: using either a price or a calorie conversion, this is equivalent to 1610 kg of rice, or 805 kg per cultivator. In this case, we know we are counting all North China agricultural workers, and we are still unsure about the number of hidden farm helpers on the Indian side, so the

185 Personal communication from Prof. Roy, 4/16/06
comparison may be a bit closer than it appears. Since, as we have seen, North China farmers were probably better off 150 years earlier, it is unclear whether they would have been lagging behind Indian averages at that point, or had fallen behind in more recent decades by having their real incomes fall faster than Indian ones. Since I suspect that the decline in per capita income in North China was rather large over this period (reflecting both shrinking farm size and ecological deterioration) I am inclined towards the second view, but there is much work still to be done.

Since both urban/rural differences and class inequalities in the countryside appear to have been larger in India, one would expect nationwide averages for income, etc., to look more favorable for India than the foregoing comparisons that highlight rural laborers, tenants, and small-holders. How much is hard to say, however. We have no per capita income or consumption figures for China that are exactly comparable to the ones that Roy provides here.

He estimates that per capita income in 1921 was Rs. 119, or roughly half of what “peasants” (including both tenants and owner-cultivators) earned, and double what agricultural laborers earned. (The earning figures do not include dependents, whose presence pushed down the per capita income figures) By comparison, Ma estimates per capita income for China in 1933 at ¥ 57.4; using Reynolds’ Shanghai retail prices (for 1930), which are presumably among the highest in the country, that makes Chinese per capita income equal to 389.4 kg of rice or 428.3 kg of wheat flour. This gives Chiense in general a slightly smaller premium over North China cultivators than Indians in general enjoyed over Roy’s peasants; the advantage of Chinese in general over Lower Yangzi, Southeast Coast, or Lingnan farmers would be considerably smaller. Or to put it the opposite way, non-farming Indians enjoyed a bigger edge over most farming Indians than non-farming Chinese did over most farming Chinese. A comparison between national averages depends on whether Prof. Roy and I are using comparable prices to convert incomes into grain. If we are, then the average Indian income comes out significantly higher – the equivalent of 515 kg of rice purchased in Calcutta vs. the equivalent of 389 kg of rice purchased in Shanghai. But if we aren’t – if his Calcutta prices are wholesale ones, or from a year of lower average prices, or if Calcutta prices exceeded those elsewhere in India by less than Shanghai prices exceeded the average for China – this difference could vanish very quickly.

Quantitatively, then, it appears that Chinese farmers we have looked at were mostly better off than their Indian counterparts, though the gap was narrowing over time, and Indians overall may have had higher average incomes than Chinese, at least by the early 20th century. From the little we can tell, it seems likely that inequality was greater in India throughout this period. Structurally, India seems to have undergone one kind of differentiation – between urban and rural occupations and labor markets – earlier and to a greater extent than China, while a different structural transformation – the monetization of

---

186 Roy, paper for this conference, table 1.
187 Data from Ma 2004: Table 1, Reynolds 1981: 224. These prices are further overstated (and thus incomes understated because I am using 1930 prices with 1933 incomes, and prices dropped during this period due to the Depression. But these were the only retail prices I could find quickly (wholesale prices are much lower), and they will due as a first approximation.
rural labor relations – seems to have come later and more slowly. (This, of course, helps make the urban/rural difference look all the greater). And in both places, that monetization seems to have been accompanied by a decline in the standard of living of landless laborers, as commodity prices moved upwards amidst growth and commercialization, while nominal wages rose only slowly. Meanwhile, a different kind of structural change – one in which large numbers of rural tenants were able to strengthen their claims on use of the land, and so share some of the gains of agricultural growth with land-owners in the more conventional sense – seems to have been very important in some parts of China, but not elsewhere, and not in most of India. This is one place where the intervention of the British, with their preference for a system of property rights vesting everything in one owner for each piece of land, might have made a big difference. But there were obviously other things at work as well, since the structures of rural inequality, relations between free and bound labor, etc., were already quite different at an earlier date.

Whatever its causes, the growth of these rights in China’s most commercialized areas obviously had big consequences for income distribution and standard of living, migration patterns, the ways in which agriculture and rural industry were combined, and many other things. Along with the striking differences in the size and circumstances of landless laborers (particularly the apparent fact that China’s proletariat generally did not reproduce in late imperial times) and the comparatively small scale of urban/rural differences in China, it forms an interlocking trio of structural differences that seems worthy of more focused comparative investigation.

References

Buck, John L. (1930/1971) Chinese Farm Economy: A Study of 2866 Farms in Seven Localities and Seven


University of California Press.


Shanghai shi zhengfu shehuiju. (1935). *Shanghai shi zhi gongzi shuai*. (Wage rates in Shanghai.)


Staunton, George. (1799) *An Authentic Account of an Embassy from the King of Great Britain to the Emperor of China*. Philadelphia: R. Campbell.


Zhou Yuanlian and Xie Zhaohua. 1986. *Qingdai zudian zhi yanjiu.* (Research on the tenancy system of the Qing dynasty.) Shenyang: Liaoning renmin chubanshe.