



Social origins, *hukou* conversion, and the wellbeing of urban residents in contemporary China

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ABSTRACT

This paper examines the determinants and consequences of rural to urban registration (*hukou*) mobility in contemporary China, focusing on the link between social origins, *hukou* conversion, and the consequences of conversion. In contrast to massive rural–urban migration, *hukou* conversion is difficult and rare, but childhood urban residence increases the likelihood of achieving an urban *hukou*. Compared to people with urban origins, *hukou* converters are more likely to enter tertiary institutions, but are significantly less likely to do so subsequent to *hukou* conversion. Individual converters from rural origins are more likely to work in non-manual occupations. Collective converters earn significantly less than people with urban origins. Individual converters with rural childhoods, who used to be at the bottom of the society, are significantly happier than other urban residents, although they are less healthy. These results show that the effect of *hukou* conversion varies across *hukou* converters from different social origins.

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1. Introduction

A central concern of sociological research on social stratification and inequality is the interplay between institutional arrangements and individual experience in their effects on life chances. Put simply, the question is to what extent are individuals constrained by institutional arrangements and to what extent are they able to achieve desired outcomes as a result of their individual and family characteristics and efforts. Of course, there can be no single answer to this question because of the varieties of institutional arrangements that characterize different societies at various historical periods. Societies undergoing rapid social change are ideal laboratories for such studies, since institutions often change while populations remain intact, or sometimes the reverse, as in China where the most important institution affecting inequality, the household registration (*hukou*) system, has remained intact while the population has shifted dramatically with massive rural to urban migration. This paper uses contemporary China as a laboratory to examine the effects of institutional arrangements and individual experience on individuals' life chances.

Established in the 1950s,¹ the *hukou* system assigned agricultural or non-agricultural status to each child at birth, based on the mother's status until very recently (Wang, 2004, p. 123; Chan, 2009), and also registered each child in a local community—again, the place where the mother was registered. *Hukou* status was, and to a large extent still is, a very strong determinant of

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¹ The Chinese *hukou* system was officially established in 1951 to record the residences of the urban population and to control any “residual anti-government elements.” However, it was not implemented until 1955, when everyone in China, both urban and rural, was assigned a *hukou* status. In 1958 the state promulgated a more far-reaching *hukou* regulation (*Hukou Dengji Tiaoli*), which made it extraordinarily difficult for a rural person to migrate to a city; and from 1960 to 1978 the ban on rural-to-urban migration was strictly enforced.

rights and privileges affecting socio-economic wellbeing (Knight and Song, 1999; Gustafsson and Li, 2001; Liang, 2004; Wu and Treiman, 2004; Whyte, 2010; Wu, 2012; Treiman, 2012) in order to qualify for medical care, unemployment and retirement benefits, to enroll one's children in school, to obtain other than a menial job, or to qualify for public housing, one had to have local residence rights, and often a non-agricultural (urban) *hukou* as well (Chan, 1994; Wang, 2004, 2005; Chan and Buckingham, 2008). Most forms of insurance were unavailable to those with agricultural (rural) *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, 2007]), those with non-agricultural *hukou* were allocated grain by the state while those with agricultural *hukou* had no entitlement and fed themselves from whatever remained after paying the in-kind grain tax (Cheng and Selden, 1994).

In the pre-reform era (that is, prior to 1978), the *hukou* system severely restricted rural to urban migration (Cheng, 1991), but since China's economic reform began about 30 years ago, increasing numbers of rural people have moved into urban areas without changing their *hukou* status, and increasingly children with rural *hukou* are born or grow up in cities (Liang, 1999; Liang and Chen, 2007). Although the *hukou* system has been subject to revisions and reforms during the past two decades, and some locales now offer local urban *hukou* to rural migrants who meet stipulated levels of wealth or education, or to the immediate family of migrants who have already gained urban status (Chan, 2010), it remains very difficult for the rural population, including rural *hukou*-holders living in cities or towns, to obtain urban *hukou* (Chan and Buckingham, 2008; Sun and Fan, 2011). Thus, China's two-class rural–urban society has become a three-class society, consisting of people with rural *hukou* and rural residence (hereafter “rural”), those with rural *hukou* but urban residence (hereafter “mixed”), and those with urban *hukou* (hereafter “urban”).²

The size of the mixed population is hard to precisely evaluate, but it is non-trivial. The number of adult rural migrants who work in cities was estimated to be 132 million in 2006 (Démurger et al., 2009), around 18% of the working-age population in urban China (Zhang and Wu, 2009). The number of rural migrant children is also large. For example, school-age children constituted 12% of the total migrant population in Shanghai, according to a survey conducted in 1997 (Liang and Chen, 2007). In the data used here, the fraction of the population from rural origins (rural *hukou* and residence at age 14) was 75%; around 7% were from mixed origins (rural *hukou* but urban residence at age 14); and about 18% were from urban origins (urban *hukou* at age 14). The presence of three groups with different social origins allows us to contrast the effects of institutional arrangements vs. personal experience on differential socio-economic outcomes: the contrast between the rural and mixed-origin populations is a measure of the advantage of urban vs. rural childhood experience while the contrast between the mixed and urban-origin populations is a measure of the institutional advantage of urban *hukou* status.³

The previous literature on migration in China has largely focused on the impact of current *hukou* status (rural, mixed, or urban) on various socio-economic outcomes (e.g., Roberts, 1997; Wang et al., 2002), and on how people with rural *hukou* achieve *hukou* conversion (Wu and Treiman, 2004). Some studies have examined the impact of social origins (rural, mixed, or urban status at childhood) on schooling (Liang and Chen, 2007; Wu and Zhang, 2010; Treiman, 2012) and subsequent life chances (Treiman, 2012). However, little attention has been paid to the link between social origins and rural to urban *hukou* conversion or to outcomes of *hukou* status for those from different social origins.

Although most of those who successfully convert from rural to urban *hukou* do this by their own efforts (Wu and Treiman, 2004), a non-trivial fraction of *hukou* converters are granted urban status (in exchange for giving up their rural land-use rights) because their village is incorporated into an adjacent city or has become large enough to be reclassified as a town (Chan, 2010). In this analysis, we use the term “individual *hukou* conversions” for conversions that are due to individual attributes, and use the term “collective *hukou* conversions” for conversions that are due to the incorporation of villages into urban areas. The consequences of collective vs. individual conversions are understudied, but may reflect the contrast between state policy and personal attributes. Zheng (unpublished results) noticed such a contrast and examined the earnings attainments of rural migrants, individual (“selected”) *hukou* converters, collective (“incorporated”) *hukou* converters, and workers with local origins in urban China. Her focus was on comparisons between different types of *hukou* converters as well as between urban natives and rural migrants. However, to further understanding of the consequences of *hukou* conversion for socio-economic achievement and other aspects of wellbeing, we need to compare *hukou* converters to urban natives.

This paper aims to fill these gaps. Using nationally representative data from the 2008 Chinese General Social Survey (CGSS) and the 2008 Internal Migration and Health in China (IMHC) survey, we examine how social origins affect the determinants and consequences of *hukou* conversion from rural to urban status. In examining the effect of social origins, we highlight how institutional arrangements and personal experience matter differently for the determinants of rural to urban *hukou* conversion and the consequences of conversion. We first contrast urban vs. rural childhood experience among those with rural-*hukou* origins in determining the likelihood of *hukou* conversion. Then among current urban *hukou* holders, we compare four groups—individual *hukou* converters with rural and mixed origins, collective converters, and people with urban origins—to explore to what extent social origins continue to matter after an urban *hukou* is attained. A distinctive aspect of our analysis

² We do not distinguish those with urban *hukou* by rural vs. urban residence, both because only a small fraction of the population has urban *hukou* but resides in a rural area and because the advantages of urban *hukou* hold even for those urban *hukou* holders who do reside in rural areas (Treiman, 2009b).

³ Of course, the contrast is hardly absolute. Urban residence sometimes conferred an institutional advantage, for example, when the state decreed that urban residents with rural *hukou* could obtain an urban *hukou* under certain circumstances—see the discussion below. Similarly, the contrast between urban and rural *hukou*-holders was not strictly institutional, but entailed different experiences as well, for example, the greater likelihood that the mixed population lived in small towns compared to the urban population—again, see the discussion below.

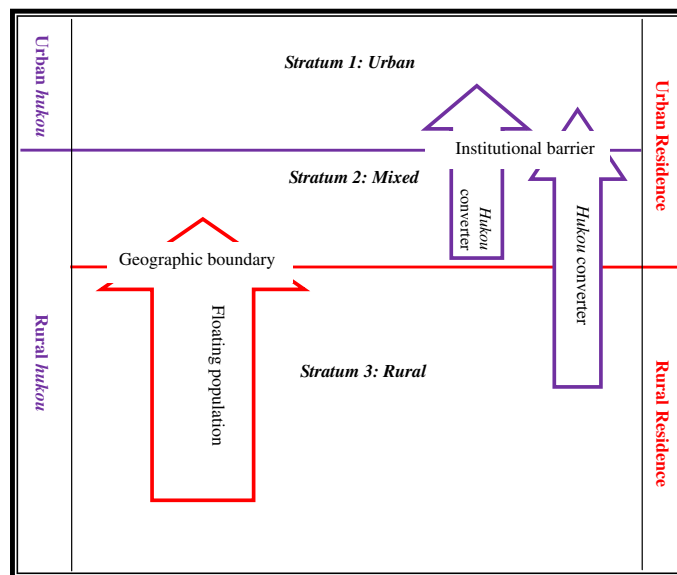


Fig. 1. Migration, *hukou* conversion, and social stratification in contemporary China.

is our focus on the contrast between collective and individual *hukou* conversion, both as outcomes in the analysis of the determinants of *hukou* conversion, and as determinants in the analysis of the consequences of *hukou* conversion.

2. Migration, *hukou* conversion, and social stratification in contemporary China

The *hukou* system and individual attempts to achieve residential or/and *hukou* mobility have reshaped social stratification in contemporary China. Fig. 1 represents our stylized summary of the process. For simplicity, it omits rural-to-rural and urban-to-urban migration that does not involve *hukou* status change. Two streams of population migration are reshaping the dualistic (urban vs. rural) structure of Chinese society buttressed by the *hukou* system. First, a large and increasing number of rural people are moving to urban areas without being able to convert their *hukou* from rural to urban. These “informal migrants”⁴ are driven primarily by economic motivations and on average achieve substantial upward mobility in economic terms (Liu et al., 2003; Liang, 2004; Xie, 2007; Treiman and Lu, 2009). However, they do not do as well economically as people with urban local *hukou* status and, in addition, they experience institutional discrimination against rural *hukou* holders. Access to public schools, health care, and certain types of housing, jobs, and insurance were restricted to local residents, or were more limited and more expensive for those lacking local registration, which usually was impossible to obtain without obtaining an urban *hukou*. Informal migrants can be regarded as a second, subordinate, class in urban society, constituting a new marginal urban population (Stratum 2 in Fig. 1) that lies between the traditional urban (Stratum 1 in Fig. 1) and rural (Stratum 3 in Fig. 1) sectors of China. In contrast, a small fraction of rural people have successfully overcome the *hukou*-based institutional barrier by converting their *hukou* to urban status, mainly through the acquisition of tertiary or technical secondary education, and, in consequence, enjoy the same social welfare benefits as do people from urban origins.

Given the large size of the floating population (estimated at about 211 million in 2009⁵ [National Population and Family Planning Commission, 2010]) and the institutional barriers migrants face in urban society, both the determinants and consequences of rural to urban residential mobility have been well documented (Roberts, 1997, 2002; Fan, 1999, 2002; Solinger, 1999; Meng and Zhang, 2001; Cai et al., 2002; Wang et al., 2002; Tong and Piotrowski, 2011). Researchers have also studied contrasts between residential mobility and *hukou* mobility (Chan et al., 1999; Yang, 2000; He, 2004; Liang, 2004; Liang and Ma, 2004; Sun and Fan, 2011). However, with a few exceptions (e.g., Wu and Treiman, 2004, 2007; Zheng, unpublished results), there has not been much scholarly work on the determinants and consequences of *hukou* mobility. Although the number of *hukou* converters is small relative to the size of the floating population, and the floating population is growing even more rapidly (Chan, 2011, Fig. 1), the significance of *hukou* conversion on social mobility is large—it is a crucial pathway for achieving institutional upward mobility.

⁴ There are two kinds of migrants from rural to urban areas in China—those who have changed their *hukou* to urban status and those who have not changed their *hukou* status. The latter are known as *liudong renkou* (literally “floating population”) or non-*hukou* migrants; we refer to this group as informal migrants.

⁵ There is a discrepancy between the number cited here (211 million in 2009) and the one cited before (132 million in 2006), because the latter only includes rural workers in cities, but the floating population also includes child migrants and other family members who do not have jobs in cities.

As we will show, whether one grew up in an urban or a rural environment is an important determinant of the likelihood of rural to urban *hukou* conversion. As noted above, people with rural-*hukou* origins can be subdivided into two groups, those with rural *hukou* and rural residence in childhood (rural origin), and those with rural *hukou* and urban residence in childhood (mixed origin). People with mixed origins suffer some of the same institutional discrimination against rural-*hukou* holders as do those with rural origins, but they enjoy the advantage of an urban childhood. Urban *hukou* holders generally have higher average education, a more favorable distribution of occupations, higher incomes, and tend to be better off with respect to associated aspects of wellbeing than do rural *hukou* holders; Treiman (2012) has shown this to be true also of the mixed population compared to the rural-origin population.

Exactly why growing up in an urban area should increase the likelihood of *hukou* conversion is somewhat unclear. One possibility is that urban people simply desire an urban *hukou* more than rural people do, because they are exposed daily to the disadvantages of lacking urban registration. Thus, they may seize whatever opportunities develop for qualifying for an urban *hukou*—for example, shifting to a job that carries urban *hukou* rights. Second, they almost certainly are more knowledgeable about what it takes—e.g., how much property is required to obtain a “blue-stamp” *hukou* (a type of urban *hukou* available for those who own substantial local assets). Third, local authorities may look more favorably upon the applications of those who have local *hukou*, as most members of the mixed population do (see below). Finally, because the mixed population generally has local *hukou*, the schools they attend will, in general, be better than the village schools attended by those from rural origins. But, apart from leading to more schooling, which we control in the analysis below, it is difficult to see how superior schooling generates an advantage with respect to the odds of *hukou* conversion. In any event, our data do not permit us to test these conjectures. Still, they lead us to expect rural people from mixed origins to be more likely to achieve rural to urban *hukou* conversion than those from rural origins.

As mentioned previously, it is useful to distinguish between individual and collective *hukou* conversions. Individual conversions are affected by family or individual characteristics such as education (particularly tertiary or specialized secondary education), Communist Party membership, and whether the father is employed in a state work unit (Wu and Treiman, 2004). In contrast, collective conversions are determined by administrative fiat and depend on whether a village is incorporated into an adjacent town or city or is upgraded to a town (Chan, 2010) or whether urban residents with local registration but with rural *hukou* are allowed to convert as the result of a policy decision. We would not expect family and individual characteristics to be causally connected to the odds of collective *hukou* conversions—although they may be correlated with the likelihood of conversion simply because villages adjacent to towns or cities and also places that become urbanized are likely to have higher educational distributions and more employment in the state sector than do more remote and more rural places. We thus expect family and individual characteristics to matter for individual *hukou* conversion but not for collective *hukou* conversion.

The contrasts between people with different origins, and between individual vs. collective *hukou* conversion, lead us to expect different consequences of rural to urban *hukou* conversion. There are two competing hypotheses, which lead to different expectations for the population with current urban *hukou*. The theory of cumulative advantage would lead us to expect a gradient with those of urban *hukou* origin most advantaged, then individual converters of mixed origin, then individual converters of rural origin, and finally collective converters. The distinction between mixed- and rural-origin converters reflects the contrast between urban and rural childhoods, while the distinction between mixed-origin converters and people with urban origins indicates the institutional advantage of having had an urban *hukou* when growing up.

However, it is quite possible that differential selectivity may result in a different order of wellbeing. Individual *hukou* converters from rural origins might have the best outcomes because they tend to be highly selected: they are the best and the brightest among those with rural *hukou*, often having achieved high levels of schooling despite enormous odds against such achievement (Wu and Treiman, 2004); and they might also be healthier (Abraído-Lanza et al., 1999; Lu, 2008; Rubalcava et al., 2008). These people typically have overcome both geographical and institutional barriers through their own efforts and achievements in order to obtain urban *hukou*. Individual *hukou* converters with mixed origins might rank next, because they, too, have overcome substantial institutional barriers through their own achievements, and are thus likely to be positively selected compared to those of mixed origin who did not convert their *hukou*. Finally, under the differential selectivity hypothesis we would expect collective converters and those of urban origin to have the lowest level of desirable outcomes because of the lack of selectivity in both cases.

A third possibility is that there is no effect of origins at all—that achievement of an urban *hukou* levels the playing field, with all urban *hukou* holders, regardless of origins, having equal chances for socioeconomic achievement and other aspects of wellbeing. We can adjudicate among these three stylized possibilities by exploring indications of socioeconomic achievement and wellbeing subsequent to attainment of an urban *hukou*.

The consequences of rural to urban *hukou* conversion are multi-dimensional. Rural to urban *hukou* conversion, and the concomitant acquisition of local *hukou* in an urban area, typically is accompanied by changes in various rights and privileges affecting socioeconomic wellbeing, including entitlement to public schooling, access to good jobs, and qualification for medical care, unemployment and retirement insurance, and public housing. Such changes may in turn affect both socioeconomic opportunities (for education, good jobs, and high incomes) and various personal outcomes such as health and happiness. These are the consequences we analyze.

In the following, we first introduce the data and variables used in this analysis, and then analyze the determinants of rural to urban *hukou* conversion, followed by analysis of the consequences of *hukou* conversion.

3. Data and variables

We use two recent national probability samples of the Chinese population in this analysis: the 2008 *Chinese General Social Survey* (CGSS) and the 2008 *Internal Migration and Health in China* survey (IMHC). Both surveys used complex sampling designs for which weighting is required to get correct point estimates of population characteristics. The 2008 CGSS, which included people aged 18–98, resulted in about 6000 completed cases. The 2008 IMHC, which included people aged 18–64, resulted in 3000 completed cases, including an oversample of residents in high in-migration areas (townships in which a large fraction of the population was born elsewhere).

Both the IMHC and the 2008 CGSS, after proper weighting, can be taken as representative of the adult population of China. In order to maximize the sample size, we pooled the two data sets for much of the analysis. Before pooling the data, we restricted the age range of respondents in the 2008 CGSS data to be the same as in the IMHC data and then visually inspected the weighted distributions of a set of variables that were measured comparably in the two surveys,⁶ including original and current *hukou* status and place of residence, gender, 10-year age group, education, occupation, income, household size, and parental education and occupation. We also computed an Index of Dissimilarity (Δ) between each pair of distributions. The Δ 's are reassuring; for no variable is the Index of Dissimilarity (Δ) greater than .102⁷ and for most variables the Δ 's are less than .05. Thus, we conclude that the two data sets are comparable and plausibly can be considered to have been drawn from the same population.

We use two different analytic samples in this paper. When analyzing the determinants of rural to urban *hukou* conversion, we restrict the sample to people with rural *hukou* at age 14. When analyzing the consequences of rural to urban *hukou* mobility, we restrict the sample to people with current urban *hukou*. Sampling weights are used throughout the analysis.⁸

In the analysis of determinants of *hukou* mobility, the dependent variable is rural to urban *hukou* conversion, with three categories: 1 = no conversion, 2 = individual conversion, and 3 = collective conversion. The key independent variable in this analysis is type of residence at 14 (1 = urban, 0 = rural). It would have been preferable to investigate the effect of residence as a time-varying covariate measured for each year the respondent was at risk, but the CGSS data do not include such information. However, the distortion is not likely to be large since in the IMHC data more than 90% of the analytic sample retained the same residential status at age 14 and at the time of conversion. Other independent variables include education and occupation at the year of *hukou* conversion, gender, age at risk, whether at least one parent was a party member at 14 (1 = yes), and whether at least one parent was a cadre or soldier at 14 (1 = yes). The occupation variable has five categories: (1) agricultural workers; (2) manual workers; (3) retail sales and service workers; (4) non-manual workers (managers, professionals, and clerks); and (5) missing (the respondent did not report an occupation). We classify educational levels into four categories: (1) below high school, (2) academic high school completion, (3) technical high school completion, and (4) at least some tertiary. This classification reflects Wu and Treiman's (2004) finding that both tertiary and specialized secondary education substantially improve the chances of rural to urban *hukou* conversion. Rural students entering tertiary schools can convert their *hukou* to local urban status in the place where the school is located. Until the early 1990s, upon graduation they were assigned by the government to jobs in urban areas and thus remained urban *hukou* holders. Also, again until the early 1990s, graduates from technical high schools were assigned to urban jobs and thus attained urban *hukou*. Although the job-assignment system is no longer operative (National Education Commission, 1994; Fan, 1999, p. 956), tertiary and specialized secondary graduates may still have an advantage in rural–urban *hukou* conversion. We will address this question below.

In the analysis of the consequences of rural to urban *hukou* conversion, we examine five aspects of socio-economic outcomes and wellbeing: (1) educational attainment (1 = tertiary education; 0 otherwise); (2) occupational attainment (1 = non-manual occupation at age 30; 0 otherwise); (3) earnings attainment (the natural logarithm of monthly earnings, for those who had earnings); (4) self-rated health status (a 5-point scale, described below); and (5) happiness (a 5-point scale, described below).

The analysis of educational attainment as an outcome includes only people who entered a tertiary institution after they changed *hukou*; thus those at risk include all *hukou*-changers who had not entered tertiary education until at least the year following their *hukou* change, but who were upper secondary school graduates (before or after they changed *hukou*). That is, we exclude those who changed *hukou* as a result of entering a tertiary institution and also those who changed *hukou* after they entered a tertiary institution. Occupational attainment is measured by whether the respondent worked in a

⁶ The question wordings of the variables used in the analysis are quite similar in the two surveys. Take occupation as an example. In both surveys respondents were asked to describe their job titles and detailed information on job duties; thus, we can create a comparable occupational variable for both surveys.

⁷ The largest Δ , for earnings is .102 when those without earnings are excluded, which is the specification we use in the analysis, and .138 when those without earnings are included.

⁸ Unfortunately, we were not able to correct for clustering resulting from the multi-stage sample design of each of the two surveys because the necessary information is not currently available in the CGSS. We did one test of the consequences of not correcting for clustering by estimating $meff_w$ (Treiman, 2009a, p. 217) for each of the coefficients in a version of Table 3 based on the IMHC data only; $meff_w$ gives the ratio of the design-based sampling variance to the sampling variance estimated by weighting the data but not taking account of clustering or stratification. For our test, the mean $meff_w$, averaged over the 30 coefficients in the table, was 1.11, which means that on average our standard errors would be about 5% larger if we were able to do survey estimation. An increase of this magnitude is unlikely to result in any modification of our conclusions, especially if we are cautious about interpreting coefficients that are only marginally statistically significant.

Table 1

Hukou conversion among people with rural origins by age group, Chinese adults age 18–64 in 2008: weighted percentages and unweighted frequencies for each sample and both samples combined.

Age group	Weighted percentages			Unweighted frequencies		
	CGSS	IMHC	Pooled	CGSS	IMHC	Pooled
18–24	5%	11%	7%	292	187	479
25–34	12	13	12	689	363	1052
35–44	12	9	11	1015	540	1555
45–54	10	11	10	739	470	1209
55–64	14	12	13	619	426	1045
All	11%	11%	11%	3354	1986	5340

CGSS: Chinese General Social Survey 2008.

IMHC: Internal Migration and Health survey in China.

non-manual occupation at age 30. Since occupational status tends to increase over one's working life, at least among the well-educated (Sicherman and Galor, 1990; Rosenfeld, 1992; Walder, 1995), it was necessary to fix the age at which we measured occupational status. Age 30 was chosen both because careers typically have stabilized by then and because we wanted a date subsequent to most *hukou* change. We exclude people who changed *hukou* after or in the same year that they entered non-manual occupations.

Since the measures of self-rated health status and happiness are different in the 2008 CGSS and IMHC data sets, we only use the CGSS data for these two dependent variables. In the CGSS sample, self-rated health status is measured by five response categories: 1 = very unhealthy (1%), 2 = fairly unhealthy (6%), 3 = average health (23%), 4 = fairly healthy (40%) and 5 = very healthy (30%); there are also five response categories for happiness: 1 = very unhappy (2%), 2 = fairly unhappy (6%), 3 = average happiness (23%), 4 = fairly happy (46%), 5 = very happy (23%).

The key independent variable in the analysis of the consequences of *hukou* conversion is based on social origin and type of *hukou* conversion. It is a 4-category variable: 0 = people with urban origins (urban *hukou* at 14); 1 = individual converter with urban residence at 14; 2 = individual converter with rural residence at 14; 3 = collective converter. Other independent variables include current occupation, birth year (or age), gender, marital status, father's occupation, province of residence at 14, province of current residence, whether at least one parent was a party member when the respondent was 14, and whether at least one parent was a cadre/soldier when the respondent was 14. We also use current education and earnings as controls in some instances.

We classify occupations into the same five categories as in the analysis of the determinants of *hukou* conversion. However, educational levels are classified in a different way. The categories are (1) primary school or below, (2) lower middle school, (3) upper middle school, and (4) tertiary or above. Father's education is coded in the same way as respondents' education.

Since the IMHC survey did not collect information on parental party membership and the CGSS did not collect information on whether the father was a cadre or a soldier, we imputed values on these two variables for each data set on the basis of the relationships in the other data set, using Stata 11's MI procedures. Specifically, we imputed (1) whether at least one parent was a party member when the respondent was 14 and (2) whether at least one parent was a cadre/soldier when the respondent was 14, using education, employment status, occupation, type of residence and province at 14, current *hukou* status and residence, gender, age, household size, whether domestic household, number of siblings, father's education, mother's education, father's and mother's employment status at 14, and father's and mother's occupation at 14.

4. Determinants of rural to urban *hukou* conversion

Table 1 shows, among people with rural *hukou* at age 14, the weighted percentage who subsequently converted their *hukou*, by age group and sample, and also the unweighted frequencies. In general, the percentages are fairly consistent across age groups, which reflect the fact that most of those who converted their *hukou* did so in early adulthood and that the rate of *hukou* conversion did not vary across cohorts. With the exception of the youngest group, the two samples yield similar results; for reasons that are not clear, a much smaller fraction of 18–24 year olds in the CGSS than in the IMHC were *hukou* converters.

We cannot tell from Table 1 at what age rural to urban *hukou* conversion is most likely to occur. To see this, we plot in Fig. 2 discrete-time hazard rates for individual and collective *hukou* conversions⁹; the graphs in Fig. 2 are from models that do not include any covariates except for a set of dummy variables for age at risk, which ranges from 15 to 50.

Four observations may be made about the graphs in the figure. First, they reveal that, the probability of individual *hukou* conversion is much higher than that of collective conversion, except for risk ages greater than 40. Second, the individual conversion rate is highest at young ages. It increases rapidly from age 15, peaks at age 19, and then decreases until age 30 where it levels off until modestly decreasing after age 40. Clearly, individual *hukou* conversion is something that is most likely to occur

⁹ This and the following graph were smoothed using Stata 11's lowess smoother with a band width of .20.

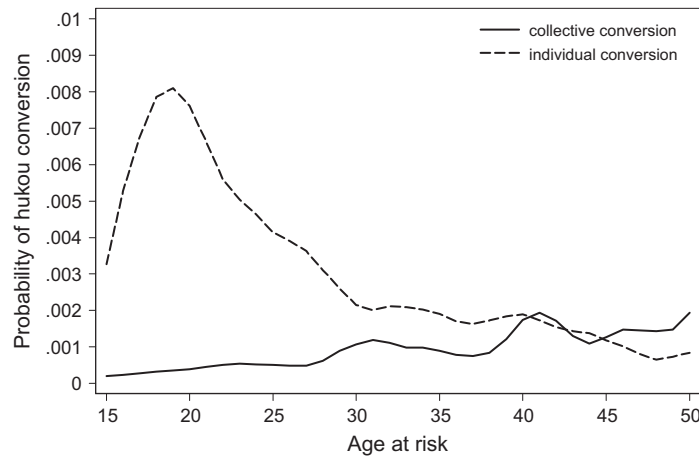


Fig. 2. Discrete-time hazard rate of rural to urban *hukou* conversion in China, 2008 (no controls, smoothed).

in conjunction with educational or first job attainment. Third, for collective conversion the age pattern is very different, increasing very modestly at an approximately linear way with age. Fourth, for both individual and collective conversion, the conversion rates are very low, less than 0.8% for individual converters and less than 0.2% for collective converters. Although the sample is censored at the time of the survey, and people may convert in subsequent years, both the rates per year shown here and the cumulative conversion rates shown in Table 1 indicate that rural to urban *hukou* conversion is difficult to achieve.

Considering that individual and collective *hukou* conversions have different age-risk patterns and also to test our hypotheses regarding effects of family and personal characteristics, we estimate a competing-risk discrete-time hazard-rate model of the determinants of individual vs. collective *hukou* conversion for people at risk from age 15 to 50. The results are presented in Table 2. We include all the independent variables for *hukou* conversion analysis listed in previous section, and report both logits and odds multipliers. (This model is estimated by combining all those still at risk—because they have neither converted their *hukou* nor reached age 50—into a single data set consisting of person * risk-years and predicting the two types of conversion using Stata 11's *mlogit*-command.)

All the family and personal characteristics in the model except for parental party membership significantly affect the likelihood of achieving individual *hukou* mobility. Of central interest, urban residence at age 14 doubles the odds of individual *hukou* conversion net of all other factors. We defer discussion of the possible reasons that urban residence confers such an advantage until completing our description of the results.

The effects of education are grossly consistent with previous studies (e.g. Wu and Treiman, 2004): enrollment in a tertiary institution, completion of technical high school, and completion of academic high school are strongly related to individual *hukou* conversion, although the relative odds of conversion for those with academic and vocational upper middle schooling both decline and reverse relative to what Wu and Treiman found (recognizing that the models are not fully comparable). The odds of people with at least some tertiary education obtaining an urban *hukou* are more than 11 times the odds for those with below high school education. However, the odds multipliers for academic high school and technical high school graduates are 2.1 and 1.7, respectively, whereas Wu and Treiman, using 1996 data, found odds multipliers of 4.1 and 10.7, respectively. The decline in the advantage of technical secondary education probably results from the 1994 policy change noted above, in which the state no longer guaranteed jobs; we suspect that this reduced the likelihood that rural-origin technical school graduates could find a job that carried with it an urban *hukou*. In addition, the advantage associated with both types of secondary schooling may have been reduced because it mainly applies to the diminishing state sector. That is, schooling that leads to a private-sector job does not automatically confer urban *hukou* as it did—and to a large extent still does—for comparable jobs in the state sector; thus, as the private sector has expanded relative to the state sector, fewer rural-origin graduates are able to convert their *hukou*. Evidence consistent with this claim is that 75% of rural-origin vocational high school graduates and 64% of academic high school graduates whose first post-schooling jobs were in the state sector gained an urban *hukou* compared to only 37% and 26%, respectively, of those whose first jobs were in the private sector.¹⁰ Note that in each sector vocational school graduates were more successful converters than were academic high school graduates.

Non-manual workers, manual workers, and retail sales and service workers are much more likely to achieve individual *hukou* conversion than are those engaged in agriculture (the odds multipliers are, respectively, 10.8, 6.5, and 7.2). Rural people for whom at least one parent was a cadre or a soldier also are more likely to obtain urban *hukou*.

Men are less likely than women to convert their *hukou*. This is not surprising since marriage has been a means for peasant women to achieve social and economic mobility in transitional China (Fan and Huang, 1998; Fan and Li, 2002) and marriage

¹⁰ These computations are from the CGSS only since the IMHC lacks information on state vs. private sector employment.

Table 2Coefficients of a competing-risk discrete-time hazard-rate model for obtaining urban *hukou*: people with rural *hukou* at age 14 (ages at risk 15–50).

	Individual conversion		Collective conversion	
	<i>b</i>	<i>e^b</i>	<i>b</i>	<i>e^b</i>
Urban residence at 14	0.712*** (0.123)	2.038	1.482*** (0.235)	4.402
Education at time of <i>hukou</i> conversion (below high school omitted)				
Academic high school completion	0.718*** (0.142)	2.050	0.861** (0.326)	2.366
Technical high school completion	0.501** (0.178)	1.650	0.213 (0.387)	1.237
At least some tertiary	2.421*** (0.161)	11.257	0.703 (0.446)	2.020
Male	−0.258* (0.110)	0.773	−0.138 (0.239)	0.871
Occupation at time of <i>hukou</i> conversion (agricultural worker omitted)				
Non-manual worker	2.379*** (0.188)	10.794	2.403*** (0.380)	11.056
Manual worker	1.874*** (0.206)	6.514	2.284*** (0.279)	9.816
Retail sales and service worker	1.970*** (0.201)	7.171	2.330*** (0.272)	10.278
Missing	2.190*** (0.153)	8.935	2.739*** (0.262)	15.472
At least one parent party member at 14	0.290 (0.241)	1.336	−0.078 (0.434)	0.925
At least one parent cadre/soldier at 14	0.784** (0.249)	2.190	−0.120 (0.597)	0.887
Age at risk dummies	Yes	–	Yes	–
Constant	−7.785*** (0.234)	–	−11.010*** (0.682)	–
Observations	117,167			

Robust standard errors in parentheses.

^a Since the IMHC data do not have information on parental party membership and the CGSS data do not have information on whether parents were cadres or soldiers, we imputed these two variables using the combined CGSS–IMHC data set.* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

migration is much more prevalent among female migrants than among male migrants (Liang and Ma, 2004). Although there is no national policy, in certain cities (e.g., Beijing, Shanghai, Shenzhen, and Guangzhou, and perhaps other places as well), it is sometimes possible for those whose spouses have urban *hukou* to gain urban *hukou* themselves. However, the requirements are complex and often difficult to meet and usually the process takes a substantial amount of time—months or even years.

For collective *hukou* conversion, the results are somewhat different from our expectation that family and personal characteristics should not matter. As it turns out, urban residence at 14, completion of academic high school, and working at an occupation other than farming are all strongly related to the probability of collective *hukou* conversion. As we conjectured above, this probably reflects differences in the character of places at high and low “risk” for collective conversion. After all, collective conversion typically occurs either when a village adjacent to a city or town is incorporated into that urban place or when a place becomes highly urbanized, as the result of the influx of factories and other enterprises. Thus, we would expect places experiencing collective conversion to include higher than ordinary fractions of people from nearby urban origins, with academic high school diplomas, and with non-agricultural jobs. That is, we regard the observed associations as spurious, not causal. In principle, we could test this conjecture by estimating, for rural villages, the association between the educational, occupational, and childhood residence variables and whether the village is adjacent to a town or city. Unfortunately, our data provide no appropriate information on the characteristics of places at the time of *hukou* conversion. Prospective data and analysis are needed to deal with this issue, but no suitable data are currently available.

Although collective *hukou* conversion is one way of obtaining urban *hukou*, it is not controlled by individuals. In contrast, and by definition, individual *hukou* conversion is achieved through personal attributes and accomplishments. In the following, we focus on the determinants of individual *hukou* conversion. Since the number of observations and yearly conversion rates are small for ages at risk greater than 39, we restrict this part of analysis to those at risk between ages 15 through 39.

Table 3 shows the coefficients for a discrete-time hazard-rate model of the likelihood of *hukou* conversion by age, separately for those who lived in either towns and cities at age 14 (the mixed sector) and those who lived in villages at that age (the rural sector). The model was estimated initially by combining those from rural and mixed origins and including a dummy variable for origin and interactions between origin and all the remaining variables; doing this yielded estimates of the

Table 3Coefficients of discrete-time hazard-rate models for obtaining urban *hukou* by type of residence at 14, individual converters only (ages at risk 15–39).

	Urban residence at 14 (1)		Rural residence at 14 (2)		Difference (1) – (2)	
	b_1	e^{b_1}	b_2	e^{b_2}	$b_1 - b_2$	$e^{b_1 - b_2}$
Education at time of <i>hukou</i> conversion (below high school omitted)						
Academic high school completion	0.543* (0.270)	1.721	0.918*** (0.169)	2.504	–0.375 (0.318)	0.687
Technical high school completion	0.833* (0.423)	2.300	0.375 (0.197)	1.455	0.458 (0.466)	1.581
At least some tertiary	1.674*** (0.344)	5.333	2.902*** (0.155)	18.211	–1.228** (0.377)	0.293
Male	–0.168 (0.231)	0.845	–0.227 (0.132)	0.797	0.059 (0.265)	1.061
Occupation at time of <i>hukou</i> conversion (agricultural worker omitted)						
Non-manual worker	2.462*** (0.350)	11.728	2.210*** (0.223)	9.116	0.252 (0.417)	1.287
Manual worker	1.971*** (0.364)	7.178	1.832*** (0.243)	6.246	0.140 (0.436)	1.150
Retail sales and service worker	2.186*** (0.422)	8.900	1.822*** (0.235)	6.184	0.365 (0.483)	1.441
Missing	2.514*** (0.315)	12.354	2.064*** (0.175)	7.877	0.451 (0.361)	1.570
At least one parent party member at 14	0.340 (0.371)	1.405	0.282 (0.264)	1.326	0.058 (0.413)	1.060
At least one parent cadre/soldier at 14	0.821** (0.260)	2.273	0.766* (0.374)	2.151	0.056 (0.504)	1.058
Age at risk dummies						
Yes	–	–	Yes	–	Yes	–
Constant	–7.018*** (0.445)	–	–7.771*** (0.275)	–	0.752 (0.522)	–
Observations	7775		86,096		93,871	

Robust standard errors in parentheses.

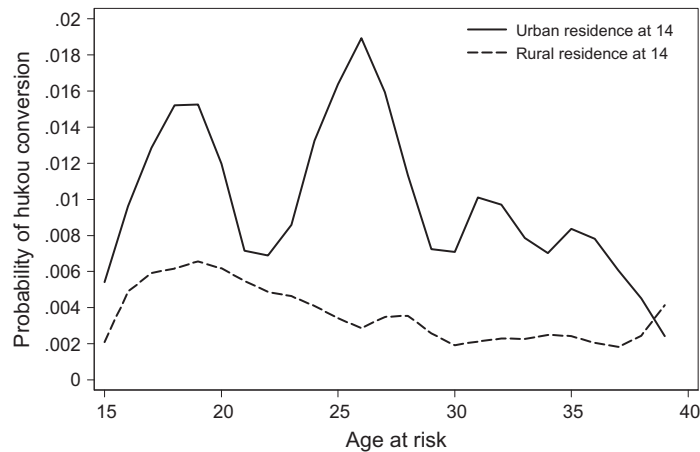
* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

significance of the difference between corresponding coefficients. However, for ease of presentation, we re-estimated the model separately for those from rural and urban origins. The two procedures yield identical results (Treiman, 2009a, p. 130).

Tertiary education has a significant and large positive effect for both subsamples. Academic high school completion also matters for both subsamples, but technical high school completion has a significant effect only for the urban subsample (see the corresponding discussion above of the coefficients in Table 2). For people from both mixed and rural origins, working at a non-agricultural job, especially a non-manual job, strongly improves the odds of *hukou* conversion: the odds of people with a non-agricultural job obtaining an urban *hukou* range from 6 to 12 times the odds for those with an agricultural job. Having a parent who is a cadre or a soldier more than doubles the chance of conversion while having a parent who is a party member has no significant effect. Also, the male disadvantage observed in Table 2 disappears when those from rural and mixed origins are considered separately.

The last two columns show the differences in the sizes of the coefficients in the two models. Only tertiary education has significantly different effects—strong for both groups, but much stronger for those of rural origin, with odds ratios of 5.3 and 18.2, respectively. This substantial difference reveals the particularly crucial importance of tertiary education for those who grew up in villages; it is almost a sure way out.

Fig. 3 plots the hazard rate of individual *hukou* conversion by age and type of childhood residence with the remaining covariates set at fixed values (specified in the caption to the figure). The graph is consistent with our previous finding that rural people with urban residence at age 14 were much more likely to obtain urban *hukou* than were those with rural residence at age 14. However, the graph reveals that conversion rates for those with urban childhoods fluctuate substantially with age net of other factors, with two peaks, at age 18–19 and at age 26, and then a sharp decline. By contrast, conversion rates for people with rural childhoods gradually decrease after their peak at age 19 and slightly increase in the late 30s, so that by age 39 the conversion rates for the two groups have converged. The two peaks for people with urban childhoods reflect different processes. In the CGSS data, fully half of those who converted between age 16 and 20 did so because of education, while among those who converted between age 24 and 28, 39% did so because of “family reunion” (which mainly means marriage) and 18% due to recruitment by a state *danwei* (work unit). In the IMHC data, 77% of those who converted between age 16 and 20 did so because they “qualified because of education,” while 44% of those who converted between age 24 and 28 did so because they were recruited by a *danwei* and 28% because of marriage. In short, both data sets show that the unusually high conversion rate at ages 16–20, net of other factors, is largely related to schooling while the unusually high conversion rate at ages 24–28 is largely related to work and marriage.



Note: Based on Table 3.

Fig. 3. Discrete-time hazard rate of rural to urban *hukou* conversion by type of residence at 14, holding constant gender (male), education at risk (less than high school), occupation at risk (manual worker), parent party member (no), and parent cadre/soldier (no). Note: Based on Table 3.

We return now to consideration of why urban residence confers a major advantage in the ability to convert from rural to urban *hukou*, doubling the odds relative to those who grew up in rural areas. The answer may lie in the concomitants of mixed status. Most people who grew up in towns or cities but lacked urban *hukou* as children nonetheless had local *hukou*. In the IMHC data (the necessary information is lacking in the CGSS), 94% of the mixed population were born in urban areas and 86% had local *hukou*. Given these high percentages, it is evident that most members of the mixed population were not the children of migrants, because if they were they would lack local *hukou*. Rather, this situation reflects the complexity of “urban” definitions in China. Sometimes areas are reclassified from rural to urban in anticipation of the expansion of central cities. In such situations, portions of the new urban entities may remain predominantly agricultural, with the people living there retaining their rural *hukou* and often continuing to engage in agricultural work (Chan, 2007). At some later point, after the former rural areas become urbanized, the local government may convert the entire rural population with local status to urban *hukou*.¹¹ Because rural *hukou* people living in such places had local *hukou*, they were entitled to go to local public schools and to obtain jobs reserved for local residents.

In addition, as the places where they lived became increasingly urbanized, they may have benefitted from exposure to urban life, in particular to the greater emphasis on the written word, which would have improved their performance in school and their ability to handle non-manual jobs. Evidence consistent with this conjecture is that, net of parental education and occupation, those from mixed origins had more books in their homes at age 14 than did those from rural origins (computation from the IMHC); about 21% of those from mixed origins had 50 or more books, compared to only 10% of those from rural origins.

There are several other possibilities as to why the mixed population had an advantage in *hukou* conversion relative to the rural population. One conjecture is that the advantage was mainly enjoyed by residents of cities rather than the residents of towns, on the ground that they would be mostly likely to perceive advantages of urban *hukou* and hence would be more highly motivated to try to convert and that search costs for finding a job leading to conversion would be lower for city residents. In our data, 78% of the mixed population lived in towns and 22% lived in cities. To assess the above conjecture, we re-estimated the *hukou* conversion model with the mixed group separated into those who grew up in towns and those who grew up in cities, and found that, indeed, those who grew up in cities were significantly more likely to convert than were those who grew up in towns, who, in turn, were significantly more likely to convert than those growing up in rural areas: with respect to individual conversion, the net odds ratio for those growing up in towns (vs. rural areas) was 1.59, while for those growing up in cities it was 2.54.

Policy changes may also affect the odds of converting. In 2001 the State Council of China endorsed a policy encouraging collective *hukou* conversion for residents of certain types of places: (1) downtown areas of county-level cities, (2) towns in which county governments are located, and (3) other towns designated by provincial level governments, e.g., former county seats (State Council of China, 2001). In order to test the effect of this policy, we re-estimated the *hukou* conversion model for collective converters from the specified types of places (we could identify only the first two types in our data) after adding a dummy variable indicating that people were at risk of converting from 2001 on (as opposed to before 2001). There is some support for the conjecture that the policy was effective: the odds ratio for the dummy variable was 2.91, which, however, was not significant ($p = .180$), possibly because of the small number of collective converters.

¹¹ Shenzhen is such an example. When Shenzhen City was first established as a Special Economic Zone in 1979, it was largely agricultural, with a population of about 300,000, many of whom retained their rural *hukou*. However, Shenzhen grew very rapidly, mainly through migration, and by 1994 had a population of more than 3 million (Liang, 1999, p. 123), almost all of whom did non-agricultural work. Today, the population is about 10 million. In 2003 the Shenzhen government converted all local residents with agricultural *hukou* to non-agricultural *hukou* (Shenzhen Municipal Government, 2003).

We already have shown for secondary school graduates that working in the state sector substantially increases the likelihood of *hukou* conversion. Can sector of employment partly explain the advantage in the rate of conversion of the mixed population as a whole relative to the rural population? Of course, those from mixed origins are much more likely to work in the state sector than are those from rural origins simply because they are less likely to be employed in agriculture—23% of those from mixed origins who were still at risk when they began their first job worked in the state sector compared to 7% of those from rural origins. This is true even among those whose first job was not in agriculture—the corresponding percentages are 40 and 22. When we add two dummy variables to the conversion model, a dummy variable for state sector employment at the time of risk and a dummy variable for private-sector non-agricultural employment at the time of risk, we see that for individual converters state-sector employment significantly increases the odds of conversion relative to non-agricultural private-sector employment, and, unsurprisingly, also relative to agricultural employment—the odds multipliers are, respectively, 3.39 and 17.22.

5. Consequences of rural to urban *hukou* conversion

Overall, rural to urban *hukou* conversion is still difficult to achieve in China today. This suggests that the institutional barrier that divides the rural and urban sectors in China is very hard to overcome for rural villagers. A subsequent question of great interest is whether *hukou* origins matter for socioeconomic achievement and other outcomes. That is, are *hukou* converters as successful socioeconomically and in other ways as those who grew up with an urban *hukou*? Are all *hukou* converters equally (dis)advantaged or do pre-conversion characteristics and the type of conversion matter? Recall from the introductory discussion that there are two competing hypotheses regarding possible differential advantage. The “cumulative advantage” hypothesis posits that those from urban origins do better than *hukou* converters; that, among converters, those from mixed origins do better than those from rural origins; and that individual converters do better than collective converters. By contrast, the “differential selectivity” hypothesis posits that converters from rural origins should be the most successful, because they are the most highly selected; converters from mixed origins next; and non-converters, together with collective converters, the least successful. A third possibility is that the institutional distinction between rural and urban *hukou* is so strong that, among urban *hukou* holders, the way urban status was acquired does not matter at all. In the remainder of the paper we explore these alternative possibilities.

We consider five dependent variables in our examination of the consequences of rural to urban *hukou* conversion: educational attainment, occupational status, and income after achieving urban *hukou*; and self-rated health and happiness. Table 4 shows, for each of the two samples and the combined sample, the distributions of the key independent variable used in this section—*hukou*-conversion status.

More than 1/3rd of those with urban *hukou* converted their *hukou* status from rural to urban. Of these, about 85% [i.e., $(23.0 + 6.8)/(100 - 64.7)$] obtained urban *hukou* through individual (or family) effort, with the remainder being granted urban *hukou* via collective conversion. Among individual converters, more than 3/4ths [i.e., $23.0/(23.0 + 6.8)$] grew up in villages. We know from Table 1 that only 11% of people with rural-*hukou* origin have achieved urban *hukou*, but since the rural-*hukou* population is much larger than the urban-*hukou* population in China, the percentages in Table 4 are not surprising. According to the 2005 1% sample census of China, 57% of the total population lived in the countryside (National Bureau of Statistics in China, 2006), and among the 43% living in urban areas 45% have rural *hukou* status (Zhang and Wu, 2009). These numbers suggest that although only a small fraction of the vast rural population was able to overcome the institutional barrier created by the *hukou* system, people who successfully did so constitute a substantial portion of the current urban population. Most of these successful converters came from villages and converted their *hukou* through family or personal efforts.

5.1. Tertiary education

Recall that earlier we considered the role of tertiary education as a determinant of *hukou* conversion. Here we consider the consequences of *hukou* conversion for the attainment of subsequent tertiary education by estimating a discrete-time hazard rate model, for those at risk between ages 15 and 30. Note that to be at risk, a person must not have had any tertiary

Table 4

Distribution of responses to a 4-category typology of *hukou* origin and type of conversion, people with urban *hukou* in 2008.

Status	Weighted percentages			Unweighted frequencies		
	CGSS	IMHC	Pooled	CGSS	IMHC	Pooled
Urban origin	68.8%	56.0%	64.7%	1646	740	2386
Individual converter, urban residence at 14	6.0	8.5	6.8	146	104	250
Individual converter, rural residence at 14	20.8	27.5	23.0	491	198	689
Collective converter	4.4	8.0	5.5	103	115	146
Total	100.0%	100.0%	100.0%	2386	1157	3543

education prior to obtaining an urban *hukou* but must have completed upper middle academic or vocational school, either before or after obtaining an urban *hukou*. In this analysis, as in all the subsequent analysis, the key independent variable is conversion status, with those from urban origins the reference category. For the analysis of tertiary matriculation, this is a somewhat unusual independent variable since it includes all those from urban origins, but only those converters who had not matriculated at a tertiary-level institution by the time they converted their *hukou*. In this sense, the reference category and the remaining categories are not truly comparable. Still, it is necessary to include those of urban origin in order to compare them with the various categories of converters.

Model 1 of Table 5 includes only the status variables and the variables for age at risk. The coefficients for the status variables are consistent with the hypothesis of cumulative advantage, with the odds of tertiary matriculation successively declining. This pattern of cumulative advantage continues to hold, albeit in somewhat muted form, even when we introduce gender, birth year, father's education, parental party membership cadre or soldier status, and a set of dummy variables for province as controls. The control variables mostly have expected net effects: the likelihood of tertiary matriculation increases in more recent years and with father's education; parental party membership and cadre or soldier status appear to modestly increase the likelihood of tertiary matriculation, but the coefficients are not significant. Gender also has no significant effect. In sum, it appears that, except for those who obtain an urban *hukou* after or as a result of enrolling in a tertiary institution, an urban *hukou* obtained after age 14 cannot offset the disadvantages rural people faced during their childhood in terms of education resources and opportunities. Children living in rural areas suffer from the huge rural deficit in educational resources (Knight and Li, 1996). Second, even for rural *hukou* holders who grew up in towns and cities and thus had access to local public schooling (because they mostly held a local *hukou*), there appears to be lingering deficit in the odds of tertiary matriculation subsequent to *hukou* conversion. This could reflect either unmeasured disadvantages faced by these second-class urban citizens or, alternatively, a lack of motivation on the part of those who achieved urban *hukou* without tertiary matriculation.

Table 5

Coefficients of hazard rate models for entering tertiary institutions conditional on high school completion, people with urban *hukou* in 2008 (ages at risk 15–30).

	(1)		(2)	
	<i>b</i>	<i>e^b</i>	<i>b</i>	<i>e^b</i>
Status (people with urban origins omitted)				
Individual converter with urban residence at 14	–1.760*** (0.335)	0.172	–1.569*** (0.351)	0.208
Individual converter with rural residence at 14	–2.119*** (0.277)	0.120	–1.999*** (0.327)	0.135
Collective converter	–3.560*** (1.005)	0.028	–3.229** (1.027)	0.040
Male			0.129 (0.101)	1.138
Birth year			0.060*** (0.006)	1.062
Father's education (primary school or below omitted)				
Lower middle school			0.197 (0.147)	1.218
Upper middle school or above			0.851*** (0.183)	2.342
Missing			0.882* (0.435)	2.416
At least one parent party member at 14			0.290 (0.212)	1.336
At least one parent cadre/soldier at 14			0.320 (0.268)	1.377
Age at risk	1.998*** (0.294)	7.374	2.017*** (0.296)	7.516
Age at risk ²	–0.052*** (0.008)	0.949	–0.051*** (0.008)	0.950
Province at 14			Yes	–
Constant	–21.592*** (2.820)	–	–140.450*** (12.080)	–
Observations	21,693		21,693	

Notes: Robust standard errors in parentheses.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

Because Table 5 excludes those who converted their *hukou* in conjunction with or after tertiary matriculation, it gives a perhaps misleading sense of the relationship between conversion type and the attainment of tertiary education. A straightforward supplement to Table 5 is to predict the odds of tertiary matriculation at the time of the survey from conversion type plus the same control variables as in Table 5. Doing this yields very different results, shown in Table 6. It turns out that those from mixed origins who gain urban *hukou* are more likely to have at least some tertiary education than are those who held an urban *hukou* from childhood. This, of course, may simply reflect the fact that converters from mixed origins are more highly selected than those from urban origins and that tertiary education is one of the main paths to *hukou* conversion. When we control for the usual predictors of tertiary matriculation the results are even more striking: individual converters from both mixed and rural origins are significantly more likely to have tertiary education than are those from urban origins, which makes their selectivity all the more evident. Indeed, the net odds of attaining tertiary education are twice as high ($2.03 = \exp(.707)$) for those from mixed origins as for those from urban origins, and 1.4 ($=\exp(.345)$) times as high for those who grew up in rural areas. By contrast, collective converters are much less likely than urban origin people to gain tertiary education, with and without controls, which is consistent with the fact that their conversion was not determined by their personal attributes.

5.2. Occupational status

Table 7 shows estimates of the likelihood of working in a non-manual occupation at age 30, for those who obtained an urban *hukou* before age 30. Unlike the consistent negative effect of *hukou* conversion on subsequent tertiary education, the results of this analysis partly support the differential selectivity hypothesis. After controlling for other factors, individual converters with rural residence at 14 are significantly more likely to work in non-manual occupations at 30; for individual converters from rural origins, the odds of working in non-manual occupations are about 60% higher than for those from urban origins. Since this analysis includes all those with urban *hukou* prior to age 30, it is likely that the advantage associated with conversion from rural origins reflects the fact that for such people conversion is particularly difficult and therefore it is almost certainly the case that successful rural-origin converters are selected on unmeasured as well as on measured characteristics.

Table 6
Coefficients of logit models predicting the likelihood of entering a tertiary institution, people with urban *hukou* in 2008.

	(1)	(2)
Status (people with urban origins omitted)		
Individual converter with urban residence at 14	0.436* (0.210)	0.707*** (0.197)
Individual converter with rural residence at 14	−0.115 (0.155)	0.345* (0.172)
Collective converter	−2.312*** (0.363)	−1.731*** (0.391)
Male		0.414*** (0.108)
Birth year		0.052*** (0.006)
Father's education (primary school or below omitted)		
Lower middle school		0.449*** (0.135)
Upper middle school or above		0.932*** (0.172)
Missing		0.699 (0.365)
At least one parent party member at 14		0.552* (0.276)
At least one parent cadre/soldier at 14		0.603* (0.252)
Province at 14		Yes
Constant	−1.065*** (0.052)	−104.556*** (12.211)
Observations	4560	4560

Robust standard errors in parentheses.

** $p < 0.01$.

* $p < 0.05$.

*** $p < 0.001$.

Table 7Coefficients of logit models predicting the likelihood of working in a non-manual occupation at age 30, people with urban *hukou* in 2008.

	(1)		(2)	
	<i>b</i>	<i>e^b</i>	<i>b</i>	<i>e^b</i>
Status (people with urban origins omitted)				
Individual converter with urban residence at 14	0.253 (0.191)	1.288	0.158 (0.235)	1.171
Individual converter with rural residence at 14	0.289 (0.149)	1.335	0.471** (0.143)	1.602
Collective converter	−0.770* (0.307)	0.463	−0.091 (0.347)	0.913
Male			−0.056 (0.093)	0.946
Birth year			−0.051*** (0.005)	0.950
Education (primary school or below omitted)				
Lower middle school			1.108*** (0.239)	3.028
Upper middle school			2.299*** (0.244)	9.964
Tertiary or above			3.781*** (0.264)	43.860
At least one parent party member at 14			0.416*** (0.125)	1.516
At least one parent cadre/soldier at 14			0.200 (0.157)	1.221
Province at 14			Yes	–
Constant	−0.854*** (0.051)	–	96.743*** (9.447)	–
Observations	4087		4087	

Notes: Robust standard errors in parentheses.

* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

5.3. Earnings

Table 8 presents OLS regression models of the natural logarithm of monthly earnings for those with urban *hukou* in 2008. Model 1 shows the gross differences in income between those with various *hukou* conversion statuses. Model 2 shows the differences net of education, occupation, gender, age, marital status, and province of current residence. With and without controls, collective converters earn significantly less than people with urban origins, while individual converters of both types do about as well as people with urban origins. Why collective converters suffer a 15% (i.e. $1 - \exp(-0.158)$) income disadvantage is unclear, but it could be that this is due to the fact that at age 30 they were more likely than individual converters to be in the same jobs as before their *hukou* conversion—that is, in the sorts of jobs available to rural *hukou* holders. This is true of fully half of collective converters, compared to 31% of rural converters and 26% of mixed converters.

Ignoring this group, the results do not support either the differential selectivity or the cumulative advantage hypothesis. With respect to earnings at least, the advantage of having an urban *hukou* is substantial (urban *hukou* holders with any earnings have median earnings of 1500 rmb per month while rural *hukou* holders living in cities have median earnings of only 833 rmb per month); see also Meng and Zhang (2001). But there is no lingering disadvantage or advantage associated with *hukou* origins. Rather, the institutional advantage of an urban *hukou* appears to dominate the specifics of individual biographies.

5.4. Health and happiness

Finally in Table 9 we present results of OLS regression models of self-rated health and happiness, using only the CGSS data because the questions yielding these variables were asked in a different way in the IMHC. These two variables were chosen because they represent what arguably are the most important aspects of individual wellbeing. There is a growing literature on the relationship between these indicators and various indicators of socioeconomic status (Morawetz et al., 1977; Clark and Oswald, 1994; Smith, 1999; Frey and Stutzer, 2002; Oshio and Kobayashi, 2010; Pittau et al., 2010). We here add information on the relationship to *hukou* mobility. We again present both gross differences by *hukou* conversion category and differences net of the same set of controls we have been using.

Table 8Coefficients for OLS regression models of earnings attainment, people with urban *hukou* in 2008.

Dependent variable: the natural logarithm of monthly earnings	(1)	(2)
Status (people with urban origins omitted)		
Individual converter with urban residence at 14	0.077 (0.061)	−0.011 (0.054)
Individual converter with rural residence at 14	−0.086 (0.052)	−0.029 (0.042)
Collective converter	−0.293*** (0.066)	−0.158* (0.063)
Education (primary school or below omitted)		
Lower middle school		0.202** (0.070)
Upper middle school		0.443*** (0.072)
Tertiary or above		0.778*** (0.075)
Occupation (agricultural worker omitted)		
Non-manual worker		0.437*** (0.085)
Manual worker		0.269** (0.090)
Retail sales and service worker		0.297*** (0.088)
Missing		0.091 (0.184)
Age		−0.004** (0.001)
Male		0.244*** (0.029)
Currently married		0.187*** (0.043)
Province		Yes
Constant	7.156*** (0.022)	6.680*** (0.144)
Observations	3543	3543
R-squared	0.009	0.325

Robust standard errors in parentheses.

* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

Consider health first. Successful *hukou* converters from rural origins report significantly worse levels of health than do the remaining groups, albeit the coefficient becomes only marginally significant ($p = .079$) when controls are introduced.¹² We think this reflects the health disadvantage of rural childhood (Chang et al., 1994; Knight and Song, 1999, Chapter 5), since the remaining groups grew up in urban areas or adjacent to urban areas. By contrast, those from rural origins are the most happy of any of the four groups, while other converters do not differ significantly from people with urban origins. We suspect this is because *hukou* converters from rural origins have experienced the most extreme upward mobility among the four groups. They were originally at the bottom of Chinese society (Treiman, 2012), but through their own efforts they have overcome the institutional barrier created by the *hukou* system and have become urban residents. Such a big jump and feelings of successful achievement may well make them happier than other urban residents.

In sum, rural to urban *hukou* converters differ from people with urban origins in various ways with respect to socioeconomic outcomes and wellbeing. Individual converters from both rural and mixed origins, but especially from mixed origins, are more likely to have at least some tertiary education than are those from urban origins, controlling for other determinants of educational achievement. However, they are less likely to matriculate subsequent to *hukou* conversion, compared to those from urban origins. This is consistent with our earlier analysis that shows tertiary enrollment to be the major determinant of successful *hukou* conversion. It is probable that the relatively low rate of post-conversion matriculation reflects the lack of

¹² Our findings are different from what Whyte and Sun (2010) found. They compared the self-rated health status of villagers, migrants, and urban citizens, and found that villagers and migrants reported better health status than urban citizens. They argued that this may be due to rural-origin respondents' lower expectations and lower awareness of health problems. However, in this paper we are comparing people with different origins among current urban citizens. *Hukou* converters in this group may no longer have lower expectations and lower awareness than those who had urban *hukou* from childhood. Moreover, in Whyte and Sun's analysis, *hukou* converters make up a non-trivial fraction of their "urban citizen" group, which would pull down the health level reported by urban citizens.

Table 9Coefficients for OLS regression models of self-rated health and happiness, people with urban *hukou* in 2008.

	Self-rated health		Happiness	
	(1)	(2)	(3)	(4)
Status (people with urban origins omitted)				
Individual converter with urban residence at 14	−0.028 (0.080)	−0.048 (0.075)	0.048 (0.088)	0.013 (0.084)
Individual converter with rural residence at 14	−0.148** (0.050)	−0.085 (0.048)	0.123** (0.047)	0.118* (0.049)
Collective converter	−0.081 (0.100)	0.051 (0.095)	−0.151 (0.091)	−0.042 (0.090)
Education (primary school or below omitted)				
Lower middle school		0.119 (0.071)		0.181* (0.074)
Upper middle school		0.120 (0.074)		0.262*** (0.078)
Tertiary or above		0.166* (0.083)		0.392*** (0.088)
Occupation (agricultural worker omitted)				
Non-manual worker		0.238* (0.111)		−0.045 (0.108)
Manual worker		0.149 (0.109)		−0.196 (0.107)
Retail sales and service worker		0.259* (0.110)		−0.096 (0.108)
Missing		0.190 (0.201)		−0.090 (0.176)
Earnings (in thousands)		0.025** (0.009)		0.037** (0.013)
Age		−0.022*** (0.002)		−0.004 (0.002)
Male		0.080* (0.038)		−0.156*** (0.038)
Currently married		0.068 (0.053)		0.231*** (0.058)
Province		Yes		Yes
Constant	3.955*** (0.023)	4.363*** (0.179)	3.798*** (0.0231)	3.561*** (0.184)
Observations	2386	2386	2386	2386
R-squared	0.004	0.144	0.005	0.097

Notes: Robust standard errors in parentheses.

^a Data are from the 2008 Chinese General Social Survey.^b The measure of self-rated health is a five-point scale: 1 = very unhealthy, 2 = fairly unhealthy, 3 = average health, 4 = fairly healthy, 5 = very healthy.^c The measure of happiness is a five-point scale: 1 = very unhappy, 2 = fairly unhappy, 3 = average happiness, 4 = fairly happy, 5 = very happy.* $p < 0.05$.** $p < 0.01$.*** $p < 0.001$.

incentive to pursue tertiary education once an urban *hukou* has been obtained, although we cannot rule out the possibility that unmeasured deficits associated with rural *hukou* status as a child also play a role.

With respect to occupational attainment, only individual converters from rural origins differ significantly from those from urban origins, having higher odds of holding non-manual jobs at age 30. Collective converters earn significantly less. Individual converters from rural origins are happier than others but also identify themselves as having poorer health. We already have offered various conjectures to explain these diverse results, which we do not repeat here.

6. Summary and conclusions

The *hukou* system in China broadly divides Chinese citizens into two classes—those with urban *hukou* and those with rural *hukou*—creating two societies in one country with huge inequality, which has been likened to the difference between “heaven and earth” (Whyte, 2010; Treiman, 2012). Under this system, rural to urban *hukou* conversion is an important channel of institutional upward mobility for rural people in China. Compared to residential mobility, *hukou* mobility is much more difficult to achieve, but is accompanied by much greater benefits. Although in recent years, China has instituted a variety of reforms to the *hukou* system, the system remains potent and intact, and “the cumulative effect of these reforms is not abolition of the *hukou*, but devolution of responsibility for *hukou* policies to local governments, which in many cases actually

makes permanent migration of peasants to cities harder than before” (Chan and Buckingham, 2008, p. 582). Within this context, in this paper we studied the determinants and consequences of rural to urban *hukou* mobility in China.

There are two distinctive features of our analysis of the determinants of *hukou* mobility that, while not entirely novel, have received little previous attention. First, we distinguish between individual and collective converters, that is, those who achieve urban *hukou* as a result of their personal and family attributes vs. those who are part of wholesale conversions of entire villages that are incorporated into towns or cities or upgraded to towns. Second, we distinguish between those with rural *hukou* who grew up in urban areas, what we call the “mixed” origin population, and those who grew up in rural areas. It turns out that the mixed population consists mainly of those with local *hukou*. The important consequence of holding local, even if not urban, *hukou* is that such members of the mixed population were entitled to attend local urban schools and thus enjoyed education superior to what was generally available to those residing in rural areas.

Making these two distinctions enables us to provide new insights regarding the likelihood and determinants of *hukou* conversion. First, most people who successfully obtained an urban *hukou* did so on the basis of individual attributes rather than being swept into the urban population by administrative action. Second, individual converters were much younger than collective converters, for whom there was little difference by age. Third, among individual converters, most were from rural rather than mixed origins. But those from mixed origins were much more likely to convert their *hukou*. The reasons for this are not entirely clear, although we have offered a number of conjectures together with some supporting evidence. For individual converters from rural origins, matriculation at a tertiary institution—something only a few people managed—essentially guaranteed an urban *hukou*; indeed, this was the only attribute that differed significantly between those of rural and mixed origins with respect to its effect on the odds of conversion.

We then considered the consequences of *hukou* conversion. As we noted at the outset, it already is well known that having an urban *hukou* brings many advantages: superior access to jobs, housing, education for one's children, health care, and insurance. We here asked an additional question—among those who obtain an urban *hukou* is there any lingering effect of social origins? That is, does it matter whether one enjoyed an urban *hukou* as a child or acquired it as an adult and, among those who acquired an urban *hukou*, does the way it was acquired—via individual or collective conversion and from a mixed or rural background—matter? We posited three possibilities: cumulative advantage, which would lead to a gradient with those from urban origins most successful and collective converters least successful; differential selectivity, which would result in individual converters from rural origins being most successful, followed by individual converters from urban origins, then by those from urban origins and collective converters; and institutional dominance, which would suggest no lingering consequences, conferring an equal advantage on all urban *hukou* holders. We studied five outcomes: tertiary matriculation subsequent to conversion; occupational attainment at age 30; earnings; self-reported health; and happiness.

It turns out that none of the three possibilities is consistently supported. Instead, the relative advantage of each of the four conversion groups varies depending on the outcome. Tertiary matriculation subsequent to conversion appears to follow a pattern consistent with cumulative advantage; but this turns out to be misleading because it fails to consider conversions achieved in conjunction with or after tertiary matriculation. The likelihood of attaining a non-manual job is significantly greater for individual converters from rural origins. Earnings are significantly lower for collective converters. And those from rural origins have significantly worse health but significantly greater happiness than those from urban origins.

Overall, we conclude that holding an urban *hukou* continues to confer large advantages in contemporary China but that *hukou* mobility and its consequences are substantially more complex than has hitherto been appreciated. Clearly, further research, based on substantially larger samples than were available to us, would yield further insights regarding a process in which individual behavior is strongly constrained by institutional arrangements.

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