

Income has grown rapidly in China, but inequality has also increased dramatically. Income growth has provided China the ability to reduce poverty and risk, and increase consumption and leisure. But growth has not spread these benefits equally through the population. Instead, China exemplifies the complex possible relationship among income growth, inequality, and poverty. Household income growth has indeed been rapid in China since 1978, and individual Chinese are clearly much better off than they were 25 or 30 years ago. Moreover, the number of people in extreme poverty has declined dramatically. But over the same period the distribution of income has become *much* more unequal. Income growth has been fastest among the best-positioned urban households in coastal regions and slowest among rural households in the western and northern regions. Thus Chinese society has become much better off, much less poor, but much more unequal. The deterioration in income equality implies that tens of millions of low-income households have lagged behind, improving their living standards less than better-positioned households. Within China an increasingly widespread perception holds that society is less equal than it used to be and less fair than it should be.

The basic trends in Chinese income, described in the previous paragraph, emerge clearly from nearly all the data available from China. There is no debate about these basic trends. However, more precise—and more fundamental—characterization of household income in China is challenging, and some topics are highly debated. The data needed to accurately measure poverty, inequality, and well-being are hard to collect in any country. Moreover, distinctive features of the Chinese economy—the large urban–rural gap, peculiarities in the nature of income, and changes in the composition of household income over the reform period—present challenges in both the collection and interpretation of data. This chapter begins with the income data and then discusses poverty and inequality. The discussion is then broadened to include alternative measures of the population’s well-being, including

health and literacy. These gauges are placed in a comparative framework to determine how well Chinese people have reaped the benefits of economic growth.

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## 9.1 INCOME GROWTH

Household income has grown rapidly in China. The repeat visitor to China can see with her own eyes the striking evidence of improved standards of clothing, eating, and housing. The best source of statistical data on this dramatic transformation comes from a large household survey that Chinese statisticians have carried out annually since the late 1970s. Statisticians survey two separate large samples, one rural and one urban (defined as those holding urban residence permits, as discussed in Chapter 5). This chapter begins with an overview of what this source tells us about the growth of household income, because this is the basis for much of what we know, and do not know, about Chinese income trends. Table 9.1 shows data from the urban and rural household income series, converted into 2004 constant prices with the (official) consumer price index. According to these data, both rural and urban household incomes have grown extremely rapidly: both more than quintupled between 1978 and 2004. The general picture of rapid income growth in both rural and urban areas is surely accurate.

However, when we examine the data more closely, we see three rather different periods. We look at the data in reverse chronological order, taking the most recent period first. This is because the data are most reliable for the most recent period.

- From 1991 through 2004 urban household income grew at the extremely rapid rate of 7.7% per year sustained over 13 years. During this period, rural

**Table 9.1**  
Growth of real per capita household income

	Rural net household income	Urban disposable income
Income in constant 2004 prices (RMB)		
1978	(About 500)	1,701
1985	1,343	2,728
1991	1,585	3,612
2004	2,936	9,422
Average annual growth rate (percent)		
1978–1985	(About 15)	7.0
1985–1991	2.8	4.8
1991–2004	4.9	7.7

In 2004, one RMB was worth \$0.12 at the official exchange rate, or \$0.55 at PPP.

growth was also respectable, but not as spectacular as that in urban areas, running at 4.9% per year.

- The immediately previous period, from 1985 through 1991, was a period of significantly slower growth for both sectors, but the relative position of urban and rural households was about the same. Urban income growth had chugged along at the respectable rate of 4.8% per year, but rural incomes had grown at the comparatively slow rate of 2.8% annually.

Thus the urban–rural gap has been widening for about 20 years, from its minimum in the mid–1980s. This finding corresponds with the discussion in Chapter 5, and it is clearly evident in the data. Moreover, these data are fairly reliable back through 1985 because they are based on reasonable calculation of consumer prices in the two sectors and on broad-based data collection. Unfortunately, the data on the 1978–1985 period are much less reliable.

- Officially, the data show that rural incomes soared between 1978 and 1985, in the wake of rural reforms, growing 15% per year (as shown in Table 9.1). Urban household incomes also increased robustly, at 7% per year. But during this period, the urban–rural gap narrowed significantly, and it reached its lowest point ever in the mid–1980s.

Unfortunately, these calculations of real income growth simply cannot be accepted. The problem is that they are based on shoddy calculations of the rural consumer price index, which can be shown to be inaccurate. The real growth of rural incomes in this early period is clearly overstated. This inaccuracy is very unfortunate because it is virtually certain that rural incomes *did* grow extremely rapidly during this period, and almost certainly faster than urban incomes. For now, we cannot reliably estimate the rate of growth. Therefore, the long-run growth of rural incomes is also somewhat overstated. Unless the National Bureau of Statistics goes back and recalculates a reliable rural consumer price index, we will not know the actual magnitude.

There are other limitations to the official data. The household survey covers only rural residents and urban people with residence permits, so migrants and others with intermediate status are not covered at all. There are also significant differences between urban and rural in the way income is measured, as well as differences over time in how in-kind incomes are evaluated. These problems limit comparability, overstate the growth rate of rural incomes in the earlier period, and may also somewhat overstate the growth of urban and rural incomes in other periods (for data discussion see Bramall 2001; Gibson,

Huang, and Rozelle 2003; Park and Wang 2001; and Ravallion and Chen 1999). Yet despite these shortcomings, the picture of rapid income growth is robust. Moreover, the household surveys provide an extremely rich body of data that can be used to support further analysis and diverse efforts to go beyond the simple headline number of average income growth. In the following, two efforts that further develop the data from the household survey will be discussed in the course of examining trends in poverty and inequality.

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## 9.2 POVERTY

### 9.2.1 Rural Poverty

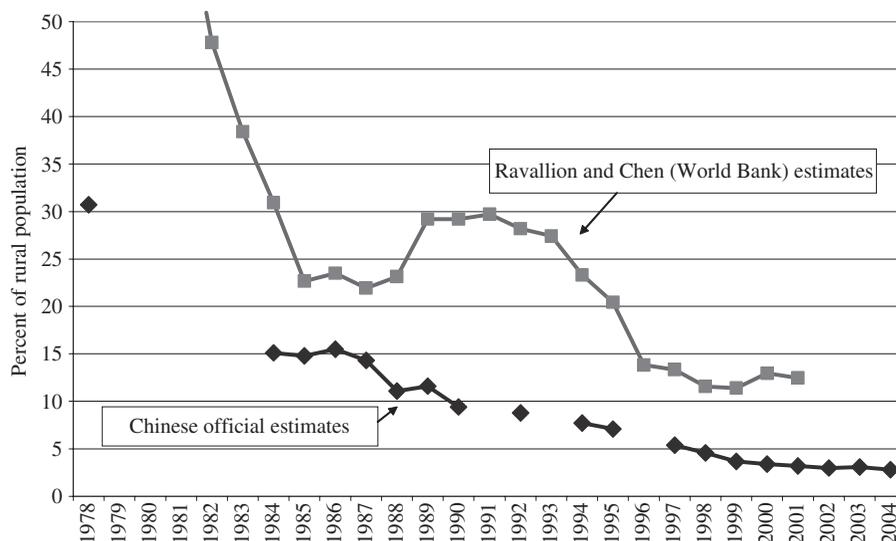
Growth reduces poverty, and one of the great successes of China's economic reform has been a dramatic reduction in the number of people living in poverty, especially in the early years of reform.

#### 9.2.1.1 Official Poverty Line

Chinese official data present a picture of extraordinary poverty alleviation, with the 250 million rural residents who lived in poverty in 1978 reduced to 26 million in 2004. Poverty reduction was most rapid at the beginning of the reform era, as poverty numbers were cut in half by 1985. Possibly never before in history have such a large number of people climbed out of absolute poverty in such a short time. Poverty reduction slowed dramatically after the mid-1980s, but over time sustained economic growth has continued to lower the number, and proportion, of people in absolute poverty. The Chinese official data for 2004 show just 2.8% of the rural population with incomes less than the official poverty threshold. Using the official poverty line, virtually no urban dwellers are in poverty, so poverty is fundamentally a rural phenomenon. However, the Chinese official poverty line is very low, equal to 627 RMB per person per year in 2002, considerably lower than the internationally comparable poverty line used by the World Bank, which we will discuss later. It is understandable, though, that a poorer country would set a lower standard for poverty; indeed, this is a regular international pattern. The incidence of rural poverty according to the Chinese official poverty line is shown as the lower line in Figure 9.1.

#### 9.2.1.2 World Bank Internationally Comparable Poverty Line

Ravallion and Chen (2004) make a broad revision of Chinese data to correct problems and make Chinese measures comparable to international standards.



**Figure 9.1**  
Incidence of rural poverty in China

In the first place, the World Bank's standard is equal to the in-country equivalent of one U.S. dollar per day, evaluated at PPP (see Box 6.1 for discussion). According to Ravallion and Chen's calculations, this internationally comparable poverty standard equaled 850RMB per person in the Chinese countryside in 2002. The difference with the Chinese standard of 627RMB might not at first seem to be large: converting at exchange rates, it increases the threshold from \$76 to only \$103. However, it makes a huge difference in the evaluation of poverty today because there are a very large number of people in the Chinese countryside very near those poverty thresholds. With the higher threshold, the percentage of rural residents in poverty jumps from 3.2% by the Chinese standard to 12.5%, and the total number jumps from 29 million to 114 million. Poverty is a much more serious and persistent problem in China today than one might suspect by using only the Chinese poverty standard. Moreover, the World Bank poverty line is drawn in order to capture the number of people who do not have enough food to provide adequate nutrition for their families. After adjustment for differences in local prices (the PPP calculation), those under the poverty line are unable to achieve an adequate caloric intake even when they spend half their income on food. Thus, those households falling between the Chinese official poverty line and the World Bank poverty line likely suffer from chronic malnutrition. Furthermore, the vulnerability of low-income households has

increased substantially over the reform period, as greater economic insecurity and reduced access to health care have made the position of the poor more precarious.

However, Ravallion and Chen's recalculations do not detract from the Chinese record in poverty reduction; rather, according to their standard, the total number of poor people is larger in all periods, and the number escaping from poverty is also larger. According to Ravallion and Chen's data, a large majority of Chinese farmers were below the \$1 per day poverty standard in the early 1980s, and more than 400 million Chinese rural residents graduated from poverty, double the 220 million the Chinese claim officially.<sup>1</sup> Ravallion and Chen's calculations are most accurate for the most recent periods, though, and they enable us to track the progress of poverty alleviation more closely. They show clearly that after the mid-1980s poverty alleviation stalled and that the proportion in poverty actually increased through 1991. During the 1993–1996 period there was again dramatic progress. Since 1996 poverty alleviation has been much slower, and progress more limited. The Chinese official data, by contrast, show a suspiciously smooth process of poverty reduction, and the specific subperiods do not emerge clearly from the data.

### 9.2.1.3 Explaining Poverty Trends

What economic causes explain these patterns with respect to rural poverty alleviation? The spectacular decline in rural poverty in the early 1980s reflected the dramatic coming together of a number of one-time factors. The terms of trade of agriculture improved dramatically, as ultralow procurement prices that had discriminated severely against farmers were raised, the supply of modern inputs to farmers increased dramatically, and the dissolution of collectives allowed farmers to work harder and allocate inputs into agriculture more efficiently. Land was initially distributed to households on a highly

1. In fact, Ravallion and Chen overestimate Chinese poverty in the late 1970s because they use the official price deflators, which, as discussed previously, are inadequate for rural areas before 1985. Even the official Chinese poverty measure implicitly rejects the official deflators. The official poverty measure for 1978 could have been calculated in a logically consistent manner by adjusting today's poverty line downward by the intervening inflation rate (this is what Ravallion and Chen do). However, that adjustment would lead them to conclude that the poverty line in 1978 was 180 RMB per year. (Because the official deflators say there was not much inflation, it would only be necessary to reduce the poverty threshold a modest amount.) But that approach would lead to the calculation of a huge volume of poverty in 1978, nearly universal poverty. However, these statisticians experienced the Chinese countryside in 1978, and they recall that not everyone was impoverished, and that 180 RMB was in fact easily enough for an adequate consumption standard. Instead, they use an ad hoc but reasonable poverty line of 100 RMB per person in 1978. This results in a much smaller calculation of total poverty in 1978, and therefore smaller total numbers of those emerging from poverty in the early 1980s.

egalitarian basis, and virtually everyone got a share. Periodic redistribution of land in many areas of China means that there is a floor for intravillage poverty, and there are few landless laborers. Moreover, because poverty had been so pervasive in the prereform countryside, general economic growth was quite efficient in reducing poverty. The huge reduction in poverty in this initial period serves as an indirect measure of the extent of policy-created poverty under the previous economic policy regime. Most of these factors were exhausted by the mid-1980s, and the speed with which poverty was reduced slowed.

After the mid-1980s poverty alleviation became much more difficult. The Chinese government recognized the problem and set up a special Leading Group for Poverty Reduction in 1986, directly under the State Council. The main achievement of this Leading Group was to designate a total of 328 impoverished counties that were eligible for special assistance. (The number of designated counties was increased to 592, or about 20% of all counties, in 1993.) Geographic targeting of designated poor counties has been the focus of China's antipoverty strategy ever since. Appraisals of this program are mixed. Government funding was initially generous, but then stagnated until the late 1990s. Targeting is not particularly precise, because many of the residents of poor counties are not poor and there are significant numbers of poor people outside poor counties. Nevertheless, rigorous evaluation indicates that the designation does raise economic growth in poor counties by around 1% annually (Park, Wang, and Wu 2002). Inflation in the late 1980s eroded the agricultural terms of trade and reduced access to market goods by the poor. A second dramatic reduction in poverty came during the 1993-1996 period. Again, broad economic forces coincided to produce a significant impact on rural poverty. Agricultural terms of trade improved again, as marketization of rural procurement surged ahead and government began to provide support prices for farmers. Most important, nonfarm rural employment and migration surged during this period, opening up many new opportunities.

Why then has poverty reduction been relatively slow since 1996? Particularly in the late 1990s, growth was highly concentrated in urban coastal areas. As a result, remote areas, particularly those having few resources and suffering from environmental degradation, have been little affected by growth. China's poor counties are especially common in a belt around the Aihui-Tengchong line (see Chapter 1), where dense population runs up against the limit of environmental sustainability. Market forces have so far frustrated the Chinese government's effort to raise farm prices and thus improve the terms of trade of agriculture. In fact, farm prices fell in the late 1990s in the wake of market liberalization. Urban reforms reduced the overmanning of

urban enterprises, creating urban unemployment and increasing labor-market competition, thereby restricting the opportunities for impoverished rural households to send migrants to new jobs. Overall, China's fiscal system does a poor job of providing fiscal resources to poor regions (see Chapter 18), so government funds are not redistributed in a progressive pattern and are inadequate to improve living conditions of the rural poor. Continuing restrictions on migration limit the "way out" for residents of persistent-poverty locales. Since 2000 the Chinese government has devoted substantial resources to broader geographic development initiatives, particularly the Western Development Program. Those initiatives are multistranded: most of their funding goes to support expanded infrastructure investment, which may help poor people in the long run but does little in the short run. However, the program does increase fiscal resources in poor western regions and helps many poor villages afford schoolteachers and social services. Overall, powerful economic forces limit the "trickle-down" impact of economic growth, and government policies have limited effectiveness in helping the poor.

### 9.2.2 Urban Poverty

Unlike most of the developing world, poverty in China has been largely a rural phenomenon. In the past, policy kept urban population low by restricting immigration, and then guaranteed everyone a public sector job (see Chapters 5 and 8). Since China's opening, most economic growth has occurred in the cities. Traditionally, urban inhabitants enjoyed stable social welfare conditions and extensive government subsidies of basic needs. Today, while this cushion of assured benefits is eroding, there are still very few permanent urban residents (those with urban residence permits) with incomes below the poverty line. Ravallion and Chen find that in 2002 the cost of living in the city was 41% higher than in the countryside; based on this calculation they adopt a poverty line of 1,200 yuan per person per year in the city. Even with this higher threshold, they find that only 0.5% of the urban population was in poverty in 2001. While cities are becoming less equal and unemployment and disability can result in serious economic hardship, very few permanent urban residents are in absolute poverty. However, it should be remembered that this finding reflects their sample, which covered permanent urban residents only; migrants are not included. We will return to discuss this problem in a following section.

### 9.2.3 Overall Poverty

Using separate urban and rural poverty lines, and combining the two samples, Ravallion and Chen find that 8% of China's total population was in poverty in 2001, down from 22% in 1991. The decline was mainly due to the decline

in rural poverty, which accounted for almost 11 percentage points of the total 14% decline. About 3% was due to urbanization, and less than 0.5% to the reduction in poverty in urban areas.

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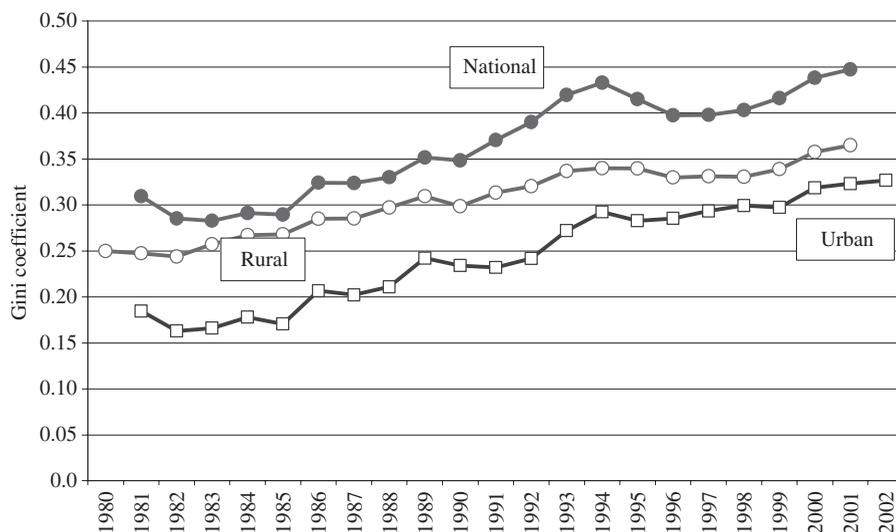
### 9.3 INEQUALITY

Under the socialist economy Chinese society was dualistic but egalitarian. That is, although the gap between urban and rural residents was large (society was “dualistic”), incomes were fairly equal within each of the urban and rural sectors (“egalitarian”). At first, rural reforms in the late 1970s and early 1980s narrowed the urban–rural gap. The result was that China became less dualistic at a time when it was still highly egalitarian in both its urban and rural sectors. As a consequence, around 1983–1984, China was probably the most equal that it has ever been, even more equal than under socialism.

Economists often use the Gini coefficient as a summary measure of income distribution. The Gini coefficient ranges in value between 0 and 1. A Gini coefficient of zero would signify that income was perfectly equally distributed, while a Gini coefficient of one would indicate that all income was concentrated in the hands of a single individual. In the real world, low values of Gini coefficients are observed for the relatively equal economies of Sweden, 0.25, Japan, 0.25 and Germany, 0.28. High values are recorded for economies with high inequality such as Brazil, 0.59, or Mexico, 0.55 (UNDP 2005, 270–272). As Figure 9.2 shows, China’s overall Gini coefficient in 1983, measured on income, was 0.28, which made China one of the most equal countries in the world. China’s urban society was especially equal, with an intraurban Gini of only 0.166.

It is worth emphasizing how unusual it was that China at that time had a low Gini coefficient. Generally speaking, big countries have higher Gini coefficients (since they contain a greater diversity of natural endowments), and China is certainly big. Moreover, lower- and middle-income economies typically have higher Gini coefficients than developed, high-income countries, and China was certainly a lower-income economy in 1983. Comparable levels of equality are seen in the small former socialist states, but most of those are very small and have much higher income than China in 1983. For a big, developing country, China had an exceptionally equal society. The figure for urban China was especially unusual, since in most developing countries cities are more unequal than the countryside.

Since the early 1980s, though, inequality in China has increased steadily and inexorably. As Figure 9.2 shows, inequality has climbed steadily within both



**Figure 9.2**  
Evolution of Gini coefficient

rural and urban areas. Total national inequality is higher than either rural or urban inequality in every year because the urban-rural gap is large. Moreover, total inequality has increased even more than urban or rural inequality, because the urban-rural gap has increased since 1983. By 2001, China's overall Gini coefficient had increased to 0.447. China's increase in inequality is unprecedented. China is now more unequal than the average middle-income country, and about as unequal as the average low-income country. China does not yet approach the extreme inequality typical of the large Latin American economies, but China is now significantly more unequal than most Asian developing countries. For example, India's Gini is 0.325; Indonesia's is 0.34; and Korea, at significantly higher levels of income, is 0.32. China is now similar to the most unequal Asian developing countries, such as Thailand, 0.43, or the Philippines, 0.46. Current Chinese levels of inequality, as measured by the Gini coefficient, are near the middle of the range of developing economies, if assessed in light of China's size and geographical diversity. But this is a dramatic change from China's past record, and there may be no other case where a society's income distribution has deteriorated so much, so fast. As a side note, China's Gini coefficient has surpassed that of the United States, which has also been rising and which equaled 0.408 in 2000. Thus in the course of two decades China has gone from being one of the most egalitarian societies, about as equal as Japan, to being more unequal than the United States.

What economic causes lay behind this dramatic change in income distribution in China? Many factors contribute. The most important single factor in Chinese inequality is the urban–rural gap. As we saw in Chapter 5, socialist institutions reinforced the urban–rural divide and in this respect contributed to inequality. Market reforms at first shrank this gap because they benefited rural residents first. But ultimately market reforms contributed to inequality because they led to the acceleration of urban economic growth. It is sometimes argued that the economic development process inevitably leads to a medium-term increase in inequality. Simon Kuznets (1955), a pioneering scholar of economic development, argued that inequality would increase during the initial stage of development but decrease in subsequent stages. Kuznets' logic was that pockets of modern economic growth would first generate high incomes in a few limited areas while income remained low in most of the traditional economy, but that later growth would ripple out to most of the economy. The first phase of this prediction certainly seems to be true in China, amplified by three factors: China's huge size and geographic diversity, which limits spillovers; the catalytic role played by foreign trade and investment, which naturally concentrates in coastal cities; and the legacy of socialist institutions. The result has been increased inequality as high incomes are concentrated in fast-growing coastal cities.

Inequality has also increased within each of the urban and rural sectors. In the urban economy returns to various kinds of capital have increased dramatically. Before reform, nobody possessed any income-generating capital, so equality was high. After reform, urban residents have increasingly been differentiated between those who possess the capital, skills, and opportunities to benefit from the new economy and those who do not possess the requisite capital and skills. Returns to human capital, as discussed in Chapter 8, have increased substantially, and human capital is relatively unequally distributed. Moreover, some urban residents have been stuck in declining segments of the economy and have experienced reductions in income. The ability of well-positioned individuals to take advantage of opportunities generated by market distortions, including corruption and privileged access to opportunities, must also contribute to urban inequality. Within rural areas, the most disequalizing part of income has been the wage and profit opportunities created by TVEs and by individual entrepreneurship. These new income sources have been highly concentrated in suburban areas (Chapter 10) and thus made the overall countryside more unequal.

Will Chinese society continue to become more unequal? Or will market forces begin to reduce inequality as growth spreads and distortions and

barriers are reduced? Will the development process ultimately lead to a reduction of the urban–rural gap, as the countryside is transformed by technological change and out-migration? Will political and legal reforms make China more fair and more predictable and, by reducing special privileges, ultimately make China more equal? These trends have the potential to halt, or even to reverse, the hitherto inexorable increase in the Gini coefficient. If reinforced by a reorientation of government social policy, broad development trends could lead to a more equal Chinese society.

### 9.3.1 Accounting for All Income Sources

The discussion of income inequality in the preceding section still suffers from some important limitations. Urban dwellers receive additional income as benefits or subsidized services that are not well captured by the existing measures of (mostly cash) income. Rural residents also receive noncash income, but the forms of this income are completely different from those in urban areas, and both were different under the planned economy than we would expect in a market economy. An ambitious collaboration between academics and the Chinese Academy of Social Sciences and National Statistical Bureau has made an effort, over many years, to account more broadly for all important sources of income for urban and rural residents. This international team carried out a series of supplemental surveys, in conjunction with the normal household survey, in three benchmark years—1988, 1995, and 2002—in a large and fairly representative subsample of China’s provinces. The results from this important analysis show China moving along a rather different transition path. Remarkably, however, the end point is completely consistent with that produced by the other methodology. This method produces a Gini coefficient of 0.45 in 2002, which is identical to the Gini calculated by Chen and Ravallion for 2001 (Khan et al. 1993; Khan and Riskin 1998, 2005).

In the analysis of Khan and Riskin (KR), China started out in the 1980s considerably less egalitarian than portrayed by the conventional statistics, primarily because urban dwellers received substantial benefits. Complete accounting for urban incomes raised them by 55%. Urban dwellers enjoyed large subsidy income, especially for the implicit value of ration coupons that were provided them free of charge. They also benefited from significant housing subsidies, since most paid extremely low rents while living in work-unit-supplied housing. Surprisingly, though, a complete accounting of rural incomes raised them, too, by almost 40%, mostly because of the imputed value of owner-occupied housing, as well as because of the re-evaluation of homegrown food at market prices (instead of procurement prices). KR computed an overall

national Gini coefficient of 0.38 in 1988, significantly above the Chen and Ravallion (CR) estimate of 0.33.

Subsequently, however, KR's national Gini climbed less quickly than CR's Gini through 1995, and then leveled off while the CR Gini continue to climb. By 2002 the two calculations were identical. What accounts for this difference in trends? The difference is that KR found that most hidden urban subsidies had by 1995 either been eliminated or converted into explicit form. Ration coupons had been abolished, and subsidized housing had been privatized. By 2002 urban comprehensive income was now just 29% higher than money income, while the estimate for rural households was that comprehensive income was now 33% above money income. Since the difference between urban and rural is practically unchanged by the inclusion of noncash income, KR's method of calculation now yields a result very similar to CR's most standard computation. The two methods end up with very similar pictures of China's condition as of 2002.

KR's analysis is extremely useful. It is true that in most countries imputed income from owner-occupied housing, for example, is not included in calculations of income distribution. CR's results are perhaps more appropriate to use in cross-national comparisons. However, KR's results give us a better sense of the overall evolution of all the different components of income. KR's results provide grounds for a slightly more optimistic portrayal of Chinese income distribution, in which inequality may have reached a peak in the mid-1990s and leveled off since (though this would need much more corroboration before it could be widely accepted). Moreover, KR remind us that accounting for income growth in China is tricky because such a large part of comprehensive income was once received as subsidies, in noncash form, especially in cities. Failing to account for these subsidies causes us to overstate the growth of income.

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## 9.4 PHYSICAL QUALITY OF LIFE INDICATORS

Given some of the complexities with the income data discussed in this chapter, it is worthwhile to look at other indicators of living standards, in particular those that directly reflect the health, physical security, and well-being of the population. So-called physical quality of life indicators (PQLI) provide another look at living standards and a way to compare China with other countries. Economic growth, particularly in the early stages of development, is strongly correlated with improvement in PQLI. Moreover, PQLI arguably provide a more direct measure of improvements in the quality of life.

### 9.4.1 Life Expectancy at Birth

Of the various constituents of PQLI, perhaps the most important is life expectancy at birth. Life expectancy summarizes the impact of health and nutrition on the human organism. Life expectancy provides information about the net impact of environmental hazards (usually by-products of an industrializing society) compared with other kinds of health hazards more characteristic of underdevelopment.<sup>2</sup> China's life expectancy is relatively high. According to the United Nations, life expectancy in 2002 was 70.9 years, a level that puts China right in the middle of middle-income countries. It is about the same as Latin America as a whole, which has a much higher income per capita, but less than developed countries where life expectancy averages 78 (UNDP 2005; Banister and Hill 2004). As in developed countries, life expectancy is higher for women (73 years) than for men (69). Life expectancy has continued to increase during the reform period, inching steadily upward from an average 67.8 in 1980 to 68.5 in 1990. During that period life expectancy increased more for women than for men (by about 2 years).

The steady improvement in life expectancy is encouraging because during the period of rapid economic growth over the past 20 years there has been an erosion of institutions supporting health, nutrition of the poorest, and the social role of women. The life-expectancy statistics indicate that, on balance, the positive impact of economic growth has been larger than the negative effect of eroding social security institutions. Nonetheless, improvement of life expectancy has been much less rapid than income growth. Life spans have grown virtually everywhere in the world—except in the countries affected most severely by AIDS—and China's performance is not exceptional. Indeed, 25 years ago China had unusually impressive life expectancy data compared to its low income. More recently income “caught up” with life expectancy, and China now looks more like a normal country, albeit one that still has a relatively good life expectancy.

### 9.4.2 Other Health-Related Indicators

Closely related to life expectancy are other health-related indicators. Infant mortality (death of child during first year of life) is low in China, at 30 per 1,000 in 2003. That figure equals the middle-income-country average, about the same as Brazil, but not as good as Mexico's 23. China's infant

2. Moreover, in the calculation of an *average* life expectancy, each individual counts equally as a single unit. When we track changes in income, using them as a proxy for changes in well-being, the welfare of high-income individuals is implicitly being counted more than that of low-income individuals.

mortality rate may also be understated by the omission of some birth reports. However, the percentage of infants with low birthweight is reported as only 6%, which would be near developed-country levels and which supports the picture of a relatively healthy birth environment. Also important are changes in the nature of mortality. In the early stages of development, infectious diseases take a heavy toll on children and adults alike, and account for the majority of deaths. However, these sources of mortality can be *relatively* easily reduced by moderate investments in sanitation and preventive health care. China has already passed this initial hurdle: 85% of children are immunized against the main childhood diseases. Today China faces challenges relating to the “second health revolution.” The primary causes of death are similar to those in developed countries. The most important are heart disease, cancer, and lung diseases. These are not simple communicable diseases, but are instead often chronic diseases related to population aging and lifestyle issues. Environmental pollution plays a role, as does cigarette smoking. Sexually transmitted diseases, including AIDS, have emerged as significant health-care problems. Obesity, once virtually unheard of, has been an unwelcome companion of higher incomes.

### 9.4.3 Education

Another important PQLI is education. Literacy rates in China are quite high, calculated at 91% of the adult population in 2003. This figure is slightly above the middle-income-country average of 90% and compares favorably with Brazil’s 88%. Rates of illiteracy are significantly related to age: while 12% is the average rate of illiteracy, more than 70% of those over age 68 are illiterate, while only 5% of those 21–25 years old are illiterate. Even at these rates, there are 145 million illiterate adults in China. As discussed in Chapter 8, progress in raising literacy rates in China came early. For three decades under the socialist system, China followed a development strategy that included substantial attention to so-called “basic needs.” Stress was placed on provision of basic health and education services to the population. That legacy remains, even though recent progress has not be particularly impressive. Literacy and basic education are widespread in the population.

### 9.4.4 Human Development Index

One important effort to summarize a large number of PQLI indicators is represented by the Human Development Index (HDI) of the United Nations Development Program (UNDP). The HDI has been computed for a large number of countries; it is the simple average of indices for life expectancy,

literacy and school enrollment, and price-adjusted PPP GDP per capita. The UNDP has also sponsored a series of *China Human Development Reports*, and the 2005 report is especially good (UNDP and China Development Research Foundation 2005). The report gives the HDI for each of China's provinces, which provides a convenient way to compare China's provinces, with each other and also with other developing countries. What emerges first from this exercise is that there is significant variation among China's provinces (Table 9.2). The most well-off province is the municipality of Shanghai, while the least well-off is Tibet, with Guizhou the least well-off within the populous eastern half of China. Of course, much of the ranking reflects the urban–rural gap (see Chapter 5) and the relative proportion of urban residents in each province. However, we can see that Shanghai's overall HDI is comparable to Hong

**Table 9.2**  
Comparison of Human Development Index, 2003

Chinese provinces		Nations	
<i>High human development</i>			
Shanghai	0.91	Norway	0.96
Beijing	0.88	Hong Kong	0.92
Tianjin	0.86	Korea	0.90
Guangdong, Liaoning, Zhejiang, Jiangsu	0.81–0.82	Argentina	0.86
		Mexico	0.81
<i>Medium human development</i>			
Heilongjiang, Fujian	0.79	Brazil, Malaysia, Colombia	0.79
Shandong, Hebei, Jilin	0.77–0.78	Thailand	0.78
Hainan, Xinjiang, Hubei, Shanxi, Hunan, Chongqing	0.75–0.76	Philippines	0.76
		<b>China 2003</b>	<b>0.75</b>
		Turkey	0.75
Henan, Inner Mongolia	0.74	<b>China 1999</b>	<b>0.72</b>
Jiangxi, Guangxi, Shaanxi, Sichuan, Anhui	0.73		
Ningxia	0.71	Indonesia, Vietnam	0.70
Qinghai, Gansu	0.68	Guatemala, Honduras	0.67
Yunnan	0.66	Egypt	0.66
Guizhou	0.64	<b>China 1990</b>	<b>0.63</b>
		India	0.60
Tibet	0.59	Myanmar	0.58
		<b>China 1980</b>	<b>0.56</b>
		Pakistan	0.53
<i>Low human development</i>			

Kong's, Korea's, or Argentina's; and several coastal provinces have, like Mexico, inched into the "high" human development category. There are a number of predominantly rural provinces just below the all-China average with HDI approximately the same as the Philippines or Turkey; while several western provinces, such as Gansu, Yunnan, and Guizhou are below Indonesia and Vietnam, and comparable to Honduras or Egypt. From these comparisons, it is plainly evident that China faces continuing severe developmental challenges. At the same time, China's HDI ranking has improved substantially during the past 23 years, as one would expect in a rapidly growing economy. Today China is just below the middle-income economies of Brazil, Thailand, and Columbia.

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## 9.5 INCOME, GDP PER CAPITA, AND PURCHASING POWER PARITY ONCE AGAIN

How does China compare with other developing countries? At this point it makes sense to return to per capita GDP and the calculation of price-adjusted (PPP) GDP per capita. We have already used PPP methodology to apply an internationally comparable poverty line to China and assess some aspects of structural change in Chapter 6. Moreover, PPP GDP per capita is also one component of the HDI discussed in the previous section. Here we return to examine PPP GDP per capita and ordinary GDP per capita, measured at exchange rates, in a comparative context. Table 9.3 gives some comparisons with respect to GDP and PPP GDP. China's GDP per capita at exchange rates was US\$1,274 in 2003. The first six countries shown in Table 9.3 are the large, semi-industrialized economies that were shown in Table 9.2 to have HDI levels similar to China. All of these economies have achieved a level of GDP per capita—evaluated at exchange rates—that is considerably higher than that of China. Brazil and Thailand have twice China's per capita GDP, and Turkey and Malaysia three times.

The distance between China and these large middle-income economies narrows when we compare GDP per capita evaluated at PPP. As discussed in Box 6.1, a PPP calculation is superior for assessing real living standards. Table 9.3 illustrates the general rule that the PPP-calculated income of poor countries is much higher than the exchange-rate (ordinary) calculation of income. This rule holds because services and nontraded goods in poor countries embody a great deal of unskilled labor, which is the abundant (and thus cheap) factor in those countries. As a result, goods and services that do not enter into trade are much cheaper (relative to developed-country prices) than those that

**Table 9.3**  
Gross domestic product per capita, 2003

Country	PPP (current US dollars)	Exchange rate (current US dollars)	Ratio PPP/exchange rate
Malaysia	9,512	4,187	2.3
Mexico	9,168	6,121	1.5
Brazil	7,790	2,788	2.8
Thailand	7,595	2,305	3.3
Turkey	6,772	3,399	2.0
Colombia	6,702	1,764	3.8
<b>China</b>	<b>5,788</b>	<b>1,274</b>	<b>4.5</b>
Philippines	4,321	989	4.4
Guatemala	4,148	2,009	2.1
Indonesia	3,361	970	3.5
India	2,892	564	5.1
Vietnam	2,490	482	5.2

do enter into trade. PPP calculations give full weight to goods and services that do not enter into international trade, while exchange rate-based comparisons are implicitly based on only those goods and services that do enter international trade (and which therefore influence the exchange rate). China follows this general rule: its PPP-adjusted income per capita is much higher than its exchange-rate-calculated income per capita. But for China the difference between the two calculations is even larger than we might have expected. This result is due to the fact that there are a large number of nontraded goods in China that have especially low prices, such as urban housing, health care, and basic food products. These push down the cost of living in China and imply that PPP-adjusted incomes are higher than we would otherwise expect. Table 9.3 shows that comparisons based on PPP calculations can significantly alter the relative position of countries, compared to ordinary exchange rate GDP per capita. In the comparisons, China tends to improve its relative performance. In addition to closing some of the gap with Turkey, Thailand, and Brazil, China trades rank with Guatemala, for example, which has a higher exchange rate GDP per capita than China. However, using PPP does not change the comparison with India, which like China has an especially large multiple of PPP GDP to exchange rate GDP.

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## CONCLUSION

No single indicator can tell us how much economic growth in China has contributed to well-being. However, the combination of many indicators allows us to draw a reasonably accurate picture and to place China in the context of

other developing countries. China's GDP per capita (at exchange rates) ranks China as an economy just moving from a lower-income to a middle-income country. In fact, measures of well-being in China look considerably better than we would expect from such a characterization. Some part of this adjustment is due to the impact of China's price system and exchange rate: a shift to PPP-evaluated GDP per capita reduces some of the gap between GDP per capita and the other outcomes, such as those captured by the HDI.

Even after the shift to PPP-adjusted GDP per capita, China's performance looks relatively good. China's HDI is similar to middle-income countries—Turkey and Brazil—that have higher PPP GDP levels. Undoubtedly, some of this difference reflects the legacy of China's relatively egalitarian, socialist past. Basic health and education diffused through the countryside 30 years ago have a continuing impact on population well-being today. Trends in inequality over the past 20 years, though, tell us that China will no longer reap benefits from these past policies. Moreover, increased inequality tears at the social fabric in other respects as well. Future improvements in the quality of life will depend on the way in which growth policies are crafted to spread the benefits of growth as widely as possible to the whole society. This is true not only because a more inclusive growth model will spread the ultimate benefits of growth more broadly among the population, but also because a healthier, better fed, and better educated population will better sustain the next phase of future economic growth.

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### Suggestions for Further Reading

The 2005 volume of the *China Human Development Report* is excellent, and easily available online (UNDP and China Development Research Foundation 2005). Yao, Zhang, and Hanmer (2004) take the discussion the next step forward.

### Sources for Data and Figures

Figure 9.1: SAC (2005, 104); Ravallion and Chen (2004).

Figure 9.2: Ravallion and Chen (2004); cf. Bramall (2001).

Table 9.1: SAC (2005, 101); SYC (2004, 347).

Table 9.2: UNDP and China Development Research Foundation (2005, 154); UNDP (2005, 219–23).

Table 9.3: UNDP (2005, 266–69). Chinese data have been revised upward 15.7% to accord with NSB's revisions of national income accounts. See Chapter 6.

*Life expectancy*: UNDP, *Human Development Report* (2005, 219–22). Chinese official data (SYC 2004, 98) are slightly higher (71.4 years in 2000), but appear to overstate life expectancy because of an undercount of infant mortality. Despite suspicions about Chinese data reporting, recent work indicates that a life expectancy figure above 70 survives most consistency checks, see Banister and Hill (2004).

All Gini coefficients from UNDP (2005, 270–72).

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