

Living standards in pre-war Japan and Maoist China

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Previous comparisons of living standards in Japan (1868–1941) and China (1949–78) have been hampered by the limited data. New materials published over the last decade have now filled many of the gaps on Japanese income distribution and China's famine. These materials make it clear that the process of early industrialisation was extremely painful in *both* countries, and that it is hard to present either as a development model for other nations to emulate.

1. Introduction

[T]here is an abundance of evidence showing that the process of development in China was much more conducive to the welfare of the population than was its counterpart in Meiji Japan...the development processes generated [in Maoist China] permitted sustained growth to be achieved without the welfare sacrifices that characterised Meiji Japan and are a prominent feature of many non-socialist less-developed countries today. (Lippit, 1978, pp. 73, 77)

Since Victor Lippit completed this assessment, a deluge of statistics has been released by China's State Statistical Bureau. Some of the abundant local income-tax data for Japan during the 1930s have been analysed. And a great deal has also been published on growth rates and patterns of industrialisation in pre-Second World War Japan and Maoist China. Yet little work has been done on comparative trends in living standards in the two countries during their early industrialisation. Minami's (1994B) recent book provides an example. Despite a careful analysis of the development process in China and Japan, he is largely silent on issues of such critical moment as trends in capabilities, the extent of China's famine in the early 1960s,¹ and Maoist income inequality.

This essay attempts to use some of the new data on pre-war Japan (1868–1941) and

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¹ The famine receives a mere four sentences, and a remarkable footnote which refers to 'other studies' claiming that between 200 and 250 million died. Although this is no doubt a misprint, it is symptomatic of the malaise that has afflicted some recent studies of Sino-Japanese living standards. This malaise is all the more surprising given that many earlier studies of Japan's economic development explicitly acknowledged the human costs of economic growth (Patrick, 1976; Ohkawa and Rosovsky, 1973). Others stressed the adverse effects of high levels of military spending (Lockwood, 1954; Oshima, 1965). More recently, a number of studies have emphasised the poor labour conditions in Japanese factories (Taira, 1978; Tsurumi, 1990; Hunter, 1993).

Maoist China (1949–78) to fill this gap in the literature. Section 2 discusses long-run trends in various measures of well-being. Section 3 broadens the analysis to consider distributional issues, and Section 4 addresses the issue of poverty. Section 5 considers the savage falls in output during the Chinese famine of 1959–62, the Japanese deflations of the 1880s and the early 1930s. Section Six summarises the argument.

This essay does not claim to be either comprehensive or uncontroversial. There are very real difficulties inherent in a comparison involving two different time periods. It is also far from obvious that modern economic growth in China properly dates from 1949; some see the Republican period (1911–1949) as the beginning of ‘take-off’, while others would date it from 1978. Moreover, there is a wide spectrum of opinion on how living standards should be defined and measured—not least as a result of Sen’s recent work on capabilities (Sen, 1987, 1992; Sen and Nussbaum, 1993). An indication of how controversial these issues are is provided by the furious and continuing debate on the trajectory of living standards in Britain’s Industrial Revolution—which is now as much about the appropriateness of using data on heights and literacy rates as it is about how real wage trends should be measured. These problems cannot simply be dismissed when looking at the impact of early modern economic growth in China and Japan. But, equally, they should not be used as an excuse for ignoring an issue of such importance in evaluating development strategies.

2. Long-run trends in living standards¹

It is difficult to compare per capita output growth in Japan and China. There are no proper data on Chinese GDP before 1978, and therefore we must use net domestic material product (NDMP). This measure is not entirely satisfactory because it excludes depreciation and some ‘unproductive’ services.² In addition, the usual index number problem is significant because of large changes in Chinese relative prices between 1952 and 1978. Thus the growth rate of output at 1952 prices is about a third greater than output growth at 1980 prices; this is because 1980 relative prices give a higher weight to the slow-growing agricultural sector. Japanese relative prices also changed between 1885 and 1940; agricultural prices were 4.7 times higher in 1936 than in 1885, whereas the price of manufactures was only 3.1 times higher (Ohkawa *et al.*, 1974, p. 232). Nevertheless, the use of ‘end-year’ prices (1934–36 for Japan and 1980 for China) favours Japan rather than China.

The data on Japan largely dictate the time periods used in a comparison; there are no figures for either pre-1885 or for 1941–45. It is therefore logical to estimate a Japanese growth rate for 1885 to 1940.³ For China, the choice of endpoints is easier. There are

¹ This section discusses trends in conventional measures of development (consumption and GDP) as well as two indicators that Sen (1987, 1992, 1993) has called achieved functionings (mortality and literacy). Ideally, one would wish to look at capabilities rather than achieved functionings, but the data do not exist. This is a very general problem, as Sen (1992, p. 53) acknowledges: ‘Ideally, the capability approach should take note of the full extent of freedom to choose between different functioning bundles, but limits of practicality may often force the analysis to be confined to examining the *achieved* [original emphasis] functioning bundle only.’

² The reliability of official Chinese data is not high, especially for the period 1957–76. Nevertheless, there is no doubt that substantial output growth did occur during the Maoist period, especially in the industrial sector. Moreover, even World Bank (1995, p. 164) estimates have real Chinese GDP growing at 5.5% per annum during the heavily disrupted decade between 1970 and 1980.

³ Note that Japanese data on GDP are also unreliable, especially for agriculture during the Meiji period.

good reasons for excluding the post-Civil War recovery period (1949–52), and Deng’s *de facto* assumption of power in 1978 is the obvious end-year. Note, however, that this comparison also favours Japan. The collapse of output associated with the Matsukata deflation (1881–85) and the Second World War is excluded, while the output boom which followed the invasion of China in 1937 is included. This therefore raises the Japanese growth rate. By contrast, the inclusion of China’s output decline in the early 1960s depresses the Chinese growth rate.

Despite these biases against China, and contrary to a conventional wisdom in which the ‘fact’ of Japanese success is rarely questioned, the similarity in the growth performance of the two economies is striking (Table 1). Output growth was respectable (especially given population growth), not spectacular. The same is true of per capita consumption. It grew slowly in both cases because of increases in the investment share from 9% to 31% in Japan (1885–1939/40) and from 21 to 37% in China (1952–78).

The contrast in mortality rates between the two countries is sharper. Maoist China’s record in this respect (putting aside the famine of the early 1960s, which will be discussed later) was astoundingly good. According to a reconstruction of Chinese mortality from survey data, rural life expectancy stood at 24 years at birth in 1929–31 and infant mortality rates were about 300 per thousand (Barclay *et al.*, 1976, pp. 618–20). Furthermore, data taken from the retrospective 1988 fertility survey show that mortality exceeded even these levels in some parts of China. In the rural south-west, for instance, the rate was 430 per thousand, and the urban rate for the same area was over 700 per thousand (Gu *et al.*, 1991, pp. 26–8). By the late 1970s, however, mortality on this scale was long past. According to Banister’s estimates, female life expectancy at birth climbed from 41 years in 1953 to 66 years by 1978. Over the same period, male infant mortality declined from 179 to 37 per thousand live births (Banister, 1987, p. 116). Official Chinese data show a similar trend; for instance, total infant mortality declined from 171 to 41 per thousand between 1950 and 1978 (CASS, 1992, p. 537).

The key element here was the training of paramedics (the famous ‘barefoot doctors’) which began on a significant scale in the mid-1960s; there were over three million health workers in the countryside by the late 1970s and their primary function was immunisation (SSB, 1985, p. 221). Despite the derision heaped upon them by critics of

Table 1. *Growth of per capita output and consumption*

	Japan, 1885–1940 1934–36 prices	China, 1952–1978 1980 prices
GNP pc	1.8	2.2
Consumption pc	1.3	1.5

Note: Figures are percentage annual growth rates. If calculated at 1885 (Japan) and 1952 (China) prices, Japanese GNP per capita growth rises to 2% whereas that for China rises to 3.6%. If one also excludes the 1959–64 output trough, the Chinese rate climbs to an impressive 5%. However, Chinese data are for NDMP rather than GNP; the latter probably grew less quickly than the former because of the very limited growth of ‘unproductive services’ in the Maoist period. The Japanese data refer to personal consumption; those on China are for total consumption.

Sources: Ohkawa *et al.* (1974, p. 237); SSB (1992, pp. 32–3, 40, 77).

the Maoist system, it is difficult to explain the remarkable decline in rural mortality without mentioning the efforts of these paramedics. As Banister (1987, p. 61) concludes, 'Much of the improvement in China's health and mortality conditions since about 1968 may be attributable to the preventive and curative work of the barefoot doctors.'

Japan's record was less good.¹ By the early 1920s, some 50 years after the Meiji Restoration, female life expectancy was only 43 years at birth. Part of the reason for this may have been the impact of contact with the West, one consequence of which was the introduction of cholera (Hanley, 1986, p. 467). Infant mortality rates were also very high in the early twentieth century: the average rate hovered around a figure of 150 per thousand live births, virtually unchanged from the level recorded in the 1890s, the first period for which we have proper data (Statistics Bureau, 1987, vol. 1, pp. 204–5, 270). And in some parts of Japan the rate was significantly higher; in Toyama, where the Rice Riots of 1918 began, the infant mortality rate was 252 per thousand (Lewis, 1990, p. 35). To be sure, significant declines in mortality were recorded during the interwar decades. Female life expectancy increased to about 50 years by 1935–36; infant mortality fell below 150 after 1924 and declined to about 100 per thousand by 1940. Nevertheless, Japan's infant mortality rate in the late 1930s was more than double that for China in the 1970s and on a par with the poorest African nations of 1994.

In some respects, of course, this comparison of mortality rates in Maoist China and pre-war Japan is misleading. First, Japanese mortality at the time of the Meiji Restoration was already quite low by nineteenth-century standards. The crude death-rate averaged 18 per thousand between 1873 and 1877 (Statistics Bureau, 1987, vol. 1, pp. 204–5) compared to 22 per thousand in England between 1871 and 1875 (Wrigley and Schofield, 1981, p. 529). It was therefore hard for Japan to achieve a dramatic cut in mortality, though its government tried to promote both vaccination against smallpox and improvements in hygiene aimed at cutting deaths from typhoid and cholera (Hayami in Jansen and Rozman, 1986, p. 305). Second, the China–Japan comparison is unfair because the Maoist regime had access to far more sophisticated medical technology and knowledge. Post-1870 advances in medical science meant that mass programmes of vaccination could be undertaken comparatively easily.

Nevertheless, such justifications of Japan's poor mortality record are unconvincing. Although Meiji Japan was disadvantaged compared with Maoist China by its high base and inferior medical technology, the evidence suggests that the regime did not fully exploit the medical knowledge that was available. For example, a Ministry of Health was not established until 1938 and this was symptomatic of a more general malaise in the sphere of health care. As a consequence, and in contrast to the trend in Europe, deaths from tuberculosis in Japan rose between 1900 and the Second World War. This, in turn, partly reflected the appalling conditions of work which prevailed throughout the Japanese industrial sector but which were especially poor for women employed in the textile sector (Hunter, 1993). The British experience provides an illustration of the possibilities for amelioration. While Japan's crude death-rate hovered around 17 per thousand in the 1930s, that for Britain—starting from a similar late-Victorian base—

¹ However, uncertainty remains over Japanese mortality between 1868 and 1920, the year of the first proper census. Official registration data show the crude death-rate rising by a third, whereas the most optimistic back-projections based upon the 1920 census suggest a fall—excluding 1920 influenza deaths—of almost 30% (see Ohbuchi, 1976, pp. 330–33).

was down to 12 per thousand for 1926–1950. British infant mortality, at 55 per thousand, was only about half the Japanese rate (Woods, 1992, p. 29). Japan also fares badly when compared against the United States (53.2) and France (66.1) during 1935–39 (Chesnais, 1992, pp. 583, 591). Certainly, Japan's infant mortality was much lower than in many other developing countries by the late 1930s; Sri Lanka, India and Brazil recorded infant mortality rates of 160, 162 and 182 respectively, compared to a Japanese average of 111 during 1935–39 (Chesnais, 1992, pp. 590–93). But the fact that Japan did little more than tread water between the wars, at a time when mortality fell sharply in Europe and North America, gives an indication of the extent of its failure to make the most of the available medical technology to reduce mortality rates.

The picture for literacy is rather more in Japan's favour, although Maoist China's record was anything but poor. Illiteracy was widespread in the Republican period; the most reliable evidence on this comes from the 1982 Population Census, which collected evidence on literacy rates by age. It shows that over 85% of women born in China before 1932 (and 95% of those born before 1922) were illiterate in the early 1980s; the corresponding figure for men was 52%. By contrast, the 1982 illiteracy rate was less than 10% for those born after 1962 (5% for males and about 15% for women) (Population Research Institute, 1986, p. 618). This largely reflected a rise in the primary school enrolment rate, which increased from 49% in 1952 to over 95% by the mid-1970s, the disruption caused by the Cultural Revolution notwithstanding (SSB, 1995, p. 595).

Nevertheless, the Japanese record on education was also very good. Only about 10% of women received a primary education before 1868; the male figure was 43% (Minami, 1994A, p. 17). But if one compares Japan on the eve of the First World War with China in the late 1970s, it is surprising how similar the two were. As a result of the introduction of compulsory primary education in Japan, the enrolment rate was up to about 95% by 1910 (Minami, 1994B, p. 49); this pace of advance was similar to that attained in Maoist China. As for illiteracy rates, 10% of Japanese 20-year-old conscripts were illiterate in 1915 (sharply down on the 61% recorded in 1891), whereas only 4% of Chinese males aged between 15 and 19 were illiterate in 1982 (Minami, 1994B, p. 49; Population Research Centre, 1986, p. 618). However, given that Japanese conscripts were drawn from the lower-income groups, this suggests rather similar rates of male illiteracy in the two countries.

The 'right' comparison for our purpose of comparing the extent of early modernisation, however, is between the China of 1978 and the Japan of 1937 (rather than 1910–15). This is firmly in Japan's favour—in marked contrast to the mortality comparison. By the 1930s, for example, Japan's illiteracy rate was less than 10%, well below the 35% recorded in China's 1982 Census (World Bank, 1991, p. 56; Population Research Centre, 1986, p. 618). Furthermore, Japanese secondary school enrolment rates exceeded the Chinese figure for the early 1980s after 1920 (Minami, 1994B, p. 229). Nevertheless, the *rate of increase* of literacy was rather higher in Maoist China than in pre-war Japan. Starting from a literacy rate of about 28% in 1949, China's literacy rate reached 65% by 1982—a rate of growth of about 2.5% per annum. By contrast, it took Japan—starting from about the same 30% mark in 1868—40 years to reach the same level, an implied rate of only about 2% per year (World Bank, 1991, p. 56).¹

¹ This comparison is used because it is, of course, more difficult actually to *eliminate* illiteracy than to reduce it from (say) 60 to 30%. For that reason, a simple calculation of the growth of literacy in Japan between 1868 and 1940 would bias the comparison in favour of China because Japanese literacy was already very high by 1930.

A degree of caution is, of course, necessary in making these sorts of comparisons because of very reasonable doubts about the comparability of definitions of literacy, and the reliability of the underlying data. Nevertheless, there is enough evidence here to suggest that Japan's record on education (at least compared to China) was superior in terms of the levels of literacy attained by the eve of the Pacific War. The rate of increase of literacy was, however, very similar.

3. Distributional trends

Estimates of rural inequality in Republican China have been made from the data collected on rural incomes by the National Land Commission in 1934 (Roll, 1980). The Commission surveyed more than 1.7 million households and asked each about their total income; the resulting data produce a Gini coefficient of 0.44 for household income. However, the Land Commission's Gini coefficient probably understates rural inequality. For one thing, the survey is biased because it excludes the provinces of south-west China, where inequalities in land ownership far exceeded the national average. In addition, the Commission's results on tenancy are lower than those reported in other surveys. This probably reflected the spatial bias of the survey, and the political imperatives of the Kuomintang in its propaganda war with the Chinese Communist Party (Esherick, 1981, pp. 407–8).

In any event, and irrespective of whether the rural Gini in the Republican era was closer to 0.40 or to 0.50, there is no doubt that rural inequality declined sharply under the joint impact of land reform (1947–52), collectivisation (1955–56), and post-1965 restrictions on the scope of the private, non-farm, sector. Official Chinese data suggest a rural Gini for per capita income of a mere 0.21 for 1978 (Bramall and Jones, 1993). World Bank calculations range from 0.26 to 0.32 for 1978–79 (Khan *et al.*, 1993, p. 61), and the estimate made by Adelman and Sunding (1987, p. 163) puts the rural Gini at 0.22. None of these estimates is entirely reliable, largely because the income bands used by the SSB were too broad, but the sharp reduction after 1949 is undeniable (World Bank, 1992, p. 34).

Land reform was probably the decisive factor in the process.¹ According to one source, the median share of cultivated land owned by the landlord class across China pre-reform was 39% (Esherick, 1981, pp. 404–5). Official Party documents put the share of the landlord class (comprising 4% of the population) at around 37% of cultivated land. After land reform, the share fell to 4% for central China (Li, 1959, pp. 119, 123). In Sichuan, China's largest province, newly available data for 13 of its 200 counties show that the share of land owned by landlords declined from 44 to about 5% following land reform (Table 2). These figures are more reliable than those used by Esherick and Li because they are for entire counties instead of selected villages, but the trend is very similar and shows the massive redistributive impact of the land reform programme.

Urban inequality also declined after the 1949 Revolution; estimates for the late 1970s suggest a very low urban Gini of between 0.16 and 0.19 (Adelman and Sunding, 1987, p. 163; Khan *et al.*, 1993, p. 60). This was far below the norm for most developing countries; the urban Gini for India was about 0.41 in 1975–76 (Bhalla, 1992, p. 119).

¹ For the classic account of land reform, see Hinton (1968).

Table 2. *The impact of land reform in Sichuan Province, China*

County	Share of cultivated land owned by landlords (%)		Share of landlord class in total population (%) before reform
	before reform	after reform	
Xinjin	37	4	3
Qianwei	43	6	9
Shehong	26	5	6
Pengxian	50	4	5
Santai	31	4	4
Kaixian	44	3	5
Guanghan	55	5	6
Wushan	22	3	4
Kaijiang	45	7	9
Dianjiang	52	5	6
Nanchong	35	4	4
Pixian	68	8	6
Chongqing	47	7	5
Median	44	5	5

Note: Cultivated area estimates generally exclude temple and other public land which was usually controlled by landlords.

Sources: This table uses recently published *xian zhi* (county records) for Xinjin (1989, pp. 102–3), Qianwei (1991, p. 137), Shehong (1990, pp. 216, 219), Pengxian (1989, p. 227), Santai (1992, p. 328), Kaixian (1990, p. 122), Guanghan (1992, p. 95), Wushan (1991, p. 108), Kaijiang (1989, p. 115), Dianjiang (1993, pp. 330–31), Nanchong (1993, pp. 151–3) and Pixian [including Chongqing] (1989, pp. 246–49). Few published *xian zhi* are for either poor or ethnic minority areas, but of the counties in this table, only Xinjin, Pengxian, Guanghan, Pixian and Chongqing were ‘rich’ by Sichuan standards.

China’s success in this regard was due in part to nationalisation, which largely eliminated profit and dividend-based incomes. Perhaps more important, wage differentials were sharply reduced following the introduction of an eight-grade scale in 1955–56 (this was broadened to 17 grades in 1963; there were 30 grades for administrative personnel). As a result, wage differentials within enterprises averaged 3 to 1 between the 1950s and early 1970s (Richman, 1969, pp. 800–3).

Furthermore, and in contrast to the Soviet Union, corruption in Maoist China was not widespread. In the rural sector, this reflected the extreme scarcity of consumer goods; even well-placed rural administrators found it hard to obtain luxuries. Moreover, and it is a point that is often ignored, the committee responsible for running each production team was elected in a secret ballot by all team members aged 16 or over. Those who proved themselves incompetent or corrupt were removed from office (some corruption was condoned; no one would have done the job otherwise) (Potter and Potter, 1990, pp. 99–105). As for the urban sector, the Cultural Revolution largely eliminated the privileges of élites that had either survived the 1949 Revolution comparatively unscathed, or had come to power during the 1950s; even their children were summarily despatched to the countryside to ‘learn from the peasants’. As a result, and apart from a handful of privileged individuals at the very pinnacle of the Party,

urban China was remarkably egalitarian. As Whyte and Parish (1984, p. 53) concluded: 'in general Chinese cities in the 1970s were distinctive in respect to both equality of condition and equality of opportunity.'

The usual rejoinder to this positive assessment is that the overall Chinese income distribution was less equal than the sum of its rural and urban parts. This was because of the wide urban-rural income differential. Most estimates of this gap for the late 1970s vary between 3 and 6 to 1 (Riskin, 1987, p. 240; Selden, 1988, p. 162). Even in 1988, and despite rapid rural income growth in the 1980s, the differential was still 2.4 to 1 (Khan *et al.*, 1992, p. 1037). By comparison, typical figures for Bangladesh and Indonesia in the 1980s, and India in the late 1970s, were between 1.4 and 1.9 to 1 (Srinivasan and Bardhan, 1988, p. 49). The Chinese differential reflected two factors. First, Maoist restrictions on private sector commerce and production in the urban sector meant that the informal sector was exceptionally small in late 1970s China. In combination with restrictions on urban-rural migration, this ensured a high level of income for the urban population. As a result—and in contrast to other countries—the urban-rural differential in China is a measure of the gap between traditional and modern sectors. Second, urban residents received substantial subsidies such as low-cost housing, cheap grain and assorted welfare benefits (Ma, 1990).

The impact of this wide urban-rural income differential on the overall Gini coefficient was substantial (Table 3). Although the overall distribution was comparatively egalitarian after the land reform and nationalisation of the 1950s, the increase in urban subsidies led to a steady rise in the overall Gini.

However, the reliability of these estimates of the urban-rural differential is open to doubt. Three points are at issue. The first concerns the level of urban subsidies (to which the overall Gini coefficient is very sensitive). According to Lardy (1984, pp. 851, 854), the value of urban subsidies amounted to about 45% of total (wages plus subsidies) urban income in 1978; the figure calculated by Khan *et al.* (1992, p. 31) for 1988 is similar at 39%. However, China's State Statistical Bureau regards this as a substantial overestimate, and puts the true figure at 20%. If true, this would reduce the overall Gini coefficient by about 0.03 (Mizoguchi and Matsuda, 1991, p. 260). The second problem relates more generally to the definition of income. If one is trying to

Table 3. *China's income distribution, 1952–80*

	Gini coefficients		
	1952	1978	1979–80
Rural	0.23	0.22	0.31
Urban	0.17	0.17	0.16
Overall:			
without subsidies	0.26	0.32	0.33
with subsidies	0.26	0.44	n/a

Note: The 1979–80 figure was a provisional estimate made by the World Bank, which subsequently revised downwards its estimate of the rural Gini.

Sources: Adelman and Sunding (1987, p. 163); Khan *et al.* (1993, p. 60).

estimate the 'true' income differential, it follows that imputed rent and 'urban disamenities' as well as subsidies ought to be included. Valuing these components is difficult but their inclusion would probably narrow the urban-rural gap.¹ All urban centres in late Maoist China suffered from desperate shortages of housing, congestion and pollution; and, because of the absence of refrigeration, vegetables, fruit, and meat were scarce and of very low quality (Whyte and Parish, 1984). Moreover, it remains unclear whether the rural data for 1978 take full account of the income derived from private plots and other sources (Bramall and Jones, 1993, p. 47). Third, an adjustment for urban-rural price differences is necessary. Foodstuffs sold in official urban outlets were priced using (low) official retail prices and, in addition, the urban population received a full subsidy to compensate for rises in official retail prices after 1952. This suggests low urban prices. However, black-market purchases in urban areas were extensive even during the Great Leap Forward and Cultural Revolution, and the prices charged in these transactions were much higher than official prices. By contrast, the marginal price faced by the rural population—who could buy foodstuffs from the state at low official procurement prices—was much lower. The use of official procurement prices thus overstates the urban-rural gap by ignoring expensive black-market transactions in the urban sector.

None of this should be taken as denying the existence of an urban-rural income gap. The strenuous attempts made by Chinese citizens to secure and maintain urban residence permits suggests that the differential was at least seen to have been wide. Nevertheless, it is hard to believe that the urban-rural gap in 'true' income was more than 3 to 1.² If that is accepted, the overall Gini coefficient of 0.44 calculated by Adelman and Sunding for the late 1970s is too high; a figure of closer to 0.35 is more plausible. This is not especially high by international standards, and was significantly lower than it had been in the 1930s.

In the case of Japan, our knowledge of the extent of income inequality has for a long time been very limited. Data collected by the Ministry of Agriculture in the 1880s enabled Mizoguchi and Takayama (1984, pp. 215–16) to estimate an early Meiji Gini coefficient of 0.44, and Gleason's (1965, p. 404) data suggest a Gini of about 0.49 for 1930. However, most scholars viewed these estimates as extremely tentative.

All this has changed in recent years, thanks to the pioneering work of Minami and his collaborators using comparatively reliable local income-tax records. This analysis was initially restricted to Yamaguchi province (Minami and Ono, 1987), but it has now been expanded to cover a far greater part of Japan (Minami *et al.*, 1993; Minami, 1994C). The results of this work are summarised in Table 4.

These data seem to establish that income inequality was high in Japan on the eve of the Second World War. The alacrity with which the occupying Allied powers introduced a thorough-going land reform after 1945—which reduced the area under tenancy from 45% to 9% by 1955 (Hayami and Yamada, 1991, pp. 84–5)—supports this conclusion. In this respect, at least, the diagnosis of the Occupying Powers and Japanese Marxists coincided (Hoston, 1986, p. 250).

Rather less clear is whether the inequality of the 1930s was higher or lower than at the beginning of the Meiji period, although there is a fair measure of agreement on two

¹ See, for example, Williamson (1990) on Victorian Britain.

² The sensitivity of the urban-rural gap to these sorts of adjustments is evident from Williamson's (1987, p. 656) work on Britain. His nominal wage gap of 73% between sectors falls to between 18 and 33% after adjustment for disamenities, subsidies and price differences.

Table 4. *Income distribution in Japan, 1923–1937*

	Pre-tax Gini coefficients		
	1923	1930	1937
Urban	0.57	0.58	0.62
Rural	0.55	0.58	0.59
Overall	0.56	0.59	0.61

Note: The sample covers the same 17 towns and cities, and 41 villages, in each year. Other Ginis are calculated by Minami *et al.* (1993); these refer to a larger but varying sample. The local income-tax records cover the bulk of the population and are therefore superior to national income-tax records (which were restricted to very high income earners).

Source: Minami, Kim and Yazawa (1993, p. 353).

issues. First, urban income inequality was rising. The growth of real earnings lagged behind that of productivity, which produced a rise in the profit share from about 32% in 1900 to 52% by 1938 (Minami, 1986, p. 321). In addition, wage differentials within manufacturing increased. The wage gap between both large and small enterprises, and skilled and unskilled workers, rose in the 1920s and 1930s. This reflected *de facto* ‘unlimited’ supplies of unskilled workers (Minami, 1986, pp. 310–15). Second, the rural–urban differential measured by trends in real wages in agriculture and industry seems to have increased, especially after 1920. According to Ono and Watanabe (1976, p. 384), this was the most important single contributor to Japanese inequality.

More controversial, however, is the trend in the rural distribution of income. According to Smethurst (1986, p. 29), ‘the belief that differentiation between rural classes took place in modern Japan is not one that has been arrived at empirically. Although there is evidence showing that the development of a capitalist market economy led to increased tenancy and thus differentiation in the Meiji period, there is equally compelling evidence to show that this trend was reversed in the twentieth century.’ Though the incidence of tenancy increased, Smethurst argues that tenants could raise their incomes by farming reclaimed land, and that there is no evidence that the average size of tenant farms declined. More importantly, the growth of the industrial sector created new jobs for the landless and for tenant farmers; in this way, industrialisation served to narrow income inequalities (Smethurst, 1986, pp. 32–3).

Most Japanese (and Western) Marxists disagree with this assessment. First, those data on long-run rural inequality that Minami and Ono (1987) have collected for the Yamaguchi prefecture show that the rural Gini rose from 0.53 in the 1890s to 0.56 during the First World War. More importantly, the results from a rather larger sample (Minami *et al.*, 1993, p. 361) show rural and urban Gini coefficients rising from 0.43 and 0.60 respectively during 1891–1900, to 0.51 and 0.69 respectively in 1911–21. Second, the system of Japanese rural taxation was regressive. The 1873 land tax was lump sum in design and effect and, though its burden fell over time, the peasantry was little better off because the land tax was replaced by alcohol taxation as the principal source of government revenue. Thus, in 1900, the land tax contributed 35% of state revenue, and the alcohol tax a further 38%. By contrast, income taxes contributed only

4%, and taxes on business about 5% (Minami, 1986, p. 340). Third, Smethurst neglects the way in which rural industrialisation may have increased inequality by providing opportunities for higher profits. The landless may have benefited from growing employment opportunities but rural capitalists arguably gained even more.

Furthermore, it is worth emphasising that Japanese land reform was less egalitarian than that in China. The reforms of the early 1870s did move in this direction by transferring land ownership rights from absentee *daimyo* (nobility) to the tenant farmers who at least lived in the countryside. However, the *daimyo* and *samurai* were at least partially compensated in government bonds. Moreover, the new owners of arable land were for the most part affluent. Many of them leased out their land to sub-tenants even in the late Tokugawa period, and their power was effectively increased by the Meiji reforms; by the 1930s they may have controlled 45% of cultivated land, compared to 30% in the early 1870s. By contrast, the poor and the landless gained very little from early Meiji land reform (Dore, 1987).

Taken together, this evidence of Japanese inequality suggests two conclusions. First, the income distribution in pre-war Japan became more unequal over time; however, this conclusion is not as yet firmly established. Second, Japanese inequality was much greater than that in late Maoist China. Even if we accept the rather high Adelman and Sunding estimates for China (Table 3), the Japanese overall Gini of 0.61 in 1937 was much higher than the Chinese figure of 0.44 in 1978. Minami (1994B) is undoubtedly right in asserting that 'it is impossible to avoid unequal distribution of income in the early stages of development—unequal distribution is a cost of industrialisation' because the elimination of inequality is a wholly utopian project. But the evidence presented here suggests that China was far more successful in keeping this inequality within bounds than was pre-war Japan.

4. Poverty

Estimates of absolute poverty for early Meiji Japan by Maeda and Sumiya suggest that between 15 and 20% of the population were affected (Chubachi and Taira, 1976, p. 394). More visibly, urban ghettos were commonplace in Japan's cities, as was systematic discrimination against the Ainu and Okinawan ethnic minorities. And, as Tsurumi (1990) has shown, the working conditions for 'factory girls' in the rapidly growing cotton-spinning and silk-reeling industries were poor even in the inter-war period.

Trends in poverty over time are harder to establish. For rural Japan, the real wages of agricultural day labourers—the rural poor—increased annually by 1.3% between 1886/1888 and 1937/39. This suggests a clear improvement in living standards over time, and is the basis for Smethurst's (1986, pp. 3, 21) view that, although 'there was poverty in pre-war rural Japan...its extent and depth have been exaggerated'. He also argues that the real income declines that occurred during the Matuskata deflation of the 1880s, and the depression of the 1930s, were no more than 'unpleasant' (p. 60) and 'certainly not welcomed' (p. 96) respectively. Of the 1930s depression in particular, Smethurst writes:

In the twentieth century, however, even during so-called 'famines' like the one in Tohoku [region] during the early 1930s, people did not actually starve to death; rather, they ate other grains or, worst yet, radishes and sweet potatoes instead of rice. Members of the bottom stratum of rural society in the 1920s and 1930s were without doubt poor, but in their poverty they lived better than their late Tokugawa, early Meiji ancestors... (Smethurst, 1986, p. 21)

However, Smethurst overstates his case. He ignores the virtual stagnation of rural wages after 1900; the real wage in 1938 was 118 yen, very little higher than its 1900 level of 108 yen. And, if one uses the rural consumer price index as the deflator instead of the agricultural price index, there is a clear trend decline (Minami, 1994A, p. 232). Furthermore, the 9% fall in real agricultural wages during the 1880s was surely much worse than 'unpleasant'. And the true extent of suffering in the 1930s is arguably painted more accurately by Waswo (1989) who, though critical of the accounts offered by Japanese Marxists, is in no doubt about the severity of the depression:

In some parts of the Tohoku farmers were reduced to foraging for edible nuts and weeds, and when those were exhausted, to gathering tree bark...There was a significant increase in the number of young girls sold by their parents to brothels, geisha houses and cafes [p. 117] ...many farmers were in a bitter frame of mind, and their bitterness was not necessarily directed, as some members of the Japanese establishment would have had it, at the reckless behaviour of Wall Street financiers or the fickle buying habits of Yankee women, but at the Japanese establishment itself. [p. 133]...[this] thinly disguised contempt for cities, capitalism, liberalism and parliamentary process was not unrelated to the shifts that occurred in Japanese politics and foreign policy later in the 1930s. [p. 134]

In sum, the trend in poverty in the rural sector appears to have been modestly downwards from the Restoration to the beginning of the Pacific War. Nevertheless, this decline was punctuated by savage falls in the living standard of the rural poor in the early 1880s, and again in the early 1930s. The impact of the latter was so severe that the income gains of the first two decades of the century were effectively wiped out.

As for the urban sector, the evidence suggests a long-run decline in the incidence of poverty. The series given by Ono and Watanabe (1976, p. 383) shows a clear increase in real household incomes in urban Japan; much of this reflected an increase in real wages in manufacturing from around 160 yen in 1900 to about 400 yen by the end of the 1930s (Minami, 1994A, p. 232). Moreover, the real incomes of even those living in the urban ghettos probably increased in the very long run. By the end of the 1930s, average per capita ghetto income stood at around 80 yen (in 1934/36 prices), compared to only about 42 yen in 1886 (Chubachi and Taira, 1976, p. 407). Although 1886 income levels were depressed by the Matsukata deflation, the long-run trend was upwards.

However, this optimism needs to be tempered in two respects. First, female wages in manufacturing were lower than for males; this reflected occupational segmentation, the concentration of women in small enterprises, and systematic discrimination. Moreover, the rate of increase was at best modest after 1900; in-migration from the rural sector kept real wages down (Minami, 1994A, p. 235). Second, there were sharp cyclical income declines for the urban poor. As a result of the depression of the 1930s, the average per capita income recorded in the ghettos at the end of the decade was virtually unchanged in real terms from its level in 1912. In other words, the bulk of any reduction in urban poverty occurred between 1886 and 1912, when per capita ghetto income rose from 42 to 78 yen.

The overall picture for Japan on poverty is rosier. This is because of the operation of the 'Kuznets process', or what Fields (1980) calls 'modern sector enlargement growth'. In this process, labour migrates from the traditional to the modern sector and, because per capita incomes are higher in the latter by assumption, there will be a clear decline in absolute poverty even if per capita incomes in the two sectors remain unchanged. In the Japanese case, the Kuznets process operated in two ways. First, a part of the rural

population moved out of agriculture and into silk-reeling. This shift offset the collapse of the indigenous cotton-spinning which followed the Restoration, so that there was little rural underemployment in the late Meiji era (Saito, 1986). Second, there was a sustained exodus of young women from the rural sector to urban cotton-textile mills. Both trends are reflected in the declining share of the workforce employed in the primary sector from 70% in 1888 to 45% by 1938 (Minami, 1994A, p. 212).

Of course, one should not exaggerate the impact of these structural shifts on poverty. The size of the Japanese primary sector workforce remained virtually unchanged in absolute terms between the Restoration and the Second World War. Furthermore, the pay and conditions of the 'factory girls' of the Meiji era were even more bleak than in the rural hovels from which they had escaped (Tsurumi, 1990). As a result, many quickly returned to the countryside out of illness and sheer desperation (and not merely to marry, as official accounts of the period would have us believe). Available poverty estimates suggest that, even in 1930, at the zenith of inter-war prosperity, some 15% of Japan's population was living below the poverty line (Chubachi and Taira, 1976, p. 428). Yet, for all that, it does seem that Japanese poverty declined modestly in the long run. Despite the deep depression of the early 1930s, the Japanese poor seem to have been marginally better off on the eve of the Pacific War than their grandparents had been 70 years earlier.

In China, the incidence of absolute poverty declined during the Maoist era. In the urban sector, strict controls on labour migration introduced in the 1960s together with rapid industrialisation eliminated open urban unemployment. Moreover, the growth of labour demand cut the urban dependency ratio from 2.6 to 0.7 between 1952 and 1982. As a result, incomes rose even though wage levels were frozen after 1957. Although the quality of housing was poor, the supply of electricity and water intermittent, and most consumer goods rationed, urban poverty had been almost eliminated by the late 1970s. According to the World Bank (1992, p. 146), only 4 million of China's urban population of 202 millions were living below the poverty line by 1981.

The incidence of poverty in the Chinese countryside also declined. The land reform of the 1950s played a crucial part in this by increasing the area of land owned by the rural poor. In Sichuan province, for example, arable land per poor farmer in a sample of ten counties rose from 0.5 to 1.5 *mu* as a result.¹ In Hunan and Hubei provinces, poor farmers gained on average between 1 and 2.5 *mu* (Shue, 1980, p. 90). Industrialisation played an important role in reducing rural poverty by providing employment. Much state-funded industry was located in rural areas (Wong, 1991), and this proportion increased during the 'Third Front' programme of construction begun in 1965. The main aim of the Third Front was to establish a new industrial base in western China, where industry was thought to be less vulnerable to Soviet or American attack than existing factories in Manchuria and Shanghai. In retrospect, there is little doubt that the programme involved significant opportunity costs (Naughton, 1988). Nevertheless, there was a certain military logic to it and it did make it easier for China to support Vietnam (Bramall, 1993). The Third Front also had the effect of promoting modernisation in some of the poorest and most inaccessible parts of western China. For example, the construction of a vast steel plant at Panzhihua on the banks of the upper Yangzi transformed what was a village in the early 1960s into a city of half a

¹ These ten are those listed in Table 2. There are no data on the excluded counties of Pixian, Wushan and Chongqing.

million people by the end of the 1970s. And the new railway that linked Panzhihua to the rest of China brought a hint of prosperity to an area of China than even now remains extremely backward. Perhaps more importantly, and in sharp contrast to pre-war Japan, the lives of the rural poor were transformed by improvements in health care. The immunisation and health campaigns of the Maoist era were so successful that, according to the results of the 1982 national population census, only 89 of China's 2,136 counties registered infant mortality rates of more than 100 per thousand live births.¹ As these counties were sparsely populated for the most part, this implies that only 1% of China's population fell below this poverty threshold at the beginning of the 1980s.

Nevertheless, this portrayal of Maoist success in the field of rural poverty needs qualification. First, official estimates of infant mortality in the early 1980s are probably too low (Banister, 1987; 1992). Second, the data on spatial patterns of infant mortality are misleading because they ignore variations within counties. This was a particular problem in mountainous western China where high mortality in inaccessible villages was hidden by the relatively low mortality rates in the valley towns. Thus a county could have significant concentrations of high infant mortality although its average was below 100. Third, there was comparatively little progress in raising the *material* living standards of the poor after 1957. Land reform of itself could not ensure prosperity because of the adverse ratio of arable land to population. Collectivisation was seen as the answer to this problem by the Maoist leadership because it would allow the mobilisation of the rural workforce for irrigation projects.

In practice, however, there is little evidence that per capita agricultural output rose after 1957. Part of the reason was agricultural 'surplus' extraction to finance the Third Front programme. As the most recent work shows, and contrary to the earlier analysis of Ishikawa (1988) and Nakagane (1989), there was a significant net outflow during the Maoist era via the manipulation of the intersectoral terms of trade (Chen and Buckwell, 1991; Sheng, 1993). A second reason was the emphasis given to grain self-sufficiency. Although this helped to reduce rural inequality by penalising counties that would otherwise have specialised in, say, vegetable and cash crop production for the urban market, it may also have discriminated against poor counties with a comparative advantage in animal husbandry and fruit production. Finally, restrictions on rural-urban migration may also have penalised the rural poor.

As a result, rural poverty measured in 'opulence' terms was still extensive at the end of the 1970s (Nolan, 1988, pp. 74-7; World Bank, 1992, p. 146; Riskin, 1993). Using an official Chinese poverty line for collective distributed income of 50 *yuan*, about 29% of production teams were poor on average between 1977 and 1981 (Vermeer, 1982, pp. 17-18fn; ZGTJNJ, 1981, pp. 131, 199). That implies a headcount of 230 million, a figure similar to the most recent World Bank estimate of 262 million for 1978. However, these opulence estimates probably ought not to be accepted at face value. There is an obvious discordance between the mortality and the opulence data on poverty here, and there are good reasons for having more faith in the former. The mortality figures are drawn from a reliable national population census. By contrast, the opulence figures

¹ This achievement is placed in its proper perspective by the 1994 *Human Development Report*, which records that 54 countries had an average infant mortality rate of above 100 in 1992. Note also that there is no evidence that this mortality reduction occurred purely as a result of the reforms of 1978-82. The national mortality survey of 1973-75 shows that death rates were already low by the early 1970s.

come from a sample survey of a mere 6,000 households that defined income in a very narrow way; recent work suggests that the inclusion of the imputed value of rural housing alone would raise rural income in the 1988 version of the survey by almost 40% (Khan *et al.*, 1993, p. 30). Of course, the quality of rural housing has increased since the late 1970s, but there are still no grounds for assuming imputed rent to be close to zero at the time of Mao's death.

One is therefore left with the impression that the Maoist regime made important strides in reducing capability measures of rural poverty, and that recent literature stressing Maoist failure in terms of opulence measures of poverty is excessively pessimistic. Nevertheless, this discordance is not entirely a product of data problems. The regime's record on poverty was chequered, and it would be foolish to ignore the Maoist legacy of low consumption and poor housing in many parts of rural China.

5. The Chinese famine

The greatest disaster of the Maoist era was the famine of 1959–62, which goes a long way towards detracting from the regime's achievements in other spheres. Its extent did not become apparent until the publication of the results of the 1982 population census, and this explains the absence of any mention of it in Lippit's essay.

The origins of the famine lie in the institutional and structural changes that occurred in the rural economy during the early stages of the Great Leap Forward. Launched in 1958, the aim of the Leap was for China to 'catch-up' with the West within a decade and to relieve the problem of low incomes in the countryside without a massive injection of urban sector funds. To that end, the rural population—especially women—was mobilised to build irrigation networks and to produce iron and steel in 'backyard' furnaces. The key institutional innovation was the commune, which not only organised production but also provided canteen and child-care facilities. However, the elimination of most material incentives—canteen meals were free on demand—did little to motivate the rural workforce. Most of the steel produced was of low quality and, in producing it, the bulk of the labour force was diverted from farming. These policy failures led to a dramatic decline in farm output.¹ Grain output fell from 200 million tonnes in 1958 to about 140 million tonnes by 1960 (SSB, 1992, p. 358). As China was a net grain exporter until 1962 (to pay off its debts to the Soviet Union), calorie availability declined from 2,300 KCals per day in 1956 to a catastrophic 1,600 KCals in 1960 (Piazza 1986, p. 77). In Sichuan, the province worst hit, the figure fell below 1,400 KCals in 1961 (Bramall, 1993B, p. 317).

The impact of this supply crisis on mortality was severe. China's official crude death-rate rose from 12 to 25 per thousand between 1958 and 1960 (SSB, 1989, p. 88), and Banister's (1987, pp. 85, 116) adjustments to these official data show life expectancy at birth falling from 51 years in 1957 to 25 years in 1960. These death rates suggest total excess mortality of about 30 million people during the famine (Ashton *et al.*, 1984, p. 619). In Sichuan, excess mortality was at least 8 million, and the figure may have been as high as 15 million (Bramall, 1993B, p. 297). Even this disguises the intensity of

¹ Low yields also reflected extremely poor weather. The summer of 1959 saw the most severe drought of the entire post-1949 period; rainfall between July and September in central China was between 20 and 50% of normal.

Table 5. Patterns of mortality in China during 1957–1963

	Crude death-rates (per thousand)						1963	1959–61 Average
	1957	1958	1959	1960	1961	1962		
1. Counties of Sichuan Province:								
Xinjin	13	22	26	116	30	14	9	58
Guanxian	12	24	45	50	35	16	9	43
Shifang	9	23	58	69	33	14	9	53
Jingyan	13	n/a	n/a	68	n/a	38	n/a	68
Jiajiang	13	14	26	103	27	13	12	52
Neijiang	9	16	24	26	21	16	13	24
Nanchong	10	22	33	40	22	17	13	32
Anyue	n/a	n/a	n/a	n/a	32	n/a	12	32
Kaixian	12	26	61	67	24	14	13	51
Guanghan	9	9	49	93	23	10	8	55
Mianzhu	11	25	58	60	29	11	8	49
Dianjiang	19	8	59	141	13	9	15	71
Wushan	13	27	85	90	16	9	11	64
Kaijiang	10	21	34	77	23	n/a	10	45
Santai	12	37	45	37	22	14	13	35
Shehong	10	27	37	37	16	9	10	30
Qianwei	9	23	36	96	24	11	15	52
Youyang and								
Xiushan	n/a	n/a	n/a	n/a	n/a	n/a	n/a	81
Sample Av.	12	22	45	73	24	14	11	50
Sichuan	12	25	47	54	29	15	13	49
2. Other severely affected provinces:								
Anhui	9	12	17	69	8	8	8	31
Guizhou	9	14	16	45	18	10	9	26
Gansu	11	21	17	41	12	8	10	23
Qinghai	10	13	17	41	12	5	8	23
3. Largely unaffected cities and provinces:								
Xinjiang	14	13	19	16	12	10	9	16
Heil'jiang	11	9	13	11	11	9	9	12
Tianjin	9	9	10	10	10	7	7	10
Shanxi	13	12	13	14	12	11	11	13
I Mongolia	11	8	11	9	9	9	9	10
All China	11	12	15	25	14	10	10	18

Notes: n/a – no data available. Neijiang refers to Neijiang city only. Hei'jiang is an abbreviation of Heilongjiang.

Sources: the *xian zhi* listed in Table 2 plus Guanxian (1991, p. 130), Shifang (1988, ch. 4, p. 5), Jingyan (1990, p. 99), Jiajiang (1989, p. 82), Neijiang (1987, p. 94), Anyue (1993, p. 115) and Mianzhu (1992, p. 79); Liu (1988, p. 322); SSB (1990); SSB (1989, p. 88).

the famine at a local level in Sichuan and elsewhere. As Table 5 shows, there were wide variations between counties in Sichuan.

The mortality rates in counties like Dianjiang and Jiajiang not only rose dramatically but far exceeded the provincial and national averages. The levels of mortality reached in the south-eastern counties of Dianjiang, Youyang and Xiushan were incredibly high, and it is probably not coincidental that the population of this part of Sichuan is largely

of ethnic minority origin.¹ But even in cities like Neijiang, which emerged from the débâcle comparatively unscathed, the mortality rate tripled.

There was also a wide variation in the extent of mortality across provinces, but poor provinces generally suffered most. Sichuan, Anhui, Guizhou, Gansu and Qinghai were hard-hit, whereas others such as Shanxi and Inner Mongolia were not affected at all. However, the correlation is imprecise. Very poor provinces like Shanxi, Yunnan and Ningxia all experienced mortality rates well below the national average, and even rich Jiangsu experienced a rise in its mortality rate.

As for Japan, it suffices to say that there was no event in the history of the pre-war period to compare with China's famine; Japan's last great famine was in the 1830s. Moreover, although one might argue that the consequences of Japan's role in the Second World War ought to be considered in any evaluation of its development record, it could equally be argued that the war was a direct response to Western imperialism in Asia—rather than an inevitable result of Japan's modernisation strategy.

6. Conclusion

It is not so very long ago that one could straightforwardly conclude that the record of Maoist China in respect of living standards was much superior to that of pre-war Japan. Output grew more quickly in China, and the reduction in mortality was faster. And these fruits of Chinese modernisation were widely shared among the population, in sharp contrast to the pervasive inequalities of pre-war Japan. Even the rate of literacy reduction achieved in Japan was matched by Maoist China.

These differences were often attributed to the nature of the Chinese and Japanese revolutions. Japan's Meiji Restoration was led by a disaffected aristocracy, and policy thereafter was 'repression at home and aggression abroad' (Moore, 1966). In China, the lives of the urban bourgeoisie and party functionaries were irretrievably scarred during the campaigns of the 1950s and the Cultural Revolution. However, the 1949 Revolution was led by the Chinese Communist Party with large-scale support from the peasantry, and although a 'surplus' was consistently extracted from agriculture, improvements in peasant living standards continued even during the late Maoist era. Chinese peasant and worker alike prospered, even during the turmoil of the Cultural Revolution.

From the vantage point of the 1990s, it is clear that this conventional wisdom is too sanguine in its evaluation of Maoist economic and social development. Although much of the recent evidence on Japanese income distribution and Maoist China's human development record reinforces Victor Lippit's earlier conclusion, it is hard to look upon the Maoist development model with much favour in the light of what we now know of the sheer scale of China's famine in the early 1960s. One can, to some extent, 'explain' the Great Leap Forward (which precipitated the famine) as an inevitable response to an external threat that had been consistently directed against the Chinese nation-state after 1839. It is not surprising that the bitter memories of extra-territoriality, the war against Japan and the struggle against the Kuomintang, the appalling casualties during the war in Korea, and the growing rift with the Soviet Union, culminated in a desperate

¹ It is difficult to determine whether ethnic minorities suffered disproportionately high mortality during the famine. There is no clear evidence of that in the available provincial data, but these are misleading because collectivisation was not carried out in the Yi and Tibetan areas of Sichuan until the 1970s.

attempt to 'catch-up' with the West within a decade. Alternatively, one can engage in what might be called 'the calculus of the macabre', and suggest that the lives saved in the long run by the Maoist strategy offset those lost in the famine. In the end, however, these apologia are unconvincing. One is left instead with the conclusion that the parallels between early modern economic development in Japan and China, in terms of its impact on living standards, are rather stronger than the differences.

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