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**The “Difference Between Heaven
and Earth”: Urban-Rural
Disparities in Health and Well-
Being in China**

Donald Treiman

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Urban-Rural Disparities in Health and Well-being in China**

Donald J. Treiman

California Center for Population Research, UCLA

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Contact information

Postal address: 2006 Stradella Road, Los Angeles, CA 90077, USA

Phone: 1/310/889-9660; fax: 1/425/699-4915.

Gmail: treimandj@gmail.com

Abstract

Although China is a rapidly developing nation, rural-urban disparities in health and well-being remain large, and perhaps have become larger than in the early years of the Communist period because the urban sector has benefitted 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 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 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.

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 level of living similar to that of the high income populations of the developed nations of the world. Despite these dramatic changes, however, the urban-rural gap in health and 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 and 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

¹ Computed from the 2007-2008 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 2004:123). But this has no effect on our results since children born in 1998 and later are not yet adults.

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 (Wu and Treiman 2004; Chan and Buckingham 2008:590-591). Moreover, except for peasants living in towns and cities when the *hukou* system was adopted, 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; Wang 2004, 2005; Chan and Buckingham 2008). 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 and Fuller 2006]), those with agricultural *hukou* were entitled to less grain than those with non-agricultural *hukou* (Cheng and Seldon 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

³ Under pressure from the central government, public schools increasingly accept "migrant" children, that is, those lacking both local and urban *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 financially difficult for migrant parents to be able to afford such schooling for their children.

⁴ Whyte (2010:5) 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.

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 (for classic statements regarding differences between urban and rural life, see Wirth (1938) and Fischer (1975, 1984, and 1995)).

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., Knight and Shi 1996; Knight and Song 1999; Gustafsson and Shi 2001; and 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.

2.1 *Changes in geographical 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 1950-1957 there was substantial movement around the country, for several reasons: many members of the victorious communist

army moved to cities to take over administrative positions; 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 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 in the late 1950s to staff the industrial development envisioned by the “Great Leap Forward” were relocated to their home villages (Chan 1994:39). 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 and Seldon 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 of labor 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

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.

of agricultural labor resulted from improvements in agricultural efficiency associated with the decollectivization of agriculture.⁶

The result 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.⁷ 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. The result is that 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 and Treiman 2007).⁸

⁶ Part of the economic reform that began in 1978 was to decollectivize agriculture. 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 capital productivity increased dramatically (Lin 1992; Chow 2002: Chs. 3 and 5). 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 be manage their own enterprises. In Russia, by contrast, collectivization lasted three times as long and left peasants without the appropriate skill set.

⁷ As Liang shows (1999:Table 4), Shenzhen, a Special Economic Zone, in Guangdong Province, 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 ½ of 1% of the population but by 1994 accounted for 72%. Recent estimates put the enumerated population at nearly 10 million, mostly migrants.

⁸ 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.

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% per annum growth in the level of GDP per capita for more than 30 years (precisely, an average of 9.7% per year from 1978-2009 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 benefitted 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 registration status are themselves outcomes subject to the same determinants as the level of living and other aspects of welfare.⁹

It may be that the rural-urban gap has *declined* over time, as villagers have been able to sojourn to towns and 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,

⁹ Formally, this is a problem of “sample selection bias.” Insofar as unmeasured traits increase the probability both of, say, moving to a city and of earning a high income, the attribution of income differences to 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 a net advantage.

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 and 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. (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.)

2.2 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 and Song 1999:29-31; Ch 2; Sicular et al. 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, 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 only slightly been moderated since the economic reform; but none of the papers in the collection presents trend data prior to the 1978 economic reform.

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. The 1996 survey of people age 20-69 resulted in 6,090 completed cases. The 2008 survey of people age 18-64 resulted in 3,000 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.¹⁰

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

¹⁰ 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 years of schooling, the average difference was .10 years; for the proportion in agriculture, the average difference was .05; for the proportion nonmanual, the average difference was .02. All these differences are quite small relative to both the means of the variables and the range between the values for the earliest and latest dates in the trend lines.

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 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.¹¹ 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. 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*).

To be sure, this classification is not perfect. Its major shortcoming is that the administrative hierarchy lags behind social and economic reality. There are now many urbanized

¹¹ 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.

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 addition, there are “villages within cities,” places that have remained classified as villages as cities have grown around them. 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. Since urbanized villages are relatively recent, the implication is that minor convergences between the rural and “mixed” sectors should be interpreted with considerable caution.

4 Trends

4.1 *Education and other aspects of human capital*

Arguably, educational differentials are at the root of most forms of inequality in the contemporary world, 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 (Jencks et al. 1972; Hyman, Wright, and Reed 1978; Haveman and Wolf 1984; Treiman and Yip 1989; Buchmann and Hannum 2001; Elo 2009). 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 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 many of 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.¹²

[Fig. 1 about here.]

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 dip in the upward trend for those born between the mid-1960s and the mid-1970s, particularly those from agricultural origins. These cohorts 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” (see note 6), agricultural families and those with family enterprises perceived their offspring’s schooling as involving a greater opportunity cost than previously and pulled their teenage children out of school to provide additional labor. This dip probably was exacerbated by the closing of many rural schools that had been established during the Cultural Revolution. Returning to the overall trend, average educational attainment increased from about 4.5 years among urban people born in 1927 and just over two years among their rural

¹² 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 and Treiman 1997), and vacillations in policy between “red” and “expert” (Lu and Treiman 2008). But they also would make it much more difficult to perceive the overall trends.

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 four 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. These trends are quite similar for men and women, despite the nearly two 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.¹³

Of course, as is well known from studies in the U.S. and elsewhere (U.S. Dept. of Agriculture 2003; Zhang 2006), there may well be differences in the *quality* of education available to urban and rural residents, even when they obtain the same *amount* of schooling. In China we would expect urban schools to be better than rural schools (Hannum 1999), both because they tend to receive greater per-pupil allocations of public funds (Wu 2010:105) and because higher quality teachers prefer to teach in urban areas. Moreover, academically elite (“key point”) schools were almost entirely restricted to urban areas (Lewin, Xu, and Zheng 1994).

¹³ 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. An additional advantage is that not differentiating men and women substantially reduces both the length of the paper and the complexity of the presentation. 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 the data used here, 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 and Roos 1983:618[Table 1]).

A conventional measure of educational attainment in the Chinese context is the number of words a person is able to read. Since Chinese is an ideographic language, one of the major functions of schooling is to teach pupils to recognize an increasingly large number of words (often but not always composed of two characters). Both the 1996 survey and the 2008 survey included 10-point word recognition tasks; however, the words included in the two surveys were different.¹⁴ Thus, in Figs. 2.a and 2.b I have shown two lines for each rural-urban status, with the solid line on the left derived from the 1996 survey and the dotted line on the right derived from the 2008 survey.

[Figs. 2.a and 2.b about here.]

Not surprisingly, Fig. 2.a shows a pattern of word recognition that grossly mirrors that of Fig. 1 on trends in education, with those from urban origins at an advantage compared to those from rural origins, and those with mixed origins in between. However, in contrast to years of schooling, there appears to be a substantial narrowing of the vocabulary gap, as measured in 2008 but not in 1996, between those of rural and urban origin. In the 2008 data there is a reduction in the rural-urban gap from about three words for those born in the early 1950s to less than one word for those born in 1990. Given the better distributional properties of the 2008 scale, I would be inclined to take the 2008 results rather more seriously than the 1996 results, despite the fact

¹⁴ The words included in the 1996 survey, listed in increasing order of difficulty with the percentage correctly identifying each word, were *yiwan* (ten thousand), 84%; *xingming* (full name), 82%; *liangshi* (grain), 80%; *hanshu* (function), 57%; *diao-zhuo* (carve), 45%; *sinüe* (wreak havoc), 41%; *chichu* (walk slowly), 2%; *chuanmiu* (erroneous), 2%; , *quimao* (octogenarian), 2%; and *taotie* (glutton) 1%. Because this list proved not to be well distributed with respect to the level of difficulty (see Treiman 2007 for details), we changed the list for the 2008 survey to the following: *ziji* (self), 89%; *shijie* (world), 88%; *xianmu* (admire), 71%; *kangkai* (generous), 67%; *hanshu* (function), 58%; *diao-zhuo* (carve), 56%; *fuyan* (perfunctory), 44%; *chouchu* (hesitant), 37%; *chichu* (walk slowly), 19%; *yili* (meandering), 13%. Note that three of the words (*hanshu*, *diao-zhuo*, and *chichu*) are in both lists and that for two of the three words the percentage of correct responses is substantially higher in the 2008 survey than in the 1996 survey. It is difficult to know what to make of this, since the improvement does not hold for *hanshu*.

that the 1996 sample is twice as large and therefore the results are much less subject to sampling error. The problem with the 1996 scale is that it included four words that almost no one knew, which suggests that it didn't do as good a job of differentiating the population as did the 2008 scale. All in all, the results suggest some narrowing over time in the urban-rural gap in vocabulary knowledge and, by inference, in the quality of schooling.

This conclusion is reinforced by Fig. 2.b, which shows trends in rural-urban status differences controlling for years of schooling and gender.¹⁵ Fig. 2.b is not as orderly as Fig. 2.a, which is typical of graphs of residuals since the noise to signal ratio in graphs of residuals tends to be larger than in graphs of main effects. Again (but note the change in scale), the 1996 data show a consistently greater vocabulary, relative to education, for those from rural origins than for those from rural origins, with the mixed group falling in between, except for the inexplicable downward dip at the right. The 2008 data are less orderly, with vocabulary scores declining relative to years of schooling for those with urban *hukou* but increasing for rural *hukou* holders growing up in cities. Taken together with Fig. 1, these results suggest that rural *hukou* holders growing up in cities have not kept up with the secular increase in the *amount* of education but have more than kept up with the skills that schooling purports to provide. On the other hand, why vocabulary scores declined for urban *hukou* holders relative to their schooling, but did not for those who grew up in rural areas, is not clear, but could reflect an increase in the quality of rural schooling relative to urban schooling as I conjectured in the discussion of Fig. 2.a.

¹⁵ The lines in Fig. 2.b were created separately for each survey and each rural-urban status category. In each case, I regressed the number of words correctly identified on year of birth (coded as a set of dummy variables), years of school completed, and gender. I then obtained predicted values for each individual, holding years of schooling and gender at their means (using the Stata 10 -adjust- command), and smoothed the predictions for each year using Stata's lowess smoother with a band width of .4. I used a similar procedure for each of the subsequent graphs involving adjusted lines.

One other aspect of Fig. 2.b deserves comment—the decline in vocabulary knowledge relative to years of schooling for those born between 1950 and 1960, which is particularly pronounced for the 2008 scale. As I have shown elsewhere (Treiman 2007), these cohorts were victims of the Cultural Revolution, when universities were shut down entirely from 1966-1972, and secondary schools from 1966-1968. When they reopened, schools at both levels were concerned primarily with political indoctrination until the restoration of academic standards in 1977 (Hannum 1999:198-199). At the same time, many new primary schools were opened in villages, but typically with a very low academic standard (Unger 1982). Using the 1996 data, I elsewhere calculated the cost of the Cultural Revolution as the equivalent of about one year of schooling (Treiman 2007). Fig. 2.b reveals that my earlier analysis probably under-estimated the effect of the Cultural Revolution because of deficiencies in the 1996 vocabulary scale.

4.2 Occupational status¹⁶

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” (“TVEs”) began to be established in small towns and villages, creating increasing opportunity for non-agricultural employment (Walder 1995; Jin and Qian 1998; Naughton 2007:Ch. 12). At the same time, as I already have noted, export-oriented manufacturing began to

¹⁶ To arrive at the 4-category occupation classification used here and later in the paper, 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* (International Labour Office 1969, 1990). The CSCO used for the 1996 data mapped most readily into ISCO68 and the CSCO used for the 2008 data mapped most readily into ISCO88. Here are the two sets of recodes used to create the 4-category classification. For the 1996 data, category 1 (nonmanual workers) included ISCO68 codes 0000/0443 5000/5199 5800/5829 5910/5929; category 2 (manual workers) included codes 07000/09999; category 3 (agricultural workers) included codes 06000/06999; and category 4 (other workers— mainly sales and service) included all remaining ISCO68 codes. For the 2008 data, category 1 included ISCO88 codes 0001/4999 5113 5161/5169; category 2 included codes 7000/9099 9300/9999; category 3 included codes 6000/6999 9200/9213; and category 4 included all remaining ISCO88 codes.

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 (and some, of course, experiencing downward mobility over the course of their careers), 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. 3 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 or within walking distance, 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 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.¹⁷ 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 about here.]

Fig. 4 shows the proportion of the labor force engaged in nonmanual work at age 30, by birth cohort 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. Indeed, in the urban-origin population there was a decline until the 1965

0. A similar point has been noted by others (e.g., Lavelly and 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.

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 difficult to know what to make of this trend. But what is clear is that the urban-rural gap was and remains very large, with about half of those of urban origin age 30 at the time of the 2008 survey holding nonmanual jobs compared to only about a fifth of their rural counterparts. Of course, many of those from rural origins migrated to urban areas and became not only factory and service workers but nonmanual workers as well.

[Fig. 4 about here.]

4.3 *Income*

Because income varies substantially over the life course, and because, unlike occupation, I do not have income 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 income data in both the 1996 and the 2008 survey to assess whether and in what ways income, and the rural-urban income gap, have changed over the 12 years between the surveys, a period of very rapid economic expansion in China. I do this by pooling data from the two surveys and estimating income from employment from a simple set of predictors. 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 1996 earnings by the ratio of the 2008 to the 1996 Chinese National Consumer Price Index (National Bureau of Statistics 2009). One discrepancy in 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.

Table 1 shows mean earnings in 1996 and in 2008 by rural-urban status (these are the “actual” figures) and also mean earnings adjusted for age, age-squared, gender, years of school completed, and the 4-category occupational classification described in note 16, which distinguishes nonmanual workers, manual workers, agricultural workers, and “other” workers (mainly service and sales workers); these are the “adjusted” figures. They are average margins derived from community fixed-effects regressions; the fixed-effects specification 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.¹⁸

[Table 1 about here.]

The first point of interest is that, even adjusting for inflation, the purchasing power of the urban population nearly tripled between 1996 and 2008 while that of the rural population “merely” doubled.¹⁹ The result, of course, is that the urban-rural gap increased dramatically, whether measured by differences or ratios. Expressed as ratios, the average real income of the

¹⁸ Townships—approximately zip-code size areas, which in 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. For convenience, the regressions were carried out separately for 1996 and 2008.

¹⁹ Other studies also find a widening rural-urban income gap, e.g., those cited in note 1 of Sicular et al. (2010:85,289). 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 (2010:109) 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 (Lei 2010:317) 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.

rural population declined from 87% of that of the urban population to 65%.²⁰ However, most of the gap is attributable to urban-rural differences in the factors contributing to high earnings—principally schooling the kind of job held, and the locale—as is evident from the fact that adjusted rural earnings were 94% and 97% as large, respectively, in 1996 and 2008 as adjusted urban earnings.

The other striking aspect of these results is that those brought up in urban areas, but with rural *hukou*, earned nearly as much as those who grew up with an urban *hukou* and in 2008 averaged essentially the same incomes, with or without adjustments. 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.

4.4 Health

A good measure of the general health of a population, and of trends in health, is the average height of adults; unlike weight, which fluctuates over the life course, height is fixed once people stop growing in their late teens or early 20s. It is well known that as nations develop, the average height of its citizens increases (Floud, Wachter, and Gregory 1990; Steckel 1995).

China is no exception. As we can see from Fig. 5, over the course of the period for which we have data from the 2008 survey (those born between 1943 and 1990),²¹ the average height of our

²⁰ 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 (2010:110-118). 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 (2010:119), 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.

²¹ In the 2008 survey height was carefully measured by a nurse or doctor as part of a general physical examination.

sample increased about three centimeters (a bit more than an inch), even discounting the sharp increase at the very left side of the graph (which may reflect wartime malnutrition in the urban population). Equally evident is an urban-rural gap of about the same size, which began to close only among those born in the 1980s. Interestingly, with respect to height those growing up in an urban environment, but lacking urban *hukou*, nonetheless enjoyed the same height advantage as permanent urban *hukou* holders.

[Fig. 5 about here.]

There are two main environmental determinants of adult height—childhood nutrition and hygienic conditions in early childhood that minimize the likelihood of chronic infant diarrhea (particularly access to clean water and hygienic toilet facilities [Mirza et al. 1997; Kosek, Bern, and Guerrant 2003; Keuch et al. 2006]). I have a measure of one of these, information about how often people consumed various kinds of food when they were age 14. Fig. 6 shows the proportion of the population eating animal protein at least three times per week when they were age 14. The increases over time are dramatic, with the permanent urban population increasing its frequent intake of animal protein from about 20% to virtually everyone and the rural population increasing its intake from about 10% to about 80%. Interestingly, here those growing up in cities but with rural *hukou* are less like those with urban *hukou* when growing up than was true with respect to height; rather, they follow the more usual pattern of falling in between the rural and urban sectors, but with more fluctuation over time. Here again, the urban-rural gap remains large throughout most of the period, only beginning to close among those born late in the century. For similar results based on different data, see Popkin and Du (2003), who warn about the potential negative health consequences of such an “improvement” in diets, and Zhai et al. (2009).

[Fig. 6 about here.]

Although neither the 1996 nor the 2008 surveys included information on housing conditions in childhood, two items available in the 1996 survey and one in the 2008 survey are consistent with the conjecture that part of the rural-urban gap in overall health, as measured by adult height, and part of the increase in height for both the rural and urban populations, may be due to differences in sanitation during early childhood. The first line of Table 2 shows sharp urban-rural differences in the availability of tap water in the household in 1996. Nearly all those of urban origin but less than half of those of rural origin had access to tap water in their own households, with those of mixed origin similar to the urban population. The second and third lines show both strong urban-rural difference in indoor toilets exclusively used by a family, and moderate improvements over time: urban households were three times as likely to have indoor toilets in 1996 and more than twice as likely in 2008. Since these figures pertain to the situation when the respondents were adults ranging in age from 18 to 69, the availability of clean water and sanitary toilets must have been far less common in earlier years. Thus, a reasonable summary is that dramatic improvements in both nutrition and hygiene over the past century led to large improvements in the health of the Chinese population, but did little to close the health gap between the rural and urban population.

[Table 2 about here.]

4.5 *Material well-being*

The remainder of Table 2 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—five years in the 2008 survey and 10 years in the 1996 survey—it was possible to construct a time series ranging from 1986 to 2008.²² 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 urban 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 urban origin remained strongly advantageous.

These shifts can be summarized by computing the means for each urban-rural status category for each year. Table 3 shows these results. Inspecting the table, it is clear that the major trend is the increase in consumption over time. Compared to this, differences between urban-rural status categories are relatively modest. Specifically, all the differences over the range of years are larger than any of the differences over the range of rural-urban status categories. This is seen most dramatically in the bottom row of the table, which shows that rural people had 31 times as many possessions in 2008 than in 1986, when they had virtually none. While not as dramatic, the increases in consumer durables over time for the mixed and urban populations are also very large.

[Table 3 about here.]

²² 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 five years older in 2008 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.

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 five 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 “somewhat” 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.

[Table 4 about here.]

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 nations surveyed in 2003, four years after the collapse of communism in Eastern Europe and two 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, and 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. In short, the contrast in subjective perceptions in China and Eastern Europe quite accurately reflects differences in the objective reality in the two regions.

[Table 5 about here.]

5 Conclusion: A Rising Tide Lifts All Boats

This survey of trends over birth cohorts in various aspects of socioeconomic status, health, 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, in income and material well-being, and in health. 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 continued;²³ 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 benefitted differentially from China's development. One possibility was that the rural

²³ 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 between the beginning of the 20th century and 1947 but then completely leveled off for subsequent birth cohorts (Treiman 2009a:152-158). There is nothing inevitable about a linear, or even a monotonic, expansion of education, as Ganzeboom and Treiman (1993) demonstrate.

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 straightforward 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). But it also may reflect the relative heterogeneity of this social category, which consists of several types of people—those who moved to cities with their migrant parents, the urban-born children of migrants, and the children of multiple-generation urban residents engaged in agriculture. Moreover, the relative mixture among these categories may have changed over time. For example, it is possible that in recent years increasing proportions of labor migrants may have moved to urban areas with their spouses and children, which could result in this social category becoming less selective, a condition that could account for the decline in education relative to the

two other groups revealed in Fig. 1. Alternatively, it may be that an expansion of rural-to-urban migration has resulted in a stiffening of resistance by city governments to national policies and procedures designed to improve the lives of migrants, for example, permitting access to local public schools without requiring exorbitant non-resident school fees. Still other possibilities can be imagined. 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). The consequences of *hukou* mobility are being studied in a separate paper. In addition, 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.

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Table 1. Mean monthly income from employment (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
<u>1996</u>					
Actual	534	590	614	87	96
Adjusted ^b	597	568	597	100	95
N ^c	936	181	1,193		
<u>2008</u>					
Actual	1,098	1,677	1,701	65	99
Adjusted ^b	1,451	1,511	1,503	97	101
N ^c	1,299	305	732		

^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).

^b The adjusted means were computed from township-level fixed-effects equations predicting earnings from rural-urban status, age, age-squared, gender, years of school completed, and the 4-category occupational classification used earlier. The coefficients shown in the table are, in the nomenclature of the Stata 11 -margins- command, average margins. The estimates were derived separately for the 1996 and 2008 samples.

^c Unweighted frequencies.

Table 2. 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
Tap water in household	1996	46	80	92	46	12
	2008	30	47	66	36	19
Indoor toilet in household	1996	19	38	58	39	20
	2008	12	26	47	35	11
Piped gas	1996	2	6	14	12	8
	2008	86	89	91	5	2
Color TV	2003	54	70	81	27	11
	1996	27	58	79	52	21
	1986	3	11	21	18	10
	2008	40	52	71	31	19
Refrigerator	2003	19	38	68	49	30
	1996	13	31	62	49	31
	1986	1	6	15	14	9
	2008	71	77	88	17	11
Electric rice cooker	2003	44	64	83	39	19
	1996	23	33	56	33	23
	1986	3	6	16	13	10
	2008	10	25	33	23	12
Auto. washing machine	2003	5	11	20	15	9
	1996	4	11	14	10	3
	1986	0	1	1	1	0

(continued)

Table 2 (continued).

Item	Year	Rural	Mixed	Urban	Diff.: urban - rural	Diff.: urban - mixed
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
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

^a For most items, four 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 response to whether the household had the item “10 years ago.” Where years are missing, it is because the question was not asked.

Table 3. Mean number of household amenities, out of the eight for which there are data for all 4 years,^a Chinese adults age 20-64 in 1996 and 18-64 in 2008, by rural-urban status (unweighted frequencies are shown for each of the two survey years).

Year ^b	Rural	Mixed	Urban	Diff.: urban - rural	Diff.: urban - mixed
2008	3.1	4.0	4.8	1.7	0.8
2003	1.8	2.9	4.1	2.3	1.2
1996	0.7	1.6	2.7	2.0	1.1
1986	0.1	0.2	0.6	0.5	0.4
Diff: '08-'86	3.0	3.8	4.2		
Ratio:'08/'86	31	20	8		
N (2008)	1,654	414	931		
N (1996)	3,989	357	1,741		

^a The items included are color TV, refrigerator, electric rice cooker, automatic washing machine, air conditioner, telephone, microwave oven, personal computer.

^b See Table 2, note a.

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
<u>2008</u>				
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
<u>1996</u>				
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 of 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?*”

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	(6,083)
Czech Rep.	35	24	41	100	(5,481)
Poland ^b	27	18	55	100	(3,352)
Slovakia	18	20	62	100	(4,738)
Russia	17	18	65	100	(4,526)
Bulgaria	17	16	67	100	(4,637)
Hungary	16	18	66	100	(4,160)

^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 3 for the exact wording of the question asked in the Chinese survey.

^b The Polish survey was carried out in 1994.

Note: The figures that follow are shown in color. A second set of figures, suitable for printing on a monochrome printer follow the set of color figures.

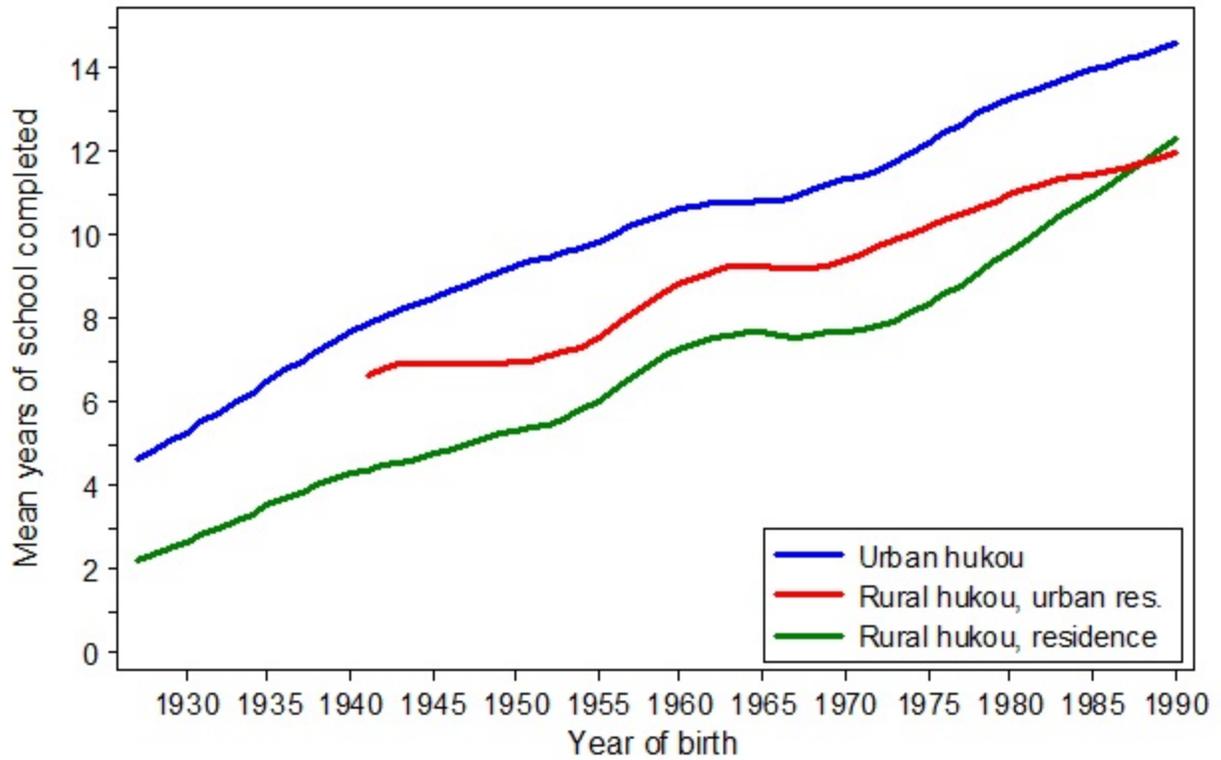


Fig. 1. Trends in years of school completed, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64. Smoothed using a lowess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

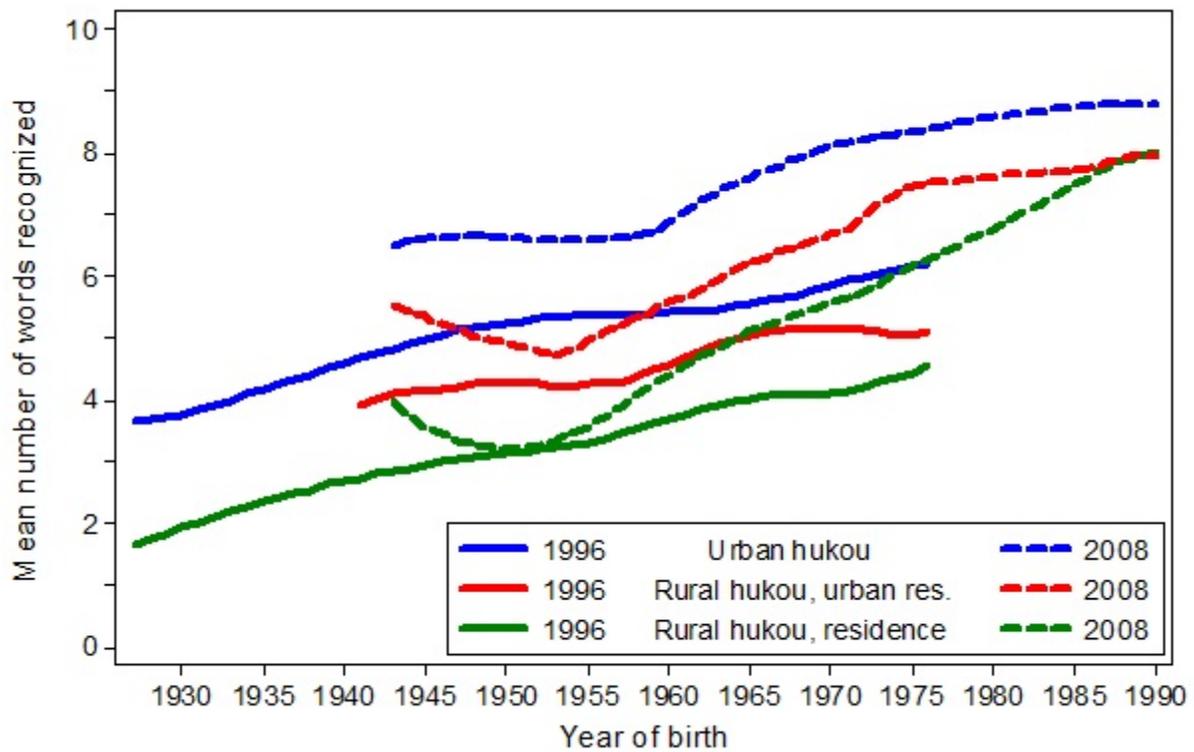


Fig. 2.a Trends in the number of words recognized, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64; smoothed using a lowess smoother. The word lists differ for the two surveys. See text for details.)

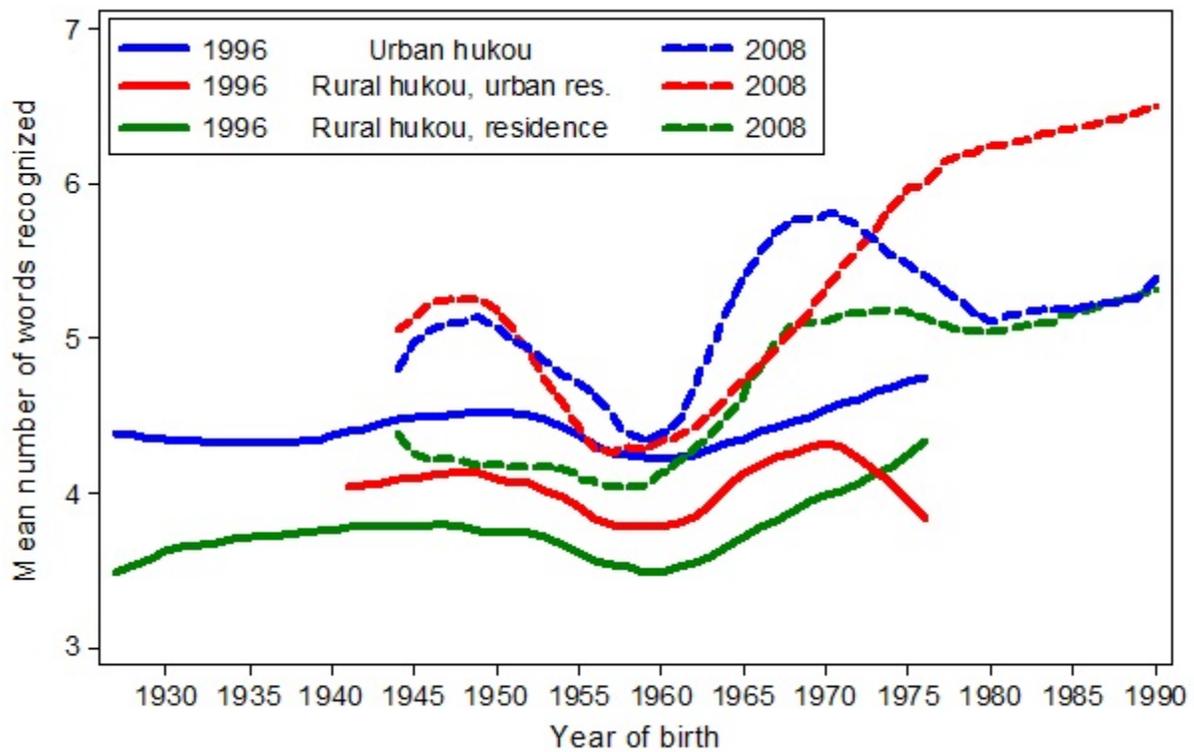


Fig. 2.b. Adjusted trends in the number of words recognized, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64. The word lists differ for the two surveys. See text for details on the word lists, smoothing, and adjustment procedures.)

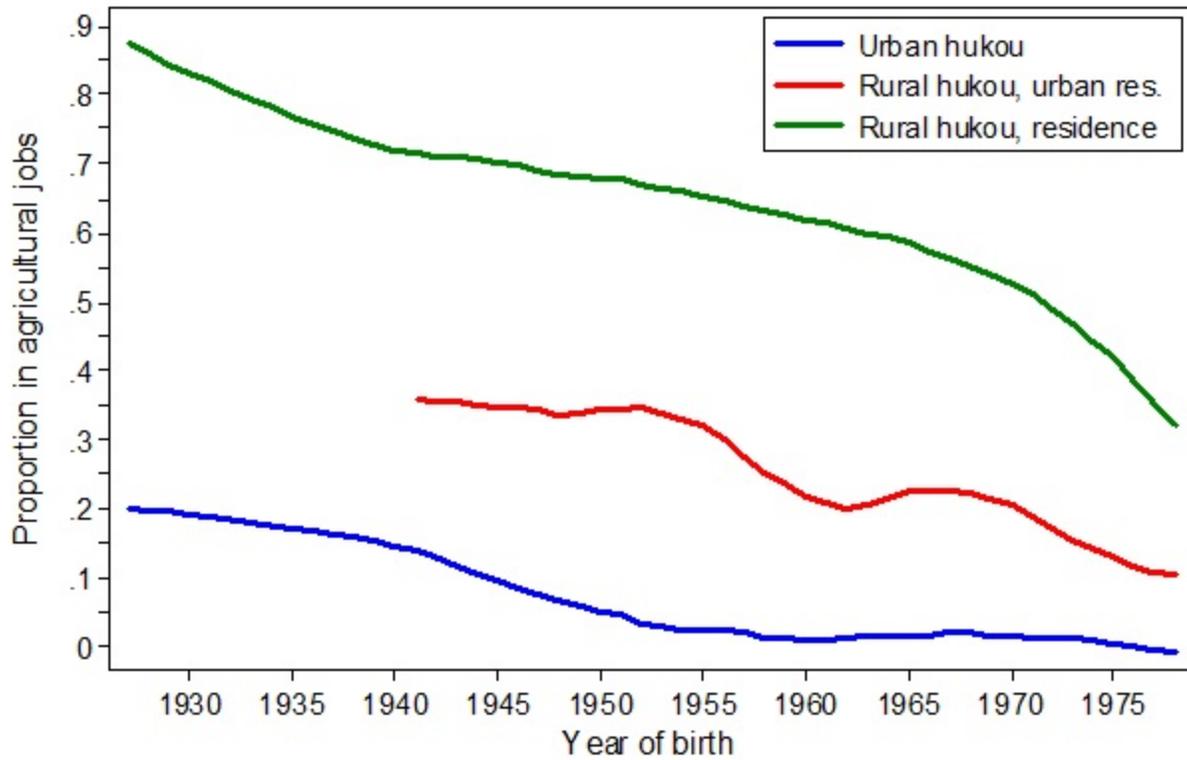


Fig. 3. Trends in the proportion of the labor force in **agricultural** jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese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

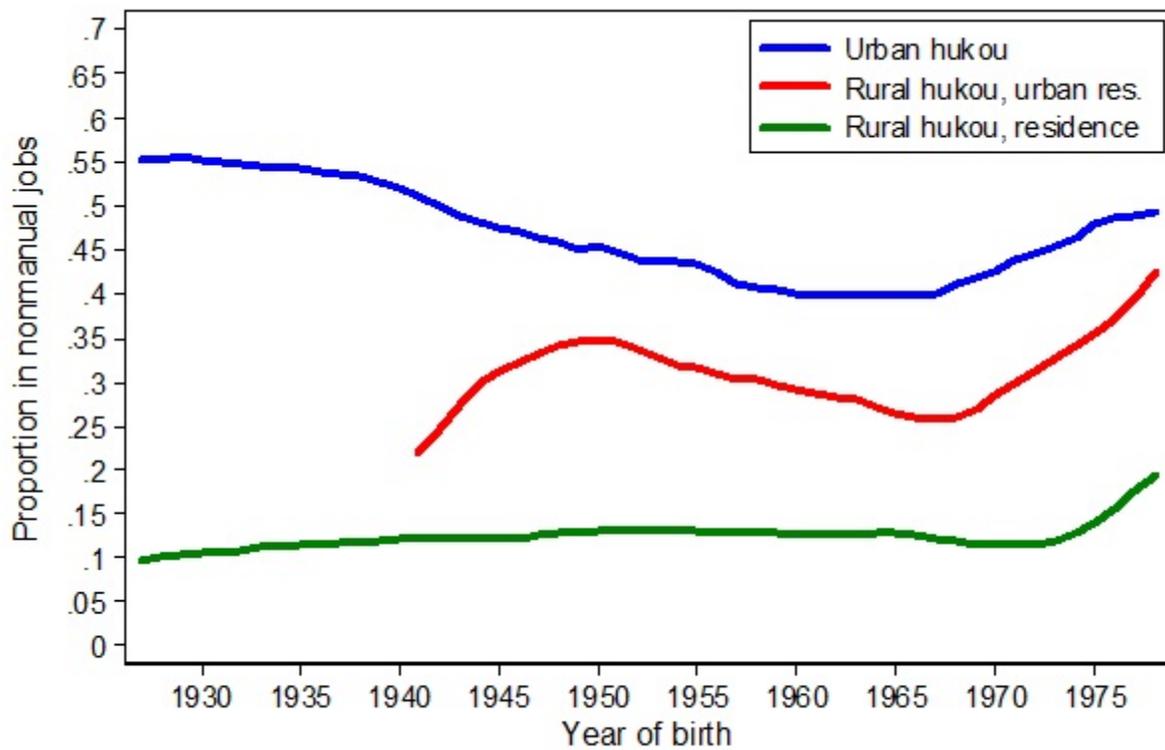


Fig. 4. Trends in the proportion of the labor force in **nonmanual** jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64; smoothed using a lowess smoother.)

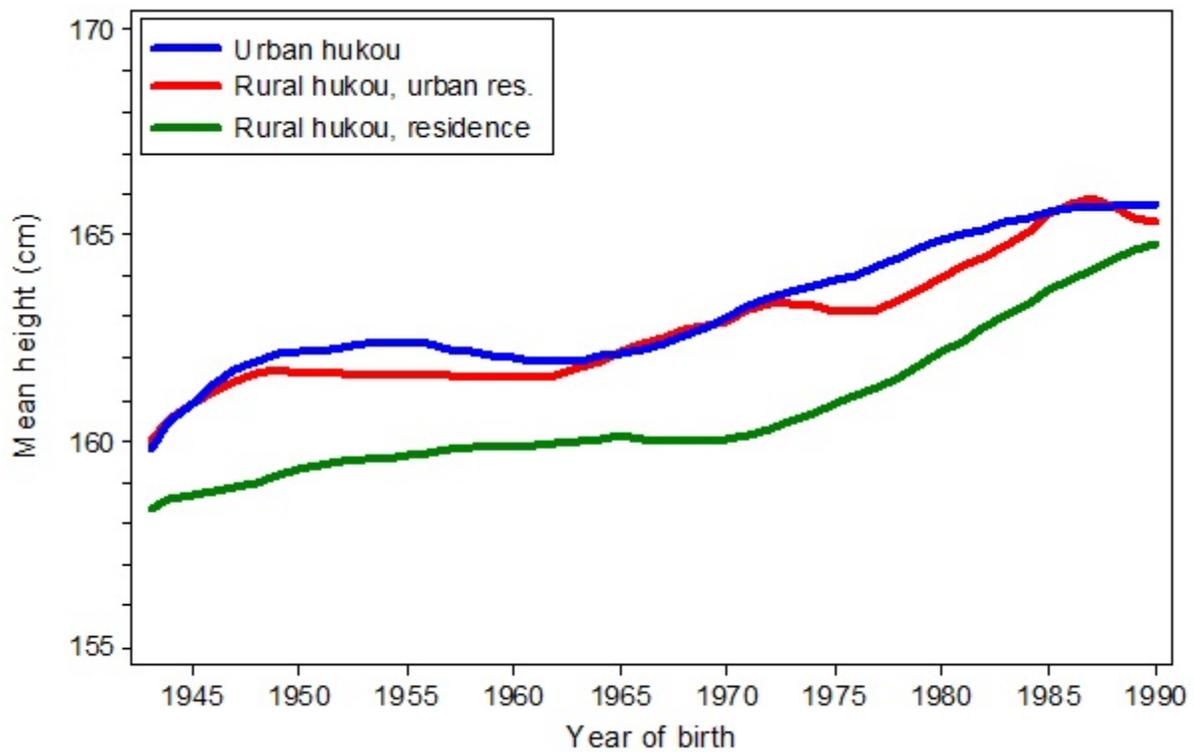


Fig. 5. Trends in the mean height of Chinese adults, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from the 2008 survey; smoothed using a lowess smoother.)

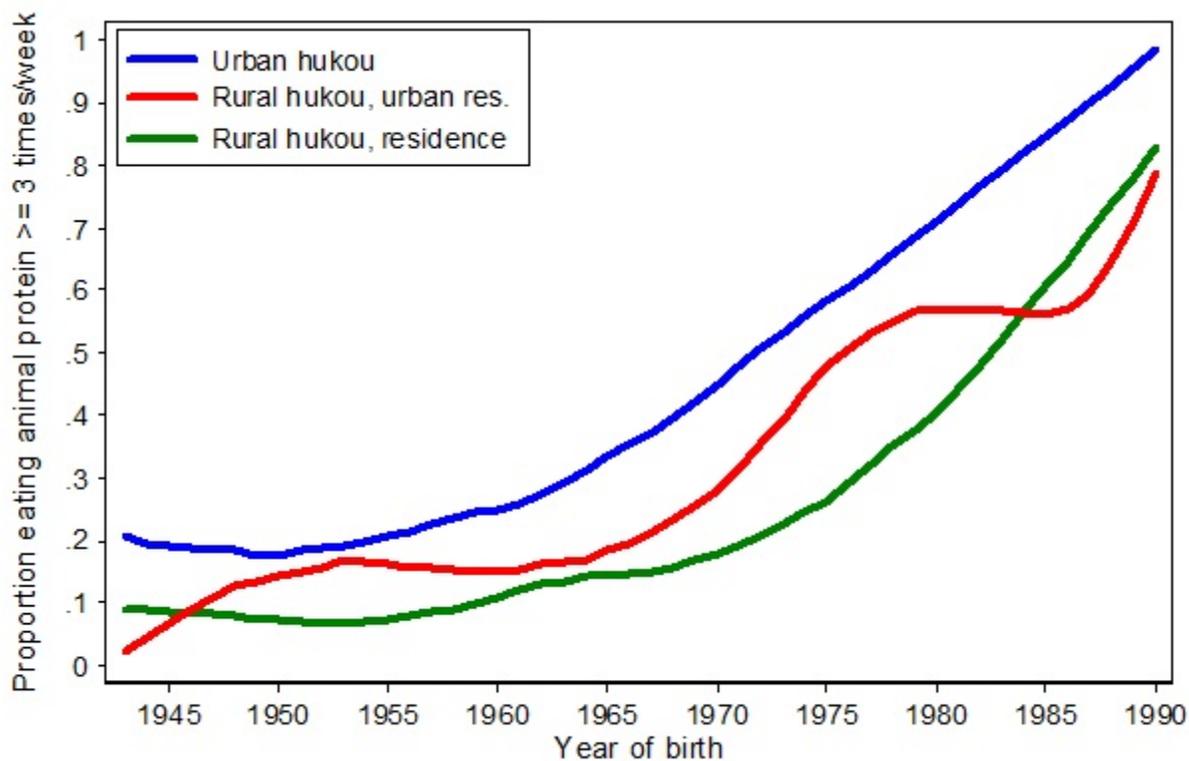


Fig. 6. Trends in the proportion of the adult population who ate animal protein (meat, fish, or dairy) at least three times a week at age 14, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from the 2008 survey; smoothed using a lowess smoother.)

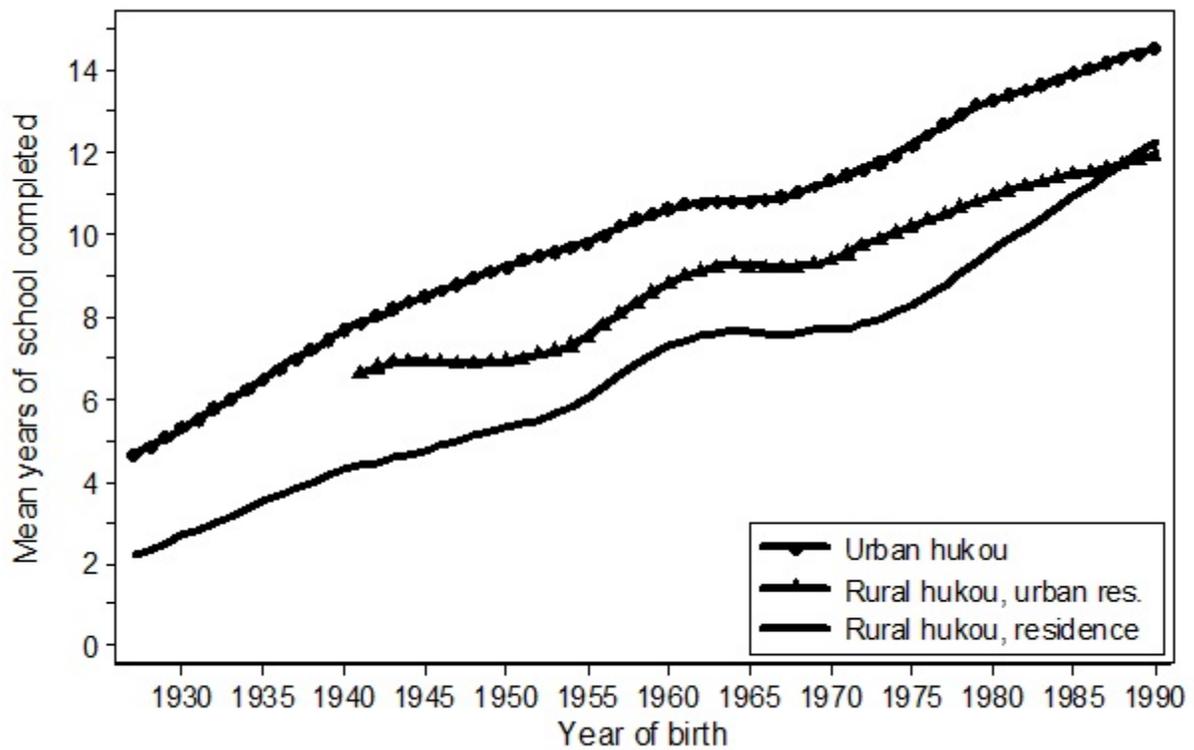


Fig. 1. Trends in years of school completed, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64. Smoothed using a lowess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

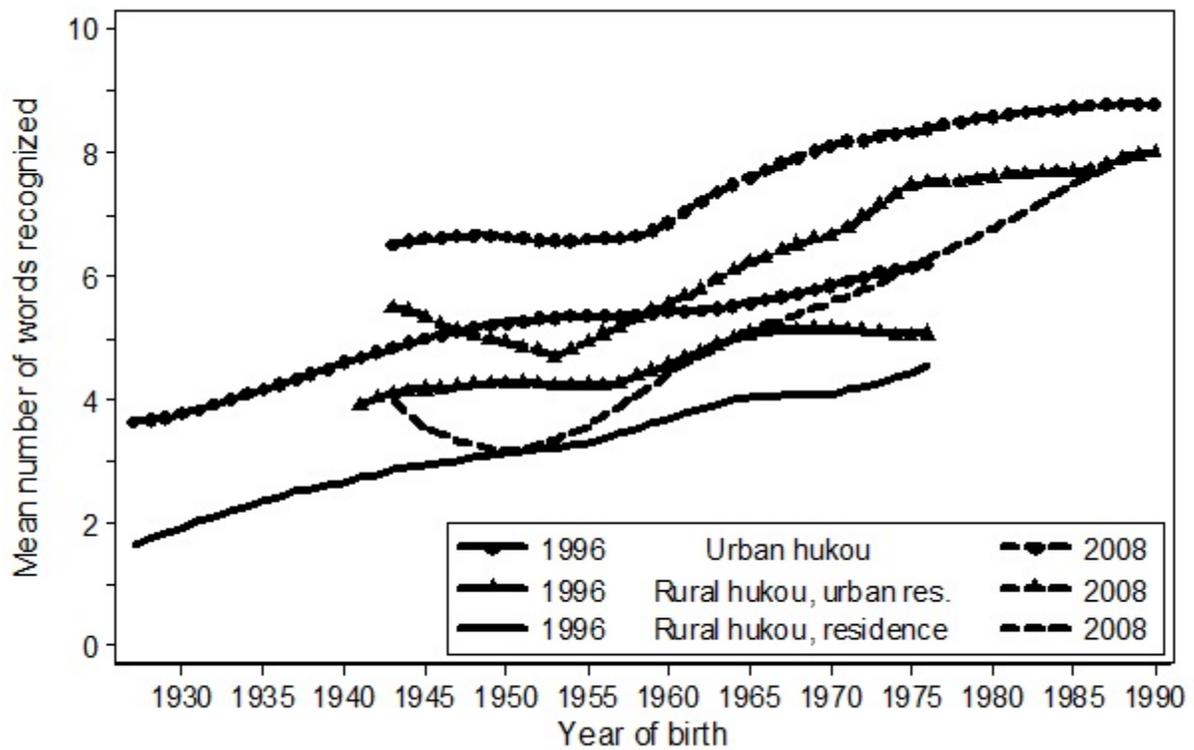


Fig. 2.a Trends in the number of words recognized, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64; smoothed using a loess smoother. The word lists differ for the two surveys. See text for details.)

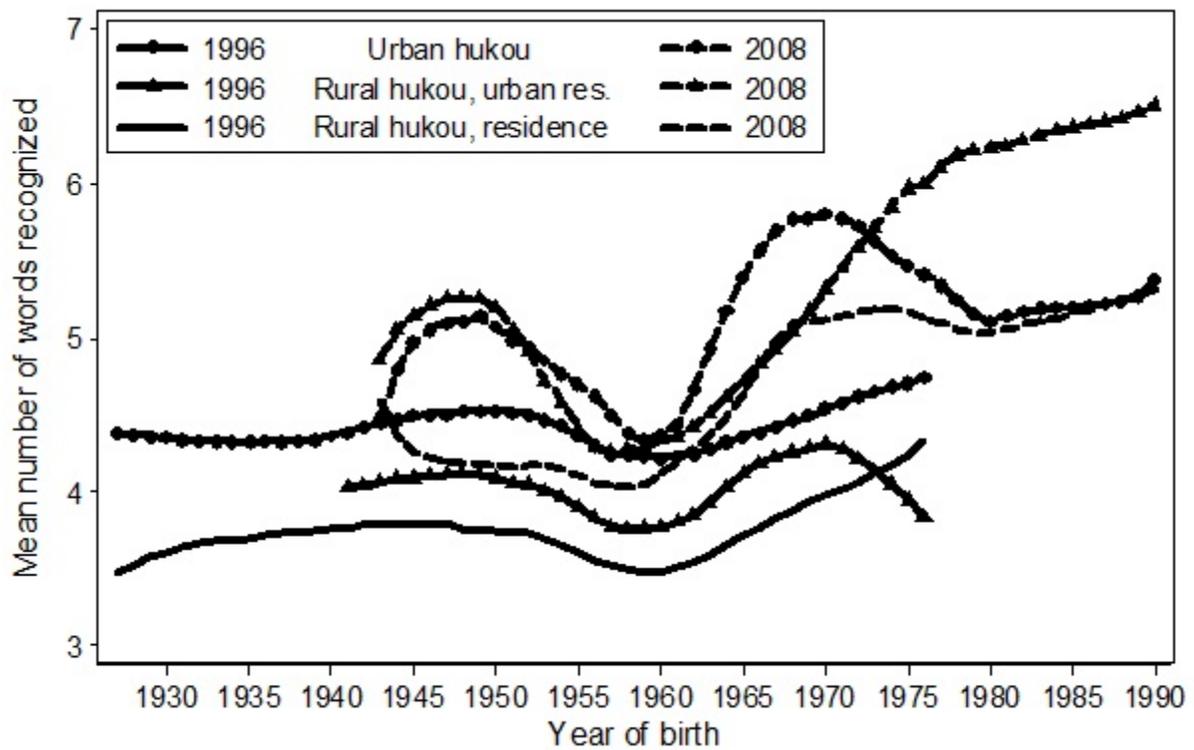


Fig. 2.b. Adjusted trends in the number of words recognized, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64. The word lists differ for the two surveys. See text for details on the word lists, smoothing, and adjustment procedures.)

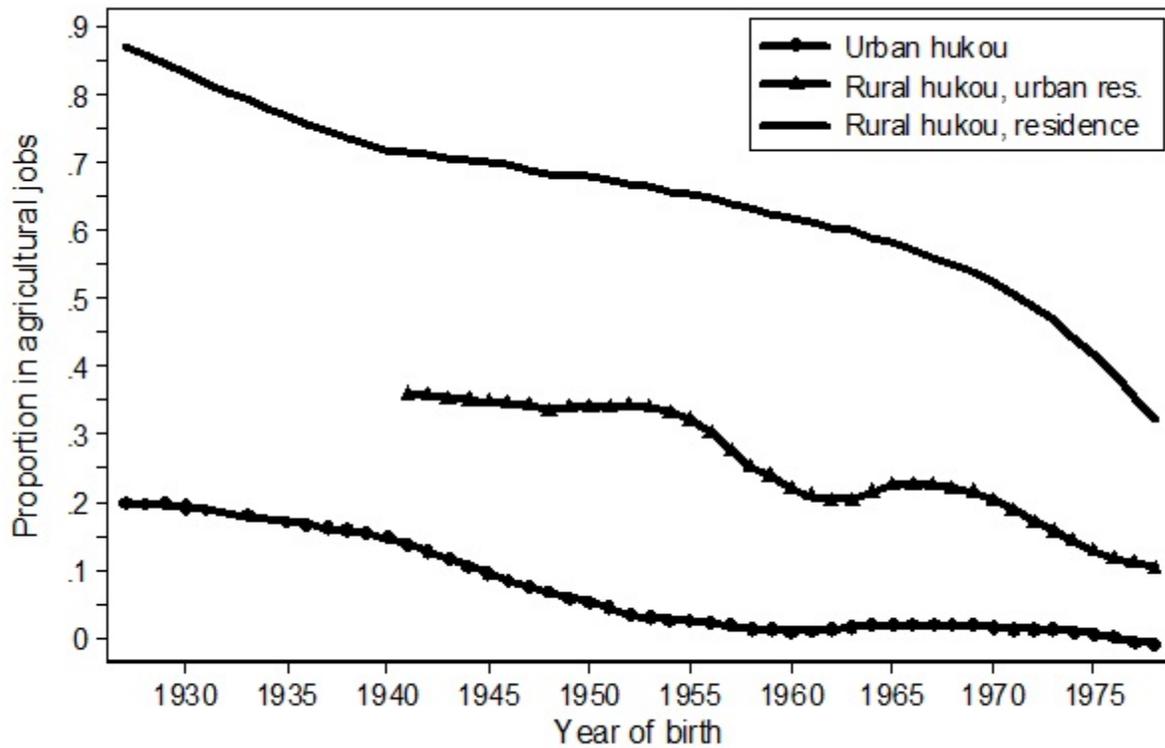


Fig. 3. Trends in the proportion of the labor force in **agricultural** jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese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

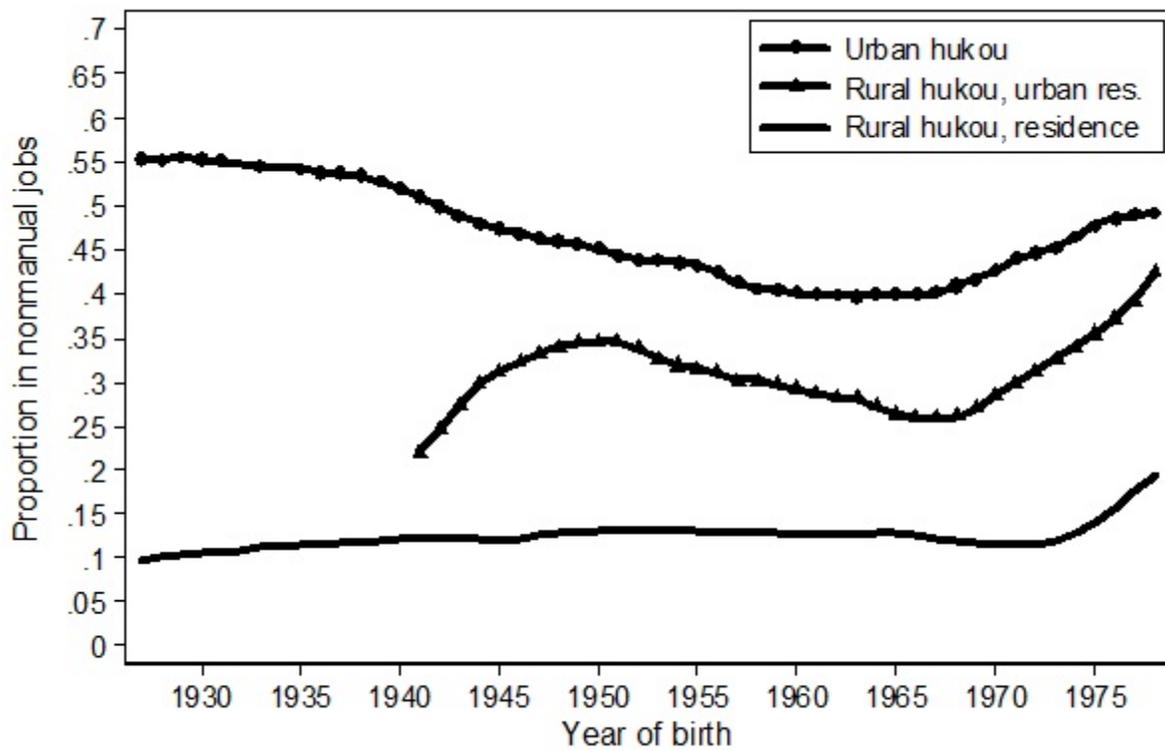


Fig. 4. Trends in the proportion of the labor force in **nonmanual** jobs at age 30, for those with urban *hukou* at age 14, those with rural *hukou* and urban residence, and those with rural *hukou* and rural residence. (Data from a 1996 survey of Chinese adults age 20-69 and a 2008 survey of Chinese adults age 18-64; smoothed using a lowess smoother.)

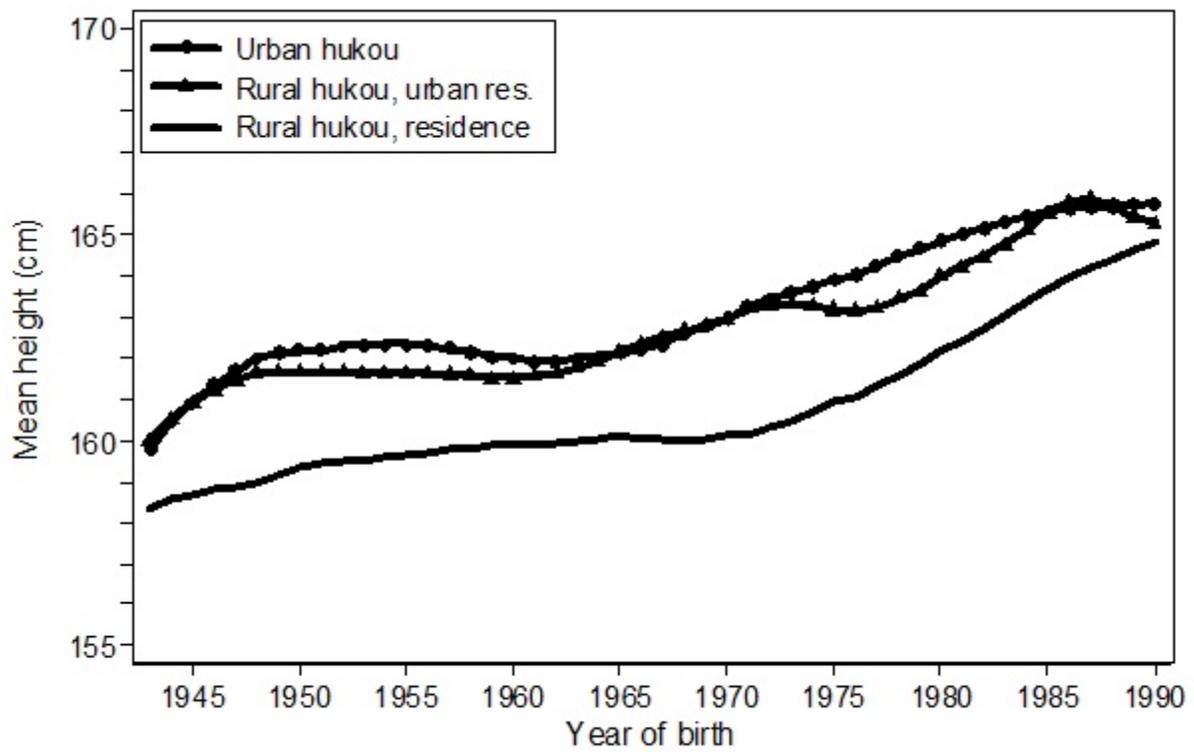


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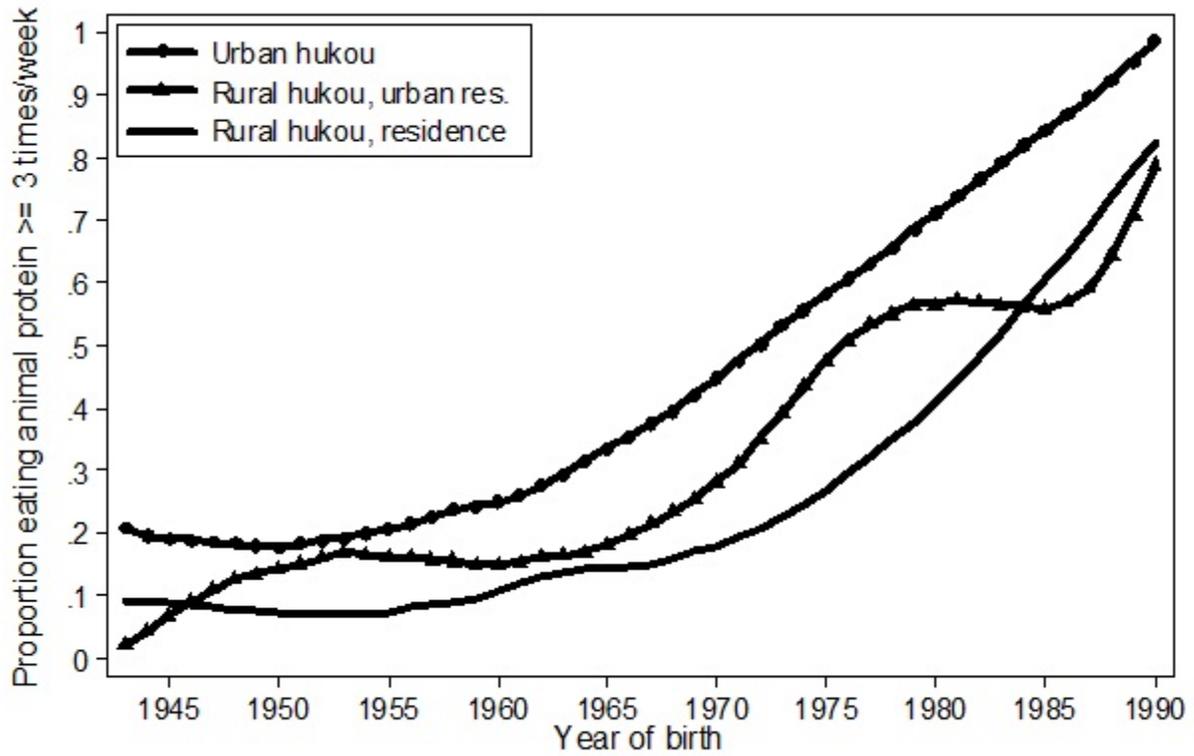


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