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ABSTRACT

The Chinese household registration system (*hukou*), which divides the population into "agricultural" and "non-agricultural" sectors, may be the most important determinant of differential privilege in state socialist China, determining access to good jobs, education for one's children, housing, and health care, and (formally, although no longer in practice) even the right to move to a city. *Hukou* mobility, with its attendant consequences for life chances, is difficult to accomplish. Using data from a 1996 national probability sample, we show that education and communist party membership are the main determinants of such mobility.

INTRODUCTION

Rural-to-urban migration is a pervasive feature of the developing world. In general, urban areas are centers of development. Incomes tend to be higher and economic opportunities greater. Driven by real or perceived differentials in economic opportunities (Lee 1966; Todero 1976), the needs of families to diversify risk in the absence of formal insurance mechanisms (Portes and Böröcz 1989), and social network connections with others who have preceded them (Massey et al. 1993), peasants flock to the cities in search of better lives. Migration is thus an important channel of social mobility.

In most developing nations, economic development has promoted massive and uncontrolled migration from the countryside into urban areas (Kasarda and Crenshaw 1991). China, however, is an exception. Recognizing that extensive rural-to-urban migration would undercut the attempt to develop an urban welfare state, the communist government in 1955 established a registration system that classified each member of the population as having agricultural (rural) or non-agricultural (urban) status (*hukou*), with a sharp differentiation of rights and privileges and extremely stringent conditions for converting from rural to urban status.

The *hukou* system has had its intended effect, severely restricting rural-to-urban migration (Johnson 1994; Yang 1993). As Figure 1 shows, although both the non-agricultural labor force and the level of economic development substantially increased over time, the urban population remained essentially constant from 1962 until 1978, the beginning of the industrial reform, after which it has increased only modestly through the informal migration of peasants to cities.[1] Most of the post-1978 migration has been without change of *hukou* status, which means that these new urban migrants lack the entitlements of permanent residents (Roberts 1997;

Solinger 1999). As we will see, formal, or "government sponsored," or "official" migration, entailing a change in *hukou* status, remains very difficult.

The *hukou* regulations institutionally divided China into two systems, with an "invisible wall" between the urban and rural sectors (Chan 1994). Social welfare benefits, including food rations in the not-so-distant past and even now access to subsidized housing, education, medical care, retirement benefits, and the right to employment in all but menial jobs, are available mainly to those with local urban *hukou*. Thus, an urban *hukou* confers great advantages in life chances and the *hukou* system created two classes of citizens differing sharply in living standards and income (Chan 1994; Knight and Song 1999). These disparities cannot be attributed to the difference between the agricultural and non-agricultural sectors. Even within the non-agricultural sector, returns to human capital are much lower in rural than in urban China (Peng 1992). The institutional boundary between rural and urban China created by the household registration system seems to prevail over other institutional distinctions in the Chinese social stratification system (Wu 2001).

Hukou status is acquired at birth, based on the mother's *hukou*, and is fixed for life, except in the special circumstances discussed below. An important implication of the ascriptive character of *hukou* status is that those with urban *hukou* are essentially protected from downward mobility to rural *hukou* status. Even if they live in a rural village, they still are entitled to urban rights and privileges.[2] Their children are also guaranteed this lifelong status.

Previous literature on migration and urbanization in contemporary China has largely neglected the institutional aspect of rural-urban mobility, the conversion of *hukou* status *per se* (*nong zhuan fei*) (e.g., Banister 1997; Liang and White 1996; Yang 1993), even though *hukou*

conversion strongly affects life chances independently of residential mobility.[3] While some studies have mentioned the constraints of *hukou* status on rural-to-urban spatial migration (e.g., Fan 1999; Roberts 1997; Wang, Zuo, and Ruan 2002; Yang 1993), they provide little information on how individuals overcome institutional hurdles and achieve urban *hukou* status. Our paper aims to fill this gap. Using data from the 1996 *Chinese Life History and Social Change Survey* (Treiman 1998), we study the effect of *hukou* origin on life chances, and the process of obtaining an urban *hukou* for those from rural origins.

In the following we first briefly review the history of the *hukou* system, and then examine how *hukou* origin (status at age 14) affects two aspects of life chances: attainment of higher education and communist party membership. We then investigate the factors that determine *hukou* mobility from rural to urban status, and examine the temporal trend in *hukou* mobility. Finally, we discuss the implications of the findings for the analysis of place stratification, migration, and social mobility in China.

THE CHINESE HOUSEHOLD REGISTRATION SYSTEM

In 1955, as one of its procedures for solidifying administrative control, the new Chinese communist government established the household registration system, still in place today.[4] All households were registered in the locale where they resided and also were categorized as either agricultural or non-agricultural households.[5]

The installation and subsequent tightening of the *hukou* system reflected an effort on the part of the government to cope with demographic pressures created by China's rapid industrialization. After the civil war and two ensuing years of economic rehabilitation (1950-

1952), millions of peasants were recruited by burgeoning state industrial enterprises established in urban areas as part of the first Five-Year Plan (1953-1957), and many more moved without restriction into cities to look for urban jobs (Meisner 1999). To curb this rapid influx into cities, the registration system divided the population into agricultural and non-agricultural sectors as a basis both to restrict further rural-to-urban migration and to return rural migrants to the countryside.[6] Enforcement of the *hukou* regulations became especially stringent in the aftermath of the Great Leap Forward (1958-1960), which threw the newly established system into chaos. A dramatic increase in (nominal) industrial growth and urban inflow pushed China's urban population from 16.2% in 1958 to 19.7% in 1960, the all-time high in the pre-reform era (Fig. 1). The government soon realized that China's grain-production capacity was unable to sustain such a huge urban population, especially given the decline in agricultural production during the Great Leap Forward. Thus, beginning in 1959 the government expanded and rigorously enforced the *hukou* system as a tool to control migration. About 18 million urban workers were sent back to their home villages between 1961 and 1963 (Chan 1994:39), and more than 20 million university and middle school students from urban areas were sent down to rural and border regions during the Cultural Revolution (1966-1976), to help reduce both urban unemployment and school crowding (Bernstein 1977).

The effectiveness of the *hukou* system in restricting internal migration relied on two other administrative systems, through which rationing was carried out. On the rural side, the commune system enabled local governments to bind peasants to the land. All adults had to participate in agricultural production to receive food rations for their households (Parish and Whyte 1978) and migration was generally prohibited except with the permission of the local

government.[7] On the urban side, the principal administrative units for most urban residents were the workplace organizations (*danwei*), which administered most social services for their employees (Bian 1994; Naughton 1997; Walder 1986, 1992). Without a work unit, it was very difficult to survive in a city because housing, food, and other social services were unavailable through the market. Moreover, because employment quotas in all urban work units were tightly controlled by the government labor administration (Li and Wang 1992; Walder 1986), even rural residents willing to risk losing food rations by leaving their home villages would have little chance of getting a job in a city. This tight administrative control on both sides virtually eliminated unauthorized rural-to-urban migration in the pre-reform era.

Economic reform during the next two decades relaxed this administrative control (Liang and White 1997; Fan 1999). The abolition of the commune system, starting in 1978, freed peasants to seek work in the industrial and service sectors. At the same time, both push and pull factors increased the propensity to migrate from the countryside into the cities. First, the introduction of the "family responsibility system," which made individual families responsible for particular plots and allowed producers to sell on the open market any surplus remaining after paying the grain tax, greatly improved the efficiency of agricultural production, thus creating a large worker surplus in rural areas (Johnson 1988; Liang 2001:511; Lin 1988; Yang 2000). Second, erosion of the rigid *danwei*-based rationing system in urban areas created social space for rural migrants (Liang and White 1997:322). To enhance the development of the service sector in cities, the government allowed peasants to enter cities and establish small urban businesses such as shoe-repair shops, barbershops, and restaurants (Li 1993:110). Further, millions of young peasants were hired in the growing market sector outside the redistributive

system. Even some state-owned work units preferred to hire rural peasants because they had no obligation to provide housing and other social benefits for peasant-workers or because the jobs were unattractive to urban workers. By the end of 1990 the urban "floating population" had reached 70 million (for estimates, see Banister 1997; Solinger 1999:19-20,Table 1), and some researchers put the size of the floating population at the turn of the century as high as 90 million (Ma 1999).[8]

Although geographic mobility and employment change have become relatively easier, the social concomitants of *hukou* status still persist. No matter how similar their jobs are to those held by urban workers, employees with rural *hukou* status are still classified as "*peasant*-workers" and thereby are not entitled to the many labor rights and benefits enjoyed by employees with urban *hukou* (Wang et al. 2002; Yang and Guo 1996). As Chan (1994:135) asserts, "Chinese reform socialism has created, structurally, a sizable 'second class' of urban citizens without permanent urban household registration status. This informal segment of urban labor and population is an extension of the rural segment, which was largely bottled up in the countryside under Mao." In the reform era the *hukou* system has remained largely in force and still greatly shapes socioeconomic status and life chances.

OBTAINING URBAN *HUKOU* STATUS: HYPOTHESES

Hukou status can be thought of as primarily ascribed rather than achieved since it is defined at birth on the basis of the mother's status and cannot easily be changed (Chan and Zhang 1999). Although government policies encouraged urban residents to formally move to rural areas, there was essentially no voluntary mobility in that direction given the huge advantages associated with

urban *hukou* status.[9] *Hukou* mobility, therefore, was mainly from rural status to urban status (*nong zhuan fei*), which was highly restricted by the government to maintain the urban welfare system.

Yet both institutionalized and non-institutionalized channels for *hukou* mobility did exist, even during the harshest period immediately after the Great Leap Forward. Through various means, some rural *hukou* holders were able to acquire urban *hukou* through their own efforts. Indeed about 11% of respondents in the 1996 survey had done so.[10] Here are the main factors that we think govern the conversion of *hukou* status.

The first is education.[11] According to *hukou* regulations, students are granted urban *hukou* status upon admission to specialized secondary (*zhong zhuan*) or tertiary (*da zhuan* or *ben ke*) schools (State Council 1986 [1958]). Whereas access to urban primary and regular middle schools is essentially restricted to local (permanently registered) residents, specialized secondary and tertiary schools (hereafter, higher education) are in principle open to all citizens on the basis of merit (usually assessed by examination scores).[12] Thus, junior high school graduates with a rural *hukou*, had (and have) two strategies for gaining an urban *hukou* via higher education. The first was to gain admission to a specialized secondary school (*zhong zhuan*), which confers urban *hukou* status immediately upon admission. The second was to gain admission to an academic senior high school and then to try to get admitted to a tertiary school. Tertiary education confers both urban *hukou* status and a non-manual job; but the risk was that students from rural origins, after finishing three years of academic high school, might fail the *National College Entrance Examination* and hence have to return to their home villages and work as peasants. Thus, other things being equal:

- Hypothesis 1: *people with higher levels of education are more likely to change hukou status than are those with lower levels of education. Upper specialized/vocational education and tertiary education are particularly important*.

Given the highly selective character of Chinese higher education (only 4.5% of the rural-origin population has vocational/specialized or tertiary education—see Table 1), educational attainment alone accounts for about a quarter of all *hukou* mobility.

Two other ways of changing *hukou* status are to join the Chinese Communist Party (CCP) or the People's Liberation Army (PLA). Although CCP membership and PLA military experience do not guarantee urban *hukou* status, political loyalty manifested in these ways is thought to improve upward career mobility and the odds of eventually gaining an urban *hukou*. For example, rural party members may be able to serve as rural "cadres" (village heads, village party secretaries, heads of village enterprises, or village accountants). Some of these "peasant cadres" are promoted to leadership positions at the township level, making them part of the state bureaucratic system and hence eligible to change to urban *hukou*. This suggests a testable hypothesis:

- Hypothesis 2: *Party members are more likely to change hukou status than are non-party members.*

Because the CCP does not actively recruit in rural areas, party membership is generally not accessible to ordinary peasants. A well-known strategy for rural youth seeking upward mobility is to join the PLA and then to acquire party membership while in the Army (Chan 1994). After being discharged, a former PLA member can either obtain an urban job directly, and thereby change *hukou* status, or can return to his[13] village and start a career as a rural cadre.

Thus PLA experience can be seen as a semi-political credential that offers an alternative to higher education as a way for rural *hukou* holders to alter their status. Hence, the following hypothesis can be tested:

- Hypothesis 3: *People with military experience are more likely to change hukou status than are people without military experience.*

These three hypotheses are consistent with the dual-path model of social mobility under communist regimes (Walder 1995; Walder, Li, and Treiman 2000), which posits that both educational and political credentials are important in upward social mobility in state socialist societies.

In any examination of the potential to obtain urban *hukou* status, gender inequality must be considered. Because traditional practices, particularly patrilocal marriage and the transfer of women's obligations from their own parents to their husband's parents, remain stronger in rural China, rural women are particularly disadvantaged in acquiring educational and political credentials. But even net of such credentials, they are less likely to enjoy the sponsorship of their families; when a family uses social connections for its children's future, sons almost always have priority (Lin 2000:219). Thus, net of other factors, we expect:

- Hypothesis 4: *Men are more likely to change hukou status than are women.*

While rural children inherit *hukou* status from their families, relatively advantaged rural families are positioned to help their children achieve urban status when opportunities become available – which, although rare, sometimes occur. For example, occasionally workers have been recruited from rural villages to state enterprises with the promise of urban *hukou* (Chan and Zhang 1999). Children of communist party members often had privileged access to those

opportunities, through their parents' formal or informal influence, net of their own educational and political credentials. Thus:

- Hypothesis 5: *People whose parents were communist party members when they were growing up (at age 14) are more likely to have changed hukou status than are people whose parents were not party members.*

Finally, urban connections in a mixed *hukou* family[14] (typically an urban father and a rural mother) may facilitate *hukou* mobility. Because children's *hukou* status generally follows that of the mother (State Council 1986 [1958]), urban-status fathers in mixed *hukou* families cannot easily transfer their occupational achievement in the urban sector to their children. However, the sharp contrast between rural and urban *hukou* is especially salient within such families, which may provide not only additional motivation for children to change their lives but also access to urban resources that offer information on how to take advantage of educational and employment possibilities. Further, the *dingti* policy in the 1980s allowed one child to take over the parent's job in the *danwei* when the parent retired; thus, children born to rural mothers and urban fathers could change their *hukou* status from rural to urban if they took over their father's job (Bian 1994:55; Walder 1986:67). Hence, all else equal:

- Hypothesis 6: *People whose fathers were employed in state work units when they were growing up are more likely to have changed hukou status than are people whose fathers were not employed in state work units*.

All in all, notwithstanding the rigid segmentation of China into urban and rural components, a few formal and informal channels allow rural residents, particularly males, to obtain urban status. These include gaining higher education, joining the army and/or the

communist party; and exploiting family connections to seize special opportunities. Together these channels were presumably used by the approximately 11% of the 1996 rural-origin population who had obtained an urban *hukou.* Another 3% were able to change *hukou* without changing residence, presumably because their villages were incorporated into towns or cities (although some of these may have changed *hukou* on the basis of individual efforts).

While researchers generally concur regarding the factors that influence *hukou* conversion, to date no one has quantitatively assessed the impact of each of these factors. With China on the eve of substantially restructuring the household registration system after two decades of market reforms (United State Embassy in China 2003), social scientists still lack full understanding how the system has worked and what impact it has had on generations of Chinese, especially those from rural origins. Such an empirical assessment is thus in order. In this paper we formally test the hypotheses just developed regarding the factors that influence the odds of converting from rural to urban *hukou* status. However, we first examine how *hukou* origin status shapes access to education and party membership.

DATA AND VARIABLES

The data used in this analysis are from the survey of *Life Histories and Social Change in Contemporary China* (1996), a multi-stage stratified national probability sample of 6,090 adults aged 20-69 from all regions of China (except Tibet).[15]

The survey questionnaire contains extensive information on respondents' life histories and on the characteristics of family members. Information on respondents' household registration status (*hukou*), occupations, education, and political affiliation, and similar

information about the respondent's parents, are exploited in the following analyses. The survey collected information on *hukou* status at three time points: *hukou* at birth, *hukou* at age 14, and current *hukou* status. The rank of the place of residence in the Chinese urban hierarchy (ranging from "village" to "national-level city") was recorded for the same three time points. This information is nearly complete, with very few missing observations. We use *hukou* status at age 14, instead of *hukou* status at birth, as our measure of origin status on the ground that *hukou* status at age 14 is a better predictor or adult life chances than in *hukou* status at birth, for the small fraction of the population for which these two indicators are not identical. The 19% of respondents born before 1941, and some of those born in 1941, had no *hukou* at age 14 since the *hukou* system was introduced in 1955; for these respondents, an origin *hukou* was imputed on the basis of residence at age 14: those living in villages were assumed to have rural *hukou* origin and those living in towns and cities were assumed to have urban *hukou* origin. These manipulations permitted us to construct two binary variables: *hukou* origin and *hukou* destination (urban=1, rural=0).

Other variables included in the analyses are coded as follows:

- *Respondent's education* appears both as an outcome variable in a model focusing on the effect of *hukou* origin and as a major factor affect the odds of obtaining an urban *hukou* for the rural-origin population. To distinguish the educational levels leading automatically to urban *hukou* (specialized secondary and tertiary education), we recode education into four levels: junior high school or below, academic senior high school, specialized/vocational high school,[16] and any tertiary level institution (college or above).

In the event history analysis reported below, respondent's education refers to the education level at the year of risk.

- *Respondent's party membership* is coded as a dichotomy (party member =1, non-member=0). For the event history analysis, party membership refers to the year at risk. Respondents were asked the year they joined the party only if they indicated that they were party members at the time of interview. Thus, we have no way of identifying former party members. However, in China, unlike Eastern Europe, virtually no one leaves the party (Chang 1991).
- *Military experience* is constructed based on the respondent's work history. This is coded as a dichotomy (yes=1, no=0), and again for the event history analysis refers to whether the respondent had had military experience by the year at risk.
- *Place of residence at age 14* is coded into the seven categories of the Chinese urban hierarchy: villages=1, towns=2, county seats=3, county-level cities=4, prefecture-level cities=5, provincial capitals=6, and 7the three directly-administered municipalities: Beijing, Shanghai, and Tianjin=7.
- *Parental education* is measured by the years of school completed by the father or mother of the respondent, whichever is higher. The 20 people (12 rural origin people) missing data on both father's and mother's years of schooling are omitted from the analysis.
- *Parental party membership* is a dichotomous variable, coded 1 if either parent was a party member when the respondent was age 14, and coded 0 otherwise.
- *Parental ISEI* (*International Socioeconomic Index of Occupations*) is a scale of occupational status, ranging in principle from 0 to 100 (Ganzeboom, De Graaf, and

Treiman 1992). The *Chinese Standard Classification of Occupations*, used to code the occupation data in the survey, closely matches the 1968 *International Standard Classification of Occupations* (International Labour Office 1969), so 1968-basis ISEI scores were assigned to the data. For this analysis, we used the higher of the mother's and the father's ISEI when the respondent was age 14. The 292 (171 rural origin people) missing data on both father's and mother's occupation are omitted from the analysis.

- *Father's work unit* is a dummy variable, coded 1 if the father worked in the state sector (that is, in a government agency, state institution, or state enterprise) when the respondent was age 14 and coded 0 otherwise. This variable better captures the possibility that the father had urban *hukou* status than whether he worked in a work unit (*danwei*) because many peasants work in private/collective work units without changing their *hukou* status. We have no direct measure of father's *hukou* status.
- *Gender* is a dummy variable (male=1, female=0).
- *Period* refers to one of five time periods during which a respondent might have been "at risk" of changing status. Recent Chinese history has been very turbulent, which makes it important to capture period variations in the rigidity of the *hukou* system. Period I (1955-1958) is the initial stage, during which the *hukou* system emerged as the government's main way of regulating labor migration in the course of industrialization. Although the *hukou* system was installed in 1955, during Period I rural peasants could still move into cities without official government approval. In 1959, to prevent peasants from inundating cities as they did during the Great Leap Forward, the Chinese government started implementing a restrictive *hukou* policy. Therefore, during Period II

(1959-1965) we expect a significantly lower rate of *hukou* mobility than in the previous period. Period III (1966-1976) covers the period of the Cultural Revolution. Even though the political system was thrown into chaos during the Cultural Revolution, the *hukou* system remained quite stable. Although thousands of urban youth were sent to rural areas, most eventually resumed their urban status (see Note 2); they are not included in our analysis of *hukou* conversion since they virtually all had urban *hukou* at age 14. Period IV (1977-1986) is the early stage of economic reform. Despite partial reform in the economic sphere, the rigid *hukou* system remained unchanged. Period V (1987-1996) is a time of deepening reform during which the *hukou* system was relaxed to some extent. The quota for urban *hukou* conversions increased slightly, as educational expansion and urbanization provided more vacancies for people of rural origins. Moreover, for the first time since the 1950s, peasants were allowed to enter cities without an urban *hukou* to provide services for urban residents (Chan and Zhang 1999).

- *Birth cohort* is included as a set of dummy variables (1927-1936, 1937-1946, 1947-1956, 1957-1966, and 1967-1976) in the binomial logit analysis to ensure that changes over time in the distribution and effects of other variables do not distort estimates of the effect of *hukou* status.
- *Age* is included as a set of dummy variables (14-19, 20-25, 26-31, 32-40, and 41-60) in the hazard-rate analysis to distinguish between age and period effects on the likelihood of *hukou* conversion. We make the intervals shorter at the beginning of the career because we expect the most rapid changes then.

Table 1 presents descriptive statistics for these variables.

Given the sample design, respondents were selected from households with different numbers of adults; moreover, the current urban and rural populations were sampled at different rates. Thus, to render our data representative of the adult population of China we apply a case weight, the inverse of the probability that an individual was selected, both for the descriptive statistics and for the model estimation. Except where otherwise indicated, all analyses are conducted using Stata 7.0's estimation commands, computing robust standard errors to correct for clustering in the sample (StataCorp 2001).[17]

THE IMPACT OF HUKOU STATUS ON LIFE CHANCES

While it is not at all surprising that rural origin leads to disadvantages in socioeconomic achievement—this is true of many societies, be they socialist or capitalist, developed or developing—our claim here is that rural *hukou* status imposed additional limitations on favorable life chances in China, which cannot be solely attributed to the effect of place. In this section we examine the effects of *hukou* origin on access to educational and political credentials, two significant facilitators of social mobility in state socialist China (Unger 1982; Walder 1995; Walder et al. 2000).

Hukou Origin and Educational Attainment

Admission to specialized secondary schools and tertiary institutions in China is based primarily on competitive examinations. Thus, education at this level is in principle equally available to all Chinese citizens, depending only on their individual merit. However, "equal" opportunity in

education has always produced dramatically unequal outcomes between rural and urban *hukou* holders (see Note 12).

As Table 1 shows, as of 1996 Chinese adults from rural origins averaged only 5.8 years of schooling compared to 9.2 years for people from urban origins. Since education facilitates the conversion of *hukou* status, the effect of *hukou* at age 14 on educational attainment is of particular interest to us. To assess this, in Table 2 we estimate OLS regression models predicting years of schooling completed from *hukou* status at age 14, parental education, parental occupational status when the respondent was age 14, gender, 10-year birth cohort, and respondents' place of residence.

Model 1 of Table 2 omits the set of dummy variables for place of residence at age 14. All net effects are as expected, and all are substantial. First, each year of parental schooling increases the expected years of schooling of respondents by nearly a quarter of a year. Similarly, each 10 points on the occupational status scale returns a net increase of about 3/10ths of a year of schooling. These findings are consistent with what is known about educational attainment throughout the world–educational attainment is substantially correlated with parental socioeconomic status net of other factors (Ganzeboom and Treiman 1993; Mare 1980; Rijken 1999; Shavit and Blossfeld 1993; Treiman and Yip 1989). Second, it is well known that in China men have greater educational opportunities than do women (Hannum and Xie 1994). Our data show that men average two years more schooling than women. Third, in common with most other nations, educational opportunities in China have expanded throughout the 20th century (Deng and Treiman 1997). Our data show that younger cohorts have more schooling than older cohorts (see Table 2). People born in 1957 or later averaged four years more

schooling than people born prior to 1937, net of other factors (moreover, the coefficient for the youngest cohort, aged 20-29, is probably underestimated since many of them were still in school as of 1996).

Central to our concern here, having an urban *hukou* at age 14 results in a huge advantage in schooling. That is, respondents who are lucky enough to have born into urban families average two years more schooling than rural people with the same parental education, parental occupation, gender, and birth cohort.

The place where people grew up has a significant impact on educational attainment in China (Hannum 1999), as elsewhere in the developing world (Buchmann and Hannum 2001) and in former socialist countries (for Hungary, see Simkus and Andorka 1982; for Russia, see Gerber and Hout 1995). Since *hukou* status at 14 and place of residence at 14 are highly correlated (Table 1), the obvious question is whether rural *hukou* status creates an additional disadvantage independent of the well-known disadvantage of rural residence on educational outcomes noted at several points above. To disentangle the institutional effect of *hukou* status from the spatial effect of residence on educational attainment, we estimate Model 2 in Table 2, with place of residence at age 14 as an additional control variable.

As expected, residential place matters a great deal in determining educational attainment. Children who grew up in a directly administered city (Beiijing, Shanghai, and Tianjin) average 2.6 years more schooling than children who grew up in a village, net of other factors. The net advantage in schooling for those who grew up in other cities ranges from about 1.7 to 2.2 years, while town residents enjoyed an educational advantage of only about 3/4ths of a year relative to villagers. This spatial hierarchy with respect to education appears to be a clear reflection of

China's redistributive policy in resource allocation under state socialism (Zhou, Moen, and Tuma 1998), strengthened by government restrictions on migration.

People from rural origins are educationally handicapped both by the inferior quality and limited number of available schools and by explicitly discriminatory state policy. Schools, especially high-quality schools, are generally concentrated in cities, and are not readily accessible to students lacking a local *hukou*. The result is that regardless of where they grew up, children lacking urban *hukou* status suffer an educational disadvantage—more than half a year of schooling, net of other factors. We attribute this discrepancy to education admission policies that often discriminate against non-local students. Local governments usually favored students with local urban *hukou* with respect to admission to vocational/ technical schools and community colleges—the key to *hukou* mobility. By setting admission standards higher for non-local students, these institutions *further* limited the rate of *hukou* conversion since rural students were virtually always non-local because most secondary and tertiary institutions were located in urban areas.[18]

Hukou Origin and Party Membership Attainment

The chance of acquiring political credentials is also limited for people of rural *hukou* origin. Although the communist party relied on the peasants' support to defeat the Nationalist government and to gain power, after the founding of the People's Republic it focused more actively on recruiting members and building up grass-roots organizations in urban than in rural areas. Thus, most people living in rural areas, but especially peasants, had little chance to join the party. To examine rural-urban differences in access to party membership, we estimate

binomial logistic regression models of the odds of current party membership. In addition to *hukou* at age 14, we include as control variables parental party membership, military experience, gender, and birth cohort in Model 1, and add place of residence in Model 2. We omit education from this analysis because of a potential endogeneity problem–a non-trivial fraction of respondents join the party first and then are sent by the party for additional schooling (Li and Walder 2001).

Table 3 shows the estimated coefficients. In Model 1, as expected, *hukou* origin has a substantial net impact on the odds of becoming a member of the party; the odds for those of urban origin are about 2½ times the odds for those of rural origin. In addition, unsurprisingly, the net odds that children of party members become party members are also more than twice the odds for the children of nonmembers; and the odds for men are about four times the odds for women. As expected from our previous discussion of the role of the People's Liberation Army as an upward mobility vehicle, the odds that PLA members subsequently become party members are far higher than for others–about 18 times as great.[19] Finally, the odds of becoming a party member systematically decline for successive cohorts, probably due to a combination of an age effect (people are invited to join the party at various ages) and a cohort effect (party membership has become less popular as a means to social mobility since the beginning of the reform period). From the analysis reported in Table 3 we cannot distinguish between these two possibilities.

In Model 2 of Table 3 we include place of residence as a set of dummy variables. The institutional effect of origin *hukou* status persists: the odds of becoming a party member for those of urban origin status are more than 1½ times the odds for those of rural origin status. It may well be that this reflects the superior education of those with urban *hukou*, shown in Table

2. But it also could reflect the propensity of the party to focus their recruiting efforts on the permanent urban population. Since most recruitment to the party takes place in schools, youth organizations, and work organizations (*danwei*), migrants to urban areas would generally not be included in the targeted populations.

Overall, the effect of residence at age 14 on the odds of joining in the Party is not significant ($\chi^2[6]=6.5$; $p=0.37$). However, it is of interest to note that the odds of joining the party are significantly higher for those growing up in political centers—county seats, provincial capitals, and the directly-administered cities—than for those growing up in villages, but this is less evident for those growing up in other areas (the coefficients are all positive, but do not reach the same levels of statistical significance). Perhaps growing up in a political center makes a political career more attractive.

To recapitulate, people of rural and urban origins differ substantially in access to educational and political opportunities that may help them move upward in the socialist hierarchy. Net of family background, residence, and other demographic attributes, people of rural *hukou* origin had inferior life chances–access to education and communist party membership–than did those people lucky enough to have been born into a family with urban status.

GAINING URBAN STATUS: A CROSS-SECTIONAL ANALYSIS

Given that educational and political credentials serve as important channels for rural-to-urban status mobility but that access to these credentials is severely restricted for those from rural origin, how likely is it that rural people can convert their rural *hukou* to an urban *hukou*, and

what factors are most important? To determine this, and specifically to test the six hypotheses proposed above, we restrict our analysis to the rural-origin population with complete data (N = 4,127),[20] and estimate models of the odds of attaining an urban *hukou*.

Six independent variables pertinent to these hypotheses are included in the model: education, party membership, gender, parental party membership, and whether the father was employed in a state work unit when the respondent was age 14. In addition, five 10-year birth cohorts are included as controls. Descriptive statistics for both the dependent and independent variables are presented in Column 2 of Table 1.

Table 4 presents the coefficients for two binomial logistic regression models of *hukou* mobility. Model 1 estimates the odds of acquiring an urban *hukou* as a function of those variables thought to directly affect the odds: educational level, party membership, and military experience.[21] Model 2 adds those variables thought to indirectly affect the odds of *hukou* mobility: gender and family background, plus birth cohort. Results from both Model 1 and Model 2 are consistent with five of our six hypotheses–all but our expectation that men will be more likely than women to gain urban *hukou* status.

First, as expected, given regulations that normally grant urban *hukou* status upon enrollment in vocational/specialized schools or tertiary institutions, the effects of these levels of education are very strong—although much stronger for tertiary education than for vocational education (the odds multiplier for vocational/specialized education is more than 8 for Model 1 and nearly 11 for Model 2, and the corresponding odds multipliers for tertiary education are 46 and 84). This probably reflects the fact that in the Chinese *hukou* system, but unfortunately not in our data (and, oddly, not in most Chinese statistical compilations either), a distinction is made

between vocational and specialized technical school, with only the latter routinely leading to urban *hukou* status. Also, despite the fact that those who complete academic senior high school but fail to enter tertiary institutions are supposed to return to their rural villages, the odds of such graduates eventually attaining an urban *hukou* are about 2½ times the odds for those with less education in Model 1 and more than 4 times in Model 2.

Second, both party membership and military service sharply improve the odds of obtaining urban registration. Net of other factors, the odds that party members attain urban status are more than 4 times the odds for non-members in Model 1 and a little less than 4 in Model 2, and the odds for those with military experience are nearly 5 times the odds for those lacking military experience in Model 1 and nearly 7 times in Model 2. Although we posited a process in which young people join the PLA and while enlisted join the communist party, thereby improving their odds of achieving urban status, it is clear from the analysis that PLA experience *independently* enhances the likelihood of achieving urban registration, probably through improved chances of being assigned a job in an urban area at demobilization.

Third, contrary to Hypothesis 4, men are less likely than women to obtain urban status net of other factors; the odds multiplier in Model 2 is .46. As we have seen, women are disadvantaged in obtaining education and party membership, crucial facilitators of mobility from rural to urban *hukou* status. They also are far less likely to join the military (in our data no women have military experience). Thus, rural-origin women are less likely than rural-origin men to attain urban registration via these mechanisms. However, it turns out that rural-origin women are about as likely as rural-origin men to obtain an urban *hukou*—10.8% of women did so compared to 11.8% of men—and about twice as likely to obtain an urban *hukou* net of

education, party membership, and military service.[22] Perhaps women are more likely to gain urban status through an alternative channel such as marriage even though marriage to a permanent urban resident does not create an automatic entitlement to an urban *hukou*. A separate analysis (not reported here) shows that married women are more likely to gain urban *hukou* status than are unmarried women, unmarried men, or married men, net of other factors. But this evidence is hardly conclusive in the absence of data on spouse's *hukou*, which unfortunately was not included in the survey.

Fourth, consistent with Hypothesis 5, parental party membership during childhood increases the odds that rural-origin respondents obtain urban status, net of all other factors (the odds multiplier is 1.6). Thus, while parental political credentials *indirectly* influence children's chances of obtaining urban status through their positive influence on children's becoming party members, joining the military, and enrolling in higher education, they also *directly* influence children's chances, presumably because they permit parents to exploit special opportunities for their children, such as recruitment of rural youth for jobs that carry urban status.

Finally, consistent with Hypothesis 6, the 9% of rural-origin people whose fathers were employed in state enterprises when the respondents were growing up had substantially greater odds of acquiring urban status, net of other factors (the odds multiplier is 2.4).

We included one set of variables in the analysis for which we did not develop explicit hypotheses—birth cohort. It turns out, however, that the net odds of gaining urban *hukou* status systematically decline for successive 10-year birth cohorts, albeit with the largest decline between the oldest and next oldest cohort. The result is that, net of other factors, the odds that our youngest respondents gained an urban *hukou* by the time of the survey are only about 11% as

large as the corresponding odds for the oldest cohort. The interpretation of this result is somewhat problematic. While we are inclined to interpret the result as a period effect—a decline over time in the odds of converting a rural to an urban *hukou* as government policies became more stringent—it could be argued that what we observe reflects continuing opportunities to obtain an urban *hukou* over the life course and thus a conversion rate that increases with age. To definitively settle the issue requires a way to disentangle the effects of age and period, which we accomplish via a discrete-time hazard-rate (event history) analysis.[23]

TEMPORAL TRENDS IN *HUKOU* MOBILITY RATES: AN EVENT HISTORY ANALYSIS

A discrete-time hazard-rate analysis of the determinants of *hukou* conversion in the rural-origin population allows us both to pin down the temporal order of *hukou* conversion relative to education and communist party membership and to adjudicate between age-effect and period-effect interpretations of the observed negative relationship between year of birth and the rate of *hukou* conversion. This analysis is complicated by the fact that the 1996 Life History Survey did not collect information on the timing of *hukou* conversion—that is, no question was asked about the year in which respondents acquired urban status. We imputed the year of *hukou* conversion in two ways, taking into account regulations regarding *hukou* conversion and using information in the survey on respondents' educational and occupational histories, plus limited information on residential mobility.

Our first imputation method was to use the year successful converters moved to their current place of residence. This strategy has two potential problems. First, the date of *hukou* conversion could be overstated for those who moved from one locale (village, town, or city) to

another more than once since age 14. However, since residential mobility has been extremely limited in China since the 1950s, we can reasonably assume that most successful *hukou* converters still live in the city or town in which they obtained urban residence.[24] The exception is college graduates, who generally obtain urban *hukou* status upon matriculation but might relocate after graduation (see below).

The second issue is that we have no basis for computing the year of *hukou* conversion for those who changed their *hukou* without changing their city, town, or village of residence. However, this actually is not a problem because we would want to exclude these people anyway, as we did in the analysis reported in Table 4, since it is probable that most of them gained urban status by the incorporation of their village into a town or city rather than through their own effort.[25]

Our second method of imputing the year of *hukou* conversion was possible only for college graduates. For these, we used the survey's educational history data and imputed the year of *hukou* conversion as the year of college admission. According to the Chinese college admission policy, a student's *hukou* is transferred from his or her home town to the college upon admission. After graduation, the *hukou* is again transferred to the locale of the work unit to which s/he is assigned. However, even if graduates fail to find jobs, their urban status is maintained and it remains the obligation of the local authorities in their hometown (their place of origin) to find them jobs.

Following the above procedures, we were able to impute a year of *hukou* change for all people who changed both their *hukou* and their place of residence between age 14 and the date of the survey. Although the year of imputed change ranges from 1939 to 1996, we omitted those

who moved into urban areas prior to 1955 since prior to then there was essentially no government regulation of migration from rural to urban areas; those residing in urban areas in 1955, when the *hukou* system was established, were automatically granted urban status. We thus restrict our analysis to the years between 1955 and 1996 and to those "at risk" of acquiring urban status in each year beginning in 1955. People are regarded as "at risk" if they had not yet acquired urban status and had not yet reached retirement age (60 for men and 55 for women). Those who had not yet acquired urban status nor retired by the year of the survey are right-censored.

With information on the timing of *hukou* change, as well as the timing of admission to the communist party and achievement of particular levels of education, a discrete-time hazard-rate model of the likelihood of *hukou* conversion at each year of risk can be estimated via conventional procedures for estimating binomial logit models (Allison 1984; Yamaguchi 1991). The structure of the input data, however, differs from that of a conventional logit model. While in conventional logit models the unit of analysis is the respondent, discrete-time hazard-rate models are estimated by constructing a data set of person-years at risk. In our analysis, each person with a rural *hukou* at age 14 (or rural residence in 1954 if born prior to 1941) was initially exposed to the risk of changing *hukou* either in 1955, if born prior to 1941, or in the year after s/he reached age 14. Then for each subsequent year, if the person acquired an urban *hukou* s/he was dropped from the data set for the following years. In addition, people not obtaining an urban *hukou* by retirement age (60 for males and 55 for females) were dropped from the data set for that and all subsequent ages.

Figure 2 plots the hazard rate of *hukou* conversion (the percentage gaining an urban *hukou* among those at risk) between 1955 and1996 without controlling any covariates. Over the 40 years since the *hukou* system was established, the trend of social mobility from rural to urban status is generally consistent with the historical evolution of the *hukou* system. In the second half of the1950s when the *hukou* system was first being established, the rate of *hukou* conversion was very high, approaching 4%. In 1959 the conversion rate dropped precipitously as a result of government intervention, and by the early 1960s when a very restrictive policy was fully implemented, the conversion rate fell to less than 1%.[26]

The dependent variable is whether a respondent changed *hukou* status in the year to which an observation refers. The independent variables include all of those used in the analysis reported in Table 4, except that the 10-year birth cohorts are replaced by a set of dummy variables to model age effects and in addition a set of dummy variables is included to model period effects (see the discussion in the "Variables" section above). However, here education, party membership, and military experience are treated as time-varying covariates; that is, they are set at their values for each year at risk. Thus, in each year education is represented by the highest level of education achieved. However, academic and vocational high school education are regarded as achieved by successful graduation since, except for the subset of vocational/specialized high school students who were enrolled in specialized schools, high school matriculation did not automatically result in *hukou* conversion. Tertiary education, by contrast, is regarded as achieved in the year of matriculation, which automatically resulted in *hukou* conversion.[27] Military service is treated the same way as high school: respondents are regarded as having military service as of the year they leave the military, since the main

advantage of military service is in increasing the chance of being assigned an urban job after service is completed. Finally, respondents are regarded as communist party members as of the year they joined the party. Whether at least one parent was a member of the communist party and whether the father was employed in a state work unit are treated as time-constant variables and refer to when the respondent was age 14.

Table 5 presents logits and odds multipliers for a model of the likelihood of *hukou* conversion for those at risk in each year from 1955-1996. As before, Model 1 includes only the variables thought to directly facilitate *hukou* conversion—education, communist party membership, and military experience—while Model 2 includes as well the variables thought to have an indirect effect, plus the control variables. With two exceptions, these results are generally consistent with those reported in Table 4. Military service proves not to have a significant effect on *hukou* conversion in the hazard-rate model, although the odds more than double relative to those lacking military service. The large standard errors associated with the coefficients for military service probably reflect both the fact that it is a rare event—few people join the People's Liberation Army—and that the advantage of military service only pertains to the first job after leaving service. Those who are unsuccessful in getting an urban job when they leave the armed forces have no further way of taking advantage of their veteran status. Parental party membership also proves to be non-significant in the hazard-rate models, perhaps because it, too, is only helpful at the beginning of the career.

Otherwise, the corresponding variables appear to behave in a similar way whether *hukou* conversion is treated as a single outcome and no account is taken of censoring, as in Table 4, or whether the odds are computed year-by-year for those still at risk, as in Table 5. If anything, the

effects are stronger in the hazard-rate version: as in most other societies, education is the primary vehicle for upward mobility, in this case from rural to urban residential status; and, as in most communist societies, political credentials in the form of party membership play a strong independent role in enhancing upward mobility; finally, having a father who is employed in a state-owned work-unit creates an even stronger advantage in the hazard-rate analysis in Table 5 than in the cross-sectional analysis in Table 4. The fact that the effects of education and communist party membership hold up, or become even stronger, in the hazard-rate analysis strongly suggests that the results in Table 4 are not subject to much endogeneity bias. Conversely, the similarity in the results provides assurance that we have not gone far wrong in our imputation of the year of *hukou* conversion. Together, the two complementary analyses suggest that our key results are quite robust.

A distinctive feature of the hazard-rate analysis is that we are able to distinguish period effects from age effects, through the introduction of a set of dummy variables for each factor. The presence of both sets of variables in a single model greatly clarifies the interpretation of each set. The results for period strikingly mirror those reported in Figure 2—although established in 1955, the *hukou* system did not begin to operate in an effective way until around 1959, at the end of the disastrous Great Leap Forward. At that point *hukou* conversion became much more difficult—the net odds of conversion dropping to about a quarter what they were in the first period, and then dropping again to about 15% of the odds for the first period. Despite the increasing tolerance of informal rural-to-urban migrants, the state has in no way relaxed its stringent requirements for obtaining formal urban residential status and has, if anything, tightened them. Interestingly, despite the vicissitudes of state policy, including especially the

politicization of everyday life during the Cultural Revolution, there appear to be no significant differences in the odds of *hukou* conversion from 1955 on.[28]

Finally, the effect of age is also now clear. Unsurprisingly, *hukou* conversion is a young person's game: the odds of *hukou* conversion peak at ages 20-25, when they are nearly twice as large as for ages 14-19 and about twice as large as the odds for the three older age categories.

SUMMARY AND CONCLUSIONS

In this paper we have examined the determinants of mobility from rural to urban status, a form of government-endorsed mobility, first by estimating a binomial logit model of whether *hukou* conversion had been achieved by the time of the survey and then by estimating a discrete-time hazard-rate model. Our hypotheses regarding the role of educational and political credentials are generally supported in both analyses, and hold up when various controls are introduced. Education (particularly specialized secondary or tertiary education) strongly increases the odds that those from rural origins can obtain urban status. Communist party membership also substantially increases the odds of *hukou* conversion, although not as much as education. The results for military experience are mixed. The cross-sectional model shows a strong effect of military experience but the hazard-rate model does not, perhaps because military experience is only directly effective at the time of completion of service, enhancing the chance of being assigned to an urban job. If such an assignment is not offered, there are no further chances to exploit military service. However, military experience also is indirectly beneficial, by enhancing the odds of joining the communist party. All in all, these three credentials—education, party membership, and military service—can be viewed as resources, or "capital," that facilitate *hukou*

mobility under the socialist regime. However, access to these resources is constrained by family background, including *hukou* origin. Even controlling size of place of residence at age 14, rural *hukou* status significantly decreases educational attainment and also the chance of gaining party membership. We did not study the odds of entering the military.

In addition, rural respondents whose fathers work in state work units have a substantial advantage in gaining urban status, presumably because of enhanced information and special opportunities that can be exploited by the father for the benefit of his children. Results regarding the effect of parental party membership are mixed. The cross-sectional model shows a strong effect of parental party membership but the hazard-rate model does not.

Among our six hypotheses, the only one clearly contradicted by our findings was our expectation that, net of other factors, rural-origin men would be more successful in converting their *hukou* status than would rural-origin women. Rural men and women are about equally likely to obtain urban *hukou* status, but women are less likely to attain high education, become communist party members, or join the military. Thus, controlling for these factors, women are *more* likely than men to successfully convert their *hukou.* We suspect that the exploitation of marriage as an alternative channel of gaining urban status is more available to rural women than to men (Roberts 2002; Goldstein et al. 2000; Yang 2000).

Finally, we have shown both strong period effects — severe tightening of the *hukou* system after the Great Leap Forward and subsequent maintenance of a very low rate of *hukou* conversion through 1996, the date of the survey—and strong age effects, with successful *hukou* conversion peaking between age 20 and 24.

The above findings have important implications for studying both rural-urban migration and social mobility in state socialist China, a nation with a strikingly high degree of segmentation of the urban and rural populations.

For migration studies, this paper has called attention to a form of government-sponsored rural-urban migration under the Chinese socialist regime, which had been in place long before the emergence of massive (undocumented or informal) migration driven by the market reform. These two migration regimes are coexisting and interacting with each other, and each must be understood with reference to the other. Current literature in this field, however, is overwhelmed by the latter, with little attention to the former (e.g., Hare 1999; Rozelle et al. 1999; Yang 1997; Zhao 1999). While it is true that peasant migrants have experienced substantial socio-economic mobility compared to their peers staying in villages (Ma 1999), they continue to be highly socially and spatially segregated from permanent urban residents and are far from achieving socioeconomic parity, precisely because their distinct *rural* status precludes access to the kind of housing, health care, jobs, and education for their children enjoyed by permanent residents. People of rural origin who have experienced *hukou* mobility, on the other hand, enjoy full urban entitlements and are, in fact, highly advantaged relative to the average permanent urban resident as a consequence of their strong positive selection on the basis of education and political loyalty (Wu 2001). A direct comparison and contrast between the two migration regimes would yield insight regarding the role of state and market, selection mechanisms, and their social consequences.

For stratification and mobility studies, the very fact that urban *hukou* status is so difficult to achieve for those of rural origin, and is so selective of the best and the brightest of the rural

population, provides a possible explanation for the weak association between parents' and children's occupational status in urban areas. A high rate of inter-generational mobility and a weak zero-order association between parent's and offspring's occupational status found in early studies of social mobility and status attainment in urban China (Bian 1994; Blau and Ruan 1990; Lin and Bian 1991; Parish 1984; Whyte and Parish 1984) led some scholars to claim that China was an exceptionally "open" society in which state egalitarian policies effectively eliminated inherited class privileges. An important message from our analysis of *hukou* mobility is that status attainment and social mobility research based on urban samples (or rural samples, although this is uncommon) makes little sense, since it is likely to be subject to severe selection bias (Winship and Mare 1992). The urban population includes both those who were born into urban families (or whose villages were incorporated into towns and cities) and those from peasant origins who acquired urban status through their own efforts and hence achieved extremely high-status urban occupations. The extreme upward mobility of the latter group clearly has the effect of reducing the inter-generational occupational status correlation.

While China is socially divided by the *hukou* system, our intellectual understanding and empirical analysis of Chinese society should not be subject to the same divide. Analysis of truly national probability samples, with rural and urban components pooled together, is a necessary condition for valid findings regarding the extent of social mobility and "societal openness." Future research on both spacial and social mobility in China would do well to attend to the *hukou* system as a central stratifying agent in contemporary Chinese society.

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ENDNOTES

1. Defining the urban population in China is a tricky business since official definitions have changed over time (Lavely 2001:6-8) and it is not always clear what definition is being used for cross-temporal comparisons. As best we can tell, the graph in Figure 1 showing the per cent urban gives the percentage of the population residing in urban areas regardless of whether they have agricultural or non-agricultural *hukou* or were permanently registered in the place where they were enumerated. Our basis for this inference is that tabulations we made from a 1% sample of the 1990 census yield 26.8 per cent urban, just about the same as the percentage shown in Figure 1, whereas only 19.7% of the sample has a non-agricultural *hukou*. The 1% clustered sample, used for these computations, has been shown to be a true sample of the 1990 census (Mason and Lavely 2001).

2. Even those "sent down" to rural areas during the Cultural Revolution were almost all allowed to resume their urban status. In the sample used here, only 7% of those ever sent down still lived in the place they had been sent to and even among the 7% it is likely that a substantial fraction is voluntary, resulting from marriage to a local resident, etc.

3. In the 1996 data, median "per earner incomes" at the time of the survey (defined as total family income divided by the number of earners) for the rural-origin population (those with rural *hukou* and rural residence at age 14) were 2,100 RMB for those who still had rural residence and rural *hukou*, 3,600 for those with rural residence but urban *hukou*, 4,000 for those with urban residence but rural *hukou*, and 4,800 for those with both urban residence and urban *hukou*. Moreover, it is clear that the higher incomes of those who converted from rural to urban

hukou status are not simply due to the positive selection of rural-to-urban *hukou* converters since the corresponding medians for the entire population even more sharply differentiate the urban and rural populations: 2,000, 3,333, 3,600, and 5,400 RMB.

4. To be sure, the *hukou* system has undergone significant changes over the years, particularly with the recent introduction of the "blue *hukou*"—local urban registration available for a substantial fee (Chan and Zhang 1999)–and pressures from the central government to grant local *hukou* to stable residents of towns and small cities (United States Embassy in China. 2003). These changes, however, have no effect on our analysis since they were introduced after 1996. Moreover, they affect only a small fraction of the total population.

5. There are two classifications in the Chinese household registration system. The first is the *place* of registration (*hukou suzaidi*), based on one's residential location. The second is the *type* of registration (*hukou leibie*), generally referred to as "agricultural" and "non-agricultural" *hukou*, or "rural" and "urban" *hukou* (Chan and Zhang 1999:821-822). It is the latter that has created a pronounced distinction in socio-economic entitlements among Chinese citizens and that has significantly shaped the order of social stratification in the country, although place of registration also affects life chances to some extent.

6. As early as 1953 the government tried to dissuade peasants from "blindly flowing into cities," but the household registration system was not established until 1955, when the State Council issued *Instructions on the Establishment of Permanent Household Registration System* on June 9. In January, 1958, the Standing Committee of the National People's Congress

promulgated the *Household Registration Regulations* (State Council 1986 [1958]). In 1964, the Ministry of Public Security established the policy of "two tough constraints" on the movement from countryside to cities and from small towns to cities (Chan and Zhang 1999; Wang 1994:39).

7. Even travel from one place to another was severely restricted. For example, to get a hotel room in a city, a non-resident had to show that he had permission from the authorities at the place where he was registered.

8. Tabulations from the 1990 1% sample of the Chinese census indicate that 37% of the population residing urban areas lacked an urban *hukou*. The corresponding percentage from the 1996 survey is only 16%. In common with virtually all other Chinese surveys, the 1996 survey undercounts "migrants"–those living in places different from where they are registered. This is a direct consequence of sampling from population registers (the *hukou* list and the list of temporary residents), the conventional procedure in Chinese sample surveys.

9. In the 1996 survey, only 1.4% of respondents (20 of 1,376) who had an urban *hukou* at age 14 indicated that they had a rural *hukou* at the time of the survey.

10. Of those with rural *hukou* at age 14, 13.8% had an urban *hukou* at the time they were surveyed. Perhaps one-quarter of these converted their *hukou* not through individual achievement but because they lived in a village that subsequently was incorporated into a city.

Thus, only about 11% of the rural-origin population achieved an urban *hukou* through individual effort.

11. Here a brief introduction to the Chinese education system is in order. The system is organized so that six years of primary school (*xiao xue*) are followed by three years of junior high school (*chu zhong*). After junior high school, students are assigned to different tracks based on their own choice as well as their examination score (usually administered at the city/prefecture level). Vocational tracks include specialized secondary schools (*zhong zhuan*), which take four years, and vocational high schools (*zhi ye gao zhong*) and technical high schools (*ji xiao*), which take three years. On the academic track, students continue to senior high school education (three years). Senior high school graduates can take the *National College Entrance Examination*. Based on exam scores, students are admitted to different kinds of tertiary schools. At the top are regular universities and colleges (*ben ke*), where students can obtain a bachelor's degree in four or five years. Three-year specialized colleges (*da zhuan*) are designed for those students with lower scores. Students with even lower scores are assigned to specialized secondary schools (*zhong zhuan*), where they spend an additional two years to obtain the same diploma as those who have directly entered the vocational track. Finally, those scoring most poorly must return to their place of origin and find work, which for rural students means returning to their home village and taking up life as a peasant (Gao 1985; Unger 1982). In our data, vocational, technical, and specialized high schools are not distinguished from each other, so we will use these terms interchangeably. Unfortunately, no data source we have been able to locate, including the 1990 Chinese census, subdivides these categories, which is odd given their very different consequences for life chances.

12. Despite nominal equality in access to secondary and tertiary schooling, rural students are in practice severely disadvantaged on several counts. First, the quality of rural primary schools tends to be inferior to that of urban schools (Lin 1992), which means that rural students fare more poorly on entrance examinations (Smerling 1979). Second, schools beyond the primary level tend to be located in urban areas (Hannum 1999; Lin 1992), which means that rural students must move away from home in order to continue their schooling. Third, secondary and tertiary institutions sometimes require higher scores from non-local applicants than from local applicants as a condition for admission (Chan and Zhang 1999). For these reasons, rural students are less likely to enter (Hannum 1999) and more likely to drop out from secondary and tertiary institutions (Knight and Shi 1996:111) than are urban students.

13. Although in principal PLA service is open to both men and women, in the 1996 sample not a single woman had ever served in the army. It is also an uncommon experience for men: only about one percent of men with rural *hukou* status at age 14 had subsequent military service.

14. These are families in which the husband has an urban *hukou* while the wife has a rural *hukou*, or vice-versa. Such families exist because marriage to a person with an urban *hukou* does not unconditionally entitle one to permanent urban *hukou* status (Whyte and Parish 1984). Calculations from the 1990 Chinese census indicate that at least 8.7 percent of married couples in China had mixed *hukou*. This probably is an underestimate, for two reasons. First, the way information was recorded in the census permits matching only the head and spouse, the parents of the head, and the grandparents of the head. Thus, married children of the head living

in the household with their spouses are excluded from the calculation. Second, many married couples with mixed *hukou* live apart.

15. The sample was stratified by dividing each of the approximately 3,000 Chinese counties and county-level units into rural and urban portions, with the urban population sampled at three times the rate of the rural population. Within the rural sample, counties were divided into 25 strata on the basis of the proportion of the population with at least a middle school education. Two counties (*xian*) were chosen randomly from each stratum with probability proportionate to the size of the adult population (PPS); within each county, one township (*xiang*) was chosen PPS; within townships, two villages (*cun*) were chosen PPS; within villages, 30 households were chosen randomly from the permanent and temporary *hukou* lists; and within households, one adult was chosen randomly; this procedure yielded 3,003 cases. The urban sample was selected in the same way, with the stages comprised of counties or county-level units (county-level cities and districts of larger cities), "street committees," and "neighborhood committees," yielding 3,087 cases; see Treiman (1998:Appendix D) for details. This is effectively a national probability sample of the Chinese population, since the population of Tibet is so small that it is extremely unlikely that any Tibetan counties would have been selected even if they had been included in the population sampled (Tibet was excluded from the population sampled since it was under military control, which made interviewing impossible).

16. As noted earlier, our data fail to distinguish three-year vocational high schools (*zhi gao*), which do not guarantee urban *hukou* status, from four-year specialized high schools (*zhong zhuan*), which do. Thus, our estimates of the advantage of attending "specialized/vocational high

schools" overstate the true effect of attending vocational high school and understate the true effect of attending specialized high school.

17. We initially used Stata's survey estimation commands to take advantage of the fact that our sample is stratified as well as clustered. However, although the full sample design included two primary sampling units (PSU's) per stratum, for some analyses based on subsets of cases we had data for only one PSU per stratum, which is not permitted by Stata. Thus, we adopted the more conservative approach of computing robust standard errors that take account of the clustering of the sample–conservative because such standard errors generally will be larger than those produced by Stata's corresponding survey estimation procedures, although usually not by much. We also considered using fixed- or random-effects models. However, since the characteristics of respondents in different PSU's are an *outcome* of the *hukou* mobility process, we concluded that fixed-effects models are inappropriate in this context. Further, as indicated by Hausman tests, our models generally do not meet the assumptions of random-effects models, that the errors associated with the contextual variable, PSU, be uncorrelated with the independent variables in the model.

18. According to the personal interviews the first author conducted in China, the main reason for this policy was related to the government's commitment to providing jobs for urban residents. If students with urban *hukou* failed the vocational/specialized or college admission exam and thus were not able to continue their education, the government still had to assign them jobs. On the contrary, if students with rural *hukou* failed to be admitted, the local government had no obligation to them. They had to return to their villages to earn their living as peasants.

Although in the reform era other non-agricultural opportunities (e.g., working in township or village enterprises, or working as migrant laborers in cities) became available for rural school-leavers, the government had no responsibilities for the post-school careers of rural youth. In the late 1990s because urban high school graduates were no longer interested in vocational school education, vocational schools gradually lowered admission thresholds for rural students, who were usually charged extra fees and not guaranteed job assignments after graduation. Indeed, guaranteed job assignments are increasingly uncommon in China today (Lee 2000; Solinger 2002).

19. No one in our sample joined the PLA after becoming a party member.

20. As noted above, some of those from rural origins are lucky enough to gain urban *hukou* status due to the incorporation of their villages into towns or cities (Chan 1994:77). Since these cases are not pertinent to our analysis of the individual factors promoting *hukou* change, they should be excluded from our analysis. While we do not have direct information on "passive" *hukou* change, we can approximate it by excluding the 216 people who changed *hukou* since age 14 without changing place of residence. As it happens, whether or not these cases are excluded has little impact on the results. Still, we report the coefficients for estimates that omit the 216 cases.

21. Although it is possible that people complete their education or join the party after gaining urban registration, it is clear that for most people *hukou* conversion is a consequence

rather than a determinant of educational and political credentials. Still, in the next section we will carry out a hazard rate analysis to settle this issue definitively.

22. Interestingly, in an analysis of 1990 census data for Hubei Province, Goldstein, Liang, and Goldstein (2000:225, Table 12.5) reach very similar conclusions: rural-origin men are slightly more likely than women to achieve urban *hukou* status but, net of education, occupational status, age, and residence the odds of *hukou* mobility are significantly lower for men than for women. They, too, are unable to offer an explanation.

23. The static analysis of the determinants of *hukou* change and the event history analysis of the probability of *hukou* change at each year of risk are intended to complement each other. The static analysis makes it difficult to resolve issues regarding the temporal ordering of outcomes and to adjudicate between "age" and "period" interpretations of the effect of year of birth. However, the event history analysis relies on a somewhat problematic imputation of year of *hukou* change and hence is inadequate alone. As we will see, the two approaches yield consistent results, which give us much greater confidence that our conclusions are correct about both the determinants of conversion from rural to urban *hukou* and their relative magnitudes.

24. Some indirect support for this claim can be found in the low level of job mobility among urban workers. In the 1996 data, 40 percent of those in the urban sample had never changed jobs. On average, urban residents had worked at 2.2 jobs (which meant that they changed jobs an average of 1.2 times), a pattern similar to that shown in data collected in the 1980s (Walder 1992; Wang 1994). It is probable that the bulk of these job changes were to other

jobs within the same work unit (*danwei*) or to other work units within the same town or city (Wu 2001:Ch. 4, Note 5).

25. Of course, by omitting the 216 people who changed *hukou* without changing residence, we also omit those who might have converted their *hukou* on the basis of their own accomplishments, e.g., the 20 people who attained specialized or tertiary education. But for these people we have no way of determining whether their *hukou* conversion preceded, and hence enhanced the probability of, their matriculation, or followed it.

26. It may seem surprising that the conversion rate has not risen substantially in the reform era. Yet statistical records the first author collected in one township in Jiangsu Province shows that even as late as 2001 the *hukou* conversion rate was only 1.03% (176 out of 17,038 persons at risk for individual mobility), consistent with Fig. 2.

27. Oddly, despite this policy some people in our sample with tertiary education did not have urban status. The reasons for this are unclear. But in any event, because such people exist, in the following analysis tertiary education is treated as a variable.

28. We also tested whether the effects of education and party membership vary across different periods (in particular, the possibility that the effect of education decreased and the effect of party membership increased during the Cultural Revolution period) by including interactions terms between education and period, and party membership and period, respectively. None of the interaction terms is statistically significant.

Table 1. Percentages, Means, and Standard Deviations for Variables Used in the Analysis, by *Hukou* Origin, Chinese Adults Age 20-69 in 1996 (weighted data)

	Overall N=6081	Rural Origins N=4980	Urban Origins N=1101
Dichotomous variables			
Education:			
Junior high school or below	84.5	90.0	59.9
Academic senior high school	7.6	5.6	16.7
Vocational high school	4.6	2.8	12.6
College	3.3	1.7	10.8
Party member	9.3	7.7	16.8
Gender (Male=1)	51.6	51.5	52.2
Military experience	0.6	0.4	1.2
Urban hukou origin	18.1	-	-
Place of residence at age 14:			
Village	79.0	94.8	7.8
Township	5.0	2.5	16.0
County seat	3.7	1.1	15.7
County-level city	2.6	0.7	11.3
Prefecture city	5.3	0.5	26.9
Provincial capital	3.0	0.3	15.1
Directly administered city	1.5	0.2	7.3
Parent party member [a]	14.1	11.3	27.1
Father in state work unit	21.2	8.7	52.5
Birth cohort:			
1927-36	11.6	11.2	13.4
1937-46	16.7	16.9	15.9
1947-56	25.0	25.9	21.2
1957-66	23.2	23.1	24.1
1967-76	23.4	23.0	25.5
Continuous variables	Mean (Std. Dev.)	Mean (Std. Dev.)	Mean (Std. Dev.)
Years of schooling	6.4 (4.1)	5.8 (4.0)	9.2 (3.7)
Parental occupation status [b]	23.9 (16.1)	20.5 (12.4)	45.3 (20.0)
Parental years of schooling [c]	3.2 (3.8)	2.7 (3.3)	5.8 (4.8)

[a] Scored 1 if either parent is a party member and 0 otherwise.

[b] When respondent was age 14. ISEI score of parent with highest occupational status (Ganzeboom et al. 1992).

[c] Years of schooling of parent with highest years of schooling.

Table 2. Coefficients for Models of Educational Attainment, Chinese Adults from Rural and Urban Origins 1996

	Model 1		Model 2	
	b	Robust std. error[e]	b	Robust std. error
Urban *hukou* at age 14	2.054	0.192	0.615[d]	0.205
Parental schooling	0.225	0.034	0.215[e]	0.034
Parental ISEI/10	0.294	0.049	0.272	0.048
Male	1.922	0.154	1.940	0.154
Birth cohort [b]				
1937-46	1.891	0.230	1.889	0.228
1947-56	2.528	0.225	2.483	0.226
1957-66	4.215	0.222	4.206	0.222
1967-76	3.711	0.350	3.714	0.350
Place of residence at age 14 [c]				
Town	-	-	0.746	0.326
County seat	-	-	1.817	0.385
County-level city	-	-	1.761	0.323
Prefecture city	-	-	1.704	0.270
Provincial capital	-	-	2.171	0.301
Directly administered city	-	-	2.646	0.315
Constant	0.792	0.229	0.800	0.227
R^2	0.356		0.365	
S.E.E.	3.323		3.300	
N	5,789		5,789	

[a] Except where noted, coefficients are significant at or beyond the .001 level.

[b] The omitted category is "1927-36."

[c] The omitted category is "village."

[d] p-value is 0.003.

[e] p-value is 0.024.

Table 3. Coefficients for a Binomial Logistic Regression Model of the Determinants of Communist Party Membership, Chinese Adults 1996

	Model 1			Model 2		
	b	Robust std. err.	e^b	b	Robust std. err.	e^b
Urban hukou at age 14	0.902	0.115	2.464	0.484[e]	0.254	1.622
Parent party member	0.863	0.123	2.370	0.845	0.125	2.327
Military experience	2.903	0.534	18.23	2.886	0.529	17.92
Male	1.402	0.115	4.061	1.410	0.116	4.098
Birth cohort [b]						
1937-46 [b]	-0.345[d]	0.158	0.708	-0.343[e]	0.159	0.710
1947-56	-0.658	0.166	0.518	-0.665	0.166	0.514
1957-66	-1.569	0.165	0.208	-1.576	0.167	0.207
1967-76	-2.754	0.250	0.064	-2.775	0.251	0.062
Place of residence at age 14[c]						
Township	-	-	-	0.260[e]	0.304	1.297
County seat	-	-	-	0.648[e]	0.307	1.912
County-level city	-	-	-	0.456[e]	0.411	1.578
Prefecture city	-	-	-	0.466[e]	0.285	1.594
Provincial capital	-	-	-	0.493[e]	0.267	1.637
Directly-administered city	-	-	-	0.550[e]	0.261	1.734
Constant	-2.649	0.155	-	-2.671	0.156	-

[a] Except where noted, coefficients are significant at or beyond the .001 level.

[b] The omitted category is "1927-36."

[c] The omitted category is "Village."

[d] p value is 0.029.

e. p values are 0.057, 0.031, 0.391, 0.035, 0.266, 0.101, 0.065, and 0.035.

Table 4. Coefficients for Binomial Logistic Regression Models of *Hukou* Change, Chinese Adults 1996 (N=4,127) [a]

Variables	Model 1			Model 2 [c]		
	b	Robust std.error	e^b	b	Robust std.error	e^b
Education (≤ jr. high omitted)						
Senior high school	0.904	0.202	2.471	1.407	0.222	4.083
Vocational school	2.115	0.259	8.294	2.369	0.253	10.69
College or above	3.838	0.435	46.46	4.428	0.477	83.80
Party membership	1.438	0.155	4.212	1.320	0.173	3.744
Military experience	1.589[b]	0.694	4.900	1.908	0.656	6.737
Control variables						
Male	-	-	-	-0.766	0.131	0.465
Parental party membership	-	-	-	0.494	0.166	1.639
Father in state work unit	-	-	-	0.871	0.138	2.389
Birth cohort (1927-36 omitted)	-	-				
1937-46	-	-	-	-0.809	0.151	0.445
1947-56	-	-	-	-1.586	0.193	0.205
1957-66	-	-	-	-1.953	0.214	0.142
1967-76		-	-	-2.193	0.273	0.112
Constant	-2.643	0.199	-	-2.102	0.267	-

[a] People who changed their *hukou* without changing their residence (N=216) are excluded from this analysis because they are assumed to have acquired urban *hukou* status via the incorporation of their village into a town or city.

[b] Significant at the .022 level; all other coefficients in the column are significant at beyond the .001 level.

[c] All coefficients are significant at or beyond the .004 level.

Table 5. Discrete-time Logit Models for Obtaining Urban Status on Selected Variables, 1956-1996 [a]

	Model 1			Model 2		
	b	Robust std	e^b	b	Robust std.	e^b
Time-dependent covariates						
Education (≤ jr. high omitted)						
Senior high school	1.679	0.188	5.361	1.732	0.192	5.654
Vocational school	2.158	0.250	8.654	2.178	0.239	8.826
College or above	4.569	0.425	96.40	4.462	0.546	86.40
Party membership	1.209	0.157	3.489	1.490	0.144	4.436
Military experience	0.855 [b]	0.612	2.351	0.982[c]	0.790	2.669
Time-constant covariates						
Male				-0.434	0.113	0.648
Parental part membership				0.218[c]	0.163	1.243
Father in state work unit				1.320	0.200	3.743
Period effect (1955-58						
1959-65				-1.364	0.198	0.256
1966-76				-1.960	0.209	0.141
1977-86				-1.866	0.243	0.155
1987-96				-2.155	0.277	0.116
Age (14-19 omitted)						
20-25				0.561	0.143	1.752
26-31				-0.041[c]	0.174	0.960
32-40				-0.093[c]	0.206	0.911
41-60				-0.076[c]	0.228	0.927
Constant	-5.993	0.198	-	-4.322	0.222	-

[a] People who changed their *hukou* without changing their residence (N=216) are excluded from this analysis because they are assumed to have acquired urban *hukou* status via the incorporation of their village into a town or city.

[b] Significant at the .163 level; all other coefficients in the column are significant at beyond the .0005 level.

[c] Where marked, p-values, going down the column, are .214, .182, .816, .651, .739. All other coefficients are significant at beyond the .0005 level.

Figure 1. Industrial Output, Non-agricultural Employment, and Urbanization: China 1952-1996

Notes: Urbanization=percentage of population residing in urban areas; industrialization=percentage of total GDP that derives from the non-agricultural sector.

Source: State Statistical Bureau 1998, 1999.

Figure 2. Discrete-time Hazard-rate of Rural-to-urban Hukou Conversion: 1955-1996