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DEVELOPMENT WITH CHINESE CHARACTERISTICS?  
CONVERGENCE AND DIVERGENCE IN LONG-RUN AND  
COMPARATIVE PERSPECTIVE

Kenneth Pomeranz



**EUROPEAN UNIVERSITY INSTITUTE, FLORENCE**  
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**KENNETH POMERANZ**

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**Abstract**

Looked at in comparative perspective, among the most striking features of Qing political economy are the combination of highly commercialized agriculture with the strength of peasant land use rights – both through smallholding and through various forms of secure tenancy – and the very small share of the population dependent on wage-earning. This paper begins by analyzing some reasons for this pattern, focusing on the intersection of customary land rights, agricultural practices and family formation in China's wealthiest regions. Most of the paper then traces its long- run consequences – for urbanization, internal trade, migration, environmental change, and fiscal policy – and compares them with those in other parts of the world. It argues that the intersection of these institutions with China's resource endowments created a distinct political economy which produced considerable agricultural and commercial dynamism, but not industrialization. It then shows that, though severely disrupted in the 19th and early 20th century, patterns derived from these basic conditions continued to shape Chinese economic development thereafter, and even into the present era of post-Mao reform.

**Keywords**

China, economic development, property rights, tenancy, water, regional disparities, Yangzi Delta.

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*Kenneth Pomeranz  
Chancellor's Professor of History  
University of California, Irvine  
klpomera@uci.edu*



This lecture represents a shotgun wedding between a book in progress on the history of Chinese political economy, which builds on some historical debates sparked in part by one of my earlier books, and some articles about contemporary issues – issues related to Chinese economic growth and environmental problems, particularly water problems. It is therefore framed at a fairly general level, with the details mostly to come in the book. It is also firmly China-centered, though I try to place the arguments about China in various kinds of larger perspectives that are just barely touched on here – mostly in history, but to some extent also in development economics.<sup>1</sup>

In earlier work, I have argued that China's Yangzi Delta – and, to a lesser extent, some areas along its Southeast Coast – remained very close to the levels of per capita income, commercialization, growth of non-agricultural employment, and so on, that one finds in the richest parts of Europe until about 1750.<sup>2</sup> Further research has mostly confirmed that picture, with the notable exception of work suggesting much lower real wages for unskilled laborers in the Delta than in England and Holland: an anomaly that I will soon explain.

But if some basic economic results look roughly similar at the two ends of Eurasia during this period, the institutions underlying those results were strikingly different. One important indication of these differences is that from the 16<sup>th</sup> century on, an increasingly large percentage of rural Europeans (whether in agriculture or rural industry) were proletarians: free people with no property, who lived by selling their labor for wages. By the 18<sup>th</sup> century, they accounted for half or more of the labor force in England; a point that was probably reached even earlier in Holland.<sup>3</sup> Moreover, agricultural and other wage markets tended to be only weakly integrated with each other, even where they overlapped spatially.<sup>4</sup>

In China, however, true proletarians were under 10% of the 18<sup>th</sup> century rural workforce; almost every household either owned **some** land or had a relatively secure tenancy. This low percentage of wage workers prevailed even in the Yangzi Delta, which had been an intensely competitive commercial economy for a long time – a situation which one might think would generate a large pool of wage laborers. (In fact, there were more rural wage laborers and tenants-at-will in the far less commercialized 18<sup>th</sup> century Zhili villages studied by Jiang Taixin and Li Wenzhi.) Even as late as the 1920s, only 15% of farm labor was done for wages, and much of that was part-time work by families supplementing the income from their small plots.<sup>5</sup> In poorer regions, most farmers were smallholders; in richer, more commercialized regions, tenancy was widespread but most tenants had very strong cultivation rights.<sup>6</sup> These rights sometimes derived from private contract; in other cases from custom.

One particularly interesting feature of the customary guarantees was that, despite the existence of an elaborate legal code concerning property, it was usually a local community (lacking authority in formal law) that enforced these guarantees, and that provided the most effective adjudication of property and tenancy disputes. A second and related feature is that in much of the country – and especially in the relatively rich and heavily irrigated regions of the South and East – a big part of being

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<sup>1</sup> The current round of debates over how long-run history – especially of institutions – might be relevant to current development issues was stimulated in large part by Acemoglu, Johnson and Robinson 2002.

<sup>2</sup> Pomeranz 2000, 2005a, 2008b.

<sup>3</sup> Tilly 1984: 36.

<sup>4</sup> Allen 1992: 239-43, 248-52 and DeVries 1994b: 45, 53,56

<sup>5</sup> For 20<sup>th</sup>-century data see Buck 1964/1937: 293. For some scattered 18<sup>th</sup> century data see Li and Jiang 2005: 310

<sup>6</sup> There is a vast literature on this phenomenon. Pomeranz 2008a gives my own views, and includes a partial bibliography.

considered a full member of the community (and thus having the community protect one's property claims) was participating in the maintenance of local water control projects. And in the richest area of all, the Yangzi Delta, the shape of that community was very much a function of both the particularities of the local physical environment and historical changes rooted mostly in the Ming (1368-1644) period.

On the one hand, the Yangzi Delta has the peculiar feature that the rate at which the river deposits sediment and the rate at which the ocean erodes the coastline are in almost perfect balance: thus, while seasonal fluctuations in water supply are very large, and require careful management, there have been few opportunities to create new land by extending the coastline here since about 1200.<sup>7</sup> This is in sharp contrast to the Pearl River Delta, where a great deal of local organization was dedicated precisely to reclaiming new land – a process that required far more capital than managing irrigation and flood control for existing land (since years elapsed between the beginning of the process and the first crop that could be harvested) and also more connections (since new land claims had to be defended by organizing armed force during this long preparatory period, and also often by getting the county government to recognize your claims). Thus, self-organization by relatively equal groups of village people, without much elite participation was more viable in the Yangzi Delta than elsewhere.

Meanwhile prosperity in the Lower Yangzi created enough opportunities in the towns and cities (in commerce, government, education, etc.), that the rich tended to move there. Initially, the mid-late Ming withdrawal of elite leadership caused serious problems but eventually irrigation communities were reconstituted on a new basis, with commoner leadership.<sup>8</sup> And these new irrigation communities seem to have often proved more efficient than the old ones, which had maintained polders that had often been built with government help, and/or by great estates, back in the Song. Among other things, the new irrigation communities tended to create smaller polders, with more internal embankments, which considerably improved the control of water on the most interior plots (where poorer people tended to have their land); this allowed the elimination of swampland previously used to dump excess water during floods, higher yields, and in a self-reinforcing loop, gave people a more equal stake in the waterworks than they had had before, making increased mobilization of labor for maintenance easier.<sup>9</sup>

As elites increasingly became outsiders to rural communities with little role in the production process (even if they still owned land there), it became increasingly difficult for them to contest the long-term security of their tenants within the community setting; people whom they brought in from outside as tenants-at-will, for instance, were often denied access to water or other vital community resources.<sup>10</sup> Landowners could still evict seriously delinquent tenants through the magistrate's courts, but that was slow and expensive. In coastal Fujian and Guangdong, where the construction of large new polders continued, elites and elite-led lineages retained more power over land, but there, too, *de facto* and sometimes *de jure* security of usufruct rights was quite widespread.<sup>11</sup>

Thus the richest parts of China were areas where tenants had the greatest power to *resist* what modern Westerners might consider the logical prerogatives of "owners": a sharp contrast to Europe, where the richest areas (above all England and the Netherlands) were those where landlords had the most unfettered rights to use their land as they wished. By the late 1600s in China, many of these customarily-derived land use rights had also gained some recognition in formal law, and could be sold,

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<sup>7</sup> Huang 1990: 25-30.

<sup>8</sup> Xue 2006: 214-224; Bernhardt 1992: 14-21; Hamashima 2011: 141-147.

<sup>9</sup> Xue 2006: 217, 223-226; Hamashima 1982: 90-94; Hamashima 2011.

<sup>10</sup> Zhang Peiguo 2002: 98-99. See also p. 280 for an example (drawn from Fei Xiaotong) of similar phenomena in the 1930s.

<sup>11</sup> Li and Jiang, *Zhongguo dizhu zhi jingji*, 280-1, 283-4, 291-2; Ash, *Land Tenure in Pre-Revolutionary China*, 41-2; Li Wenzhi, *Ming Qing shidai fengjian tudi guanxi de songjie*, 96-103; Chen Qiukun, *Qingdai Taiwan tudi diquan* 2<sup>nd</sup> edition (Taipei, 1997), 145-165; Li and Jiang, *Zhongguo dizhu zhi jingji*, 272-295; Yang Guozhen, *Ming Qing tudi qiye*, 91-133, 268-290.



inherited, or mortgaged like other property. In fact, in the relatively few cases where we see the usufruct rights and the subsoil rights for the same piece of land being sold at the same time, the use rights had become consistently more valuable by 1700.<sup>12</sup> Moreover, the price differences match up nicely with estimates of tenant, landlord, and wage laborer incomes, as we shall see shortly. The state disliked the litigation that multiple rights to the same piece of land sometimes created, but also understood that these rights helped maintain an independent peasantry that they could reach without going through local magnates – and that was something they did like.

However they were gained, these rights made long-term tenants secure enough to behave as if they were owners, so that they (rather than the subsoil owners) made most land-improving investments – including, as we saw, taking over the management of most water control. Moreover (again like owners), they tended to earn something much closer to their average product than their marginal product. (By contrast wage earners or tenants at will in a market economy will generally earn something close to their marginal product, which always represents a lower share of total product in a given endeavor.) In fact, preliminary estimates for both the mid-18<sup>th</sup> and early-20<sup>th</sup> century Lower Yangzi put the earnings of secure tenants at 2.5-3 times that of landless agricultural laborers<sup>13</sup> – which is one big reason why low real wages among the 10% who *were* proletarians don't tell us that much about the economic situation of the rural majority.

This situation was further stabilized by the grim fact that those who did become rural proletarians rarely reproduced. In a society which practiced sex-selective infanticide,<sup>14</sup> while some elite households had concubines and female servants as well as wives,<sup>15</sup> there was a persistent numerical imbalance between marriageable men and women: it varied across regions and generations, but probably averaged around 15%. Thus, the poorest men rarely married: perhaps their most intense social grievance. And consequently, while in each generation some luckless smallholders and tenants fell into the proletariat – as one would expect in a competitive, commercialized economy – the number of people in that category did not grow. And, lacking dependents, laborers could survive, though not well, on their fraction of the incomes that tenants and smallholders earned.

Meanwhile, because rural wages were far below what most farmers earned, so were unskilled *urban* wages – which meant that even poorer than average tenants had little reason to head for the cities. A few *xian* became quite urban nonetheless – more through the growth of towns than of big cities – but in general the urbanization rate remained lower than what might have been expected given the size of the agricultural surplus.<sup>16</sup> (This is one reason, incidentally, why Angus Maddison's work, which uses urban population as a proxy for agricultural productivity, underestimates Chinese prosperity – what you want to see is not how many urbanites agriculture feeds, but how many non-farmers, wherever they live.<sup>17</sup>) For potential migrants, the frontier was generally a better choice than the cities: average incomes there were lower than in the richer parts of China, but sweat equity would often get you cultivation rights to reclaimed land, so you could at least earn that average income, rather than a fraction of it.

And with such strong incentives for people to remain in the countryside, even if their farm was too small to employ the whole family, most industry developed as **rural** industry, with the producers embedded in households that also farmed.<sup>18</sup> The state liked this pattern as well, seeing households

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<sup>12</sup> For some 18<sup>th</sup> century examples from the Lower Yangzi, see Li and Jiang 2005: 291; Han Hengyu 1979: 38, 45; for the 20<sup>th</sup> century, see Bernhardt 1992:220 (who claims this was a new phenomenon). For Jiangxi see Li Wenzhi 1993:98 ; for Fujian and Taiwan see Chen Qiukun 1997: 161.

<sup>13</sup> Pomeranz 2006 has the calculations.

<sup>14</sup> Lee and Campbell 1997: 58-83; Lee and Wang 1999: 47-51.

<sup>15</sup> Liu Cuirong 1995: 130.

<sup>16</sup> This pattern persists even today, though the gap may be finally closing. See Gale and Dai 2002; Cheng and Ebanks 1990; Friedmann 2005.

<sup>17</sup> Van Zanden 2004: 22-23.

<sup>18</sup> See for instance Pomeranz 2005b: 234-9.

with multiple income streams (including ways for women to earn money from home) as more stable,<sup>19</sup> and anything as better than having many “rootless” laborers completely detached from the land. Core regions sold some of these handicraft products to interior areas for grain, timber, raw cotton, and other primary products – in fact these exchanges (particularly along the Yangzi) made up the largest long-distance trade in staple goods anywhere in the pre-19<sup>th</sup> century world.<sup>20</sup> But while the lower Yangzi thus became a major light industrial hub, it had very little heavy industry, largely because it lacked energy sources: wood, coal, peat, or even water power (due to flat terrain). It also lacked most metallic ores.<sup>21</sup>

The trade and migration patterns just described left the gap between rich and poor regions intact, but the state paid considerable attention to the laggards, using revenues from the Yangzi Delta in particular to try to stabilize conditions for family farming in areas where its ecological base was fragile. These inter-regional transfers helped provide subsidies for well-digging in parts of the semi-arid North and Northwest<sup>22</sup> (which today have about 1/15 the average global per capita water supply),<sup>23</sup> paid for flood control for the poor areas along the Yellow River, built emergency grain reserves (mostly in poorer areas), and so on.<sup>24</sup>

The sums involved were small by modern standards, but quite significant for many poor areas: a rough estimate by Chen Shuping, based on very incomplete data, suggests that the state-subsidized wells we know about increased annual grain production enough to feed perhaps 3 million Northerners (in a population of about 75 million c.1770),<sup>25</sup> and grain tribute brought up the Grand Canal enough to feed another 2 million – before we add in anything for the value of flood control. They were also significant to the Qing state: water control expenditures were already over 10% of *central* government spending in the relatively untroubled 18<sup>th</sup> century, while Yellow River control *alone* took about 15% of spending between 1820 and 1850.<sup>26</sup> A few rich coastal areas with higher tax rates than elsewhere paid much of the bill, receiving some tacit local autonomy in return.

Overall, then, this economy was certainly dynamic, but was not moving towards a Western-style modernity emphasizing capital-intensive labor productivity-enhancing technologies. Among other things, the Yangzi Delta was, as Li Bozhong and I have both emphasized, particularly poorly positioned for a transition to much more energy-intensive kinds of production; local supplies were limited, as we have seen, and the barriers to importing larger amounts of energy were significant.<sup>27</sup> Under the circumstances, the relative price of energy was exceptionally high along the China coast. A 1704 East India Company log, for instance, puts day wages at 27% of London rates, while basic calories cost 19% of London prices, and most other goods were also well below English prices (making real wages almost equal in this particular case); but charcoal cost 528% of its London price.<sup>28</sup> With heat energy thus almost 20 times as expensive in terms of human labor as it was in England, people were unlikely to devote considerable effort to finding ways to use it more.

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<sup>19</sup> Mann 1992; Bray 1997: 242-272.

<sup>20</sup> Pomeranz 2000: discusses this at length; see particularly 34-35, 138-142, 243-251

<sup>21</sup> This is discussed at length by Li (2000) who refers to this as a “super-light industrial economy.”

<sup>22</sup> Chen Shuping 1983

<sup>23</sup> For the estimate, see Pomeranz 2009: 8 (NLR version) or at FN 7 (Japan Focus Web version)

<sup>24</sup> See, e.g. Pomeranz 1993: 128-132, 154-6; Lillian Li 2007: 38-73; Wong 1997 113-118 ; Naquin and Rawski 1987:24; Sun 1997: 30-34.

<sup>25</sup> Chen Shuping 1983

<sup>26</sup> Lillian Li 2007:38-73, 250-282.

<sup>27</sup> Pomeranz 2000: 62-65; Li 2000: 272-342.

<sup>28</sup> Data from Allen, “Mr. Lockyer Meets the Index Number Problem,” pp. 6, 17. The unusually high real wage could be the result of the East India Company (the source of the data) paying above-average prices for the people who serviced their ships while in port; but since there are also some reasons to think that these records understate the in-kind component of wages, we should reserve judgment. At any rate, this would not much affect the point being made here about the extremely high relative cost of fuel.

In the 19<sup>th</sup> century, this relatively successful model for a stable political economy hit a wall. Population growth in interior regions decreased the amount of grain, timber, etc, those areas could ship to the coast, and as these areas imitated coastal regions by also developing their own handicrafts, they had less need to import. This combination of things hit the Yangzi Delta hard: by 1840, a medium-grade piece of cloth bought half as much rice as a century earlier, and the quantity sold had probably declined, too.<sup>29</sup> To some extent advanced regions compensated by finding new markets in Manchuria, Southeast Asia, and elsewhere. Moreover their population growth was very low – while China as a whole roughly doubled from 1750-1850.<sup>30</sup>

Given these safety valves, living standards in the most advanced regions probably did not decline much before 1850, but they were squeezed, and 19<sup>th</sup>-century people may well have had to work more for roughly the same or slightly lower incomes as their forebears had achieved with less.<sup>31</sup> Consequently, paying for ecological stabilization elsewhere became increasingly burdensome – at the same time that doubling of population in those regions made those tasks ever more expensive. Expenditures for security on the frontiers were also rising, as violence flared more often in increasingly crowded borderlands.<sup>32</sup> Add to this the arrival of Western gunboats and opium – marginal annoyances at first, but eventually important factors undermining the ability of the Qing to continue spending a relatively low share of their budget on the military for an *ancien regime* state, which in turn allowed them to tax lightly while spending more than most other states of the time on infrastructure and a social safety net. (The key word here is **relatively** – roughly half of Qing spending in the 18<sup>th</sup> century went to the military,<sup>33</sup> but for most European states, and as far as I can tell, the Ottomans and Mughals as well, that figure was more like 80%.<sup>34</sup>) Before long, environmental, political, and social crises in the poorer regions began to feed on each other. Eventually the resulting unrest came to engulf rich regions, too – the march of the Taiping rebels from the Guangxi highlands to the Yangzi Valley is the most dramatic example – giving China a disastrous 19<sup>th</sup> and early 20<sup>th</sup> century.

But while there is much truth to this picture, it overlooks crucial regional differences. For much of coastal China, despite enormous pain and instability, the late-19<sup>th</sup> and early-20<sup>th</sup> centuries also offered opportunities, in the form of stronger links to the world economy. Rice from Southeast Asia, timber from Manchuria and the Pacific NW, and other raw materials replaced lost sources in China's interior;<sup>35</sup> new markets opened up (mostly in Southeast Asia) for labor-intensive light industrial products (cloth, cigarettes, etc); new technologies and cheaper shipping spurred these new trades; and the government, though not very helpful (it could not, for instance, pay for universal public education or a big railway program, as Japan's did), did stop transferring funds from the coast to the interior.<sup>36</sup> It concentrated instead on modernizing and maintaining its sovereignty in relatively rich, mostly coastal, regions suddenly contested by foreign powers: often, as we'll see, at the expense of the older reproductive statecraft that had focused more on stabilizing the vulnerable interior areas. In the Lower Yangzi, GDP and average male heights (in the very limited samples we have) grew rapidly in the early-20<sup>th</sup> century, after declining through much of the 19<sup>th</sup> century.<sup>37</sup> In particular, the height data for railway workers, though spotty, clearly shows radically different trends in different regions. Lower Yangzi workers' heights increased 0.7 cm per decade between the 1890s and 1927 (vs. 0.91 cm per

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<sup>29</sup> Pomeranz 2000: 323-6.

<sup>30</sup> Pomeranz 2000: 244-6, 288, and accompanying notes.

<sup>31</sup> This is the conclusion that seems to emerge from the estimates in Allen 2009b: 547-9. See also Pomeranz 2005. For indications of decline in the mid-19<sup>th</sup> century, though without much regional specificity, see Baten et. al. 2010:355.

<sup>32</sup> See the summary in Pomeranz 2010: 195-200.

<sup>33</sup> Zhou Yumin 2000: 36-38.

<sup>34</sup> Hoffmann and Rosenthal 1997.

<sup>35</sup> On rice see Latham and Neal 1983; Brandt 1985.

<sup>36</sup> See Pomeranz 1993 for one account of this transformation in statecraft.

<sup>37</sup> Morgan 2004; Rawski 1989; Debin Ma 2004

decade in Japan 1892-1937)<sup>38</sup> while those for workers from the Middle Yangzi and North China showed no trend. Evidence suggests that some other coastal regions also did fairly well, under both foreign and Chinese sovereignty<sup>39</sup> – though less well than the Lower Yangzi.

And despite the growth of a modern factory sector (mostly in Shanghai), much of this growth was still fueled by rural households combining farming and industry. Silk exports soared, rural weavers (though not spinners) increased output, and other crafts grew, too; even in Jiangsu province, which included Shanghai and Wuxi, half of **manufacturing** output was rural in 1937.<sup>40</sup> Meanwhile, though landlords in rich areas (sometimes backed by an increasingly revenue-hungry state) did become somewhat more successful at collecting delinquent rents, the basic system of secure cultivation rights in advanced regions remained intact.<sup>41</sup> In a telling example, landlords who tried to settle Northern Jiangsu refugees as tenants-at-will in some Yangzi Delta villages -- which had been seriously depopulated by the Taiping Rebellion-- generally had to give up on this attempt. They were defeated, in part, by local communities that saw these immigrants as unreliable (since they lacked a guarantee of long-term tenancy and thus a long-term interest in polders and other community resources) and the terms on which they were receiving land as potentially undercutting insiders' secure tenancies; locals often denied the new arrivals access to irrigation water and other rights that went with full community membership, thus preventing any major change to the status quo in landlord/tenant relations as well. Some migrants from other areas did move into the rural Yangzi Delta and take up tenancies successfully; but as far as I can tell, they were usually tenancies that were let or sublet to them by village residents who were moving into other occupations, not ones for which they outbid locals to get rentals coming directly from absentee landlords.<sup>42</sup>

Moreover, even on the eve of World War II, wages for unskilled male factory workers were still only slightly higher than the income earned by a secure tenant in the surrounding countryside – and many other urban jobs paid much less than that.<sup>43</sup> Jiangnan residents who moved to Shanghai tended to be those who took jobs requiring some skill; for the unskilled majority, there were still no compelling reasons to move, and the lowest-end urban occupations were filled by people from further away (particularly Subei disaster victims).<sup>44</sup> For the Delta and some other core areas, then, the post-Taiping era included both crises and significant development: development that did not involve dismantling old institutions.

But to the North and West this **was** a century of catastrophe: a coast/interior split much wider than in the Qing is evident, both in increasingly divergent levels of well-being and in a decreasing degree of interdependence. Most welfare indicators we can piece together for the NW declined, even in the optimistically-biased Buck data (and maybe for the SW, too). For North China, the basic picture seems to be stagnation at best, except for some areas very close to major cities and rail lines, where increasing non-farm incomes make up for problems in agriculture.<sup>45</sup>

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<sup>38</sup> Morgan 2004; Debin Ma 2004..

<sup>39</sup> E.g. Faure 1989 Ho 1984.

<sup>40</sup> Ma Junya 2002: 280-90; Zhang Li 2002 : 35-56, 119-189; Kraus 1980: 121; Walker 1999: 94-5.

<sup>41</sup> Bernhardt 1992: 117-224; Ma Junya 299-300, 323-4 with Ma 299-300; Muramatsu 1966. Muramatsu and Bernhardt represent the extremes of the debate on whether landlords were able to increase their share of the harvest in this period (Muramatsu saying yes while Bernhardt says that their share declined); Ma is somewhere in between, as I am.

<sup>42</sup> Zhang Peiguo 2002; Ma Junya 2002: 107-114.

<sup>43</sup> I have worked through these numbers in Pomeranz 2006. Essentially, a couple who both managed to find work in the Shanghai textile mills, even at the lowest levels, would have surpassed the real income of a secure tenant with a typical size plot, *if* they avoided more than the average amount of unemployment; but the gap was still relatively modest. And many jobs for unskilled new arrivals in Shanghai – from rickshaw-pulling to scavenging – paid far worse than the textile mills.

<sup>44</sup> On Shanghai occupational and ethnic structure and data on earnings in Shanghai and the surrounding countryside see Ma Junya 2002: 70 98-99,117, 299-300, and 323-4.

<sup>45</sup> Rawski:1989:271; Pomeranz 1993; Morgan 2004 Table 6; Lillian Li 2007: 250-340, especially 308. Thomas Rawski, though very much an “optimist” about China’s economy in this period, notes that his data are consistent with low or even negative growth for many regions other than the Lower Yangzi and Manchuria: Rawski 1989: 271. Zhang 2006: 109-

Far more important than any subtle trends in *average* incomes and welfare was that North and Northwest China in particular suffered a dramatic collapse of the relative safety from major disasters that they had enjoyed in the high Qing. Government spending on the Yellow River (admittedly an extreme case) fell by almost two-thirds between 1850 and 1937, while government income probably rose 900% over those same decades (both in gold value) – and floods increased accordingly. Increased droughts were an even bigger problem: population growth lowered water tables, subsidies for deep wells disappeared, and in some inland places, commercial and handicraft profits that had once helped fund wells declined as inland trade routes lost out to coastal ones. (The late-19<sup>th</sup> century demise of the overland tea trade to Mongolia and Russia through Shanxi is one good example.) Meanwhile, the state-supported granary system, already declining by 1800, more or less ended after 1850, and poor and land-locked areas were the ones where local efforts were least able to fill that gap. Overall, Xia Mingfang estimates that roughly 30 times as many Chinese starved between 1865 and 1937 as between 1644 and 1796 – and over 80% of that was in the North and Northwest.<sup>46</sup>

Under the circumstances, it is not surprising that the Maoist political economy, while undoubtedly radical in many ways, also recalled some Qing efforts. In some sense collectivization made everyone a proletarian, but in another, every rural household was guaranteed access to farm work, where, like pre-revolutionary smallholders or secure tenants, their incomes reflected their average product (minus state extraction), not their marginal product. Moreover, land reform was strongly influenced by existing notions of village membership: plans to redistribute land across village lines in both the Middle and Lower Yangzi, for instance, were dropped in the face of strong local opposition.<sup>47</sup>

Once people were settled in villages, massive (if often counterproductive) efforts were made to find work for everyone in the countryside, rather than assuming that social and economic progress required rapid urbanization. Despite the disasters of the Great Leap, considerable emphasis was placed on minimum subsistence guarantees, and on making marriage available to even very poor men; life expectancy rose faster than in any other period before or since, as did literacy rates.<sup>48</sup> Average rural living standards rose only slowly, however, and thus finally fell sufficiently far behind those of even unskilled urban workers so that migration to cities would have made economic sense for huge numbers of people. And in part for this reason, the regime essentially banned such migration at the end of the 1950s. Thus, the urbanization rate remained lower than the size of the rural surplus or the degree of industrialization would predict – in fact it came to deviate even further from “expected” levels.<sup>49</sup>

In terms of regional relationships, one also sees some elements of post-1949 arrangements that look a bit like the high Qing on steroids. Funds were directed from coast to interior and south to north on an enlarged scale – sometimes for ill-conceived crash development programs, but also for major efforts to stabilize subsistence in poorer regions.<sup>50</sup> Much of that latter commitment was once again expressed in major water projects targeting the North and Northwest. Flood control spending in 1946-54 was **22 times** what it had been in 1914-22, even though there was still a civil war going on in 1946-9.<sup>51</sup> After that, water control efforts focused increasingly on securing stable reliable water supplies in the North and Northwest. Irrigated acreage, which was already about 2/3 of total acreage in much of

(Contd.)

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112 is a quick and useful summary of several reasons to doubt that matters improved in non-coastal regions. Pomeranz 1993 strongly suggests a decline in overall human welfare for one region of North China. Li 2007: 310-340 takes a very cautious position but seems to conclude that North China people and areas that were able to reduce their dependence on agricultural income saw modest improvements in their lives, while those who remained dependent on agriculture experienced stagnation at best. Diversification was, of course, easiest for rural people closest to the coast and to large cities.

<sup>46</sup> Xia 2000: 78,79, 400-402.

<sup>47</sup> On the Lower Yangzi, See Zhang Peiguo 2002: 92-93; on the Middle Yangzi, Shue 1980.

<sup>48</sup> On literacy, see Bramall 207: 263. On life expectancy, see Lee and Wang 1999: 54-6.

<sup>49</sup> Pomeranz 2008b; Ebanks and Cheng 1990, Gale and Dai, 2002 for modern material.

<sup>50</sup> On the coast subsidizing the interior, see for instance Bramall 2007: 11-6, 41-44.

<sup>51</sup> Vermeer cited in Davis 2001: 374.

the South and East *before* the revolution, inched up further (to about ¾) by 1980, but the dramatic changes came in the North and Northwest (where the engineering challenges were greater and *local* financial resources often inadequate). Here government initiatives combined with new technologies, were truly transformative. In Shandong, for instance irrigated acreage went from roughly 3% in the 1930s to over 70% in the early 1980s.<sup>52</sup> Northern China became a grain surplus area for the first time in a millennium, even while China's population was doubling. A big part of this was that irrigation made possible a winter wheat crop (otherwise most of North China gets too little precipitation in those months), making it possible for farmers in this region (and their land) to be productively engaged for much more of the year. (It also allowed a huge increase in the cotton crop – a high priority during 1950s and 1960s industrialization efforts.) Major floods became less frequent than at any point since record-keeping began.

This was all very real growth, but it was achieved mostly through mobilizing slack resources, not by raising productivity. Moreover, as already noted, big improvements in living standards proved elusive, it became increasingly difficult to find useful work for everyone in the countryside, and there were various other problems; to solve them, Mao's successors turned to the very different strategy they called "reform and opening."

An enormous amount has changed since that slogan was adopted in 1978, but it is interesting to also notice some continuities. Until the mid-1990s, the take-off of rural industry, which generated 130 million new jobs in that period (almost the size of the US labor force), was arguably even more important than urban phenomena such as the growth of Shenzhen. Even now, China remains more rural than other comparably industrial countries (and just slightly more urban than Britain in 1840); **rural** income is now more than 2/3 from non-agricultural activities (like Taiwan in the 1980s).<sup>53</sup> That model has frayed very much since the mid-1990s, replaced by more urban-led growth; but some government efforts to promote this pattern of development remain, as do many obstacles to rural-urban migration. Many households still combine agricultural and other income, and rural non-farm income is taxed locally to supply capital for improvements to agriculture, which is now (at least in theory) untaxed.<sup>54</sup> Village membership is still generally tied up with land rights, and often carries substantial benefits, including rights to income from village-owned enterprises; in Jiangnan those with rights to land now often lease out the land, precisely because these other village-based rights are so much more valuable.<sup>55</sup>

If we look at things regionally, we again see familiar patterns. This rural industrialization is again very concentrated in coastal areas (though it takes in a bit more of the coast than before): until almost 2000, over half of these enterprises were in three provinces. And, as the export boom suggests, those areas are again more oriented towards a wider world than towards the rest of China; exports plus imports exceed 80% of GDP for many coastal provinces. The imports include massive amounts of oil, metals, raw cotton, lumber, and so on – one of many ways in which coastal China's development path has resembled that of Japan, Taiwan and Korea.

And there's the rub – or rather rubs. On the one hand, China – being six times the population of Japan, Korea, and Taiwan – cannot ever import the quantities of primary products per capita that they do. On the other, there is deep concern about the rapidly growing regional inequalities in China. Guaranteed access to land no longer suffices to keep people in those parts of the countryside where rural industry has not taken off; urban incomes are on average more than triple rural incomes (even averaging in areas that *do* have rural industry), which may be the largest such gap in the world.<sup>56</sup>

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<sup>52</sup> On changes in irrigation rates, see Nickum 1998: 884, Smil 1995: 32-34; Perkins 1969.

<sup>53</sup> Li Cheng 1997: 82; Zhongguo tongji nianjian 1999: 423-4; Ho 1995:363. Koo 1990:676 has the Korean and Taiwanese figures. The leveling off of the rural population in the late 1990s is evident in data from the 1998 *China Statistical Yearbook* (p. 105) displayed by the International Institute for Applied Systems Analysis (Vienna) at [http://www.iiasa.ac.at/Research/luc/Chinafood/data/urban\\_5.htm](http://www.iiasa.ac.at/Research/luc/Chinafood/data/urban_5.htm), accessed December 17, 2007.

<sup>54</sup> For example Oi 1999: 76-80; Li Cheng 1997: 88.

<sup>55</sup> For one example among many, see 108-109.

<sup>56</sup> See, e.g. Jia 2004: 1.

(Interestingly, Latin America, where this gap is smaller than elsewhere in the developing world, has generally had extremely unequal access to land, promoting urbanization that was much faster than industrialization – the opposite of China’s experience.) If the area in a 75 mile radius around Shanghai (roughly the old Yangzi Delta) were a country, its Human Development Index would be slightly below that of France;<sup>57</sup> if the Southwestern province of Guizhou were a country, it would have roughly the HDI of Namibia.<sup>58</sup> Not surprisingly, net rural-urban migration is about 15 million per year and rising.<sup>59</sup>

One response has been the “Go West” initiative: a massive, government-led campaign to jumpstart economic growth through mining, hydropower construction, and other capital-intensive projects in Western China that also provide basic resources for the East.<sup>60</sup> Han Chinese migration to Western areas (long restricted to avoid provoking resentment) is now being encouraged to raise skill levels; areas previously off-limits for various reasons are now being opened, often despite local opposition.

The change is quite evident if one maps Chinese hydropower construction. The Yangzi completes 90% of its drop to the sea before it enters China proper; the Yellow River, 80% of its drop before the great bend.<sup>61</sup> So most of China’s hydro potential is in the West; using engineering criteria alone, most hydro projects would be built there.

A map of stations built before 1986 clearly shows other criteria at work in the positioning of hydro projects: among others, where people were available for labor-intensive construction, and the fear of political unrest in Western minority areas. But projects planned since 1987 are heavily concentrated in the Southwest, as straight engineering criteria would dictate.<sup>62</sup>

In general, a long-standing paternalism towards Western minorities and their ways of life (which, granted, had been slowly weakening for some time) is now being decisively pushed aside. (We saw some reactions to this in Tibet in 2008, and in Xinjiang in 2010). And this is also an initiative that carries huge ecological risks: clearing land at high elevations where things don’t grow back quickly, quick and dirty mining, diversion of water from the Himalayan snow melt, and so on. Many dams being built in the far West have already silted up;<sup>63</sup> some others are expected to last only 20 years, even by their builders.

Perhaps the biggest gamble of all brings us back to water. The North China irrigation miracle is unsustainable: the Yellow River reaches the sea less than half of the year, water tables are sinking rapidly, and at current rates of extraction, the North China aquifers will be gone by 2030. In response, the government is currently building an enormous, three-pronged, \$65 billion project to divert 47 trillion gallons of water per year from South to North; in some ways, the most ambitious attempt yet to safeguard stability by having the rich South subsidize the poorer North.<sup>64</sup> It is actually unclear whether this project is technically feasible, given sporadic water shortages in the Yangzi basin itself, and on-going changes in the Himalayan glaciers and snowfalls that provide the source of most of

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<sup>57</sup> Provincial data for China are available at:

[http://en.wikipedia.org/wiki/List\\_of\\_Chinese\\_administrative\\_divisions\\_by\\_Human\\_Development\\_Index](http://en.wikipedia.org/wiki/List_of_Chinese_administrative_divisions_by_Human_Development_Index).

If one combines Jiangsu, Zhejiang and Shanghai, one gets a population-weighted average of 0.850; this figure should understate Jiangnan’s HDI, since both Zhejiang and Jiangsu contain substantial regions that are less well off than any part of Jiangnan. For comparison, the following are official figures for 2010: France 0.872; Iceland, 0.86; Italy, 0.854, UK, 0.849. For the European data see Klugman et. al. 2010 p. 139.

<sup>58</sup> See for instance the summary of 2005 data in “Inequalities Flagged as China Climbs ‘Human Development’ charts,” China Development Briefing 9/19/2005 at <http://www.chinadevelopmentbrief.com/node/119>, accessed December 17, 2007.

<sup>59</sup> Wang and Mason 2008.

<sup>60</sup> For a quick overview see Pomeranz 2001: 352-4.

<sup>61</sup> Van Slyke 1988: 15; Huang He Shuili weiyuanhui 1982: 4-7

<sup>62</sup> See the maps in Chinese National Committee on Large Dams 1987.

<sup>63</sup> Wang and Bai 1991: 89

<sup>64</sup> Liu 1998 is now slightly dated, but is still a good introduction in English. See also Pomeranz 2009.

China's rivers; and especially, whether it is possible without diverting a river that currently runs South out of Tibet, supplying 300 million people in eastern India and Bangladesh with much of their water; a diversion that China officially denies contemplating, but which nonetheless surfaces repeatedly in various discussions.<sup>65</sup>

Interestingly, for \$65 billion you could probably do much more to address water shortages by various locally-implemented conservation measures: fixing millions of leaky faucets, improving basic wastewater treatment (thus allowing re-use) where it is currently absent or deficient, lining irrigation ditches or repairing their linings, and so on. But to make those work – among other things, to insure that those millions of leaky faucets get fixed and stayed fixed – irrigation water prices would have to rise very significantly, causing rural incomes to lag behind urban incomes even further; this would probably lead large numbers of people to simply get out of farming, either seasonally (abandoning winter wheat for instance) or entirely. China could easily earn enough foreign exchange to import more food. In fact, a strictly economic analysis would tell you that's what needs to happen – estimates of how much more productive a gallon of water is in Tianjin industry than in North China agriculture range upwards starting at a factor of 20 (I have even seen a figure of 60 times)<sup>66</sup>, so you ought to be able to just export more and pay for additional farm imports. But whether the Chinese leadership would want to be that much more dependent on global markets – or whether the rest of the world would let that happen – is another question; and even if one brackets those issues, it would be very hard to cope with the millions of additional farmers who would head for the cities in such a scenario. So here, too, keeping urbanization and the size of the displaced population at manageable scales, dealing with resource constraints, ameliorating regional inequalities, and Beijing's desire to address these problems through projects *it can control*, interact with each other, as they have for centuries.

In one sense, of course, all the projects in the “go West” initiative represent an effort to stitch the country together, both by increasing interdependence and reducing income differences. But at least for now, it also exacerbates differences. With the coastal economy increasingly semi-private, while the West sees a revival of state (often military)-led development,<sup>67</sup> it is not hard to imagine growing social and political differences to go with economic ones. Ambitious people in Eastern China often want to work outside the state sector; ambitious people out West are more likely to continue seeking jobs in the state sector – or to leave. So while in many ways the Chinese boom of the last 25 years represents a remarkable departure from history, in other ways it shows significant continuities with patterns rooted in Ming-Qing property rights, diversified rural development, and inter-regional transfers. Partly as a result, much of Eastern China looks a good deal like other prosperous parts of East Asia, while much of the interior is more reminiscent of very different experiences: colonial enclave economies, crash development in Soviet Central Asia, and other far from happy stories.

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<sup>65</sup> See Pomeranz 2009 for one discussion, though new and sometimes contradictory information keeps surfacing. For one strong argument that China should undertake such a diversion see Li Ling 2005.

<sup>66</sup> Postel 2008.

<sup>67</sup> For a discussion of the difference, see Gipoloux 1998 – the share of state-owned industry in coastal provinces has probably risen faster than that in the interior (where it was already very high) since then, thus narrowing the gap a bit.



## **Bibliography**

- Acemoglu, Daron, Simon Johnson, and James A Robinson. 2002. "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution." *Quarterly Journal of Economics* 117:4 (November): 1231-1294.
- Allen, Robert. 1992. *Enclosure and the Yeoman: The Agricultural Development of the South Midlands 1450-1850*. Oxford: Clarendon Press.
- Allen, Robert. 2000. "Economic Structure and Agricultural Productivity in Europe, 1300 – 1800," *European Review of Economic History* 3:1, pp. 1-26.
- Allen, Robert. 2009a. *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge University Press.
- Allen, Robert. 2009b. "Agricultural Productivity and Rural Incomes in England and the Yangtze Delta, ca. 1620-1820," *Economic History Review* 62:3 (August), pp. 525-550.
- Allen, et. al. 2011. Robert Allen, Jean-Pascal Bassino, Debin Ma, Christine Moll-Murata, and Jan Luiten Van Zanden. "Wages, Prices, and Living Standards in China: in Comparison with Europe, Japan, and India." *Economic History Review* 64 issue supplement s1 (February), pp. 8-38.
- Baten et. al. 2010. Joerg Baten, Debin Ma, Stephen Morgan and Qing Wang, "Evolution of Living Standards and Human Capital in China in the 18<sup>th</sup> – 20<sup>th</sup> Centuries: Evidences From Real Wages, Age-Heaping, and Anthropometrics," *Explorations in Economic History* 47, pp. 347-359.
- Bernhardt, Kathryn. 1992. *Rents, Taxes, and Peasant Resistance: The Lower Yangzi Region, 1840-1950* Stanford: Stanford University Press.
- Bramall, Chris. 2007. *The Industrialization of Rural China*. Oxford: Oxford University Press.
- Brandt, Loren. 1985. "Chinese Agriculture and the International Economy 1870s - 1930s: a Reassessment," *Explorations in Economic History* 22: 168-193.
- Bray, Francesca. 1986. *The Rice Economies: Technology and Development in Asian Societies*. Berkeley: University of California Press.
- Bray, Francesca. 1997. *Technology and Gender: Fabrics of Power in Late Imperial China*. Berkeley: University of California Press.
- Buck, John L. 1964 (1937). *Land Utilization in China*. New York: Paragon Book Reprint Corp.
- Chen Hanseng. 1936. *Landlord and Peasant in China*. New York: International Publishers.
- Chen Qiukun 1997. *Qingdai Taiwan tu zhu diquan: guanliao, Handian yu an lishe ren de tudi bianqian*. Taipei: Zhongyang yanjiuyuan jindai shi yanjiusuo.
- Chen Shuping. 1983. "Ming Qing shiqi de jingguan"(Wells in the Ming-Qing period), *Zhongguo shehui jingji yanjiu* 4:1 (1983), 29-43.
- Chinese National Committee on Large Dams. 1987. *Large Dams in China*. Beijing: China Water Resources and Electric Power Press.

- Davis, Mike. 2001. *Late Victorian Holocausts: El Nino famines and the making of the Third World*. London: Verso.
- DeVries, Jan. 1994. "How Did Pre-Industrial Labour Markets Function?" in George Grantham and Mary Mackinnon, eds., *Labour Market Evolution* (London: Routledge), pp. 39-63.
- Ebanks, G. Edward, Cheng, C., 1990. "China: a unique urbanization model." *Asia-Pacific Population Journal*. 5, pp. 29-50.
- Faure, David. 1989. *The Rural Economy of Pre-Liberation China*. Hong Kong: Oxford University Press.
- Friedmann, John. 2005. *China's Urban Transition*. Minneapolis: University of Minnesota Press.
- Gale, Fred, and Dai Hongguo. 2002. "Small Town Development in China: A 21<sup>st</sup> Century Challenge," *Rural America* 17:1 (Spring), 12-19.
- Gipoloux, François. 1998. "Integration or Disintegration? The Spatial Effects of Foreign Direct Investment in China," *China Perspectives* 17(May/June): 6-14.
- Hamashima Atsutoshi. 1982. *Mindai Kōnan shakai no kenkyū*. (Research on Rural Society in Jiangnan During the Ming Dynasty.) Tokyo: Tokyo Daigaku Shuppankai.
- Hamashima Atsutoshi. 2011. "Communal Religion in Jiangnan Delta Rural Villages in Late Imperial China," *International Journal of Asian Studies* 8:2 (July), pp. 127-162.
- Han Hengyu 1979. "Shilun Qingdai qianqi diannong yongdianquan de youlai ji qi xingzhi" (An introductory discussion of the origins and nature of tenants' rights of permanent tenancy during the first half of the Qing dynasty), *Qingshi luncong* 1: 37-53.
- Ho, Samuel P.S. 1984. "Colonialism and Development: Korea, Taiwan, and Kwantung," in Ramon Myers and Mark Peattie, eds., *The Japanese Colonial Empire 1895-1945* (Stanford, Stanford University Press), 347-398.
- Ho, Samuel P.S. 1995. "Rural Non-agricultural Development in Post-Reform China: Growth, Development Patterns, and Issues," *Pacific Affairs* 68:3:360-91
- Huang he shuili weiyuanhu. Shuilibu. 1982. *Huang he shuili shi shuyao*. (General History of Yellow River Conservancy.) Beijing: Shuli dianli chubanshe.
- Huang, Philip. 1990. *The Peasant Family and Rural Development in the Lower Yangzi Region, 1350-1988*. Stanford: Stanford University Press.
- Jia Hepeng 2004. "Making Farmers Permanent Urban Residents" *China Daily Online* Feb 24, 2005, [http://www.chinadaily.com.cn/english/doc/2004-02/25/content\\_309234.htm](http://www.chinadaily.com.cn/english/doc/2004-02/25/content_309234.htm), accessed June 25, 2007.
- Jing Su and Luo Lun (1958) 1986. *Qing dai Shandong jingying dizhu jingniji yanjiu*. (Economic Research on Managerial Landlords in qing Dyansty Shandong.) Revised edition of 1958 text. Jinan: Qilu shushe. Abridged translation of earlier text published as Endymion Wilkinson, ed., Landlord and Labor in Late Imperial China

- Klugman, Jeni. et.al. 2010. 2010. Jeni Klugman et. al. *Human Development Report 2010 the Real Wealth of Nations: Pathways to Development* (New York: United nations Development Program and Palgrave MacMillan, 2010), [http://www.undp.org.ua/downloads/HDR\\_2010\\_EN\\_Complete.pdf](http://www.undp.org.ua/downloads/HDR_2010_EN_Complete.pdf), accessed June 15, 2011.
- Koo, Hagen. 1992. From Farm to Factory: Proletarianization in Korea. *American Sociological Review* 55 (October): 669-681.
- Kraus, Richard. 1968/1980. *Cotton and Cotton Goods in China 1918-1936*. New York: Garland Press. (Reprint of Harvard University Ph. D. dissertation.)
- Latham, A.J.H., and Larry Neal. 1983. "The International Market in Rice and Wheat, 1868-1914," *Economic History Review* 36: 260-280.
- Lee, James, and Cameron Campbell. 1997. *Fate and Fortune in Rural China*. Cambridge: Cambridge University Press.
- Lee, James and Wang Feng. 1999. *One Quarter of Humanity: Malthusian Mythologies and Chinese Realities*. Cambridge: Harvard University Press.
- Li Bozhong 1996. Cong 'fufu bing zuo' dao 'nan geng nu zhi'" (From 'Husband and Wife Work together' to 'Man Plows, Woman Weaves') *Zhongguo jingji shi yanjiu* 11:3 99-107.
- Li Bozhong. 2000. *Jiangnan de zaoqi gongyehua*. (The Early Industrialization of The Yangzi Delta Region.) Beijing: shehui kexue wenxian chubanshe
- Li Cheng. 1997. *Rediscovering China: Dynamics and Dilemmas of Reform*. Lanham, MD: Rowman and Littlefield.
- Li, Lillian. 2007. *Fighting Famine in North China: State, Market, and Environmental Decline, 1690s – 1990s*. Stanford: Stanford University Press.
- Li Ling. *Xizang zhi Shui Jiu Zhongguo*. (Saving China with Tibet's Waters.) Beijing: Zhongguo Chang'an chubanshe.
- Li Wenzhi 1993. *Ming Qing shidai fengjian tudi guanxi de songjie*. (The loosening of feudal land relationships in the Ming-Qing period.) Beijing: Zhongguo shehui kexue chubanshe.
- Li Wenzhi and Jiang Taixin. 2005. *Zhongguo dizhu zhi jingji lun*. (An Economic Discourse on China's Landlord System.) Beijing: Shehui kexue chubanshe.
- Liu Changming. 1998. Liu Changming, "Environmental Issues and the South-North Water Transfer Scheme," *The China Quarterly* #156 (December): 899-910.
- Liu Cuirong. 1995, "Demographic Constraint and Family Structure in Traditional Chinese Lineages, ca. 1200-1900," in Stevan Harrell, ed. *Chinese Historical Microdemography*. Berkeley: UC Press, 1995.
- Ma, Debin. 2004. "Modern Economic Growth in the Lower Yangzi in 1911-1937: a Quantitative, Historical, and Institutional Analysis." Discussion paper 2004-06-002, Foundation for Advanced Studies on International Development, Tokyo.

- Ma, Debin. 2006. "Shanghai-Based Industrialization the Early 20<sup>th</sup> Century: A Quantitative and Institutional Analysis." *Working Papers of the Global Economic History Network (GEHN)*, 18/06, London School of Economics.
- Ma Junya. 2002. *Hunhe yu fazhan: Jiangnan diqu chuantong shehui jingji de xiandai yanbian (1900-1950)*. (Mixture and Development: The Modern Evolution of Traditional Society and Economy in the Jiangnan District, 1900-1950.) Beijing: Shehui kexue wenxian chubanshe,
- Mann, Susan. 1992. "Household Handicrafts and State Policy in Qing Times," in Jane Kate Leonard and John Watt, eds., *To Achieve Security and Wealth: The Qing State and the Economy* (Cornell University Press) pp. 75-96.
- Morgan, Stephen. 2004. "Economic Growth and the Biological Standard of Living in China 1880-1930," *Economic and Human Biology* 2:2
- Muramatsu Yuji. 1966. "A Documentary Study of Chinese Landlordism in Late Ch'ing and Early Republican Kiangnan," *Bulletin of the School of Oriental and African Studies* 29:3, 566-599.
- Naquin, Susan, and Evelyn Rawski. 1987. *Chinese Society in the Eighteenth Century*. New Haven: Yale University Press.
- Nickum, James, 1998. "Is China Living on the Water Margin?" *China Quarterly* 156 (December) 880-898.
- OECD 2005. Organisation for Economic Cooperation and Development, *OECD Economic Surveys: China*. Paris: OECD Publishing.
- Oi, Jean. 1999. *Rural China Takes Off*. Berkeley: University of California Press.
- Perkins, Dwight H. 1977. *Rural Small-Scale Industry in the People's Republic of China*. Berkeley: University of California Press.
- Pomeranz, Kenneth. 1993. *The Making of a Hinterland: State, Society, and Economy in Inland North China, 1853-1937*. Berkeley: University of California Press.
- Pomeranz, Kenneth. 2000. *The Great Divergence: China, Europe, and the Making of the Modern World Economy*. Princeton: Princeton University Press.
- Pomeranz, Kenneth. 2001. "Is there an East Asian Development Path? Long-term Comparisons, Constraints, and Continuities," *Journal of the Economic and Social History of the Orient* 44:3 pp. 3-41.
- Pomeranz, Kenneth. 2002. "Beyond the East-West Binary: Resituating Development Paths in the Eighteenth Century World." *Journal of Asian Studies* 61:2 (May), pp. 539-590.
- Pomeranz, Kenneth. 2005a. "Standards of Living in 18<sup>th</sup> Century China: Regional Differences, Temporal Trends, and Incomplete Evidence," in Robert Allen, Tommy Bengtsson, and Martin Dribe, eds., *Standards of Living and Mortality in Pre-Industrial Times* (Oxford University Press), pp. 23-53/
- Pomeranz, Kenneth. 2005b. "Women's Work and the Economics of Respectability," in Bryna Goodman and Wendy Larson, eds., *Gender in Motion* (Lanham, MD: Rowman and Littlefield), pp. 239-263.

- Pomeranz, Kenneth. 2006. "Standards of Living in Rural and Urban China: Preliminary Estimates for the Mid 18<sup>th</sup> and Early 20<sup>th</sup> Centuries." Paper for Panel 77 of International Economic History Association Conference, Helsinki.
- Pomeranz, Kenneth. 2008a. "Land Markets in Late Imperial and Republican China," *Continuity and Change* 23:1 (May), 101-150.
- Pomeranz, Kenneth. 2008b. "Chinese Development in Long-run Perspective," *Proceedings of the American Philosophical Society* 152:1 (March, 2008), pp. 83-100.
- Pomeranz, Kenneth 2009. "The Great Himalayan Watershed: Agrarian Crisis, Mega-Dams and the Environment." Short version (with page numbers) published in *New Left Review* 58 (July/August 2009), longer version published in *The Asia-Pacific Journal: Japan Focus*, July 27, 2009, <http://japanfocus.org/-Kenneth-Pomeranz/3195>.
- Pomeranz, Kenneth. 2010. "Their Own Path to Crisis? Social Change, State-Building, and the Limits of Qing Expansion, ca. 1770-1840," in David Armitage and Sanjay Subrahmanyam, eds., *The Age of Revolutions in a Global Context* (New York: Palgrave, 2010), pp. 189-208.
- Postel, Sandra. 2008. "China's Unquenchable thirst," *Alternet* January 24, 2008 <http://www.alternet.org/story/74608>
- Rawski, Thomas. 1989. *Economic Growth in Prewar China*. Berkeley: University of California Press.
- Shue, Vivienne. 1980. *Peasant China in Transition: the Dynamics of Development toward Socialism, 1949-1956*. Berkeley: University of California Press.
- Smil, Vaclav. 1995. "Will There Be Enough Chinese Food?" *New York Review of Books* (February 1, 1995): 32-34.
- Smith, Thomas C. 1959. *The Agrarian Origins of Modern Japan*. Stanford: Stanford University Press.
- Sun Xiaofen. 1997. *Qingdai qianqi de yimin zhen*. (Migration to Sichuan in the First Half of the Qing Dynasty.) Sichuan. Chengdu: Sichuan daxue chubanshe.
- Tilly, Charles. 1984. "Demographic Origins of the European Proletariat," in David Levine, ed., *Proletarianization and Family History* (Orlando: Academic Press), pp. 1-85.
- Van Slyke, Lyman. 1988. *Yangtze: Nature, History, and the River*. Reading, MA: Addison-Wesley.
- Van Zanden, Jan Luiten. 2004. "Estimating Early Modern Economic Growth." Working Paper, International Institute of Social History, University of Utrecht. Available at <http://www.iisg.nl/research/jvz-estimating.pdf>, accessed December 17, 2007.
- Walker, Kathy LeMons. 1999. *Chinese Modernity and the Peasant Path: Semicolonialism in the Northern Yangzi Delta*. Stanford: Stanford University Press.
- Wang Feng and Andrew Mason. 2008. "Population Aging in China: Challenges, Opportunities, and Institutions," in Loren Brandt and Thomas Rawski (eds). *China's Economic Transitions: Origins, Mechanisms, and Consequences* (Cambridge: Cambridge University Press), 136 -166.
- Wang Xiaoli and Bai Nanfeng. 1991. *The Poverty of Plenty*. New York: St. Martin's Press.

- Wang Yeh-chien. 1973. *Land Taxation in Imperial China, 1750-1911*. Cambridge: Harvard University Press.
- Wei Guangqi. 1986. "Qingdai houqi zhongyang jiquan caizheng tizhi de waji," (The Collapse of the Central Power's Fiscal System in the Late Qing) *Jindai shi yanjiu* 1: 207-230.
- Wong, R. Bin. 1997. *China Transformed: Historical Change and the Limits of European Experience*. Ithaca, NY: Cornell University Press.
- Xia Mingfang. 2000. *Minguo shiqi ziran hai yu xiangcun shehui*. (Natural Disasters and Village Society in the Republican Era.) Beijing, Zhonghua shuju.
- Xue Yong. 2006. "Agrarian Urbanization: Social and Economic Changes in Jiangnan from the Eighth to the Nineteenth Century." Ph.D. dissertation, Yale University.
- Zhang Li. 2002. "Peasant Household Economy Under the Influence of International Trade, Industrialization, and Urbanization: A case Study of Wuxi Peasants' Response to Economic Opportunities, 1860s-1940s." Ph.D. dissertation, University of California, Los Angeles.
- Zhang Li. 2006. "'Feipinghenghua yu bupingheng' --- Zhongguo jindai nongcun jingji," (Disequilibrium and Non-Equilibrium: Chinese Rural Economy of the Late Nineteenth and Early Twentieth Centuries). *Nankai jingji yanjiu* 6 (2006): 103-122.
- Zhang Peiguo. 2002. *Jindai Jiangnan xiangcun diquan de lishi renleixue yanjiu*. (A Historical Anthropology of Rural Village Land Rights in Jiangnan.) Shanghai: Renmin chubanshe.
- Zhongguo Tongji nianjian*. (China Statistical Yearbook). 1999. Beijing: Zhongguo tongji chubanshe.
- Zhou Yumin. 2000. *Wan Qing caizheng yu shehui bianqian*. (Late Qing Fiscal Administration and Social Change.) Shanghai: Shanghai renmin chubanshe.

