

**Trends in Hukou Intermarriage in Urban China
From 1949 to 2008**

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ABSTRACT:

This paper explores trends in Hukou intermarriage in urban China from 1949 to 2008. Using data from the 2008 Chinese General Social Survey, I apply log-linear models to examine the intermarriage between urban Hukou holders and rural migrants living in urban area. The results reveal that Hukou status has exerted a strong influence on marriage pattern over the past 59 years. From 1949 to 1991, the Hukou intermarriage decreased rapidly. From 1992 to 2008, it began to decrease at a slower pace. The decrease was generated by increasing Hukou homogamy. This trend indicates that the boundary between different Hukou status groups has been strengthened with time and intergroup social distance in China has enlarged rather than declined.

INTRODUCTION

Sociologists in the field of social stratification consider intermarriage among different groups as an index of social distance and the indicator of social cohesion (Bogardus 1968; Kalmijn 1998). Intergroup marriage patterns have been studied among groups stratified by education, religion, race/ethnicity, migration status and nativity in the United States and European countries (Dribe and Lundh 2008; Kalmijn 1991; Kalmijn and Tubergen 2010; Mare 1991; Qian and Lichter 2001, 2007; Schwartz and Mare 2005). However little is known about the intermarriage between people of different Hukou statuses in China.

Hukou status which is determined by mother's status can be viewed as an ascriptive attribute (Chan and Zhang 1999; Wu and Treiman 2007). In contemporary China, it dichotomizes people's ascriptive status to urban Hukou and rural Hukou. It leads to unequal life chances in education, occupation and state subsidized welfare (Wu and Treiman 2004), and dictates where people reside.

In the last 60 years, there has been a dramatic increase in China's internal migration. In 2010, there were 242 million workers who had migrated from rural to urban areas (National Bureau of Statistics 2011). In addition, nation-wide educational expansion after 1978 reshaped the educational distribution. The increase in personal educational attainment has strong effect on mate selection and marriage pattern. Under the influences of these changes, the following questions are raised: Does the Hukou system exert influences on shaping the marriage pattern in urban China? If it does, how has Hukou intermarriage changed over time? Does individual educational attainment have an effect on intermarriage between Hukous?

My study examines these questions by looking at trends in intermarriage among people with different Hukou statuses in urban China through 2008. I focus on three historical periods, 1949 to 1983, 1984 to 1991 and 1992 to 2008, using the data from the 2008 Chinese General Social Survey (CGSS).

I first review intermarriage/homogamy studies focusing on ascribed dimensions, such as race, in the Western societies. Then I discuss historical changes influencing Hukou intermarriage in China to derive the hypothesis. Next, I discuss the data from the Chinese General Social Survey, its measurement, and my research method. I then present the descriptive results, log-linear model results, and my analysis. Finally, I offer a summary of my findings and my conclusion.

LITERATURE REVIEW

In the study of racial/ethnic relations, intermarriage between different ethnic groups is an important measure of intergroup social distance (Bogardus 1968). Studies about interracial/interethnic marriage in America have changed the focus from studying European immigrants to new immigrants from South American and Asia (Kalmijn 1998). These studies show that different ethnic groups follow distinct patterns of intermarriage. Latinos and American Indians are most likely to marry whites, followed by Asian Americans and African Americans (Qian and Lichter 2001, 2007). Among Asian Americans, Japanese and Filipino Americans are more likely to marry whites than Chinese and Korean Americans and Southeast Asian and Asian Indian Americans are least likely to marry whites (Qian et al. 2001). Moreover, research has found that intermarriage between ethnic groups and whites in America does not necessarily increase with time. Qian and Lichter claim that unprecedented decline in intermarriage between

ethnic groups and whites occurred in the past decade, and the intermarriages between native- and foreign-born co-ethnics among Hispanics and Asian Americans have increased. This trend which is departure from past trend could be ascribed to spatial segregation and replenishment of new immigrants (2007). These studies indicate that the continuing influx of immigrants may slow down the intermarriage between immigrants and natives. When minority group become large and geographically concentrated, they have more opportunities to contact one another in a bigger internal marriage market. The cultural identities would be reinforced and the intergroup boundaries might be further crystallized and closed.

However, the replenishment of immigrants is not the only factor in intermarriage. Many scholars argue that racial/religious/ascriptive barriers become easier to cross as education grows in importance as a basis for mate selection (Alba and Nee 2003; Kalmijn 1991a, 1991b). However the application of educational effect is limited and varies by group (Kalmijn 1998). For example, American Indians and African Americans are less likely to be affected by the educational attainment in terms of intermarriage with White (Qian and Lichter 2007). These findings are meaningful since education may have different effects on intermarriage for different groups in various social contexts. The effect of educational attainment on Hukou intermarriage has not been studied in China but there are studies suggest that there is a trend in education resemblance between spouses in China (Han 2010; Song 2009)

HUKOU, INTERNAL MIGRATION AND EDUCATIONAL ATTAINMENT IN CHINA

Hukou system and internal migration are intrinsically related to each other. From 1949 to the early 1980s, urban China and rural China were spatially and socially segregated. In this period, the Hukou system has provided an important administrative means for the government to cope with demographic pressures in the course of rapid industrialization starting in the 1950s (Wu and Treiman 2007).

In the early 1980s, the government began to relax the control of internal mobility within China. In the following 30 years, from early 1980s to the early 1990s, millions of rural farmers flowed into towns and cities to pursue better jobs and better lives. Although those who moved to the cities were more educated than those who stayed in rural areas, they were still educationally disadvantaged when compared to urbanites¹ (Sun and Fan 2011). That is why these people are described as ‘young less educated rural workers’ by the mass media. In 1978, there was a nation-wide educational expansion that increased years of schooling among all the citizens. While this improved educational opportunities for all Chinese, the gap between rural residents and urban residents remained significant (Han 2010). Moreover, Hukou status remained an important determinant of access to opportunities. Rural migrants were restricted in finding respected and insured jobs and acquiring rights and benefits conferred on urban residents (Wu 2006).

¹ In this study, I define *urbanites/urban residents* as people who hold urban Hukou they are also know as *urban Hukou holders*. *Rural migrants* are defined as people who hold rural Hukou and migrate to city. *Rural migrants* are different from *rural residents* which denote those who stay in rural area with a rural Hukou.

Since the 1990s, migrants and Hukou system have shown new features. Educational improvements among the migrants enabled them to find relatively more diversified positions in the job markets when compared to the old migrant cohorts. Moreover the government started to relax the restrictive Hukou policies to rural migrants in certain cities (Chan 2009; Sun and Fan 2011).

Intermarriage mainly occurs in the parts of urban China to which rural migrants move. In China, migration from urban to rural areas is rare. Social contacts between rural Hukou holders and urban Hukou holders are in the cities rather than in the rural areas. Therefore, in the following section, I focus on the changes in urban areas over three periods in China's history.

Period 1: Period of Stringent Control (1949-1983)

Before 1958, few measures had been taken to stem the flows of rural citizens into urban areas. The government imposed some travel document checks and other administrative measures (Chan 2009). In 1958, the Household Registration Regulation, that is Hukou regulation, was officially codified as the only national legislation on migration and residence by National People's Congress. Only after the implementation of the regulation, were different Hukou status, rural Hukou and urban Hukou, officially imposed on rural and urban residents. People with certain Hukou status are required to remain where they were "supposed" to be (Chan 2009; Wu and Treiman 2004) and pursue the service which they were "supposed" to do. And rural Hukou holders who were recruited as urban workers due to the first Five-Year Plan (1953-1957) demanded by burgeoning state industrial enterprises, were sent back to their home village between 1961 and 1963 (Chan 1994:39; Meisner 1999). Deep economic chasm started to emerge between rural and

urban Hukou holders after that. By 1978, the living standard of the urban population had reached three times more than that of rural people (Johnson, 1991). In addition to economic discrepancy, rural migrants were derogatively labeled as ‘blind flows’ (*mangliu*) and were discriminated against by urban Hukou holders (Chan 2009). Although urbanites were encouraged by the governmental policies to formally move to rural areas, there was virtually no voluntary mobility in that direction, given the huge advantages associated with urban Hukou status (Wu and Treiman 2004). Spatial and economic segregation and cultural difference created distinct marriage markets for rural residents and urban residents. Intra-group marriages became prevalent and dominant in both urban and rural China.

Period 2: Age of Migration² (1984-1991)

In 1984, the Hukou system changed. A new Hukou category, called ‘Hukou with self-supplied food grain’ was introduced (Chan and Zhang 1999). This change encouraged rural resident to move to cities to work with a third type of Hukou status. Hundreds of millions of rural residents flowed into the city in the middle of 1980s. The change in Hukou system and rising migration in this period rooted in economic reforms in the late 1970s. The economic reforms triggered a series of social changes which directly impacted on the life of rural residents. First, agricultural reforms improved the efficiency of agricultural production and 200 millions of surplus rural laborers were freed from the land (Liang 2001; Zhang 2001). Second, the growing market sector outside the redistributive system demanded more cheap labor (Wu and Treiman 2004). Third, the collapse of the state-monopolized ‘urban public goods regime’ made it possible for

² This usage borrows from Liang, The age of migration in China. Population and development review, 27 ,3:499-524, 2001.

migrants to obtain basic resources and services thorough market exchange in the cities. Fourth, the gradual relaxation of migration policy allowed rural migrants to live and work in the cities on temporary basis (Zhang 2001). These factors worked together to draw millions of young people migrate to the city. According to the selection theory, the earliest emigrants are young and in the middle of the social economic hierarchy (Massey et al. 1994). In the early period of large-scale migration in China, dominant migrants were young males who were less educated than their urban counterparts. They did low-paying, unsafe, unstable jobs and did not receive the state subsidized welfare conferred on urbanites. These migrants were seen by the urban public as temporarily displaced outsiders who would soon return to their rural origins. As Zhang put it: “migrants who were detached from home village and were considered as outsiders by the city, became a people of liminality without a clear structural position” (Zhang 2001:27). Migrants with rural Hukou status became the new underclass. Their Hukou status which contains complex symbolic meanings, such as outsiders, poverty and ignorance, conveyed a status that made them inferior to the urban underclass.

While there were more rural migrants in the cities, intermarriage between Hukou statuses was uncommon. Urbanites deliberately excluded the rural migrants from the urban life, believing that these outsiders had brought crime and instability to their cities. In the marriage market, urbanites are less likely to choose rural migrants as partners. For men and women in rural China, marriage is a universal life event. Most rural residents get married at a relatively younger age. However, most young male migrants could not find urban partners with whom to settle down in the city. Most of these men married before they left home, returned to their rural homes to marry rural female residents or married

rural partners in cities in the middle of migration. In other words, rural migrants were more likely to marry people who hold the same Hukou status either residing in urban areas or in rural areas.

Under the circumstances that urban group closed their door to rural and increasing homogamy among rural Hukou holders and urbanites; the strength of exogamy might be even smaller than that in the last period. Since the strong homogamy in both urban group and rural group would offset the strength of exogamy between urban residents and rural migrants.

Period 3: Age of Diversity (1992-2008)

In 1992, the Communist Party leader Deng Xiaoping's southern tour speech represented the new era of socialist economic reform. After the speech, township enterprises, especially the township enterprise in coastal areas, had a strong demand for cheap labor from rural areas. The demand increased flow of rural labor force. In this period, the number of rural migrants reached an unprecedented level. According to different published sources, floating population was estimated about 30 million in the early 1980s, 70-80 million in the early and mid-1990s, and between 100 million and 140 million in the late 1990s (Yusurf and Saich.2008:71).And these migrants were diverse in their education levels, occupations, and social status. That's why I name this period as 'age of diversity'. While millions of young rural workers flow into the cities every year, this does not indicate the relaxation of Hukou regulation. For most of the temporary migrants with low education and little social capital, the experience of working in the city did not help them gain urban Hukou or urban welfare in housing, medical care etc..This work did,

however, allow them to accumulate wealth. Migration became way of life for these young rural people.

Over time, more rural women began to migrate into the cities. While in the late 1980s, most of the migrants were men, with the maturation of migration and the establishment of social networks among migrants, the sex imbalance started to change. Census Data shows that the sex-ratio of rural-urban migrants has declined from 20:1 in 1990 to 12:5 (see Chan 2009, Table 5). The increasing numbers of female rural migrant workers not only changed the sex ratio of the migrant group, but also increased the opportunity for intra-group marriage among rural migrants.

More diversified occupational development of the rural migrants started to appear and tend to spread. Although a large proportion of temporary migrants were still engaged in low-paying, low-social status, dangerous work, a small proportion of rural migrants were not constrained in these particular jobs anymore. For example, the Wenzhou migrants from Zhejiang province have successful garment business in Beijing. Most of them were as economically successful as urbanites (Zhang 2001). Li's empirical study also showed that floating population distributed in different occupations and strata (Li 2006).

This diversity implies that the younger rural migrant cohort has changed from a low educated, male dominated, low wage group to a gender balanced cohort with different occupations scattering in different strata of the society. According to the 'The Chinese Academy of Social Sciences Yearbooks 2011' young rural migrant cohorts born after 1980s make up 50% of all rural migrants in urban China. While, they may not replace the old cohorts who still play important roles in urban labor market, they do diversify the whole group in terms of age, education, and occupation. This change not only indicates a

more vibrant economy, but also an open society. Urbanites and rural migrants increased social contacts in workplace and other occasions. Social environment became gentler to rural outsiders. I expect the absolute number of intermarriage would increase compared to that in the last two periods. Meanwhile according to the replenishment theory, homogamy marriage among rural migrants and urban residents would increase due to influx of migrants and balanced gender composition. Rural migrants had more opportunities to marry people with same Hukou status in urban China because of an enlarging and marriage market full of rural Hukou holders. This would offset the strength of exogamy. I expect the degree of exogamy will increase a little bit or stay relative stable in this period. But the increasing intermarriage would be the trend in this period.

HYPOTHESES

In the last 59 years, many factors have influenced intermarriage between Hukou statuses. The large number of rural migrants coming to urban areas offers contact opportunities for two social groups. Combining historical changes and related theories, I propose following hypotheses

Hypothesis 1.1 Hukou had a strong effect on marriage pattern in the last 59 years.

Hypothesis 1.2 There were different patterns of Hukou intermarriage under different historical contexts.

Hypothesis 2. Between the Period of Stringent Control and the Age of Migration, the strength of intermarriage decreased.

While the rural Hukou holders were allowed to migrate to the cities since 1984, rural migrants were excluded from urban societies by the urbanites. Intergroup boundaries were reinforced than any time in history. Meanwhile Hukou homogamy marriage was

common and dominant in the marriage market. Social distance between two groups enlarged.

Hypothesis 3. Between the Age of Migration and the Age of Diversity, the strength of intermarriage increased comparing with the last period.

There are changes in many aspects for the rural migrants after the 1990s. More females joined in the migrants group, educational attainment and occupation become more diversified, and migrants and urbanites have co-resided in the city for a relative long time. All these changes resulted in a gentle social environment for the rural migrants and more contact opportunities in the workplace. In this case, intermarriage between urbanites and rural migrants increased, leading to shortened group distance.

Data and Measurement

I use 2008 Chinese General Social Survey (CGSS) data to examine intermarriage patterns from 1949 to 2008. The China GSS is an annual or biannual survey of China's urban and rural households. The 2008 CGSS is conducted by commercial and professional investigative agency and monitored by the National Survey Research Center. This survey aims to systematically monitor the changing relationship between social structure and quality of life in urban and rural China. It covers information about marital status and time of first marriage of the respondents', educational attainment of respondents and spouses. It also asks for the Hukou status of the respondents and their spouses, and if their Hukou status had ever changed. For those who changed Hukou status, it asks when and why their Hukou status was converted. All of this information is reported retrospectively by the respondents. I restrict the sample to people whose first marriage is after 1949 in urban China.

First Marriage

Current studies about marriage pattern mostly focus on newlyweds or prevailing marriage. In this study I focus on prevailing first marriage. Although many researchers argue that the study of prevailing marriage could cause biases such as selective marital dissolution, educational upgrading after marriage, and remarriage (Mare 1991; Raymo and Xie 2000; Schwartz and Mare 2005), these factors may play an important role in determining the overall social distance between spouses (Schwartz and Mare 2005). Moreover, the data does not allow me to set an age range (Qian et al. 2001; Qian and Lichter 2007) which would lead to missing information about people who were married in the earlier periods, such as in period 1 and 2. To reduce these potential biases given existing data, I limited the unit of analysis to married persons who are in their first marriage³. Focusing on first marriage could rule out bias that may arise from marriage order (Jacobs and Furstenberg 1986), so those who never married, were divorced, or were widowed and remarried are excluded from the sample.

Hukou Status

In this study, I categorize Hukou status into urban Hukou and rural Hukou for all respondents and their spouses. The dichotomous categorization is based on Hukou status at individual's first marriage⁴. As some individuals changed Hukou status at some point in their lifetime, I first identified everyone who had ever converted their Hukou status from rural to urban. Some people convert Hukou before they get married and some may convert at a later time in their life. The differences in time of conversion are crucial and

³ First marriage only refers to respondents not their spouse

⁴ This is measured by the questions combining Hukou type and residential location (see Chan 2009)

necessary to be identified. In all historical periods, Hukou conversion from rural to urban is very selective. Only those who possess educational, social, or political resources, have the chances to convert via formal and informal channels (Wu and Treiman 2004, 2007). My study focuses on intermarriage trend among different Hukou holders. Converting Hukou before marriage indicates a kind of advantage hold by rural residents. And the conversion after marriage might be due to different factors such as social capital gained from marriage. Therefore, it is reasonable to distinguish those who convert before first marriage with those who convert after first marriage. The former are categorized as urban Hukou and the latter are grouped into rural Hukou. The non-converters are identified and categorized according to their current Hukou statuses which are consistent with the Hukou status at their time of first marriage. (The Hukou statuses are assumed to be the unchanged for their whole life). In sum, urban Hukou includes converters who converted Hukou before they got married and non-converters who are urban origin. And rural Hukou comprises those who convert after first marriage and non-converters who are rural origin (urban Hukou=1 and rural Hukou=2).

In addition to this dichotomous categorization, I also consider about three categorization on Hukou status (urban Hukou=1, rural Hukou=2 and converters=3). In this categorization, I classify those who converted prior to their first marriage as converters. And the converters who get married before they convert are grouped into 'rural Hukou'.

I suspected that converters and urban Hukou holders might reasonably be collapsed into one. To determine this, I test the possibility of collapsibility (Treiman 2009:281-283). I design matrix that forces the cells involving converts and urban Hukou holders to be identical (See Appendix A). Then I compare this model with the saturated model. The

model does not fit well ($L^2=348$, with 3 d.f., $p=0.000$, $BIC=324.22$ and $\Delta=11.57$). This means the collapsibility cannot capture the relationship between husband's Hukou status and wife's Hukou status. But in this paper, I adopt the dichotomous categorization strategy. Because the dichotomous categorization limits the number of sparse cells in the contingency table and results of trichotomous version are consistent with that in dichotomous version. I will give more detailed report in the analysis part about trichotomous version as robustness check.

Educational Attainment

Educational attainment is measured by the CGSS reported current educational achievement. I focus on current educational achievement rather than educational attainment at the year of first marriage in part because there is missing data for spouses' educational history. Moreover data quality for respondents' educational history is not satisfying and the comparison between two measurements of respondents' educational attainment do not show significant difference based on available sample data. I categorized educational attainment into four groups: elementary school or less (≤ 6 years of schooling), junior high school (7-9 years of schooling), senior high school⁵ (10-12 years of schooling) and college and up (≥ 13 years of schooling).

Log-Linear Models

Log-linear model is the gold standard for most statistical analyses of intermarriage patterns (Qian and Lichter 2007). It has the advantages of providing estimates of the changing associations between couples' attributes and controlling for shifts in their

⁵ 'Senior high school' includes vocational high school (*zhi ye gao zhong*), normal academic high school (*pu tong gao zhong*), specialized secondary school (*zhong zhuan*) and technical school (*ji xiao*).

marginal distribution (Kalmijn 1991a; Schwartz and Mare 2005). The contingency table is produced by cross-tabulating husband's Hukou status (urban Hukou and rural Hukou) with wife's Hukou status (urban Hukou and rural Hukou) with husband's educational attainment (<primary, junior high, senior high and >college) with wife's educational attainment (<primary, junior high, senior high and >college), by periods (1949-1983,1983-1991,1992-1993).There are 192 cells (2*2*4*4*3). The baseline model takes the form:

$$\log F_{ijklm} = \lambda + \lambda_i^{Hh} + \lambda_j^{Hw} + \lambda_k^{Eh} + \lambda_l^{Ew} + \lambda_m^P + \lambda_{ik}^{HhEh} + \lambda_{im}^{HhP} + \lambda_{km}^{EhP} + \lambda_{jl}^{HwEw} + \lambda_{jm}^{HwP} + \lambda_{lm}^{EwP} + \lambda_{kl}^{EhEw} + \lambda_{ikm}^{HhEhP} + \lambda_{jlm}^{HwEwP} + \lambda_{klm}^{EhEwP}$$

Where F_{ijklm} is the expected frequency for cell $ijklm$ in the contingency table; Hh_i is Hukou status of husband, Hw_j is Hukou status of wife, Eh_k is educational attainment of husband, Ew_l is educational attainment of wife, and P_m is the period. This baseline model also controls the three-way interaction of husband's (wife's) Hukou status, husband's (wife's) educational attainment with period ($\lambda_{ikm}^{HhEhP} + \lambda_{jlm}^{HwEwP}$) and three-way interaction of couples' education association with period (λ_{klm}^{EhEwP}).

The baseline model controls the association between education and Hukou and the association between couples' educational attainment. It also keeps the husband and wife's Hukou status independent of one another. In order to learn the Hukou intermarriage, I control the association between couples' Hukou status in the second model to examine whether there is Hukou association (intermarriage/homogamy). Then I will add period to Hukou association to see whether Hukou association change over time. After modeling the Hukou association in different time periods, I focus on the effect of husband and wife's education. I examine whether the Hukou association varies with husband's educational attainment and wife's educational attainment respectively. Then the

interaction effects of husband's (wife's) educational attainment and time is estimated. Finally I add the association between husband and wife's educational attainment to Hukou association to explore whether couples' Hukou varies with education association of the couples.

RESULTS

Descriptive Results

First, I present descriptive results of percentage of intermarriage by Hukou status between 1949 and 2008. Time is divided into three stages as I discussed above. They are Period of Stringent Control (1949-1983), Age of migration (1984-1991) and Age of Diversity (1992-2008). Gender of each spouse is identified. Then, I present the percentage distribution of educational attainment by Hukou Status to explore the changes in educational attainment among couples in the last 59 years. Finally I present the percent of intermarriage by Hukou status, gender and educational attainment of the couples from 1949-2008. This shows how the Hukou intermarriage varies by educational attainment.

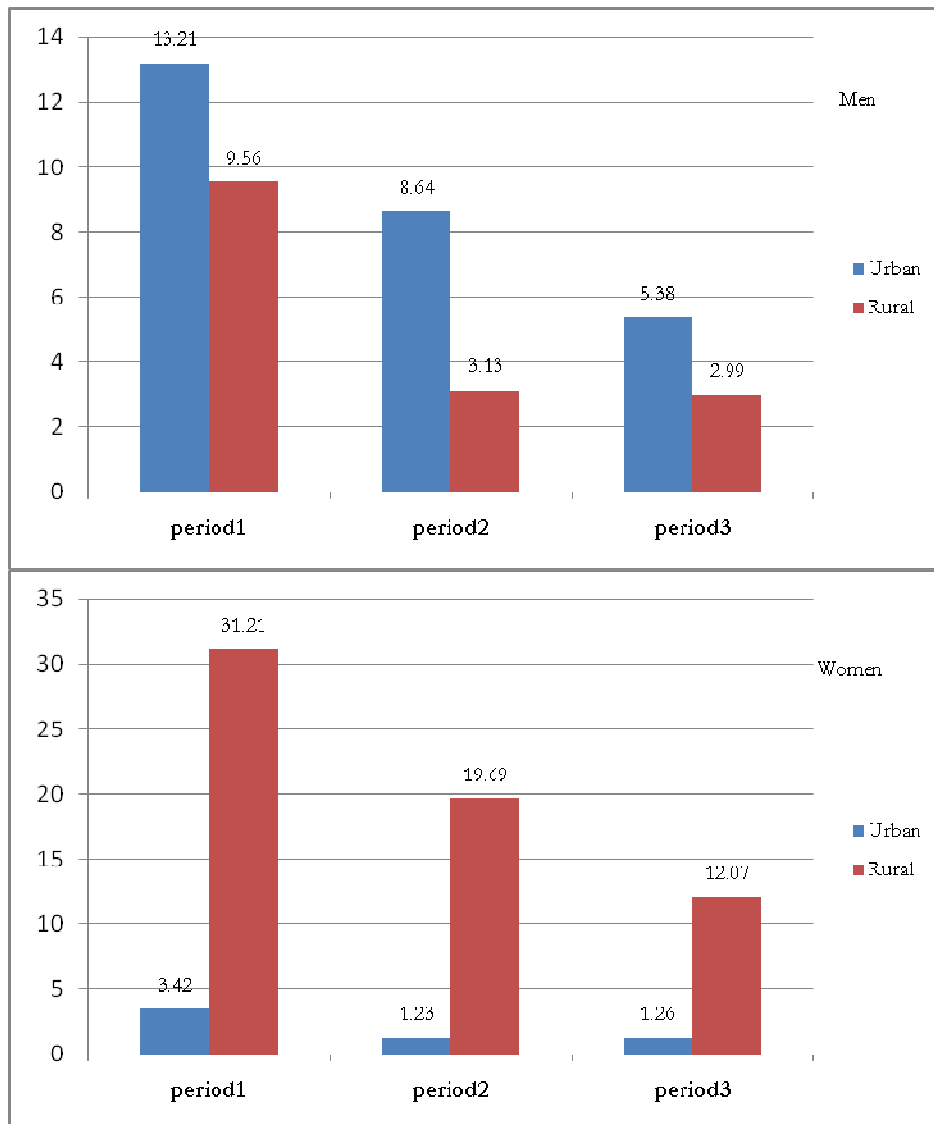
Changes in intermarriage by Hukou Status

Figure 1 reveals several important patterns of Hukou intermarriage from 1949 to 2008. First, Hukou intermarriage decreased over time for all genders and Hukou statuses except among urban Hukou women. For example, urban men's intermarriage rate has decreased steadily from 13 % to 9% from the first period to the second period. And it reached about 5 % in the third period. The intermarriage rate of rural men and rural women also decreases at different pace from the first period to the third period. Urban women who show decreasing trend in the first two periods. However, the percent of urban women marrying rural men increased by 0.03% in the third period.

Gender differences are significant. Male urbanites are more likely to marry rural women than rural men are to marry urban women. On the contrary, urban women are less likely to marry out compared with rural women. Moreover, among four groups, urban women have the lowest percent of intermarriage over all three periods. This difference could be explained by the gender imbalance and differences in resources possessed by potential mates in urban marriage market. In the urban marriage market, urban men are far more advantageous than rural men in competing for urban women. Intermarriage between urban women and rural men is difficult. In addition, in the urban marriage market, the sex structure is unbalanced. Women are in scarce in general compared to men. This leads to the fact that rural women are less disadvantaged in looking for urban spouses than are rural men. The rural women can use their gender scarcity as a bargaining chip to improve their status by marrying an urban Hukou man.

These results reveal that with the relaxation of internal mobility since 1980s, there has been a downward trend in Hukou intermarriage. This contradicts hypothesis 3 that the strength of intermarriage increased comparing with the last period. The descriptive results shown above indicate that the changes in period 3 did not lead to a more open society or more intermarriage. On the contrary, the group boundaries between urbanites and rural migrants were further crystallized in this period. In the next section, I discuss the descriptive statistics relating to education effects.

Figure 1. Percent of Intermarriage among First Married Couples by Gender: 1949 to 2008



Changes in Educational Attainment by Hukou Status

Educational attainment is a form of an individual's human capital. Advanced education contributes to labor market success which can have strong effect on mate selection. Rising educational attainment provides people with more opportunities to marry up in the dimension of Hukou Status. Table 1 shows changes in educational attainment among all

first married couples by Hukou status across three periods. There are several noticeable patterns.

First, both urbanites and rural migrants experienced rising educational attainment from 1949 to 2008. From the first to the third period, the proportion of low level of education attainment decreases significantly and the percentage of high level of educational attainment increases with time. From 1949 to 2008, the percent of 'less than primary school' rural migrants dropped from 59% to 20%. In this period, the 'Junior high school' category increases from 26% to 51%. Urbanites dropped from 25% to 5% on the level of 'less than primary school', and increased from 13% to 36% on the 'more than college' level.

Second, urbanites have a different educational pattern from rural migrants. For example prior in the first period, over 75% of urban Hukou holders had elementary and 40% had completed junior high school whereas just over 40% of rural Hukou holders had finished primary school and just over 15% had finished junior high school. Between 1949 and 2008, the increase in education for urbanites, meant more of them completed college. For example, from the second to the third period, the college-level urban Hukou holders more than doubled (from 15% to 36 %). Unlike the urbanites, the rural migrants' increase educational attainment meant that more of them finished Junior high school level, but few of them went on to college.

Third, the large increases in educational attainment take place in different periods for two groups. For rural Hukou holders, a rapid increase in the number who obtained a junior high school education occurred between the first and second period. Between the second

and third periods, a large number of urban Hukou holders obtained college educations.

These results are consistent with findings in other studies (Han 2010).

While this descriptive data show dramatic changes in educational attainment among both Hukous, the effects that education has on Hukou intermarriage is still unknown.

Table 1:Percentage Distribution of Educational Attainment by Hukou Status among first married couples, age 17-85,from 1949 to 2008

	<primary school			Junior High School			Senior High School			>College		
	1949-1983	1984-1991	1992-2008	1949-1983	1984-1991	1992-2008	1949-1983	1984-1991	1992-2008	1949-1983	1984-1991	1992-2008
	1	2	3	4	5	6	7	8	9	10	11	12
Urban ^a	24.71	8.85	5.27	34.64	32.11	22.17	28.02	44.39	36.25	12.63	14.64	36.31
Rural	58.52	30.88	20.3	25.82	47.88	50.52	12.22	17.28	21.19	3.44	3.97	8.01

Source:2008 General Social Survey.

^a Urban denotes all the urban Hukou holders and Rural denotes all the rural Hukou holders.

Changes in intermarriage by Hukou status and educational attainment

I present the percent of Hukou intermarriage by gender and educational attainment of husband and wife respectively in Table 2.This descriptive data do not show any systematic patterns in Hukou intermarriage varying with educational attainment Education effects the different Hukous differently and these effects change over time.

One interesting finding is that rural men and women migrants with a college education are more likely to marry exogamously during all three periods. This implies that at a certain level of education may change the marriage market for rural migrants. I further examine the effect of education in the log-linear models.

Table 2: Percent of intermarriage by Hukou status, Gender and Educational Attainment of the Couples, 1949-2008

	<primary school			Junior High School			Senior High School			>College		
	1 ^c	2	3	1	2	3	1	2	3	1	2	3
<u>H^a</u>												
U ^b	20.26	14.29	6.38	12.5	8.11	9.25	8.65	9.52	4.73	13.67	5.33	3.98
R	6.25	2.50	1.64	9.76	1.25	1.66	4.88	6.45	2.20	43.75	11.11	14.29
<u>W</u>												
U	4.23	0.00	2.13	3.00	0.81	1.8	3.86	1.60	0.65	0.00	2.04	1.36
R	25.44	11.59	6.25	39.71	16.85	8.1	46.67	43.33	16.44	100	40.0	51.85

Source: 2008 General Social Survey

^a H denotes husband and W denotes wife.

^b U denotes the urban Hukou holders and R denotes rural Hukou holders.

^c Numbers denotes different periods. 1 is period 1 from 1949 to 1983. 2 is period 2 from 1984 to 1991. And 3 is period 3 from 1992 to 2008.

Results of Log-linear Models

Descriptive results provide important information about general trend of Hukou intermarriage and the effect of education. However, they do not control for marginal distributions of variables. The marginal changes influence the intermarriage percentages. In this section, I use log-linear models to analyze the data.

Table 3 presents the goodness-of-fit statistics and the formal description of the models. I report log-likelihood ratio, p-value, Bayesian Information Criteria (BIC) statistic for log-linear models and Index of dissimilarity between the observed frequencies, and the frequencies expected under the model (Delta). If a model is a good fit we will see a small log-likelihood ratio, a large negative BIC statistics, and a small Delta. If a model is not a good fit, we see a large log-likelihood ratio, a large positive BIC statistic, and a large Delta.

Model A1 is a saturated baseline model that assumes that husband's Hukou status and wife's Hukou status are independent to one another. The large log-likelihood ratio and large positive BIC indicate that this model is not a good fit.

Model A2 allows for Hukou association between husband and wife's Hukou to baseline model. This increases the fit of model with a significant reduction in log-likelihood ratio by 1787 and BIC by 987 (see Table 3: model comparison 1).

Model A3 adds a period parameter to Model A2 and assumes that Hukou association change over time. The A3 BIC is -805 which is 13 less than the A2 BIC, -792, and probability for log-likelihood 29 and degree of freedom 2 is 0.000. Based on these I conclude that Model A3 is a slight improvement over model A2, indicating that Hukou association changes over time.

Model A4 adds husband's educational attainment to model A2 assuming that Hukou association varies with husband's educational attainment. The comparison between Models A4 and A2 shows A2 to be a better fit, suggesting that husband's education is not significantly associated with Hukou association.

Model A5 replace the husband's education in A4 with wife's education. While the BIC indicates that is a good model, Model A2 is a better fit and wife's education does not improve model A2 significantly.

Model A6 examines the effect of husband's educational attainment level varying with time. This model was not found to be an improvement over Model A2.

Model A7 controls the interaction effect of wife's educational attainment and time on couples' Hukou association. Like Model A6, this is not an improvement over model A2.

Finally, Model A8 estimates the effect of couples' education association. The BIC

indicates that the model does not fit as well as the other 7 models. Moreover it does not satisfy the parsimonious purpose of log-linear model. These results from log-linear model suggest that Model A3 is the best fit. This means that (1) Husband's Hukou and wife's Hukou significantly associated with each other and (2) This Hukou association change over time. (3) Couple's educational attainment respectively does not have significant effects on Hukou association.

Table 3 Log-Linear Models

Model	Descriptions of Models	L ²	d.f.	p	BIC	L ² /L _B ²	Delta
A1	Baseline	1944	120	0.000	987	1	30.20
A2	A1+Hukou association	157	119	0.011	-792	0.081	4.97
A3	A1+Hukou association change over time	128	117	0.231	-805	0.066	4.75
A4	A1+Hukou association varies by husband's education	147	116	0.284	-778	0.076	4.96
A5	A1+Hukou association varies by wife's education	137	116	0.088	-788	0.070	4.63
A6	A1+Hukou association varies by husband's education and time	132	113	0.108	-770	0.068	4.75
A7	A1+Hukou association varies by wife's education and time	134	113	0.086	-767	0.069	4.58
A8	A1+Hukou association varies by education association	128	110	0.115	-749	0.066	4.33
Model Comparison		L ²	d.f.	p ^a	BIC ^b	L ² /L _B ²	Delta
1	Hukou Association (A1 VS A2)	1787	1	0.000	-1779	0.919	25.23
2	Hukou Association change over time (A2 VS A3)	29	2	0.000	-13	0.015	0.22
3	Husband's education (A2 VS A4)	10	3	0.019	14	0.005	0.01
4	Wife's education (A2 VS A5)	20	3	0.000	4	0.011	0.34
5	Husband's education and time (A2 VS A6)	25	6	0.000	22	0.013	0.22
6	Wife's education and time (A2 VS A7)	23	6	0.001	25	0.012	0.39
7	Couples' education association (A2 VS A8)	29	9	0.001	43	0.015	0.64

Source: 2008 Chinese General Social Survey

^a This is the probability for L²=1787, with 1 d.f.

^b For BIC I reverse the sign after subtraction so that a negative BIC indicates an improvement in it

Results of trichotomous categorization

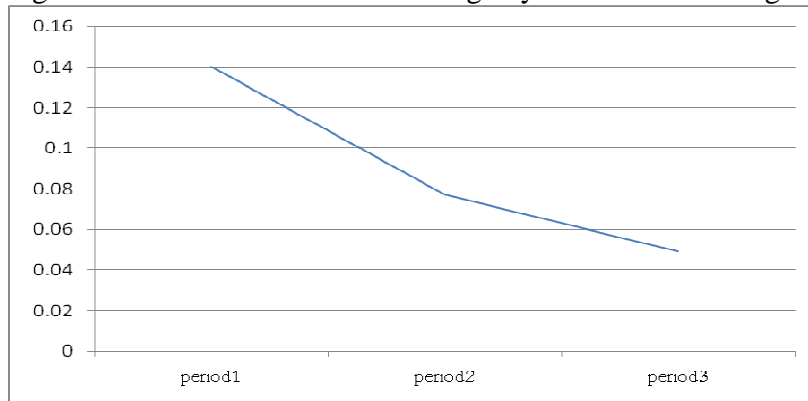
The log-linear models for trichotomous-categorization of Hukou status show similar results (Log-linear results are not shown in the Appendix Table B). Husband and wife's Hukou are strongly associated with each other. However there is no significant change for Hukou association over time. Wife's education has a modest effect on Hukou

association. The intermarriage between urban Hukou holders, rural Hukou holders and converters in urban China might be more complicated. Since the trichotomous-categorization involves some theoretical thinking about Hukou and internal migration. I will not elaborate my analysis and results in this paper. Future studies would provide more detailed answers.

Estimated trends in Hukou intermarriage in urban China

Different log-linear models provide clear image about the relationship between Hukou association with time and education. However, the ways in which intermarriage changes with time are still unknown. I use Model A3 to compute an indicator denoting the degree of exogamy, predicted odds of exogamy relative to homogamy, to show how the strength of intermarriage changes over time. Figure 2 presents the indicator changing from 1949 to 2008. The decreasing odds of exogamy from the first period to the second period confirm my hypothesis 2 that the degree of exogamy decreases strikingly in the first two periods. However, the subsequent drop of odds of exogamy contradicts hypothesis 3. After the 1980s, the degree of exogamy decreases over time which is consistent with the descriptive results shown in figure 1. Comparing the odds in the third period to the odds in the first and second period, the decrease slows down. This might indicate that influx of rural migrants to some extent increase intermarriage between urbanites and rural migrants. However the strong Hukou homogamy for both rural migrants and urbanites offsets the effect of exogamy. In general, in the third period the degree of exogamy has decreased and there is a downward trend in intermarriage between urban residents and rural migrants.

Figure2. Estimated Odds of Heterogamy Relative to Homogamy



SUMMARY AND CONCLUSION

From the late 1940s to the early 1980s, a national regulation, Household Registration System aiming to manage population and controlling resource distribution, increased segregation between two Hukous. Since 1984, the government started to relax the internal migration to promote urban development. In the next 24 years, the debate about whether Hukou still matters in contemporary China has never stopped. In this article, I attempt to take a perspective from Hukou intermarriage to examine social contact and social distance between urban residents and rural migrants. Rural migrants may have some special characteristics which are different from rural residents. However, they are the representatives of the rural Hukou group. The results have important implications for social inequality and social stratification in Chinese society.

In the study, I examined the trend of Hukou intermarriage in different historical contexts and look at how educational attainment affects the Hukou intermarriage. I demonstrate that Hukou had a significant effect on marriage patterns from 1949 to 2008, and that patterns of Hukou intermarriage changed over time as I proposed in Hypothesis 1.1 and 1.2.

After years of segregation, influx of rural migrants after the early 1980s led to an important opportunity for two Hukou status groups to contact one another in urban China. Co-residence in the cities did not result in more social contacts. On the contrary, the boundaries between urban Hukou holders and rural migrants were reinforced and strengthened. The distinction between two groups grew more apparent. From the 1984 to the early 1990s, intermarriage between Hukous substantially decreased. And Hukou homogamy became dominant and common. During this period of time, enlarging social distance is the main reason that two Hukou groups choose to marry homogamously. And in turn, the decreasing degree of Hukou intermarriage indicates the crystallized social boundaries and broadened social distance.

Until the 1990s, while urban society encouraged rural migration into cities to meet the needs of economic development, this only allowed rural residents to migrate. They were still treated as urban outsiders in social life and in Hukou status. While, I predicted that there would be more intermarriage with the influx of rural migrants. The rural migrants group became more diverse, scattering in different strata. This would create more opportunities for the two Hukou status groups to contact in workplaces and other occasions, then lead to more intermarriage. However, the data reveals that intermarriage actually decreased. This is derived from increasing Hukou homogamy. Possible explanation for this consequence is the continuing replenishment of young migrants created a big rural marriage market with more rural females in urban China. In this market, rural female was scarce. Rural males compete with one another for potential mates. Outside of the rural marriage market, rural males who are disadvantageous in resources need to compete with urban males for urban and rural females. The results of

the competition are that intermarriage is more likely to occur between urban males and rural females. And urban females are least likely to marry out. This continuing expanding rural marriage market strengthened group boundaries between two groups in general, leading to more Hukou homogamy. However gender differences are obvious in the pattern of intermarriage. Rural females are more likely to marry out than rural males. All these results indicate that in Chinese society, the segregation caused by Hukou in the marriage market continues to exist and has gotten worse over the past two decades. Social cohesion would be influenced by this segregation in urban China.

Chinese Hukou regulation system has shaped the unique pattern of internal migration in the last fifty years. Interestingly the rural migrants in China have displayed similar assimilation process as Hispanic migrants in American society in the early stages of migration.

This study did not find education to have significant influence on Hukou association. Neither husband's education nor wife's education affect the Hukou association. The couples' educational association doesn't influence Hukou marriage either. Moreover the effect of husbands' and wives' educational attainment on intermarriage did not change with time. Even though the parameter is not statistical significant, these results have implication for understanding and future studies about the effect of education with time.

Study Limitations

The study has several limitations. First, the data I used is cross-sectional. So I may have lost information about current rural returner from urban to rural area. To be more specific, people with rural Hukou who migrated to cities in the past but currently reside in rural areas are excluded from the data. However, for the most part, couples reside together in

China. It is inconvenient and difficult for couples to live apart and there are large advantages to living in urban areas. If we ignore the returners, these people might mostly contribute to the Hukou homogamy which might strengthen my findings. Therefore, this data limitation may not have fundamental influences on my results about intermarriage. Second, as I discussed earlier, I study first prevailing marriage. This might not precisely capture the trend because of the attrition problem. In the future study, I hope to solve these limitations by using multiple data sources. I will focus on newlyweds to examine the trends of Hukou intermarriage. In future study I want to look at Hukou conversion and explore how it influences Hukou intermarriage. Finally, this study only describes the trend of Hukou intermarriage. Little is known about the mechanism of intermarriage on the individual level. Further study would be conducted to explore it by adding Hukou conversion to Hukou status groups

Appendix A. Matrix

	Urban	Converter	Rural
Urban	1	1	2
Converter	1	1	2
Rural	3	3	4

Appendix Table B. Log-Linear Models Based on trichotomous categorization

Model	Descriptions of Models	L^2	d.f.	p	BIC	L^2/L_B^2	Delta
A1	Baseline	2439	336	0.000	-241	1.000	36.4
A2	A1+Hukou association	314	332	0.753	-2334	0.129	7.78
A3	A1+Hukou association change over time	278	324	0.970	-2306	0.114	7.56
A4	A1+Hukou association varies by husband's education	295	320	0.840	-2257	0.121	7.87
A5	A1+Hukou association varies by wife's education	292	320	0.867	-2260	0.120	7.34
A6	A1+Hukou association varies by husband's education and time	271	308	0.936	-2185	0.111	7.29
A7	A1+Hukou association varies by wife's education and time	273	308	0.926	-2184	0.112	7.15
A8	A1+Hukou association varies by education association	247	296	0.982	-2114	0.101	6.47
Model Comparison		L^2	d.f.	p^a	BIC^b	L^2/L_B^2	Delta
1	Hukou Association (A1 VS A2)	2125	4	0.000	-2093	0.871	28.62
2	Hukou Association change over time (A2 VS A3)	36	8	0.000	28	0.015	0.22
3	Husband's education (A2 VS A4)	19	12	0.089	49	0.008	-0.09
4	Wife's education (A2 VS A5)	22	12	0.038	-3	0.009	0.44
5	Husband's education and time (A2 VS A6)	43	24	0.010	75	0.018	0.49
6	Wife's education and time (A2 VS A7)	41	24	0.017	1	0.017	0.63
7	Couples' education association (A2 VS A8)	67	36	0.001	70	0.027	1.31

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