



## Research Report

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and Rural-Urban Educational Inequality  
in Contemporary China

Report II-735

*April 2011*

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## Population Studies Center Research Report 11-735

April 2011

Paper presented in the International Sociological Association/Research Committee on Social Stratification and Mobility (ISA-RC28) Spring Meeting in Florence, Italy, May 15-18<sup>th</sup>, 2008.

I am grateful for the a post-doctoral fellowship from the National Academy of Education/Spencer Foundation and a General Research Fund from the Hong Kong Research Grants Council (644208) to support this project. Address all correspondence to Xiaogang Wu, Social Science Division, Room 3377 Academic Building, Hong Kong University of Science and Technology (HKUST), Clear Water Bay, Kowloon, Hong Kong. Email: [sowu@ust.hk](mailto:sowu@ust.hk).

**ABSTRACT**

This paper examines the effect of the household registration (*hukou*) system, based on which Chinese citizens were designated as either rural or urban status and entitled to different life chances, on educational inequality in contemporary China. Analyses of data from a national representative survey in 2005 consistently reveal a significant educational gap between people of different *hukou* status, even after controlling for other covariates. Furthermore, to rule out the selectivity effect of *hukou* assignment based on education, endogenous switching regression models are employed to demonstrate a causal impact of *hukou* status on educational attainment. The paper thus calls for attention to be paid to the *hukou* institution in studying educational stratification and the reassessment of the role of the socialist state in generating social inequality in contemporary China.

## **INTRODUCTION**

Education assumes a key role in stratification processes in all modern societies. Comparative studies reveal that the association between social origin and educational attainment has remained unchanged in almost all industrialized countries, despite of the expansion of educational opportunities (Shavit and Blossfeld 1993; Treiman and Yip 1989). In developing countries educational outcomes can also be explained largely by family backgrounds (Buchmann and Hannum 2001). This “persistent inequality” is commonly attributed to the stability of institutional structures that link children of different social backgrounds to educational opportunities in a society (Kerckhoff 1995). Students from different backgrounds may have more or less access to educational resources that either directly from families or indirectly from family influences on school organizations (Bidwell and Friedkin 1988; Coleman 1988).

Among various macro-level institutional forces that intervene in the process of educational stratification, the community and the state have received particular attention. In countries with a decentralized educational system (e.g., the United States), schools are more exposed to community influence, providing greater leverage for high-status families to affect students’ opportunities for learning and educational attainment (Kerckhoff 1995, p 330). In other countries with a centralized educational system, where school organizations, the nature of curriculum, and the pace of instruction are more uniform, the shift of state educational policies, such as adopting compulsory education free of charge, could exert greater impact on educational opportunities for children from all socioeconomic backgrounds. The increasing availability of educational opportunities initiated by the state, nevertheless, seems to have limited consequences in detaching educational attainment from social origins in developing countries (e.g., Smith and Cheung 1986).

In state socialist societies, one may expect a different story, as the government had played a more visible and direct role by adopting an egalitarian admission policy to promote social equality (Parkin 1971; Simkus and Andorka 1982). Evidence from former state socialist countries, however, has lent little support to the thesis of educational equality. Substantial educational inequality continues to exist in China (Deng and Treiman 1997; Hannum and Xie 1994; Zhou, Moen, and Tuma 1998), Czechoslovakia (Mateju 1993), Hungary (Simkus and Andorka 1982; Szelenyi and Aschaffenburg 1993), Poland (Heyns and Biatecki 1993), and the Soviet-era Russia (Gerber and Hout 1995). The effects of social origin on educational stratification, after the initial decline, increased in the late years of socialism, reaching the level at least comparable to that in western societies (Shavit and Blossfeld 1993).

Why has the socialist state failed to produce educational equality as its egalitarian ideology originally promised? What role the state/government has played in the educational re-stratification in the late period of socialism? The “new class” theorists point out that the socialist bureaucrats, once established their privileges, tend to take steps to secure the educational advantages of their own children (Djilas 1957). Accordingly, the state educational policies would favor children from advantaged families, and the socialist state was but a tool with which the new elite manipulated to maintain the privileges for their own families (Mateju 1993; Simkus and Andorka 1982; S. Szelenyi and Aschaffenburg 1993). Alternatively, Gerber and Hout (1995) suggested that the state did have produced more equal opportunities by expanding general secondary education in the Soviet-era Russia, but higher education failed to keep pace. The resulting enrollment squeezed at university level hurt the disadvantaged classes particularly, who gained the most in the attainment of general secondary education. Therefore, despite the intent to reduce inequalities, the state educational policy ironically had produced stratifying pressure of its

own. Educational stratification was greater at the end of the Soviet period than at the beginning, as observed elsewhere.

Hence, the role of socialist state in creating educational inequality has been portrayed contradictorily in the previous literature. On one hand, the socialist government, viewed as representing the interests of privileged classes, is directly responsible for producing educational inequality at the late period of socialist regimes. On the other hand, the government is viewed as a consistent promoter of educational equality, but its effort has just failed due to the offset by some other factors. Further assessment of this issue is hindered mainly by the following factors: (1) the measure of the state impact in empirical models is not available in current literature; and (2) the linkages between the state policy, community/residence, and family backgrounds are particularly limited. Most scholars tend to rely on cohort/period variations in educational attainment patterns to extrapolate the impact of government policy shifts, rather than to conduct direct evaluations of specific government programs/social policies (e.g., Deng and Treiman 1997; Zhou, Moen, and Tuma 1998). Moreover, while the intertwining effect of politics and residential place has been acknowledged to some extent (Hannum 1999; Zhou, Moen, and Tuma 1998), how these contextual factors intervene in the process of transferring family advantages to children's educational outcome are yet to be investigated.

In this paper, I examine the effect of the household registration system on educational inequality in China. As one of its procedures for solidifying administrative control on population migration, the Chinese communist government had established the system since 1955, which is still in place today. All households were registered in the locale where they resided and also were categorized as either agricultural or non-agricultural - or as rural or urban - households (Chan and Zhang 1999). In the pre-reform era, residential mobility, particularly from villages to cities,

must be approved. The registration status (*hukou*) serves as an important basis of assigning jobs, benefits, and other life chances (including educational opportunity) to Chinese citizens (Wu and Treiman 2004, 2007). Because one's *hukou* status is tagged to the family, but instituted by the state, and closely related to household residence, studying the impact of *hukou* institution offers a unique perspective to shed light on how the state, residential place and family backgrounds intersect with each other in producing educational inequality in developing countries.

### **HUKOU, FAMILY BACKGROUND & RESIDENCE IN EDUCATIONAL STRATIFICATION**

Perhaps the most prominent structural feature of contemporary Chinese society is the social divide between the rural and urban sectors, institutionalized by the household registration (*hukou*) system since 1955, under which all Chinese households had to be registered in the locale where they resided and also were categorized as either “agricultural” or “non-agricultural” (synonymously, *de jure* “rural” or “urban”) households (Chan and Zhang 1999, pp. 821-822). The *hukou* system has provided an important administrative tool for the government to cope with demographic pressures in the course of rapid industrialization starting in the 1950s (Chan 1994). Under the *hukou* system, the majority of the population was confined to the countryside and entitled to few of the rights and benefits that the socialist state conferred on urban residents, such as permanent employment, medical insurance, housing, pensions, and educational opportunities for children. The *hukou* system served as an important mechanism in distributing resources and determining life chances (including education) in China (Wu and Treiman 2004). Permanently moving from a village into a town or a city (or indeed, moving from one place to another at the same level) had to be approved by the government and undertaken through limited channels, among which high education is the most important criterion for selection (Wu and Treiman 2004).

*Hukou* status, like other family background characteristics, can be viewed primarily as an ascriptive attribute, since it is assigned at birth on the basis of the mother's registration status (Chan and Zhang 1999). Those whose mothers have urban status automatically acquire urban status themselves, while those whose mothers have rural status must compete for urban status. Registration (*hukou*) status need not be identical to residential locale. People with rural *hukou* status could and can live in cities, as have increasingly large numbers of migrants beginning in the early 1980s. Similarly, people with urban *hukou* status could live in rural areas, as do agricultural technicians and school teachers.

Table 1 presents the percentage distribution of national population by residence type and *hukou* status in China from 1982 to 2005. In 1982, when the economic reform just started, over 92 percent (=74.8/81.0) of rural *hukou* holders resided in rural areas, whereas about 77 percent (=14.6/19.0) of urban *hukou* holders indeed resided in cities. As of 2005, the *hukou* system has lost much of its effectiveness in restricting rural-urban migrations: only 71 percent (=52.5/73.9) of rural *hukou* holders still lived in villages whereas the rest 29 percent (=21.4/73.9) resided in urban areas and were often referred as "rural migrants" or "floating population." On the other hand, about 93 percent (=24.2/26.1) of urban *hukou* holders lived in cities and towns in 2005, although the percentage they account for the *de facto* urban population has declined from 70 percent (=14.6/20.8) in 1982 to 53 percent (=24.2/45.6) in 2005 because of increasing rural migration in urban areas (Liang and Ma 2004).

Despite the great ease in spatial migration, the *hukou* change from rural to urban status remains restrictive and selective. As Figure 1 shows, while the *de facto* urban population has increased from 20.8 percent in 1982 to 45.6 percent in 2005, the *de jure* urban population (with urban *hukou*) increased only slightly, from 19.0 percent in 1982 to 26.1 percent in 2005.

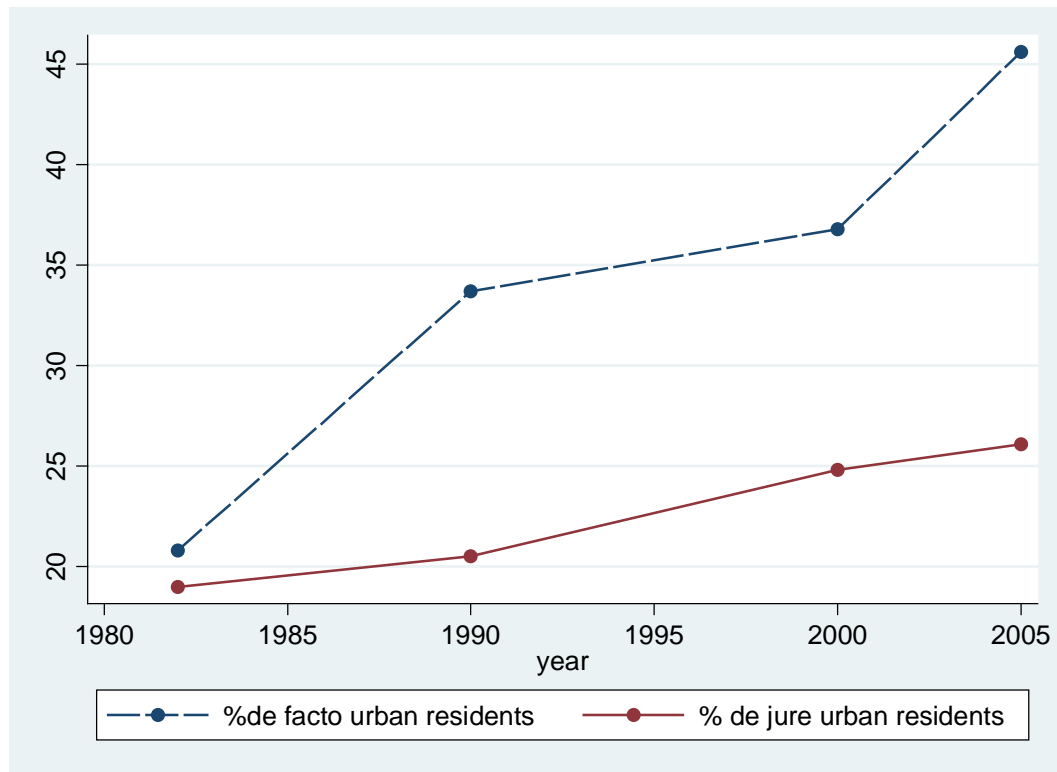


**Table 1. Rural-Urban Residence and *Hukou* Status in China, 1982-2005**

Residence ( <i>De Facto</i> )	<i>Hukou</i> Status ( <i>De Jure</i> )		Total
	Agricultural	Non-agricultural	
	1982		
Rural	74.8%	4.4%	79.2%
Urban	6.2	14.6	20.8
Total	81.0%	19.0%	100.0%
	1990		
Rural	64.1%	2.5%	66.2%
Urban	15.5	18.3	33.7
Total	79.5%	20.5%	100.0%
	2000		
Rural	60.2%	3.0%	63.2%
Urban	15.0	21.9	36.8
Total	75.2%	24.8%	100.0%
	2005		
Rural	52.5%	1.9%	54.4%
Urban	21.4	24.2	45.6
Total	73.9%	26.1%	100.0%

Sources: Micro-data of China population censuses 1982, 1990, 2000 and mini-census 2005.

The *hukou* continues to be used as the main criterion for social exclusion of rural *de jure* residents, who have moved into cities but are denied of access to welfare, benefits and opportunities enjoyed by local urban permanent residents (Wang, Zuo and Ruan 2001; Yang and Guo 1996; Zhao 1999). Recent studies have documented the discriminations faced by rural migrants in cities without local urban *hukou* (Solinger 1999), rural migrant children's limited access to educational opportunities (Liang and Chen 2007), and the impact of *hukou* on income inequality (Liu 2005), educational attainment (Wu and Treiman 2004), and occupational mobility (Wu and Treiman 2007).

**Figure 1. Percentage of *De Facto* and *De Jure* Urban Residents in China, 1982-2005**

Nevertheless, the effect of *hukou* system on educational inequality is confounded by three factors. Firstly, the *hukou* status is closely tied to family origins, measured by father's occupation and parents' education, which are found to be strong predictors of educational attainment in almost all societies being studied (Shavit and Blossfeld 1993; Treiman and Yip 1989).<sup>1</sup> Secondly, the *hukou* status is highly correlated with residence place (see Table 1), and the rural-urban inequality in education exists in many developing countries (Buchmann and Hannum 2001).

<sup>1</sup> In social stratification literature, fathers have occupied a more central place than mothers for two reasons. First, because maternal and paternal status characteristics are highly correlated, it is often assumed that mother's status would be of little help in explaining additional variance in educational and occupational outcomes (also to be shown with data later in this paper). Second, because a significant proportion of mothers were not working outside home, socioeconomic differences among employed mothers were not believed to be as consequential as socioeconomic differences among fathers, who are the bread earners of the families (e.g., Roos 1985; Hout 1988; DiPrete and Grusky 1990; Grusky and DiPrete 1990).

Finally, the conversion of rural-to-urban hukou status has been very selective, even to date (Lu 2003: 144–46). Education, party membership, and military experience are three major factors that facilitate *hukou* mobility in China, among which education is the most important (Wu and Treiman 2004). Matriculation in a specialized secondary (*zhong zhuan*) or tertiary (*dazhuan* or *ben ke*) school carried with it entitlement to urban status, not counted in the government quota (State Council [1958] 1986). Hence, junior high school graduates with a rural *hukou* had (and have) two strategies for securing an urban *hukou* via higher education. The first was to gain admission to a specialized secondary school (*zhong zhuan*), which conferred urban *hukou* status immediately upon admission. The second was to gain admission to an academic senior high school and then to a tertiary institution. Tertiary education confers both urban *hukou* status and a high-status job. According to Wu and Treiman (2004: 367), only 11% of all respondents from rural origins had successfully converted their *hukou* status, and higher educational attainment accounted for about half of all *hukou* mobility. Because of selectivity of urban *hukou* based on educational qualification in China (Wu and Treiman 2004), it would be difficult to distinguish the educational consequence of the *hukou* and the effect of education on (urban) *hukou* attainment based on the cross-sectional data.

Past research has always attempted to link changing educational stratification to the political process in China. For example, using the 1982 urban census data, Deng and Treiman (1997) reported that the educational attainment of Chinese men was highly egalitarian with respect to social origins, and that it had become increasingly so over time. The state intervention in equalizing educational opportunities culminated during the Cultural Revolution (1966–1976), when the advantages of children from cadre and intelligentsia families were substantially reduced. Based on the analysis of survey data collected in 20 cities, Zhou, Moen and Tuma (1998) demonstrated that the shifting state policies have had great impact on varying mechanisms of educational stratification in urban China from 1949 to 1994.

The state policies were not always conducive to educational equality, but could also have led to educational inequality. Under the state socialist regime, the centralized state, with the monopoly of almost all resources, was able to transfer resources among different economic sectors, localities, and social groups on a much large scale and at a much faster pace than market economies could do (Zhou *et. al.* 1998: 20; Wang 2008). This implies that the state has the capacity to create inequality as well as equality if needed for the running of the redistributive system. For example, the Chinese socialist redistributive economy designated a distinctive pattern of spatial hierarchy in resource allocation, with large cities in the top and villages in the bottom. Children in higher-level cities had better access to educational resources and life opportunities, and enjoyed much more advantages in educational attainment than do their counterparts in small cities and towns (Zhou *et. al.* 1998). Hence, inequality based on residence place can be partially attributed to the state policies.

Despite the clear evidence of state intervention in educational stratification with respect to social origins and residence in China, without the broader context of rural-urban disparity, the role of the redistributive state in this process is yet to be pinned down. Given the mechanism of *hukou* mobility we have known (Wu and Treiman 2007), any empirical results based urban/non-farm sample with exclusion of rural residents (e.g. Deng and Treiman 1997; Zhou *et. al.* 1998), are likely subject to selection bias. For instance, the weak association between social origin and educational attainment in urban China may be due to the government's successful effort to block the social mobility of the rural majority, rather than its egalitarian policy, and the temporal decline in the association may reflect the tightening of the rural-urban segregation system. Moreover, the educational advantages of those who resided in the largest cities (Zhou *et. al.* 1998)

could have resulted from a sorting process, i.e., higher educated people are more likely to permanently move and reside in large cities. In short, without reference to the *hukou* system, the effect of family background on educational attainment is likely to be under-estimated among *current* urban residents, whereas the effect of residence location is likely to be over-estimated among *current* rural and urban residents.

Scholars have also paid much attention to the rural-urban disparities in educational attainment in China. For example, Hannum (1999) examined the rural-urban gap in basic education in the context of political change in China from 1949-1990; Tsui (1997) investigated the impact of economic reform on rural-urban educational inequalities. In these studies, researchers have not explicitly made distinction between the effects of residential location and of *hukou* entitlements. Table 2 presents the educational gap between rural and urban *hukou* holders for those of age between 25 and 29 years old, who supposedly have completed education. The difference in the mean years of schooling between the two groups seems to have been enlarged from 1982 to 2005.

**Table 2. Educational Gap between Rural and Urban *Hukou* Holders Age (25-29)**

	1982		1990		2000		2005	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Schooling*	8.7	5.7	11.2	7.7	12.0	8.0	12.4	8.3
% Senior H.S	23.9	10.0	37.1	13.0	39.2	5.6	34.0	9.8
% College	3.0	0.2	12.7	0.1	25.4	0.4	38.8	1.4

\* Education is coded as years of schooling: primary=6, junior high school=9, senior high school =12, specialized high school=14, specialized college=15, university or above=16.

Sources: Micro-data of China population censuses 1982, 1990, 2000 and mini-census 2005.

While China's redistributive policy may favor big cities over small cities, urban areas over rural areas (Zhou *et. al.* 1998), the effects of residential location on educational opportunities cannot be solely attributed to the state force, since the historical and natural factors may also have contributed to the disparities. With an approach mixing spatial factors with institutional factors, whether rural-urban educational inequality is attributable to the government policies still unanswered, as geographic inequality exists in any society, particularly in developing countries. Because of the great variance in the basic material inputs such as textbooks, libraries, and teacher training between rural and urban areas in less developed or developing countries, such school effects have found to affect academic achievement, independently of family background (Buchmann and Hannum 2001; Fuller and Clarke 1994; Heyneman and Loxley 1983).

In this paper, with the data from a national probability survey conducted in 2005, I investigate the effect of the household registration status on educational attainment for Chinese adults. Rather than focusing on the fitful shifts of government policies (extrapolated from the temporal variability), I examine how this institution, which has been relatively stable since its installation in the 1950s, intervenes in the process of educational stratification. To assess the causal relationship between *hukou* status and educational attainments, I re-conceptualize the substantive problems with explicit counterfactuals in causal inference. I treat the *hukou* system as a specific policy program in China's socialist experiment and adopt a program evaluation approach to assess its effect on educational inequalities between those who were assigned rural or urban *hukou* status.

## **DATA, VARIABLE MEASURES, AND MODELS**

### **Data**

The China General Social Survey (2005) is the annual survey of the national representative sample of adult population aged 18 or above in both rural and urban China except for Tibet. A multi-stage stratified random sampling method is used in the survey. First, 125 principal sampling units (PSU) were selected from 2,798 county or county-level districts, stratified by region, rural and urban population and education levels; then 4 second-level sampling units (SSU) are selected in each selected PSU; and 2 third-level sampling units (TSU) were selected in each selected SSU; and Finally, 10 households are selected in each selected TSU. One eligible person aged 18 or above was randomly selected from each sampled household to serve as the survey respondent. There are 10,372 completed interviews in the sample, including 6,098 from urban and 4,274 from rural areas. Data are weighted to represent the general population in China (Bian and Li 2005). In this paper, I restrict the sample to those born between 1937 and 1985.

### **Variable and Measures**

The survey questionnaire contains detail information on respondents' education, residence place, and their family backgrounds. Respondents' education information includes the highest education completed and highest education attended. Unlike most other surveys conducted in China, education is measured with great details: from no schooling, grade 1 to 6 of primary school, grade 1-3 in junior high school, grade 1-3 in senior high school, vocational school/technical school, specialized secondary school, part-time and full-time 3-year college, part-time and full-time 4-year university, and graduate school education. This measure not only renders the coding of education into the years of education with greater precision, but also the

analyze school transition process in a disaggregate way (e.g., to academic vs. vocational track in senior high school).

To investigate the effect of *hukou* status on overall educational attainment, I use years of schooling completed as the dependent variable in OLS regression models. To examine how the *hukou*'s effect changes in different stages of school transition, I construct a set of logistic models on education progression based on school attended and school completed (Mare 1980). Finally, with endogenous switching regression models, I take into account of the selection effect on the years of schooling completed between rural and urban *de jure* residents.

The independent variables include respondent's *hukou* status, residence type, father's and mother's occupation status when the respondent was at age 14, father and mother's education, as well as gender and cohort. Respondent's current *hukou* is the variable of central interest in this paper, coded in a dummy variable (rural *hukou*=1). There is no historical information on the respondent's *hukou* origin or *hukou* change.<sup>2</sup>

Related to the *hukou* status is the respondent's size of residence, which is coded into a 6-level spatial hierarchy: 1=village, 2=township, 3=county-level city, 4=prefecture city, 5=provincial capital, 6=direct administrative municipality (Beijing, Shanghai, Tianjin and Chongqing). They are converted into a set of dummy variables in the regression analysis.

As an exploratory analysis, I employ both parents' occupational status and education to measures of family socioeconomic background. Father's and mother's occupation when the respondent was at age 14 is an indicator of family socioeconomic status. While previous research has shown that mothers' occupation has little impact on children's educational attainment for the reasons laid out in footnote 2, the situation might be different in China given the high rate of

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<sup>2</sup> While the Chinese General Social Survey (CGSS 2003) did have collected the *hukou* information when the respondents were at age 14, it covered only those residing in urban areas at the time of the survey and therefore inappropriate for the issue to be addressed here.



female labor participation under the state socialist regime. They are both measured *ISEI* (*International Socioeconomic Index of Occupations*), which 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 1988 *International Standard Classification of Occupations*, so 1988-basis ISEI scores were assigned to the data. Both father's years of schooling and mother's years of schooling are included in the model as continuous variables. Gender is also coded as a dummy, with men as 1 and female as 0.

Finally, to investigate the temporal variations, the sample is coded into 5 birth cohorts: 1937-1946, 1947-1956, 1957-1966, 1967-1976, and 1977-1985. In the following analysis, the second birth cohort (1947-1956) is used as the benchmark because this is the first cohort whose schooling experience has been fully exposed to the impact of the *hukou* system, which was established since 1955.

## Methods and Models

To assess the net effect of *hukou* status on educational attainment, I employ an OLS regression model of the following form:

$$Y_i = \beta_0 + \beta_1 H_i + \sum_{k=2}^k \beta_k X_{ki} + \varepsilon_i \quad (1)$$

where  $i$  subscripts individuals,  $Y_i$ , denotes year of schooling completed, and  $H$  indicates current *hukou* status (1=urban, 2=blue-stamped, 3-rural).  $X_{ki}$  is a vector of other independent variables,  $\beta_k$  is the estimated coefficient of the respective independent variable, and  $\varepsilon_i$  is the disturbance term.

For school transition models, I estimate three binary logit models

$$\log \frac{p_i}{1-p_i} = \beta_0 + \beta_1 H_i + \sum_{k=2}^K \beta_k X_{ki} \quad (2)$$

where  $p_i$  is the probability of transition to junior high school and academic senior high school, given the completion of previous level of education. The notations of the independent variables are the same as those in equation (1). Because admissions to vocational school and college normally involved *hukou* changes, we do not model the impact of current *hukou* status on the transitions to vocational school and to college (Wu and Treiman 2004).

The fundamental question in this paper is to assess the causal effect of *hukou* on educational attainment in China. Equation (1) exemplifies a conventional approach to assess the effect of social position/status (*hukou*) on the outcome variables (educational achievement), which assumes that, once the other measured variables that affect the dependent variable are taken into account, the sorting process of individuals into the position is independent of factors influencing the dependent variable (*hukou* attainment) *per se*. In other words, no other unmeasured variables could affect both the dependent variables and the likelihood of obtaining *hukou* status. Such assumptions are often too strong to be tenable, as individuals may obtain the urban *hukou* status based on their own achieved education (Wu and Treiman 2004). In recent years when there are alternative channels other than education and career advancement for getting urban *hukou* status for those born in rural background (e.g., buying an apartment in the city to obtain an urban *hukou*), parents may manage to use their economic and social resources to get an urban *hukou* for their children in cities so as to afford them more educational opportunities. On the other hand, families staying as rural status may discourage their children from attending schools because of parents' failure experience in socioeconomic mobility via the channel of

education. In this regards, the assignment of *hukou* is endogenous to his/her educational attainment.<sup>3</sup> The educational outcome and *hukou* status may be simultaneously determined, leading to a selection bias even though the measurable independent variables are controlled for.

Endogenous switching regression models, which simultaneously model the sorting of individuals into discrete positions and the effects of position and other variables on outcomes, are “suitable for assessing the effects of a social classification ... on a consequence of membership in this classification” (Winship and Mare 1992:338). They are especially useful in the situation here, under which unmeasured determinants of *hukou* status are also likely to affect educational outcomes.

The models contain three equations: an educational attainment equation for people of rural and urban *hukou* registration status, respectively, and a probit equation predicting *hukou* status:<sup>4</sup>

$$Y_{1i} = \sum_{k=0}^K \beta_{1k} X_{ki} + \varepsilon_{1i} \quad (3)$$

$$Y_{2i} = \sum_{k=0}^K \beta_{2k} X_{ki} + \varepsilon_{2i} \quad (4)$$

where  $Y_1$  and  $Y_2$  denote educational outcomes for people of rural *hukou* status and people of urban status (positions 1 and 2),  $\beta_{1k}$  and  $\beta_{2k}$  are estimated coefficients, and  $\varepsilon_{1i}$  and  $\varepsilon_{2i}$  are disturbance terms for each group separately.

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<sup>3</sup> There are a number of such examples in the social world: school administrators or parents may assign students to different tracks according to their academic potentials (Gamoran and Mare 1989). Individual may choose to attend college on the basis of the perceived benefit relative to that of otherwise (Willis and Rosen 1979). Welfare recipients may self-select themselves into social programs because of the benefits of program participation.

<sup>4</sup> The notations here are adopted from Mandela (1983), Winship and Mare (1988:135-46), and Gerber (2000).

In addition, a model is specified for a latent score  $Z_i$  that indexes the  $i$ th individual's likelihood of assignment to urban *hukou* status:

$$Z_i = \sum_{k=0}^K \gamma_k X_{ki} + \eta_1 Y_{1i} + \eta_2 Y_{2i} + \zeta_i \quad (5)$$

where  $\eta_1$ ,  $\eta_2$  and  $\gamma_k$  are parameter estimates and  $\zeta_i$  is the disturbance term. The dependent variables in (3) and (4) are included in the selection model because educational achievement may enter into their competition for urban *hukou* status.

Several measures of family background are used as the predictors for respondent's current *hukou* status: father's socioeconomic status (ISEI), father's education, education, which are measured the same as described in Equations (1) and (2). Current residence, gender, and cohort that affect educational attainment are also used to predict the current *hukou* status educational outcomes. In addition, I include mother's occupational status (ISEI) as a factor that may determine respondent's *hukou* status but not their educational achievement, because one's *hukou* status usually follows mother's *hukou* status, which is often associated with their occupation.

The terms  $Y_{1i}$  and  $Y_{2i}$  in Equation (5) can be substituted by equations (3) and (4) and a reduced-form version of the model can be obtained,

$$Z_i = \sum_{k=1}^K \pi_k X_{ki} + \varepsilon_{3i} \quad (6)$$

where  $\pi_k = \eta_1 \beta_{1k} + \eta_2 \beta_{2k} + \gamma_k$  and  $\varepsilon_{3i} = \eta_1 \varepsilon_{1i} + \eta_2 \varepsilon_{2i} + \zeta_i$ . Whereas the disturbance for the structural version of the probit equation (i.e.,  $\zeta_i$ ) is un-correlated with the disturbances for educational determination equations  $\varepsilon_1$  and  $\varepsilon_2$ , in the reduce-form version,  $\varepsilon_3$  is in general correlated with  $\varepsilon_1$  and  $\varepsilon_2$ . The two covariances  $\sigma_{13}$  and  $\sigma_{23}$  indicate common but unobserved factors that affect both

*hukou* assignment and educational determination. When  $\sigma_{13}$  and  $\sigma_{23}$  are non-zero, or the correlation coefficients  $\rho_{13}$  and  $\rho_{23}$  between error terms are non-zero, then ANACOVA estimation of coefficients in Equation (1) will be biased. If  $\sigma_{13}$  (or  $\rho_{13}$ )  $< 0$ , it suggests a negative selection into rural *hukou* status, namely, people of rural status could do better than they actually do without selectivity; If  $\sigma_{13}$  (or  $\rho_{13}$ )  $> 0$ , it suggests a positive selection into rural *hukou* status, namely, people of rural status might do worse than they would do without selectivity. Similarly,  $\sigma_{23}$  (or  $\rho_{23}$ )  $< 0$ , it suggests a positive selection into urban *hukou* status, namely, people of urban *hukou* status could actually do better than they would have done without selectivity; If  $\sigma_{23}$  (or  $\rho_{23}$ )  $> 0$ , it suggests a negative selection into urban *hukou* status, namely, those of urban *hukou* status might do worse than they would have done without selectivity.

The three equations are estimated simultaneously by maximum likelihood assuming that the error terms for the three equations may be correlated and follow a trivariate normal distribution.<sup>5</sup> Data are weighted to represent the Chinese general population and the clustering effect on principal sampling units (county) is also taken into account.

## DESCRIPTIVE STATISTICS

Table 3 presents summary statistics for variables included in the analysis, for the entire sample and for the sample with urban *hukou* status and rural *hukou* status, separately. Among 7799 cases with completed information, 3196 held urban *hukou* status and 4603 held rural *hukou* status. The sample statistics are weighted to represent the *hukou* composition of the national population. As the table shows, the average schooling for this sample is 7.7 years, 41.7 percent have primary school education, 31.8 percent have junior high school education, 18.9 percent

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<sup>5</sup> I use `-movestay-` command in STATA to estimate the model.

have senior high school education, and only 7.6 percent have tertiary education. The ratios of transition to junior high school given the completion of primary school education, to academic senior high school given the completion of junior high school education, are 86 percent and 52.2 percent, respectively.

**Table 3. Descriptive Statistics for Selected Variables, 2005**

Variables	Separated by <i>Hukou</i> Status		
	Total	Urban <i>hukou</i>	Rural <i>hukou</i>
Years of schooling	7.715 (4.434)	10.25 (4.013)	5.958 (3.820)
Educational level			
Primary S.	0.417	0.191	0.575
Junior high school	0.318	0.309	0.325
Senior high school	0.189	0.322	0.097
College or above	0.076	0.179	0.004
School transition ratio			
to junior high school.	0.860	0.932	0.783
to academic high school	0.522	0.670	0.299
to vocational school	0.411	0.522	0.244
Sex (male=1)	0.467	0.471	0.464
Birth cohort			
1937-46	0.120	0.127	0.116
1947-55	0.213	0.187	0.232
1956-65	0.256	0.255	0.257
1966-76	0.271	0.266	0.274
1977-85	0.139	0.165	0.121
Father's ISEI at age 14	28.16 (11.88)	32.80 (14.74)	24.94 (7.948)
Father's schooling	4.274 (4.457)	5.841 (4.876)	3.186 (3.777)
Mother's ISEI at age 14	25.52 (7.937)	28.89 (11.28)	23.18 (2.249)
Mother's schooling	2.515 (3.853)	4.044 (4.497)	1.453 (2.892)
Residence			
Village	0.564	0.069	0.907
Township	0.124	0.244	0.040
County-level city	0.036	0.077	0.007
Prefecture-level city	0.152	0.338	0.022
Provincial capital	0.105	0.222	0.023
Direct admin municipality	0.020	0.049	0.001
N (un-weight)	7799	3196	4603

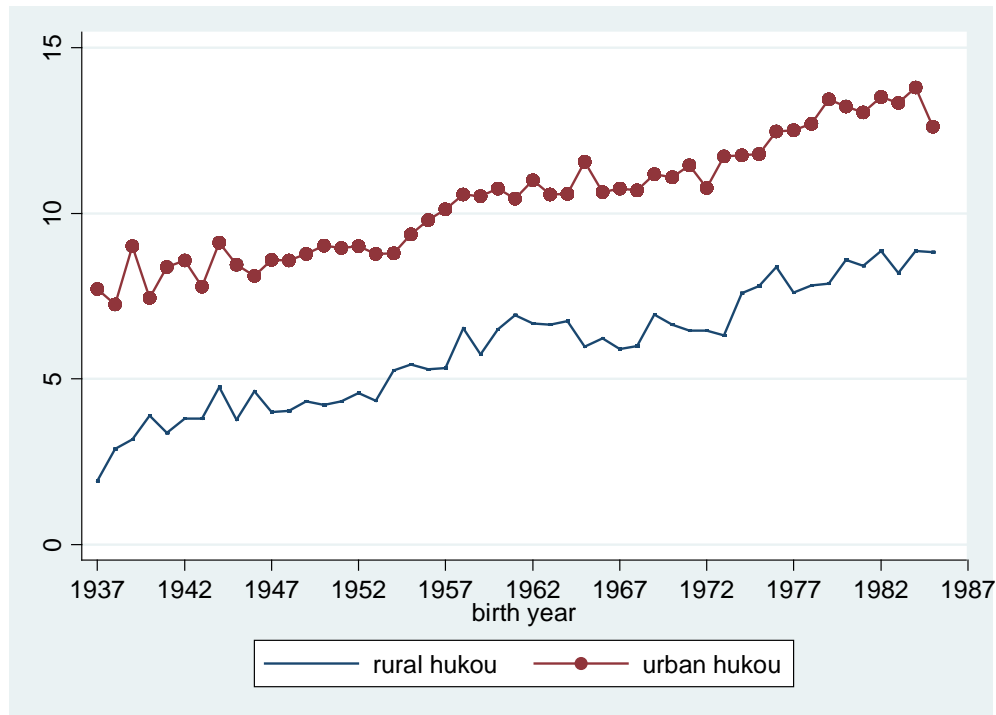
Notes: Data are weighted. Figures in the parentheses are standard deviation for continuous variables.

To contrast the observed characteristics between people of different *hukou* status, I calculate the descriptive statistics separated by *hukou* status. The educational inequality between people of urban *hukou* status and people of rural *hukou* status are notably large. The average schooling is 10.3 years for those who hold urban *hukou* status (*de jure* urban residents), and about 6 years for those who hold rural *hukou* status, with a gap of over 4 years that is consistent with the national statistics in Table 2 (though only for a specific cohort). In terms of school transition ratios, 93 percent of urban *hukou* holders and 78 percent of rural *hukou* holders can successfully proceed to junior high school education after completing primary school education; 67 percent of urban *hukou* holders and 29.9 percent of rural *hukou* holders can successfully proceed to academic senior high school after completing junior high school.

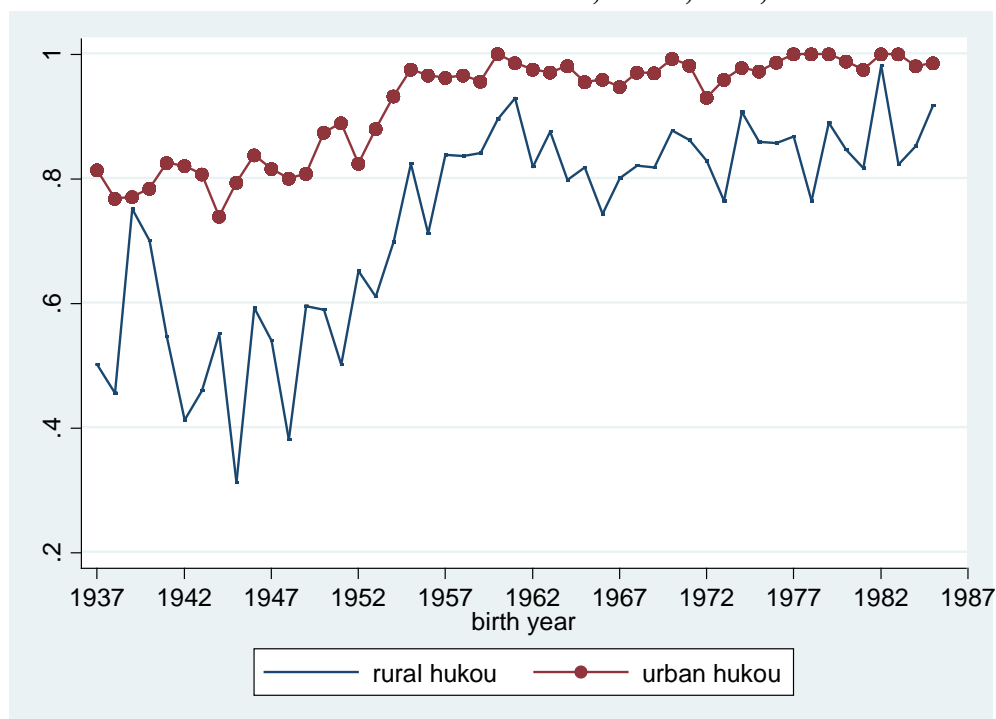
To show the temporal trends in such a gap, Figure 2 plots the mean years of schooling for the two groups by birth cohorts from 1937 to 1985. With the educational expansion, the overall educational attainment has increased for both rural and urban residents, but rural-urban gap remained roughly constant (with a difference of about 4 years).

Based on the gap in average years of schooling, one may not discern the differentials in school transition rates at different levels of education. In Figures 3 and 4, I plot the ratios of transition to junior high and academic senior high school by birth cohorts and *hukou* status. The rural-urban gap in transition to junior high school has been narrowed for younger cohorts, suggesting the implementation of the 9 years of compulsory education in the 1980s and 1990s have benefited the rural people when the ratio in urban areas has already reached saturation. However, beyond the compulsory education, the gap in the likelihood of transition to senior high school seems to be enlarging for the younger cohorts. Analysis of the census data has reported similar findings (Wu 2010).

**Figure 2. Trends in Educational Attainment between *De Jure* Urban and Rural Residents, China, 2005**

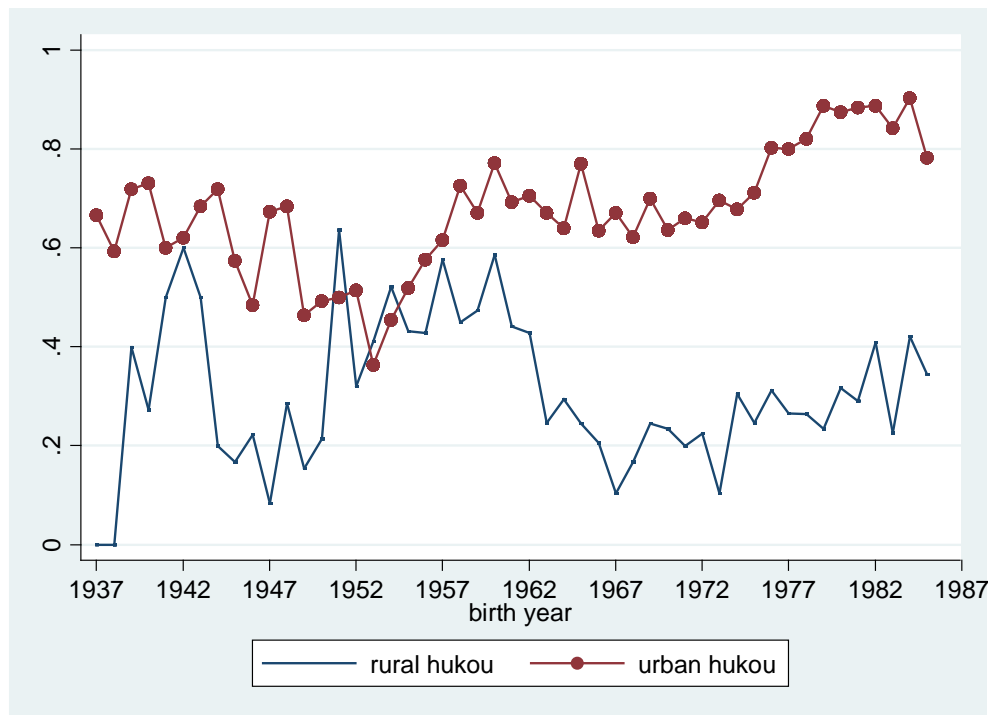


**Figure 3. Trends in Ratio of Transition to Junior High School between *De Jure* Urban and Rural Residents, China, 2005, 2005**





**Figure 4. Trends in Ratio of Transition to Senior High School between *De Jure* Urban and Rural Residents, China, 2005**



As pointed out earlier, *hukou* status is also correlated with other family background characteristics. The rural-urban gap in father's socioeconomic status (ISEI) is 7.86 points (32.80-24.94), in father's average schooling is 2.67 years (5.841-3.186), and in mother's average schooling is 2.59 years (4.044-1.453). The spatial segregation by *hukou* status is also evident. Among people who held rural *hukou* status, 90.7 percent live in villages, 4 percents live in townships and county seats, and only about 5 percent live in cities of county-level or above. On the other hand, among those of permanent urban *hukou* status, only 6.9 percent reside in villages.

In the following, I will first employ OLS regression models to examine the effect of *hukou* status on educational attainment, and then use binary logit models to investigate the determination of transition ratio to junior high school and academic senior high school. Finally, to assess the causal effect of *hukou* status, I use the switching regression models to take into account of the selectivity of *hukou* assignment based on observable and unobservable characteristics.

## REGRESSIONS RESULTS

Model 1 in Table 4 reports the ordinary least squares (OLS) regression estimates for models of years of schooling completed, with *hukou* status as a dummy variable, residence, father's occupation ISEI, and father's education, mother's education, gender, and birth cohorts as controlled covariates.

**Table 4. Coefficients for Models of Educational Attainment and School Transition, Chinese Urban and Rural *De Jure* Residents, 2005**

	Model 1 Years of schooling	Model 2 To junior high school	Model 3 To Academic Senior High. school
Rural <i>hukou</i>	-2.270*** (0.197)	-0.858*** (0.148)	-0.659*** (0.171)
Residence [village omitted]			
Township	0.747** (0.235)	0.179 (0.234)	0.391* (0.193)
County-level city	1.370*** (0.281)	1.337** (0.429)	0.415* (0.183)
Prefecture city	1.106*** (0.304)	0.337 (0.276)	0.513** (0.195)
Provincial capital	1.350*** (0.283)	0.766** (0.264)	0.785*** (0.221)
Direct ad municipality	2.042*** (0.286)	0.853** (0.316)	0.721*** (0.192)
Father ISEI	0.020*** (0.004)	0.037* (0.014)	0.007* (0.003)
Father schooling	0.183*** (0.019)	0.060*** (0.015)	0.031* (0.013)
Mother ISEI	-0.003 (0.004)	0.011 (0.006)	-0.003 (0.004)
Mother schooling	0.125*** (0.017)	0.066** (0.023)	0.058*** (0.013)
Gender (male=1)	1.684*** (0.100)	0.559*** (0.110)	0.527 (0.081)
Cohort:[1947-56 omitted]			
1937-46	-0.716*** (0.191)	-0.304*** (0.156)	-0.517* (0.220)
1957-66	1.664*** (0.148)	1.461*** (0.147)	0.497** (0.177)
1967-76	1.564*** (0.171)	1.202*** (0.176)	-0.429* (0.173)
1977-85	2.637*** (0.211)	1.528*** (0.204)	-0.016 (0.170)
Constant	5.068*** (0.286)	-0.527 (0.385)	-1.283*** (0.239)
(Pseudo) R <sup>2</sup>	0.458	0.190	0.115
N	7712	5629	4399

Notes: data are weighted; standard errors are adjusted for the clustering on sampling unit.

\* p<.05 \*\* p<.01 \*\*\* p<.001

As observed in other societies, family background plays an important role in respondent's educational attainment. Father's occupation status and education and mother education have significant effect on respondents' years of schooling completed. An increase in father's ISEI by 10 point in scale brings about 0.2 years increase in children's schooling; an additional year of father's education and mothers' education brings about 0.18 years and 0.13 years increase in children's education respectively, holding constant of the other factors. Confirming with the previous literature in social stratification (also see footnote 2),<sup>6</sup> we found that mother's occupational status, measured by ISEI, has no significant effect on children's schooling and the likelihood of school transitions.

The effect of respondent's residence location in the Chinese spatial hierarchy on educational attainment is prominent. Roughly, those who reside in the central-government-administrative municipalities (e.g. Beijing, Shanghai) on average received 2.04 years more schooling than those who reside in villages, other things being equal. The net advantage varies from 0.7 to 1.4 years for those who live in small towns, county-level cities, prefecture-level cities, and provincial capitals ( $p < .001$ ).

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<sup>6</sup> In contrast to the typical status attainment study, psychologists, economists, and educational sociologists tend to focus on young children rather than on adults and examine differences in intellectual ability and scholastic accomplishment rather than differences in completed education or occupational attainment (Schachter 1981; Blau and Grossberg 1992; Dronkers 1989). Initially, these studies suggested that a reduction in the time mothers were spending at home would have *negative* effects on their children's early achievements. In response to increasing female labor force participation, while some economic studies showed that working mothers' financial resources contribute to child outcomes (Desai, Chase-Lansdale, and Michael 1989), sociologists have not found firm evidence to support the claims that occupational status among employed mothers affects the educational attainment of adults when they grew up (typically at age 14) (Doornik and J. Dronkers 1996). In their classic comparison of the status attainment processes of men and women, Treiman and Terrell (1975:177) reported in a footnote that among adult women who grew up in dual-earner households, mother's occupational status has insignificant effect on highest grade of schooling completed, net of the influence of parental education and father's occupation. The evidence from China seems to be consistent with the conventional wisdom in social stratification literature.

There is also a significant gender gap in educational attainment. Men on average receive 1.7 years more education than do women, and educational expansion has certainly benefited those in the younger cohort. For example, compared to those born between 1947-1956 (about the time when the *hukou* system was established and tightened), people born in the next two successive cohorts have received about 1.6 years more education, and those born between 1977 and 1985 have enjoyed an even greater advantage by 2.6 years.

Even after controlling the effects of all these factors, which are highly correlated with *hukou* status, a significant rural-urban gap can still be seen. People of rural status receive 2.3 years of schooling less than their counterparts of urban *hukou* status, and the difference is statistically significant ( $p < .001$ ).

Model 2 presents estimated coefficients for binary logit models of transition to junior high school given the completion of primary school education, to academic senior high school given the completion of junior high school. Confirming the general patterns of educational stratification found in other countries (Shavit and Blossfeld 1993), results in Models 2 and 3 show the logit effects of social origins (family background) on educational transitions tend to be stronger at the beginning of an educational career and decline in subsequent transitions, namely, social selection is most pronounced in the early stage of educational transitions (also see Mare 1980). This holds true for residence location, father occupation ISEI, mother's education, gender and cohort, and father's education to some extent. Almost all independent variables (except for mother's ISEI and township residence) are significant predictors of the likelihood of transition to junior high school after completing primary school education, but only a few variables have significant effects on the likelihood of transition to academic high school.

Take the effects of three family background characteristics as examples. Father's ISEI, education, and mother's education seem to have more impact in earlier stages of school transitions. One additional point in father's ISEI will increase the odds of transition to junior high school by 3.77 percent ( $=e^{0.037}-1$ ), to academic senior high school by 0.7 percent ( $=e^{10*0.007}-1$ ) ( $p<.05$ ). One-year increase in father's education brings about 6.2 percent ( $=e^{0.060}-1$ ) increase in the odds of transition to junior high school, and 3.1 percent increase in the odds of transition to academic senior high school. One-year increase in mother's education brings about 6.8 percent ( $=e^{0.066}-1$ ) increase in the odds of transition to junior high school, and 6.0 percent ( $=e^{0.058}-1$ ) increase in the odds of transition to academic senior high school. Even after controlling for other variables, the effect of *hukou* persists. The rural-urban odds ratio of transition to junior high school and to academic senior high school are 0.4 ( $=e^{-0.917}$ ) and 0.53 ( $=\exp^{-0.634}$ ), respectively.

Scholars have provided some explanation to the waning effect of family background on different stages of school transitions. As young pupils get older and advance to higher levels, they are increasingly able to decide on what they want and family (parental) resources become less important. In many countries, children from disadvantaged backgrounds encounter very severe selection barriers in early stages of transitions: only the brightest children from those backgrounds can make it to the higher levels, whereas children from advantaged families progress into secondary and tertiary schools with great ease. Consequently, school success is less and less affected by family socioeconomic background (Mare 1980; also see a summary in Blossfeld and Shavit 1993). This pattern also holds true with regard to the effect of *hukou* status.

Results from regression analyses above should be treated cautiously here, as education (not only tertiary, as it always is) may be used as the criterion for the conversion of *hukou* from rural to urban status (Wu and Treiman 2004). Therefore, current *hukou* status might be a cause but also a result of educational attainment. A typical the endogeneity problem arises here. It is for this reason that I now turn to the switching regression analysis.

## RESULTS FROM ENDOGENOUS SWITCHING REGRESSION MODELS

Because the effect of *hukou* status on educational outcomes could result from the selection process, to establish the causal link between *hukou* status and educational inequality, I use endogenous switching regression models to take into account of the selection bias and examine the causal effect of *hukou* status on the years of schooling completed. As specified in the preceding section, the selection equation is a probit equation (Eq. 5), but the function outcome equations (Eq 3. and Eq. 4) are OLS regression models. For simplicity, I only present estimated results from the general model without imposing any restrictions. If  $\sigma_{13} = \sigma_{23} = 0$ , then it suggests that no selectivity exists at all and the ascription model can fit the data well. OLS regression results will not be biased. Otherwise, the *hukou* system may serve as an important agent in generating rural-urban inequality in education. Table 5 presents the estimated coefficients.

Model 4 in Table 5 is the selection model predicting the assignment of urban *hukou* status to the respondents. Again, I include all independent variables previously mentioned, and mother's occupation ISEI status in the equation. Except for father's education, all other variables including residence, father's occupation ISEI, mother's ISEI and education, gender and cohort are significant predictors of whether the respondent has rural *hukou* status. This finding also verifies that *hukou* status is highly tied to residence and family's socioeconomic background. It is worth particularly mentioning that mother's ISEI significantly affects the likelihood of having rural *hukou* status ( $p < .001$ ). The higher their mothers' occupational ISEI, the less likely the children hold rural *hukou* status.

Model 5 and Model 6 present the estimated coefficients for OLS regression on educational attainment for rural *hukou* and urban *hukou*, respectively.

**Table 5. Parameters for Endogenous Switching Regression Model on Educational Attainment in Urban and Rural China, 2005 (N=7712)**

Variables	Model 6 Probit model for rural <i>hukou</i> assignment	Model 6a Educational attainment: rural <i>hukou</i>	Model 6b Educational attainment: urban <i>hukou</i>
Residence [village omitted]			
Township	-2.473*** (0.171)	2.466*** (0.662)	-0.129 (0.369)
County-level city	2.823*** (0.181)	3.207*** (0.897)	0.476 (0.372)
Prefecture city	2.910*** (0.166)	2.997*** (0.787)	0.202 (0.382)
Provincial capital	2.564*** (0.247)	3.849*** (0.679)	0.357 (0.407)
Direct admin. municipality	3.252*** (0.169)	4.096*** (1.057)	1.152*** (0.360)
Father ISEI when R was 14	-0.015*** (0.003)	0.022*** (0.007)	0.024*** (0.005)
Father schooling	-0.013 (0.009)	0.200*** (0.028)	0.162*** (0.020)
Mother schooling	-0.019*** (0.012)	0.169*** (0.028)	0.103*** (0.021)
Gender (male=1)	-0.163*** (0.051)	2.001*** (0.129)	1.273*** (0.142)
Cohort : [1947-56 omitted]			
1937-46	-0.134 (0.069)	-0.991*** (0.229)	-0.291 (0.355)
1957-66	0.071 (0.078)	1.538*** (0.195)	1.861*** (0.217)
1967-76	0.319*** (0.089)	1.324*** (0.211)	1.804*** (0.252)
1977-85	0.434** (0.161)	2.266*** (0.283)	2.988*** (0.241)
Mother's ISEI when R was 14	-0.052*** (0.010)	-	-
Constant	3.274*** (0.260)	2.704** (0.311)	5.984*** (0.462)
$\rho_{13}, \rho_{23}$	-	-0.441* (0.174)	0.103* (0.045)
Wald test of indep. equation $\chi^2$ (d.f)	-	4396.9 (1)	

Notes: Figures in the parentheses are robust standard errors adjusted for clustering effect on sampling units. Data are weighted. \*  $p < .01$  \*\*  $p < .01$  \*\*\*  $p < .001$

We exclude mother's ISEI as the independent variable in the two equation based on the empirical fact that mother's ISEI affects children's *hukou* status but not educational attainment directly (see footnote 2 and also Table 4). Contrasting the corresponding coefficients between

Models 5 and 6 suggests that educational stratification process differs between those of different *hukou* status. For instance, the effect of residence size on educational attainment for people of urban *hukou* is much smaller than that for people of rural *hukou*. The effects of father's occupation ISEI, father's and mother's education on educational attainment are all greater for rural *hukou* residents than for urban *hukou* holders. The rural-urban educational gap to some extent can be attributed to their differences in family socioeconomic and cultural resources that can facilitate educational attainment. Gender gap is also greater among rural *hukou* holders than among urban *hukou* holders.

What is the role of *hukou* in educational attainment in China? As shown in the bottom row of Table 5,  $\rho_{13} < 0$ , suggesting a significantly negative effect of selection into rural *hukou* status. This is to say, those who stay as rural status are “punished” to stay, as the brightest has been able to move out of rural status. People of rural *hukou* status would do better if there were a random assignment of rural *hukou* status. On the other hand, the significant and positive  $\rho_{23}$  also suggests a negative selection into urban *hukou* status, in other words, without selectivity, current urban residents would do better than they actually have achieved now.

To elaborate the *hukou* effect more fully, I calculate the expected years of schooling that respondents would attain under alternative *hukou* assignment. I use the parameter estimates for rural *hukou* and urban *hukou* reported in Table 5 and apply equations (3)-(5) for a hypothetical individual who has the average value of the total sample on the selected independent variables and a probability of assignment to rural *hukou* status equal to the sample proportion of individuals with rural *hukou* status. Table 6 summarizes the calculations. The column of table compare *hukou* tracks/regimes and the rows denote alternate groups of people: people actually holding rural *hukou*, people actually holding urban *hukou*, and all people combined.



**Table 6. Summary of Hypothetical Effects of Assignment to Alternative *Hukou* Status on Educational Attainment**

Population:	Track	
	Rural <i>hukou</i>	Urban <i>hukou</i>
Rural <i>hukou</i>	<b>7.17</b>	9.96
Urban <i>hukou</i>	9.42	<b>9.35</b>
All	8.08	9.74

Notes: effects are estimated holding constant of other variables at total sample means and assuming a probability of assignment to rural *hukou* is 0.596.

The last row of Table 6 provides estimated years of schooling completed that would be observed if people were randomly assigned to *hukou* status, namely, these estimates are free of selection biases and the difference between *hukou* types can be attributed to the structural effect of *hukou* per se. The “rural–rural *hukou*” and “urban–urban *hukou*” cells denote the scenarios that people have actually experienced. The “rural–urban *hukou*” “urban–rural *hukou*” cells denote hypothetical years of education that the respondents would have were they assigned to a different *hukou* from the one they actually had.

There is clear evidence indicating a causal effect of *hukou* on educational attainment: urban *hukou* produces higher years of schooling than rural *hukou* for the population as a whole and, hypothetically, for the rural majority who were assigned urban status. For the total population, the advantage of urban *hukou* in years of schooling is  $9.74 - 8.08 = 1.66$  years, an estimate of the difference in educational achievement that would be observed were people with the same characteristics randomly assigned to different *hukou* status. If the current rural *hukou* holders, who have 7.17 average years of schooling, were assigned to urban *hukou* status, they would have attained 9.96 years of schooling on average, with a difference of 2.79 years. The

difference can be interpreted as the cost of rural *hukou* on educational opportunity for rural residents. On the other hand, if current urban *hukou* residents were assigned to rural *hukou* status, they would do even slightly better by 0.07 years. In other words, the *hukou* stratification has hurt rural people without necessarily benefiting urban people.

The effect of *hukou* (1.66) is *smaller* than the actual contrast between urban and rural *hukou* residents ( $9.35-7.17=2.18$ ). Relative to a system in which people are randomly assigned to different *hukou* tracks, the actual system has produced larger differentials in years of schooling completed between people of different *hukou* status. This is mainly because rural people are negatively selected into rural *hukou* status, but the selectivity is negligible for the urban *hukou* track. For the same reason, the existing *hukou* tracking also slightly decreases the population average years of schooling by about 0.7 years.<sup>7</sup>

In summary, the above illustrations indicate the existence of a causal effect of *hukou* status on educational attainment for the rural majority. The existing *hukou* system enlarges the educational gap between those who actually hold rural and urban *hukou* status and produces lower educational achievement than under random assignment. People of rural *hukou* status are particularly hurt by the system of *hukou* distinction. They could increase their educational attainment substantially if more of them were assigned to urban status instead.

## SUMMARY AND CONCLUSIONS

This paper examined the role of the household registration system (*hukou*) on educational stratification in rural and urban China. With the data from a national probability sample survey conducted in 2005, I found that the registration (*hukou*) status, designated by the state policy, affects educational attainment and the ratios of school transitions. People of rural *hukou* status

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<sup>7</sup> Assuming the proportion of people in urban *hukou* status is fixed at 0.404, the actual achievement is  $0.404*9.35+0.596*7.17=8.05$ , and under random assignment it is  $0.404*9.74+0.596*8.08=8.75$ .

are substantially disadvantaged in years of schooling attained, and such disparity has been consistent over time. One's *hukou* status also plays an important role in determining the likelihood of transitions to junior high school and academic senior high schools.

One should be cautious to establish the causal link between *hukou* status and educational attainment because education can also be used as the criterion for urban *hukou* assignment for those originally from rural backgrounds (Wu and Treiman 2004). With switching regression models that account for selectivity based on measured and unmeasured characteristics, the causal effect of *hukou* on educational attainment can still be identified, albeit with small magnitude. Although *hukou* status is highly correlated with other family background characteristics, such as father's occupational ISEI, education, residential place, it taps additional and significant disadvantages in educational attainment for those of rural origin. Moreover, the effects of family background on education vary by *hukou* status, with the effects greater among people of rural *hukou* status. Thus, the *hukou* system than distinguishes two classes of citizens seems to strengthen the inequality based on family backgrounds. Thus scholars ought to pay more attention to the unique socialist institution and social categories defined by *hukou* status in studying social stratification and mobility in contemporary China.

The Chinese *hukou* system provides a unique case to examine how the socialist state constructed opportunities for certain social groups and blocked mobility of the others (rural majority). Such a strong policy intervention in stratification has rarely been seen in human history (probably the only comparable case is South Africa under apartheid reign. see Seidman [1999]). The findings in this paper challenge the conventional perception of socialist egalitarian state and shed new lights on the role of the state in generating inequality, calling for a new theorization of the stratification process under the state socialist regime.

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