

The “difference between heaven and earth”: Urban–rural disparities in well-being in China

Donald J. Treiman

California Center for Population Research at UCLA, P.O. Box 957236, Los Angeles, CA 90095, USA

Received 26 June 2011; received in revised form 18 October 2011; accepted 21 October 2011

Abstract

Although China is a rapidly developing nation, rural–urban disparities in well-being remain large, and perhaps have become larger than in the early years of the Communist period because the urban sector has benefited from China’s transition to a market economy much more than has the rural sector; or perhaps have become smaller as earning opportunities in the export-oriented manufacturing sector have increased for those from rural origins. Economic disparities are exacerbated by institutional arrangements that have created a two-class society based on registration (*hukou*) status with sharp rural–urban distinctions in the public provision of schooling, health care, housing, and retirement benefits. Indeed, it is fair to say that China built an urban welfare state on the backs of the peasants.

Using data from two national probability sample surveys, one carried out in 1996 and one in 2008, this paper describes trends in various aspects of inequality for three groups, identified at age 14: those with rural registration and rural residence; those with rural registration and urban residence; and those with urban registration. The specific outcomes considered are education, occupational position, earnings, family income, material well-being, and perceptions regarding whether life has improved. The paper shows that a rising tide lifts all boats. That is, there has been across-the-board improvement in almost all aspects of life in China measured here, but for most measures the size of the rural–urban gap has remained relatively constant over a 60-year period.

© 2011 International Sociological Association Research Committee 28 on Social Stratification and Mobility. Published by Elsevier Ltd. All rights reserved.

Keywords: China; Inequality; Trends; Rural–urban disparities; SES

1. Introduction

Over the past 60 years China has experienced a massive transformation from a largely rural low income society with the bulk of the population subsisting as peasant farmers to a substantially urban society with a massive export economy, staffed by migrant labor, and a rapidly increasing high income population enjoying a life style similar to that of the developed nations of the world. Despite these dramatic changes, however, the

urban–rural gap in well-being remains substantial, so much so that the difference between an urban and rural existence has been likened to the “difference between heaven and earth.”

There are two reasons for expecting a large urban–rural gap in China. First, the rural–urban distinction was institutionalized early in the communist era, with the establishment in 1955 of a *hukou* (“household registration”) system that divided the population into “agricultural” and “non-agricultural” sectors (often treated, a little imprecisely, as analogous to “rural” and “urban” sectors) with a cross-cutting distinction between “local” and “non-local” registration (Chan &

E-mail address: treimandj@gmail.com

Buckingham, 2008). After the initial bureaucratic allocation in 1955, *hukou* status was assigned at birth, following the mother's status, which was not always the same as that of the father (in 2008 about 5% of marriages were between people with different status—usually a husband with urban *hukou* and a wife with rural *hukou*).^{1,2} Except in the case of wholesale *hukou* conversions when villages were incorporated into expanding cities, it was, and is, very difficult to change one's *hukou* status from agricultural to non-agricultural, the main requirement being tertiary or technical secondary schooling, military service, or assignment to an urban job (Chan & Buckingham, 2008, pp. 590–591; Wu & Treiman, 2004). Moreover, except for peasants living in towns and cities when the *hukou* system was adopted, and their descendants, local status in urban areas is extremely difficult to secure for those with an agricultural *hukou*. Thus, people may live in a particular town or city for decades, and still not be able to acquire either a non-agricultural *hukou* or local residence.

Hukou status was, and to a large extent still is, a very strong determinant of rights and privileges affecting socioeconomic well-being: in order to qualify for health, unemployment, and old age insurance in an urban area, to enroll one's children in public school,³ to obtain anything other than a menial job, or to qualify for public housing, one had to have both a non-agricultural *hukou* and local residence rights (Chan, 1994; Chan & Buckingham, 2008; Wang, 2004, 2005). Most forms of insurance were unavailable to those with agricultural *hukou*, and both medical care and education were inferior. Finally, in the days when grain and other foodstuffs were rationed (food rationing ended in 1993 [Dong & Fuller, 2006]), those with agricultural *hukou* were entitled to less grain than those with non-agricultural *hukou* (Cheng & Selden, 1994). All in all, a reasonable

summary of the situation is that China built an urban welfare state on the backs of the peasants.⁴

Even apart from the institutional discrimination built into the Chinese system, we might well expect urban–rural differences in the average level of education, in the kind of work people do, in incomes, and in associated aspects of well-being, because urban centers worldwide are loci of economic and cultural activity and thus attract the best and the brightest from smaller places. Thus, even without an urban *hukou* those who grow up in cities are likely to be better educated and more sophisticated than their rural counterparts.

2. Is the urban–rural gap narrowing in China?

Although we have a strong theoretical basis (and a good deal of empirical evidence, e.g., Gustafsson & Li, 2001; Knight & Li, 1996; Knight & Song, 1999; Whyte, 2010) for expecting a substantial urban–rural gap in income and other aspects of well-being in China, it is less clear whether these gaps have been narrowing over time, increasing, or exhibiting more complex trends. There are two general possibilities, which lead to contradictory expectations. These possibilities will be elaborated below. But first it is useful to consider the context, changes in China's economic development and concomitant geographic mobility over time.

2.1. Changes in economic development and geographic mobility over time

Over the past century, China has experienced very substantial changes in both the extent and the pattern of internal geographical mobility. From 1927 until the communist ascendancy in 1950, China was wracked by war, both the civil war between the communists and the nationalists and, between 1937 and 1945, the Japanese occupation. Although a large fraction of the population remained essentially untouched by these events, the civil war and Japanese occupation did create a non-trivial refugee population. From 1950 to 1957 there was substantial movement around the country, for several reasons: Han Chinese were sent to populate provinces in the border areas, in part as a social control device; new industries were established in the Northeast; and military

¹ Computed from the 2008 survey used in the present analysis (see below for details on the data).

² Starting in 1998, parents were allowed to specify which parent's *hukou* would be assigned to each newborn child (Wang, 2004, p. 123). But this has no effect on our results since children born in 1998 and later are not yet adults.

³ Under pressure from the central government, public schools increasingly accept "migrant" children, that is, those lacking local *hukou*, without demanding very high non-resident fees; but almost everywhere such changes have occurred too recently to affect our data. Moreover, even if migrant children can enroll in public school, there are many fees, for uniforms, books, etc., that make it difficult for many migrant parents to afford such schooling for their children.

⁴ Whyte (2010, p. 5) offers an even harsher assessment, writing that "the actual trend looks much more like descent into serfdom for rural residents in the Mao era, . . . producing a caste-like division that did not exist before 1949. Thus socialism in the Mao era produced a fundamental aggravation of the rural–urban cleavage." But, as we shall see, the trend data provide little support for his assertion.

industries were relocated to the West for security reasons (Naughton, 1988). As mentioned, the *hukou* system was initiated in 1955. At the same time, the collectivization of agriculture, which had begun whenever the communists gained control of an area, was completed. As a final step in the collectivization effort, in the early 1960s peasants who had migrated into the cities were relocated to their home villages (Chan, 1994, p. 39). Between the early 1960s and the beginning of the Economic Reform at the end of the 1970s, geographical mobility slowed greatly, even considering the movement of youth during the Cultural Revolution (Cheng & Selden, 1994). It picked up again in the early 1980s, as the result of both an increased demand for labor in urban areas and an increased supply from rural areas, and has been expanding ever since.⁵

The increased demand arose from expansion of economic activity in many urban areas and the establishment of Special Economic Zones, such as Shenzhen, as the government began to experiment with a market economy and permitted foreign investors, particularly those from Taiwan and Hong Kong, to establish export-oriented manufacturing firms. The increased supply of agricultural labor resulted from improvements in agricultural efficiency associated with the decollectivization of agriculture. As part of the Economic Reform that began in 1978, collectives were divided up and land use rights were allocated to individual families, in what was known as the “family responsibility system.” Each family was responsible for managing its own agricultural production and was free to sell on the open market any surplus that remained after the in-kind tax (mainly of grain) was paid. The consequence of the introduction of a profit incentive was that per capita productivity increased dramatically (Chow, 2002, Chapters 3 and 5; Lin, 1992). Here the contrast with Russia is instructive. In China, the experiment in collective agriculture typically lasted about 25 years, a short enough time that peasants still remembered how to manage their own enterprises. In Russia, by contrast, collectivization lasted three times as long and left peasants without the appropriate skill set.

The result of these changes in supply and demand was massive “informal” (that is, not involving a change in *hukou* status) rural-to-urban labor migration, especially to the Special Economic Zones in Guangdong and elsewhere, which been increasing at an exponential

rate from the early 1980s on.⁶ At the same time, there was an increase in “formal” migration—that is, migration accompanied by a change in *hukou* status from agricultural to nonagricultural—as the educational system expanded and the demand for skilled urban labor increased. In consequence, the population of urban China consists to a very substantial degree of people from rural origins. Fully 69% of the adult urban population in 2008 held a rural *hukou* at age 14. Moreover, 42% of the formal urban population had changed from rural to urban registration between age 14 and the time they were surveyed, many if not most as a result of obtaining advanced education and marked upward mobility (Wu & Treiman, 2007).⁷

The changes in migration patterns are but one aspect of the Economic Reform. The concomitant, and more oft noted, change was the economic expansion of China, which has sustained an approximate 10% annual growth in per capita GDP for more than 30 years (precisely, an average of 9.7% per year from 1978 to 2009 inclusive; computed from <http://www.chinability.com/GDP.htm>, accessed 3/19/2011), an expansion unprecedented in the modern world. The central question for this paper is who benefited the most, the urban or rural population? That is, has the pronounced urban–rural gap of the early years of the communist era narrowed, remained the same, or widened?

The appropriate way to ask this question is to transform it slightly, into the question of whether growing up in a rural or an urban environment, and enjoying nonagricultural rather than agricultural *hukou* status, still matters as much as it used to or, alternatively, whether it matters more. The reason the question is best phrased in terms of origins is that urban vs. rural residence and *hukou* status measured at the time outcomes are measured is misleading, since residence and status are themselves outcomes subject to the same determinants as the level of living and other aspects of welfare.⁸

⁵ In the 2008 data, 35% of those born in 1968 or earlier had moved to a different locale by age 25, compared to 46% of those born between 1969 and 1973, 63% of those born between 1974 and 1978, and 70% of those born between 1979 and 1983.

⁶ As Liang shows (1999, Table 4), Shenzhen grew 11-fold in the 15 years between 1979 and 1994, increasing in size from about 300,000 to over 3.3 million, mostly due to migration; in 1979 migrants accounted for about 1/2 of 1% of the population but by 1994 accounted for 72%. Recent estimates put the enumerated population at nearly 10 million, mostly migrants.

⁷ Note that the proportion of the current rural-origin population able to acquire urban registration was quite small, about 13%. But because the rural population was far larger than the urban population, the small fraction of successful rural-origin *hukou*-changers constitutes a much larger fraction of the registered urban population.

⁸ Formally, this is a problem of “sample selection bias.” Insofar as unmeasured traits increase the probability of both, say, moving to a city and earning a high income, the attribution of income differences to

2.2. Alternative hypotheses regarding trends in the rural–urban gap

It may be that the rural–urban gaps in education, occupational status, earnings, income, and material well-being have *declined* over time, as villagers have been able to sojourn to the cities to work and have sent remittances home or returned home with savings, thus improving the standard of living in villages, and also have brought home new information and new ideas, resulting in changed attitudes about the importance of education, enhanced understanding of the relationship between hygiene and disease, new skills, and new entrepreneurial impulses.

Alternatively, it could be that the principle of cumulative advantage (DiPrete & Eirich, 2006) holds, with urban people better able to exploit new opportunities created by the Economic Reform, resulting in an *increased* rather than reduced rural–urban gap. The basic idea is that advantages are themselves resources that facilitate the acquisition of new advantages. In China, as I have noted, an urban *hukou* is an institutionalized source of advantage which could, like compound interest, result in more rapid socioeconomic gains for urban than for rural people, with those of mixed background in between. (See also the argument made by Song and Burgard (2008), that highly educated people are always quicker to take advantage of health-related innovations, no matter what the innovation, and thus maintain a consistent advantage over less educated people.)

2.3. Previous research

Evidence regarding these alternatives is largely lacking, with the exception of income, for which there have been a number of studies of trends in the urban–rural gap, most of which find rural–urban income differences to have increased in recent years (e.g., Knight & Song, 1999, pp. 29–31, Chapter 2; Riskin, Zhao, & Li, 2001a [see in particular their thoughtful introductory essay, 2001b]; Sicular, Yue, Gustafsson, & Li, 2010; and the references cited by Sicular et al.). Knight and Song (1999), in their book-length study of the urban–rural divide, also briefly touch on trends in years of schooling, housing, and mortality, in addition to income. But the most recent data used by Knight and Song are from 1995, as are the data used by Riskin,

Zhao, Li, and their colleagues, leaving 15 years of explosive economic development, urban growth, and exponentially increasing migration uncovered. Whyte (2010), in an introductory essay for a collection of papers on rural–urban differences, makes strong claims about period-specific variations in the size of the rural–urban gap, in particular the claim that the communist government created a new serfdom that has been only slightly moderated since the Economic Reform; but the papers in the volume present almost no data prior to 1978.

3. Data

The analysis reported here is based on two national probability sample surveys of Chinese adults that I and colleagues carried out in 1996 (*Life histories and social change in contemporary China*; see <http://www.sscnet.ucla.edu/issr/da/> and Treiman [1998] for documentation and details) and 2008 (*Internal migration and health in China*; see <http://www.ccpr.ucla.edu/IM-China> for documentation and details). Both samples used complex sampling designs that require weighting the data to obtain correct point estimates of population characteristics and adjusting for clustering to obtain correct standard errors. The 1996 survey of people age 20–69 resulted in 6090 completed cases. The 2008 survey of people age 18–64 resulted in 3000 completed cases.

In order to maximize both the sample size and the range of birth cohorts covered, I pooled the two data sets for much of the analysis and restricted the trend analysis to variables that were measured comparably in the two surveys. Before pooling the data, I visually inspected various trends computed separately from each data set to assure myself that the overlapping portions of the two samples could plausibly be considered as having been drawn from the same population. They can.⁹

⁹ More formally, I compared the two trend lines for the three variables in which I combined surveys by dividing the overlapping years into four 8-year cohorts (chosen to divide the overlapping years into approximately equal numbers of years and to minimize sampling variability) and computing the average over cohorts of the absolute values of the differences. For schooling, the average difference is .20 years for those of rural origin, .47 years for those of mixed origin, and .54 years for those of urban origin. The corresponding differences for % in agriculture are .04, .12, and .05, and for % nonmanual are .03, .08, and .05. These differences are quite small compared to the average difference between categories computed over the same cohorts: for education, 1.77 years between those of rural and mixed origin, 3.72 years between those of rural and urban origin, and 1.95 years between those of mixed and urban origin. The corresponding differences for %

place of residence will be incorrect. A simple way around this problem, of considerable sociological interest, is to ask whether growing up in a town or city rather than a rural village, or holding an urban as against a rural *hukou* when growing up, confers an advantage, net of measured factors such as education.

Table 1

Distribution of the 3-category rural–urban typology: weighted percentages and unweighted frequencies for each sample and both samples combined.

	Weighted percentages			Unweighted frequencies		
	1996	2008	Pooled	1996	2008	Pooled
Rural	77.6	72.4	75.9	3989	1654	5643
Mixed ^a	4.3	12.2	6.9	357	414	771
Urban	18.1	15.3	17.2	1741	931	2672
Total	100.0	99.9	100.0	6087	2999	9086

^a Rural registration, urban residence.

3.1. *Classifying residential and registration (hukou) status*

Classifying people with respect to their pattern of geographical mobility is complex everywhere. Some people never move; some move once to a new place; some move repeatedly from place to place; and still others are sojourners, moving to a different place for work and then returning to their home town, sometimes repeatedly. In China, the complexity of migration histories is exacerbated by the *hukou* system, which, as noted above, confers different rights and privileges on those with local registration and those lacking it, and on those with agricultural and nonagricultural *hukou* status (see Treiman, 2009b, for an extended analysis).

Given the purpose of the present paper, I have chosen to radically simplify this complexity, creating a 3-category typology based on the combination of residential and registration status at age 14. I distinguish those who resided in a village and held an agricultural *hukou*, those who held an agricultural *hukou* but who resided in a town or city, and those who held a nonagricultural *hukou* regardless of their place of residence.¹⁰ This typology enables me to capture the distinction between agricultural and nonagricultural *hukou* status, noted above as the dominant institutional divide in China, but also to capture the effect of growing up in an urban as against a rural area. There was little point in distinguishing type of residence for those with urban *hukou* since it is very uncommon for urban *hukou* holders to reside in a rural area: in the 1996 data, such people constitute only 1.4% of the population (8% of urban *hukou* holders); in the 2008 data, the corresponding percentages

are 1.6 and 11. As Table 1 shows, in the pooled sample 76% are classified as rural at age 14; 7% are classified as “mixed” (urban residents with rural *hukou*); and 17% are classified as urban (all those with urban *hukou*).

The mixed population requires additional discussion. Contrary to what one might assume, the mixed-origin population is not primarily comprised of people whose parents immigrated from rural to urban areas. Rather, as best I can tell from information in the 2008 survey (the necessary questions were not asked in 1996), they mainly consist of permanent residents who were assigned a rural *hukou* on the basis of their jobs when the *hukou* system was established in 1955, and their descendants, or those whose *hukou* was not converted when villages were incorporated into towns or cities or reclassified as towns. This explains the larger fraction of mixed people in 2008 than in 1996 (see Table 1), since many places were converted during this period (Chan, 2007). The evidence that the mixed population mainly consisted of permanent residents is that in 2008 90% had a local *hukou*, something that generally was not available to rural-to-urban migrants. Corroborating evidence is to be found in the fact that 77% of the fathers of mixed residents with a local *hukou* at age 14 worked in agriculture when the respondents were age 14, compared to only 38% of the fathers of those lacking a local *hukou*.

These results suggest that the residential circumstances of the mixed population are intermediate between those with rural *hukou* and rural residence and those with urban *hukou*—from the 2008 date we know that they are more likely to reside in towns and less likely to reside in cities than are those with urban *hukou* (73% of the mixed population resides in towns and 24% in cities, compared to 31% and 58%, respectively, of the urban *hukou* population) and even when they reside in cities it often is on the periphery of cities that have expanded in order to facilitate regional planning (Chan, 2007). Thus, while the mixed population may be regarded as having some urban advantages, e.g., better schools than those residing in conventional villages, they should not

in agriculture are .30, .67, and .37; and for % nonmanual are .14, .32, and .17. Thus, I conclude that combining data from the two surveys in order to extend the range of the trend comparison can be done without distorting conclusions regarding rural–urban differences.

¹⁰ Because the *hukou* system was introduced in 1955, those born prior to 1941 did not have a *hukou* at age 14. I classified these people as rural or urban on the basis of their type of residence at age 14.

be taken as having the kinds of experiences available to dwellers within large cities.

To be sure, the typology used here is not perfect. It has two important shortcomings. First, the administrative hierarchy lags behind social and economic reality. There are now many urbanized villages, mostly adjacent to cities in places where the urban conglomeration has expanded into the surrounding countryside but also factory enclaves near but hardly adjacent to cities. In the 2008 survey, some 10% of the sample lived in such densely settled “administrative villages,” which in many respects have an urban character. The effect of such misclassification is, of course, to mute the divide between the rural and mixed populations because a nontrivial fraction of the “rural” population lives in what effectively is an urban environment and, although to a lesser extent, this may have been true of our respondents at age 14.

Second, the mixed population is increasingly heterogeneous, with the youngest cohorts including substantial numbers of the children of migrants as well as the children of local residents living in towns and the urban periphery and largely engaged in agriculture. Among the youngest respondents, those born between 1981 and 1990, 19% are in the mixed category and, of these, 27% lacked local *hukou* at age 14. This suggests that convergences between the rural and “mixed” sectors toward the end of the time series may in part reflect composition changes in the mixed group.

4. Trends

In the remainder of the paper, I consider trends in educational attainment, occupational position, earnings, income, material well-being, and perceptions as to whether things have gotten better over time.

4.1. Education

Arguably, educational differentials are at the root of virtually all forms of socioeconomic inequality, affecting not only the kinds of jobs people are able to secure, the income they are able to earn, and their material standard of living, but also health, happiness, family size, child-rearing practices, and opportunities for self-fulfilment (Buchmann & Hannum, 2001; Elo, 2009; Haveman & Wolfe, 1984; Hyman, Wright, & Reed, 1978; Jencks et al., 1972; Treiman & Yip, 1989). Thus, the rural–urban gap in education is likely to drive many other forms of rural–urban inequality.

Fig. 1 shows the average number of years of schooling by year of birth and residential-registration status at

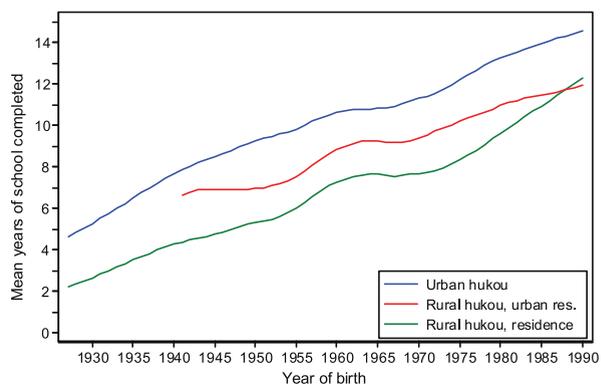


Fig. 1. Trends in years of school completed, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20–69 and a 2008 survey of Chinese adults age 18–64. Smoothed using a lowess smoother; see text for details.).

age 14 (hereafter, “rural–urban status”). As noted previously, those born prior to 1941 were classified as rural or urban on the basis of their place of residence at age 14, whereas the middle line, which combines *hukou* status and residential type, is restricted to those born in 1941 and later. In order to see the trends clearly, this figure and the subsequent figures were smoothed using the ‘lowess’ smoother implemented in Stata, with a bandwidth of .4, which was chosen after some experimentation as able to both characterize the overall trends in a clear way but also to reveal departures from the overall trend associated with major historically specific policies and events.¹¹

Three features of the graph are striking. The first is the more-or-less linear increase in average years of schooling—the most notable exception being a rise in the upward trend for those born in the mid-1960s through the early 1970s followed by a dip in the upward trend for those born between the mid-1960s and the mid-1970s, particularly those from agricultural origins—that is, the rural group. The increase reflects the expansion of schooling during the Cultural Revolution, particularly in rural areas (China Education Yearbook, 2008; Treiman, 2010). The decrease reflects the contraction of schooling, with many schools opened during the Cultural Revolution shut down after 1977. But it also may reflect changes in incentives created by the Economic Reform that began in 1978. The cohorts born

¹¹ To be sure, a less smoothed set of curves would do a better job of reflecting the consequences of historical events such as the Great Leap Forward famine (Song, 2009, 2010), the Cultural Revolution (Deng & Treiman, 1997), and vacillations in policy between “red” and “expert” (Lu & Treiman, 2008). But it also would make it much more difficult to perceive the overall trends.

between the mid-1960s and mid-1970s attained working age in the early years of the Economic Reform. My conjecture, which I am examining in detail in a separate analysis, is that with the implementation of the “family responsibility system” (discussed previously), agricultural families and those with family enterprises perceived their offspring’s schooling as involving a greater opportunity cost than previously and sometimes pulled their teenage children out of school to provide additional labor.

Returning to the overall trend, average educational attainment increased from about 4.5 years among urban people born in 1927 and just over 2 years among their rural counterparts to about 14.5 and 12 years, respectively, among those born in 1990. Second, a gap of this size, or larger, has been persistent throughout the period for which we have data—widening to about 4 years but then returning to the initial 2.5 year gap. So, while the education of both sectors improved dramatically, the urban–rural gap has hardly disappeared. Third, the “mixed” group, those with agricultural *hukou* but living in towns or cities at age 14, fell in between those with rural and urban status, but in recent years appear to have lost their advantage over those with rural status—in part, perhaps, because this group is increasingly comprised of migrants or the children of migrants. These trends are quite similar for men and women, despite the nearly 2-year advantage in years of schooling that men enjoy (in the data analyzed here women average 6.1 years and men average 7.9 years), and so separate graphs for men and women are not shown.¹²

4.2. Occupational status

One of the important distinctions between rural and urban life is that rural work is largely in agriculture and is seldom nonmanual. However, beginning in the 1980s, “town and village enterprises” (“TVE’s”) began to be established in small towns and villages, creating increasing opportunities for non-agricultural employment (Jin & Qian, 1998; Naughton, 2007, Chapter 12;

Walder, 1995). At the same time, as I already have noted, export-oriented manufacturing began to expand rapidly, especially in Guangdong and other coastal provinces. The bulk of the factory jobs in these enterprises were filled by rural migrants. Thus, we would expect the proportion of the rural labor force engaged in agriculture to have declined substantially, especially from the 1980s until the present. At the same time, the portion of the urban population employed in agriculture during the early years of the communist era experienced increased opportunities for non-agricultural work. Which group benefitted the most from the compression of the agricultural labor force?

Another indicator of advantage is the proportion of a group employed in nonmanual work. Although both nonmanual and manual jobs are quite heterogeneous in their character, nonmanual work generally requires more education, is less physically demanding, and is done in more pleasant and healthy environments than is manual work. Thus, given the choice, many people would prefer nonmanual jobs. As economies expand, the fraction of the labor force doing nonmanual work tends to increase, as jobs shift first from agriculture to manufacturing and low level service and subsequently from these sectors to information processing, record keeping, and technical production. Thus, we would expect the proportion of the Chinese labor force engaged in nonmanual work to increase over time. Again, the question is how such trends have affected the different rural–urban status groups.

Because occupational mobility over the life course is substantial in most societies, with many people obtaining jobs of increasing status as they gain experience and seniority, a proper comparison of cohort variations in occupational status requires that we study occupations at a fixed point in the life course. Reasoning that careers have largely stabilized by age 30, I chose to characterize respondents by their occupation at age 30, making use of the complete work histories available in both data sets.

Fig. 2 shows the proportion of the labor force engaged in agriculture at age 30 by year of birth and rural–urban status. There is little that is greatly surprising here, except perhaps that among those who came of age prior to the second world war, nearly a fifth of those who were urban residents as children were engaged in agriculture at age 30. This almost certainly reflects that fact that both small towns and many cities retained arable land within their borders, rather than geographical mobility from urban to rural areas. Of course, it is no surprise that the rural-origin population was far more likely than the urban-origin population to be engaged in agriculture, with the mixed sector falling in between. What

¹² Since the focus of the present analysis is on urban–rural differences, I have chosen to analyze men and women together throughout the analysis in order to maintain viable sample sizes, although in the parts of the analysis in which I adjust for factors correlated with rural–urban status I include gender as one of the control variables. The justification for pooling men and women in a single sample is that in China women are nearly as likely as men to work—in my data, 78% of women and 89% of men were in the labor force at age 30, a higher level of female labor force participation and a smaller gender gap in participation than in many nations (Treiman & Roos, 1983, Table 1).

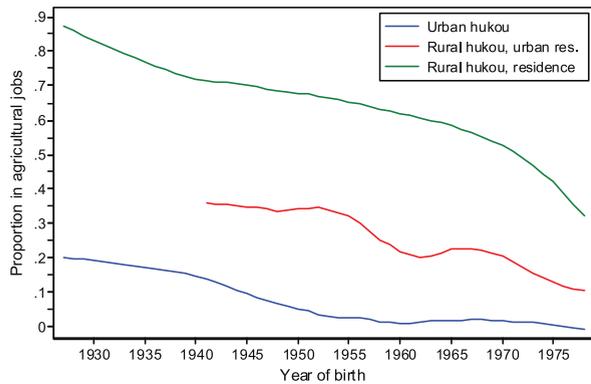


Fig. 2. Trends in the proportion of the labor force in agricultural jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20–69 and a 2008 survey of Chinese adults age 18–64; smoothed using a lowess smoother.)

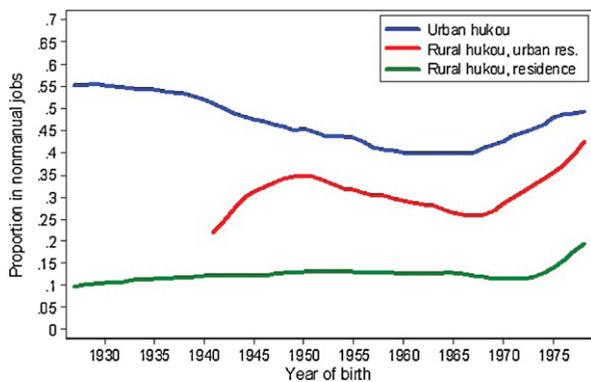


Fig. 3. Trends in the proportion of the labor force in nonmanual jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20–69 and a 2008 survey of Chinese adults age 18–64; smoothed using a lowess smoother.)

is interesting is that, as with education, the transition to a modern economy consisting increasingly of non-agricultural jobs has been steady rather than abrupt and began well before the 1978 Economic Reform.¹³ Still, it is evident that the introduction of the Economic Reform in the early 1980s accelerated the movement away from agriculture, so that the decline in agricultural employment among the rural origin population increased for cohorts born after about 1965.

Fig. 3 shows the proportion of the labor force engaged in nonmanual work at age 30, by birth cohort

¹³ A similar point has been noted by others (e.g., Lavelly & Freedman, 1990) with respect to the decline in fertility, which has been steady throughout the 20th century. In particular, the introduction of the One Child Policy merely continued a trend already well underway.

and rural–urban status at age 14. Here the results are somewhat surprising. In contrast to most industrializing nations, China experienced little increase in the nonmanual sector until very recently.¹⁴ Indeed, in the urban-origin population there was a decline until the 1965 birth cohort. Thus, only since 1995 has there been an increase in the relative size of the nonmanual sector in cities. For the rural origin population, the increase in the fraction nonmanual began only in the early years of the 21st century. As usual, the mixed-origin group is in the middle. It is likely that the recent increase in the proportion nonmanual reflects changes in demand accompanying the economic expansion of China, which began in cities and somewhat later spread to towns and villages with the development of TVE’s (“town and village enterprises”). Moreover, during the early years of expansion many categories of jobs, in particular, nonmanual jobs, were restricted to those with urban *hukou*. What is clear is that the urban–rural gap was and remains very large, with about half of those of urban origin who were age 30 at the time of the 2008 survey holding nonmanual jobs compared to only about a fifth of their rural counterparts, even though many of those from rural origins migrated to urban areas and became not only factory and service workers but nonmanual workers as well.

4.3. Earnings and income

Because earnings and income vary substantially over the life course, and because, unlike occupation, I do not have data for fixed ages, I cannot construct trend graphs similar to those shown previously. However, it is possible to take advantage of the availability of two variables available in both surveys—monthly earnings from employment and annual family income from all sources—to assess whether and in what ways incomes, and the rural–urban gap in incomes, have changed over the 12 years between the surveys, a period of very rapid economic expansion in China. Since inflation was substantial in the period between the surveys, I transformed the 1996 data to be equivalent to the 2008 data in purchasing power, by multiplying the 1996 variables by the ratio of the 2007 to the 1995 Chinese National Consumer Price Index (National Bureau of Statistics, 2009).

¹⁴ It is possible that this is part of a generic communist pattern of devaluing nonmanual work relative to manual work, which would exert pressure against expansion of the nonmanual sector. It would be useful to compare trends in China with those in other communist nations, e.g., the six nations studied by Szelényi, Treiman, and their colleagues (Treiman & Szelényi, 1993). But doing so is beyond the scope of this paper.

Table 2

Two measures of mean income (rmb^a), Chinese adults age 20–64 in 1996 and 18–64 in 2008, by rural–urban status, with and without controls.

	Rural	Rural reg., urban res. (“mixed”)	Urban	Rural as % of urban	Mixed as % of urban
Mean monthly earnings from employment (excluding those without income)					
1996					
Actual	541	590	609	89	97
Adjusted ^b	630	677	623	101	109
N ^c	(936)	(181)	(1193)		
2008					
Actual	1012	1535	1586	64	97
Adjusted ^b	1534	2728	1819	84	150
N ^c	(1299)	(305)	(732)		
Mean annual total family income					
1996					
Actual	9913	14,872	21,372	46	70
N ^c	(3989)	(357)	(1741)		
2008					
Actual-full ^d	23,328	31,803	35,749	65	89
N ^c	(1654)	(414)	(931)		
Actual-restricted ^d	22,824	27,986	37,686	61	74
Adjusted ^b	24,642	28,793	39,218	63	73
N ^c	(1387)	(290)	(717)		

^a The 1996 data are transformed to the purchasing power equivalent of the 2008 data by multiplying the 1996 values by the ratio of the Chinese national consumer price index for 2007 to that for 1995 (National Bureau of Statistics, 2009). On 1 January 2008, the value of the rmb was U.S. \$0.137.

^b See text for details.

^c Unweighted means.

^d The full sample includes all those reporting family income—nearly the entire sample. The restricted sample excludes those missing data on any of the variables included in the adjustment equation. Thus, 1996 vs. 2008 comparisons should be made using the full-sample coefficients, but actual vs. adjusted comparisons should be made using the restricted-sample coefficients.

Consider earnings first. One discrepancy between the two data sets deserves mention: in the 1996 data, 62% of the sample claimed to have no income from employment, whereas only 13% did so in 2008. Presumably this reflects the shift out of agriculture and other family enterprises and into wage employment; but it may also reflect differences in the way the question was asked in the two surveys. The top panel of Table 2 shows mean earnings in 1996 and in 2008 by rural–urban status (these are the “actual” coefficients) and also mean earnings adjusted by estimating a township-level community fixed-effects model separately for each rural–urban status group in each year,¹⁵ with predictors age, age-squared, gender, years of school completed, and the 4-category occupational classification used earlier, which distinguishes nonmanual workers, manual workers, agricultural workers, and “other” workers (mainly service and sales

workers).¹⁶ The adjusted coefficients show the expected monthly earnings for male manual workers at the mean age (43.3) and education (8.0 years) of the population in the combined data set; these are, in the nomenclature of Stata 11, margins set at fixed values for age, gender, education, and occupation. The fixed-effects specification

¹⁵ A pooled model with a full set of interactions with survey year showed the process of earnings attainment to significantly differ in the 2 years.

¹⁶ Each of the two data sets was coded first into the *Chinese Standard Classification of Occupations (CSCO)* and then these codes were converted to the *International Standard Classification of Occupations (ISCO)* (International Labour Office, 1969, 1990). The CSCO used for the 1996 data mapped most readily into ISCO 68 and the CSCO used for the 2008 data mapped most readily into ISCO 88. Here are the two sets of recodes used to create the four category classification used in the present analysis. For the 1996 data, category 1 (nonmanual workers) included ISCO 68 codes 0000/0443 5000/5199 5800/5829 5910/5929; category 2 (manual workers) included ISCO 68 codes 07000/09999; category 3 (agricultural workers) included ISCO 68 codes 06000/06999; and category 4 (other workers—mainly sales and service) included all remaining ISCO 68 codes. For the 2008 data, category 1 included ISCO 88 codes 0001/4999 5113 5161/5169; category 2 included ISCO 88 codes 7000/9099 9300/9999; category 3 included ISCO 88 codes 6000/6999 9200/9213; and category 4 included all remaining ISCO 88 codes.

takes account of the fact that migrants tend to gravitate to high income areas. Thus, the comparison is between the three residential-registration origin groups within each township-level unit.¹⁷

The first point of interest is that, even adjusting for inflation, the average earnings of both the urban and rural population increased dramatically between 1996 and 2008, but the urban increase was even greater, 160% compared to 87% for the rural population.¹⁸ The result, of course, is that the urban–rural gap in earnings from employment increased substantially, whether measured by differences or ratios. Expressed as ratios, the average monthly earnings of the employed rural population declined from 89% of that of the urban population to 64%.¹⁹ However, for 1996 essentially the entire gap, and for 2008 a substantial portion of the gap, can be attributed to urban–rural differences in the factors contributing to high earnings, as is evident from the fact that adjusted rural earnings were 101% and 84% as large, respectively, in 1996 and 2008 as adjusted urban earnings.

The other striking aspect of these results is that in both 1996 and 2008 those brought up in urban areas but with rural *hukou* (the “mixed” group) earned nearly as much as those who grew up with an urban *hukou* (97%). Further, in both years the adjusted ratios are greater than

100%—in 2008 very substantially so. This means that if the mixed population had the same human capital and other factors affecting income as the urban population, their incomes would be substantially higher than those living in the same townships with urban *hukou*. How this comes about will require additional analysis, which takes account of residential and registration status not only at age 14 but also at the time of the survey; a separate paper will consider these factors.

Now consider rural–urban differences in total family income. Here the results are rather different, and perhaps provide a better estimate of the true size of the rural–urban gap since we have total family income for most people in the sample. In 1996, rural families averaged only 46%, and “mixed” families only 70% of the average for urban families. By 2008 the gap had closed somewhat, with rural families averaging 65% and mixed families averaging 89% of what urban families averaged. (Note that the narrowing of the gap contrasts with what others, cited above, found for earlier years.) Given that rural families are somewhat larger (with a mean of 4.3 people per household, compared to 4.1 for mixed families and 3.8 for urban families), the welfare gap is even larger.

I then get adjusted mean family incomes for 2008 in the same way as I got adjusted coefficients for individual earnings for both years; the necessary data are not available for 1996. To do this, it is necessary to change the equation, to control for factors pertinent to household incomes. Computed over all members of the household age 18–64, I constructed variables for the number of adults in the household, household mean age, mean years of schooling, % male, % engaged in agriculture, and % engaged in nonmanual work, and controlled for township of residence via community fixed effects estimation, restricting the sample to cases with complete data. I then estimated margins at the overall means of all predictor variables. Because the complete data restriction reduced the sample size for each rural–urban group by a non-trivial amount, I show actual as well as expected means for the restricted sample to permit proper comparisons. Here, the adjustments make almost no difference: rural household incomes average just over 60% of those of urban household incomes, and mixed households average just under 75%, with or without controls. Clearly, the available controls have little impact. Indeed, the only significant variables in any of the equations are mean years of schooling in the rural and urban equation (for both, $p < .01$) and per cent nonmanual workers in the mixed equation ($p = .10$). Further exploration of this topic will need to await the availability of data with more pertinent variables.

¹⁷ Townships—approximately zip-code size areas, which in the year 2000 averaged about 25,000 residents—are the primary sampling units for the 2008 survey and, practically speaking, for the 1996 survey as well, since in that survey county-level units were selected with probability proportionate to size and then, within each county, one township-level unit was selected, again PPS.

¹⁸ Other studies also find a widening rural–urban income gap, e.g., those cited in note 1 of Sicular et al. (2010, p. 85). Interestingly, the analysis of Sicular and her colleagues (p. 91) finds only a slight increase in the rural–urban gap between 1995 and 2002—from a ratio of 2.8 to 3.0. By contrast, Li and Luo’s (2010, p. 109) paper in the same volume shows a generally increasing gap from 1976 to 2005, although with downward dips between 1976 and 1983 and between 1994 and 1997. Lei’s paper in the volume (2010, p. 317) shows the same trend in the rural–urban gap, but in addition shows that rural–urban differences in living expenses track the income gap almost perfectly from 1990 on.

¹⁹ The rural–urban gap is even larger when various subsidies received by the urban, but typically not the rural, population (medical, unemployment, and health insurance, retirement benefits, and educational and public housing subsidies) are taken into account (for a useful discussion, see Li and Luo, 2010, pp. 110–118). Adelman and Sunding (1987) estimated that in the mid-1980s the urban population received subsidies totaling 82% as much as their monetary income. The World Bank (1997) estimated the subsidy in 1995 as 72%, and Li and Luo (2010, p. 119), using what they regard as a more accurate method and the same data as Sicular et al., estimated the urban subsidy in 2002 as 35%, the rural subsidy as 9%, and the urban–rural ratio that takes account of the subsidies as 4.4.

Table 3
Percentage of households with selected amenities, Chinese adults age 20–64 in 1996 and 18–64 in 2008, by rural–urban status.

Item	Year ^a	Rural	Mixed	Urban	Diff.: urban – rural	Diff.: urban – mixed
Color TV	2008	86	89	91	5	2
	2003	54	70	81	27	11
	1996	27	58	79	52	21
	1986	3	11	21	18	10
Refrigerator	2008	40	52	71	31	19
	2003	19	38	68	49	30
	1996	13	31	62	49	31
	1986	1	6	15	14	9
Electric rice cooker	2008	71	77	88	17	11
	2003	44	64	83	39	19
	1996	23	33	56	33	23
	1986	3	6	16	13	10
Auto. washing machine	2008	10	25	33	23	12
	2003	5	11	20	15	9
	1996	4	11	14	10	3
	1986	0	1	1	1	0
Air conditioner	2008	18	32	43	25	11
	2003	9	22	35	26	13
	1996	1	5	13	12	8
	1986	0	0	0	0	0
Telephone	2008	61	71	72	11	1
	2003	41	65	73	32	8
	1996	7	22	44	37	22
	1986	0	1	2	2	1
Mobile phone	2008	73	83	89	16	6
	2003	36	46	64	28	18
	1996	0	1	3	3	2
Microwave oven	2008	11	30	41	30	11
	2003	5	14	29	24	15
	1996	0	1	3	3	2
	1986	0	0	0	0	0
Personal computer	2008	11	26	43	32	17
	2003	3	8	24	21	16
	1996	0	1	2	2	1
	1986	0	0	0	0	0
Indoor toilet in hshld	2008	30	47	66	36	19
	1996	19	38	58	39	20
Piped gas	2008	12	26	47	35	11
	1996	2	6	14	12	8

^a For most items, 4 years are shown. The 2008 and 1996 measures are derived from questions in the surveys about whether the household has an item “now” (that is, at the time of the survey). The 2003 measures are from the 2008 survey and are responses to whether the household had the item “five years ago.” The 1986 measures are from the 1996 survey and are responses to whether the household had the item “10 years ago.” Where years are missing, it is because the question was not asked.

4.4. Material well-being and housing characteristics

Table 3 shows trends over time in the likelihood of possessing various consumer durables, separately for the three rural–urban origin groups. By exploiting the fact that both the 1996 and 2008 surveys included questions about possessions at the time of the survey and possessions some years earlier—5 years in the 2008 survey

and 10 years in the 1996 survey—it was possible to construct a time series ranging from 1986 to 2008.²⁰

²⁰ Note that only the 2008 vs. 1996 comparisons are fully legitimate since they pertain to the situation at the time of each survey for representative samples of the population, whereas the 2008–2003 and 1996–1986 comparisons reflect both period effects (that is, changes in the level of consumption in the population over time) and age effects (that is, changes due to the fact that people were 5 years older in 2008

Although there are many details of interest, the overall pattern can be summarized simply: for each rural–urban status group, there was dramatic improvement over time in the likelihood of possessing each item; and for almost every item a substantial urban–rural gap remained even in the most recent year (the two right-hand columns show comparisons between the urban origin population and, respectively, the rural origin and mixed origin populations). The only exception was possession of a color TV set, which had become close to universal by 2008. On average, everyone gained, but an urban origin remained strongly advantageous.

Two items on housing characteristics, asked both in 1996 and 2008, are consistent with both the trend toward improvement over time and the remaining urban–rural gap; see the last two items in Table 3. There are both strong urban–rural difference in indoor toilets exclusively used by a family and substantial improvements over time: urban households were three times as likely as rural households to have indoor toilets in 1996 and more than twice as likely in 2008. The presence of piped gas in the household shows a similar change—strong rural–urban differences in both 1996 and 2008 and a substantial improvement over time for all three groups.

4.5. Subjective well-being

Given these results, and those reported earlier, it is hardly surprising that both in 1996 and 2008 most Chinese felt that they were better off than they had been 5 or 10 years earlier. Table 4 shows responses to three pertinent questions asked in 2008 and one question asked in 1996. For all items and all rural–urban status groups, an overwhelming majority felt they were either “some-what” or “much” better off than previously. Interestingly, the majorities are even more pronounced for those from rural than from urban origins. This may reflect the larger increases in the proportion possessing particular items in the rural than in the urban origin populations, resulting from the very low level of material well-being of the rural population even in the recent past.

Although a casual reader might suspect that the very positive outlook of Chinese respondents may simply reflect the inherent optimism of people the world over, the evidence runs against such a claim. Table 5 shows a comparison between China and six Eastern European

than in 2003 and were 10 years older in 1996 than in 1986. To be sure, age effects probably are mitigated by the fact that the questions refer to household rather than individual amenities, but they surely are still present, although to an unknown degree.

Table 4

Percentage believing that things have gotten better relative to the past, Chinese adults age 20–69 in 1996 and 18–64 in 2008, by rural–urban status.

Per cent giving positive responses	Rural	Mixed	Urban	Total
2008				
Income compared to 5 years ago ^a	82	81	71	80
Income compared to 10 years ago	94	91	82	92
Quantity, variety of food (5 years ago) ^b	86	79	79	84
1996				
Family situation 10 years ago ^c	89	89	82	88

^a The exact wording of the item was “Compared to five years ago (2002) and 10 years ago (1997), does your family have a lot more, somewhat more, about the same, somewhat less, or a lot less income?”.

^b The exact wording of the item was “Please compare your family’s current living standard with what it was five years ago. With respect to each of the following, do you think your family’s current living standard is a lot better than, somewhat better than, about the same as, somewhat worse than, or a lot worse than it was five years ago?” The item shown here is the “quantity and variety of food.”.

^c The exact wording of the item was “Compared with 10 years ago, do you feel that your own and your own family’s current situation is a lot better, a little better, about the same, a little worse, or a lot worse?”.

nations surveyed in 1993, 4 years after the collapse of communism in Eastern Europe and 2 years after the collapse of the Soviet Union. In all six nations surveyed, the political collapse was accompanied by a severe contraction of the economy, which on average lost about 40% of its value (Heston, Summers, & Aten, 2002). Asked whether their lives were better, about the same, or worse than in 1988 (a year before the Eastern European collapse), most people reported that they were worse off.

Table 5

Percentage believing that things have gotten better, stayed the same, or gotten worse relative to the past, Chinese adults age 20–69 in 1996 and adults age 20–69 from six formerly communist Eastern European nations in 1993.^a

	Better	Same	Worse	Total	N
China	88	9	3	100	(6083)
Czech Rep.	35	24	41	100	(5481)
Poland ^b	27	18	55	100	(3352)
Slovakia	18	20	62	100	(4738)
Russia	17	18	65	100	(4526)
Bulgaria	17	16	67	100	(4637)
Hungary	16	18	66	100	(4160)

^a The exact wording of the question asked in the Eastern European surveys was “Finally, comparing your life now and in 1988, would you say your life is much better now, a little better now, about the same, a little worse now, or much worse now?” See Table 4 for the exact wording of the question asked in the Chinese survey.

^b The Polish survey was carried out in 1994.

In short, the contrast in subjective perceptions in China and Eastern Europe quite accurately reflects differences in the objective reality in the two regions.

5. Conclusion: a rising tide lifts all boats

This survey of trends over birth cohorts in various aspects of socioeconomic status and well-being has revealed a remarkably consistent pattern. Despite social and demographic upheavals on a scale that has almost no parallel elsewhere—including decades of civil war and foreign invasion, radical shifts in land use rights, the creation of a privileged urban elite at the expense of a peasant majority, the collectivization and decollectivization of agriculture, a famine that killed 30 million people and brought malnutrition to hundreds of millions more, a Cultural Revolution that disrupted both schooling and productive work for a decade, and institution of a draconian birth control regime—China has marched steadily into the ranks of the developed nations of the world, with dramatic increases in education, in the kinds of jobs typical of advanced economies, and in income and material well-being. While many of these changes might plausibly be thought to reflect changes in policy, especially the introduction and continuing expansion of a market economy and export-oriented manufacturing that began 30 years ago, the trends reviewed here appear in many instances to have predated the 1978 Economic Reform. Of course, without it progress may well not have continued²¹; and without prior progress creating suitable conditions, the reform may not have been possible or, even if possible, not nearly as successful as it has proved to be.

The question with which I began this paper was whether different sectors of the population benefited differentially from China's development. One possibility was that the rural sector was able to catch up to the urban sector because of increased opportunities for comparatively well-paying manufacturing jobs available to migrants. Another possibility was that inequality in income and other aspects of well-being increased because the urban sector was better able to take advantage of new opportunities. It turns out that neither of these characterizations is correct. Rather, "a rising tide lifted

all boats." That is, on the whole the steady improvement in conditions in China equally benefitted all three groups studied here, resulting on the one hand in the continuation of a rural origin disadvantage with little narrowing over time and on the other in a strong sense, especially on the part of the rural-origin population, that life is much better than it used to be.

While the trends are quite straight forward for those who grew up in the countryside and those who enjoyed an urban *hukou* from childhood on, they are much less clear cut for the "mixed" population—those who grew up in towns or cities but had rural *hukou* as children. While on average, this group falls in between the other two groups, the trends are much less smooth. This probably is in large part simply a consequence of the small size of this group in the pooled data set (only 771 unweighted cases, spread over many birth cohorts). Clearly, this group deserves more careful study, although at present suitable data are lacking because of the relatively small fraction of the population falling into this category.

One final limitation of the present analysis requires discussion. For reasons explained at the outset, I chose to divide the study population into three groups on the basis of a combination of residential and registration status at age 14. Thus, this has been a study of the consequences of social origins. I have not addressed this issue of how the outcomes studied here are affected by individual social mobility over the life course. Obviously, some individuals with agricultural *hukou* at age 14 were able to achieve a non-agricultural *hukou* by the time they were surveyed (indeed, this is true of 12% of rural-origin respondents and 48% of mixed-origin respondents to the 1996 survey, and 10% and 26%, respectively, in the 2008 survey). It would be worthwhile in future surveys, particularly large scale surveys required to overcome sample size limitations, to disaggregate the two rural *hukou*-origin categories on the basis of their outcomes in order to achieve a more nuanced account of the complex relationship between residential and registration origin, residential and registration destination, and the other aspects of social inequality studied here (see Zhang & Treiman, 2011, for a first attempt at such an analysis using pooled data from the 2008 survey used here and the 2008 Chinese General Social Survey).

Acknowledgments

Revised version of a paper first presented at the conference on *The Sources of Inequality across the Globe*, Juan March Institute, Madrid, Spain, 22–23 October 2010. Versions also were presented as an Institute for Advanced Study Distinguished Lecture at the Hong

²¹ Trends in the average years of schooling in the U.S. provide an interesting contrast to the Chinese case. In the U.S., education expanded steadily among those born at the beginning of the 20th century through 1947 but then completely leveled off for subsequent birth cohorts (Treiman, 2009a, pp. 152–188). There is nothing inevitable about a linear, or even a monotonic, expansion of education, as Ganzeboom and Treiman (1993) demonstrate.

Kong University of Science and Technology, 29 October 2010; to the Department of Sociology, National University of Singapore, 27 January 2011; at the annual meeting of the Population Association of America, 31 March–2 April 2011; to the Department of Sociology, Queens College, City University of New York, 21 September 2011; and to the Department of Sociology, New York University, 12 October 2011. Preparation of the paper was supported in part by the U.S. National Science Foundation (SBR-9423453, SES-0551279), which financed the data collection for both the 1996 and 2008 surveys used here; by the Luce Foundation, the Ford Foundation–Beijing, and the University of California Pacific Rim Program, which provided additional support for the 1996 survey; by the Social Science Division of the Hong Kong University of Science and Technology, which hosted the author as visiting professor during part of the time the paper was prepared; and by the California Center for Population Research, UCLA, which provided facilities and resources with funding from infrastructure grant R24HD041022 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

Thanks are due to Jun Li, Hua Ye, and Zhuoni Zhang, graduate students at the Hong Kong University of Science and Technology (HKUST), who read an early draft and provided many valuable insights and bibliographic leads. Comments from the audience by James Kung and Tony Tam when the paper was presented at HKUST were helpful, as were suggestions offered by Moshe Semyonov after hearing the PAA version, by Amy Hsin and Carl Riskin at the Queens College presentation, and by Paula England, Patrick Sharkey, and Florencia Torche at the NYU presentation.

References

- Adelman, I. & Sunding, D. (1987). Economic policy and income distribution in China. *Journal of Comparative Economics*, 11, 444–461.
- Buchmann, C. & Hannum, E. (2001). Education and stratification in developing countries: A review of theories and research. *Annual Review of Sociology*, 27, 77–102.
- Chan, K. W. (1994). *Cities with invisible walls*. Hong Kong: Oxford University Press.
- Chan, K. W. (2007). Misconceptions and complexities in the study of China's cities: Definitions, statistics, and implications. *Eurasian Geography and Economics*, 48(4), 383–412.
- Chan, K. W. & Buckingham, W. (2008). Is China abolishing the hukou system? *The China Quarterly*, 195, 582–606.
- Cheng, T. & Selden, M. (1994). The origins and social consequences of China's hukou system. *The China Quarterly*, 139, 644–668.
- (2008). *China education yearbook, 2008*. Beijing: People's Education Press.
- Chow, G. C. (2002). *China's economic transformation*. Malden, MA: Blackwell.
- Deng, Z. & Treiman, D. J. (1997). The impact of the Cultural Revolution on trends in educational attainment in the People's Republic of China. *American Journal of Sociology*, 103, 391–428.
- DiPrete, T. A. & Eirich, G. M. (2006). Cumulative advantage as a mechanism for inequality: A review of theoretical and empirical developments. *Annual Review of Sociology*, 32, 271–297.
- Dong, F., & Fuller, F. H. (2006). Changing diets in China's cities: Empirical fact or urban legend? *CARD working paper 06-WP 437*. Center for Agricultural and Rural Development. Available at: www.card.iastate.edu/publications.
- Elo, I. T. (2009). Social class differences in health and mortality: Patterns and explanations in comparative perspective. *Annual Review of Sociology*, 35, 553–572.
- Ganzeboom, H. B. G. & Treiman, D. J. (1993). Preliminary results on educational expansion and educational achievement in comparative perspective. In H. A. Becker, & P. L. J. Hermkens (Eds.), *Solidarity of generations: Demographic, economic and social change, and its consequences* (pp. 467–506). Amsterdam: Thesis Publishers.
- Gustafsson, B. & Li, S. (2001). A more unequal China? Aspects of inequality in the distribution of equivalent income. In C. Riskin, & R. Zhao (Eds.), *China's retreat from equality: Income distribution and economic transition*. Armonk, NY: M.E. Sharpe.
- Haveman, R. H. & Wolfe, B. L. (1984). Schooling and economic well-being: The role of non-market effects. *Journal of Human Resources*, 19, 377–407.
- Heston, A., Summers, R. & Aten, B. (2002). *Penn world table version 6.1*. Center for International Comparisons at the University of Pennsylvania (CICUP). October
- Hyman, H. H., Wright, C. J. & Reed, J. S. (1978). *The enduring effects of education*. Chicago: University of Chicago Press.
- International Labour Office [ILO]. (1969). *International standard classification of occupations, revised edition 1968*. Geneva: International Labour Office.
- International Labour Office [ILO]. (1990). *International standard classification of occupations: ISCO-88*. Geneva: International Labour Office.
- Jencks, C., Smith, M., Acland, H., Bane, M. J., Cohen, D., Gintis, H., et al. (1972). *Inequality: A reassessment of the effect of family and schooling in America*. New York: Basic Books.
- Jin, H. & Qian, Y. (1998). Public versus private ownership of firms: Evidence from rural China. *Quarterly Journal of Economics*, 113, 773–808.
- Knight, J. & Li, S. (1996). Educational attainment and the rural–urban divide in China. *Oxford Bulletin of Economics and Statistics*, 58, 83–117.
- Knight, J. & Song, L. (1999). *The rural–urban divide: Economic disparities and interactions in China*. Oxford: Oxford University Press.
- Lavelly, W. & Freedman, R. (1990). The origins of the Chinese fertility decline. *Demography*, 27, 357–367.
- Lei, G. (2010). Bringing the city back in: The Chinese debate on rural problems. In M. K. Whyte (Ed.), *One country, two societies: Rural–urban inequality in contemporary China* (pp. 311–334). Cambridge: Harvard.
- Li, S. & Luo, C. (2010). Reestimating the income gap between urban and rural households in China. In M. K. Whyte (Ed.), *One country, two societies: Rural–urban inequality in contemporary China* (pp. 105–121). Cambridge: Harvard.
- Liang, Z. (1999). Foreign investment, economic growth, and temporary migration: The case of Shenzhen Special Economic Zone, China. *Development and Society*, 28, 115–137.

- Lin, J. Y. (1992). Rural reforms and agricultural growth in China. *American Economic Review*, 82, 34–51.
- Lu, Y. & Treiman, D. J. (2008). The effect of sibship size on educational attainment in China: Cohort variations. *American Sociological Review*, 73, 813–834.
- National Bureau of Statistics. (2009). *New China 60 year statistics (1949–2008)*. Beijing: National Bureau of Statistics.
- Naughton, B. (1988). The third front: Defence industrialization in the Chinese interior. *The China Quarterly*, 115, 351–386.
- Naughton, B. (2007). *The Chinese economy: Transitions and growth*. Cambridge: MIT Press.
- Riskin, C., Zhao, R., & Li, S. (Eds.). (2001). *China's retreat from equality: Income distribution and economic transition*. Armonk, NY: M.E. Sharpe.
- Riskin, C., Zhao, R., & Li, S. (2001). Introduction to the retreat from equality: Highlights of the findings. In C. Riskin, R. Zhao, & S. Li (Eds.), *China's retreat from equality: Income distribution and economic transition* (pp. 3–22). Armonk, NY: M.E. Sharpe.
- Sicular, T., Yue, X., Gustafsson, B. & Li, S. (2010). How large is China's rural–urban income gap? In M. K. Whyte (Ed.), *One country, two societies: Rural–urban inequality in contemporary China* (pp. 85–104). Cambridge: Harvard.
- Song, S. (2009). Does famine have a long-term effect on cohort mortality? Evidence from the 1959–1961 great leap forward famine in China. *Journal of Biosocial Science*, 41, 469–491.
- Song, S. (2010). Mortality consequences of the 1959–1961 great leap forward famine in China: Debilitation, selection, and mortality crossovers. *Social Science and Medicine*, 71, 551–558.
- Song, S., & Burgard, S. A. (2008). Social conditions and infant mortality in China: A test of the fundamental cause perspective. *Population working paper PWP-CCPR-2008-013*. Los Angeles: UCLA, California Center for Population Research.
- Treiman, D. J. (Ed.). (1998). *Life histories and social change in contemporary China: Provisional codebook*. D. J. Treiman, & Andrew G. Walder (principal investigators); People's University, Beijing (producer); Los Angeles: UCLA, Institute for Social Science Research, Social Science Data Archive (distributor).
- Treiman, D. J. (2009a). *Quantitative data analysis: Doing social research to test ideas*. San Francisco: Jossey-Bass.
- Treiman, D. J. (2009b). Types of migration in China. In *Paper presented at the Annual meeting of the Population Association of America*.
- Treiman, D. J. (2010). Trends in educational attainment in China over the 20th century. In *Paper presented at the Spring meeting of the Research Committee on Stratification*.
- Treiman, D. J. & Roos, P. A. (1983). Sex and earnings in industrial society: A nine-nation comparison. *American Journal of Sociology*, 89, 612–650.
- Treiman, D. J. & Szelényi, I. (1993). Social stratification in Eastern Europe after 1989. In *Transformation processes in Eastern Europe, Proceedings of a workshop held at the Dutch National Science Foundation [NWO]* (pp. 163–178). The Hague: NWO.
- Treiman, D. J. & Yip, K. B. (1989). Educational and occupational attainment in 21 countries. In M. L. Kohn (Ed.), *Cross-national research in sociology* (pp. 373–394). Beverly Hills: Sage Publications.
- Walder, A. (1995). Local governments as industrial firms: An organizational analysis of China's transitional economy. *American Journal of Sociology*, 101, 263–301.
- Wang, F. L. (2004). Reformed migration control and new targeted people: China's hukou system in the 2000s. *The China Quarterly*, 177, 115–132.
- Wang, F. L. (2005). *Organizing through division and exclusion: China's hukou system*. Stanford: Stanford University Press.
- Whyte, M. K. (Ed.). (2010). *One country, two societies: Rural–urban inequality in contemporary China*. Cambridge: Harvard University Press.
- World Bank. (1997). *Sharing rising incomes: Disparities in China*. Washington, DC: World Bank.
- Wu, X. & Treiman, D. J. (2004). The household registration system and social stratification in China: 1955–1996. *Demography*, 41, 363–384.
- Wu, X. & Treiman, D. J. (2007). Inequality and equality under Chinese socialism: The hukou system and intergenerational occupational mobility. *American Journal of Sociology*, 113, 415–445.
- Zhang, Z., & Treiman, D. J. (2011). Social origins, hukou conversion, and the well-being of urban residents in contemporary China. *Population working paper PWP-CCPR-2011-009*. Los Angeles: UCLA, California Center for Population Research.